SWASTHYA SHORIR O NANDAN CHETANA

(Aesthetics, Fine Arts, Health and Physical Education)

School Education Department,

Government of West Bengal

State Council of Educational Research and Training

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Preface

The subject SWASTHYA SHORIR O NANDAN CHETANA (Aesthetics, Fine Arts, Health and Physical Education) has been organized as per NCTE's newly developed syllabus, 2014. The course of this subject is scheduled for completion of two years and is included in the curriculum of 'Diploma in Elementary Education (D.El.Ed.). The main objective of this curriculum is to transform the environment and methods of education as per the National Curriculum Framework for Teacher Education (NCFTE 2009). This transformation is absolutely necessary to keep up with today's rapidly changing society, environment and lifestyle. The revision of the syllabus and the annexation of the paper have mainly been made with this change in mind. It should be noted that the content of the book is by no means limited to written subjects. Only outlines and guidelines are provided in this.

The main objective of writing this books are-

a) To take a holistic view of various educational subjects.

b) To acquire knowledge about basic concepts in human nature, society, learning and goals of education.

c) To acquire knowledge about various components of education.

d) To form concepts between learning and teaching by the teachers.

e) To gain knowledge about different approaches to curriculum and child knowledge construction.

f) To acquire knowledge about school leadership, management, effectiveness and its quality.

This textbook is a joint research work of State Council of Educational Research and Training (SCERT, WB) and District Institute of Education and Training (DIET). Due to lack of suitable textbooks for the new D.El.Ed course in Teacher-Education Institutions, this body vide Government Instruction 712-Edn (CS)/8T-17/79, dated 21.05.1980 Sections (iii), (iv), (viii) and (x)) undertook and project called "Development of Teaching Clarity". The words that emerged emphatically from the teachers-trainers present at each of these project workshops were "D.El.Ed needs the right teaching and learning materials".

This book is the result of tireless efforts of every staff member of State Council of Education Research and Training (SCERT), and various District Education and Training Institutes (DIETS). The content of this book was developed through a number of processes. All efforts will be worthwhile if it is welcomed in the teacher-education programme. Our next generation will be properly educated if this process is transformed through the application of SWASTHYA SHORIR O NANDAN CHETANA (Aesthetics, Fine Arts, Health and Physical Education) in the field of education. The content prepared through initial application and research is then subjected to final editing. It is through these stages that this book emerged

today.

The contributions from Sampa Daw De, Asst. Professor, Institute of Education for Women, Hastings House, Dr. Soumitro Basu, Former Lecturer, Department of Drama, Rabindra Bharati University, Aniruddha Mukhopadhya. Teacher in Art, Krishnagar Govt. PTTI and Dr. Uma Dutta, Associate Professor, Govt. Physical Education College for Women, Hooghly in writing the original Bengali version of this book were commendable.

Under requests from various TEIS with medium of instruction other than Bengali, SCERT, WB, subsequently embarked on a project to get this body work, amounting to 10 titles in all, to get translated in English, Urdu and Santhali. The translation work was taken up in teams under the supervision of the Director, SCERT (WB), and under coordination of Shri Subrata Kumar Biswas, Research Fellow, Grade-II, SCERT (WB). The team for transcreating the present book constituted Smt. Aditi Roy (Banerjee), Art & Craft Teacher, Midnapore Govt. PTTI and Shri Sourabh Mandal, Lecturer, DIET, North 24 Parganas.

Since this work of translation work can best get critiqued while in use by the practicing teacher educators and the D.El.Ed trainees, any constructive criticism by way of suggestion to improve the present book is heartily solicited. The effort gone into this transition will get its due recognition if this book meets the requirements of its readers.

Dr. Chhanda Ray
Director, SCERT (WB)

P-02 : Creative Drama, Fine Arts, Physical and Health Education

Maximum Marks=100
35 marks for round the year performance as a part of the CCE
65 marks for Term End Evaluation
Pass Marks=50% of Full Marks in each of the External & Internal Evaluation
Student Contact = 90 hours

Objectives:

- To ensure all round development of professionalism within the student-teachers
- To help them understand how to integrate Music, Drama, Fine Arts and Physical and Health
- Education
- To inculcate value-sense and value-judgment within the student-teachers
- To provide for joyful environment in the learning environment

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Group A: Music
Full Marks=30, Class hours:25 hours

Unit – 1 : Indian Music & Instrument **Class – 5 hours**

- Preliminary Ideas of Indian Music
- Preliminary Ideas of Notation –
- Preliminary Knowledge of Instrument –
- Structure of Tabla , Harmonium

Unit – 2 : Practice, leading to performance **Class – 10 hours**

- Prayer Song -5
- Seasonal Song-5
- Folk Song- 5
- Patriotic Song- 5
- Rhyme Songs – Based on the New Text Books of Classes-I-VIII

Unit – 3: Teaching & Learning through Music(Project activity) **Class – 10 hours**

- Integrating songs and music with other curricular areas Presentation of Concepts through songs and rhymes

Group B : Creative Drama and Fine Arts
Full Marks=30, Class Hours:25

UNIT-4: Drama **Class – 10 hours**

- Concept of Drama & Stage
- Folk Drama & Stage
- Single Acting & Group Acting
- Dance Drama
- Mime Acting

UNIT-5: Fine Arts **Class – 8 hours**

- Arts in Practice …….. Different forms of Visual Arts
  Basic Concept of Colors
  Shapes & Forms
  Perspective
  Balance
  Rhythm
  Dimensions
- Drawing & Painting – Sketching- Pastel /Water Colour
- Alpana – Design / Pattern/ Ornamentation
- Clay Work – Modelling/ Relief Work
- Paper Art
- Collage
- Craft with waste / discarded materials Tie& Die and Fabric Painting
- Graphics – Calligraphy/Prints
- Puppets
- TLM

Unit – 6 Teaching & Learning through Creative Drama and Fine Arts (Project activity)
Class – 7 hours

- Integrating Creative Drama and Fine Arts with other curricular areas
- Presentation of Concepts through Creative Drama and Fine Arts (posters, cartoons etc)

Group C : Physical and Health Educat
Full Marks=40, Class Hours: 40 hours

Unit-7: Health: (workshop Activities) Class – 10 hours

- Physical Education, aims objectives of Physical Education
- Personal Health and Hygiene – care of teeth, eyes, ear, nose, nails, clothing, bathing etc.

- Charts for communicable disease and its prevention
- Preparation for charts for School health Programme –Campus Cleaniing,
- Sanitation, air pollution, sound pollution etc.
- Special Activities: Physically challenged children
- Good habits for maintenance of good posture – sitting on the floor and chair/desk during reading, standing, walking, stair climbing Picking-up and object from the floor.
- Measuring Height and weight for assessing BMI and Growth.

Unit-8: First Aid(workshop Activities) **Class-6 hours**

- Treatment of wounds, hemorrhage, fracture, dislocation, shock, burning, snakebite, drowning, artificial Respiration, sports injuries, application of ice.
- Dressing and bandage of the skull, collar bone, shoulder, limbs and joints, splint, (uses of different sizes)
- Arrangement of an annual exhibition of health and hygiene

Unit -9:Track and Field Events **Class-20 hours**

- Fundamental Skills of Running, Jumping, Throwing, walking.
- Fundamental Skills of the Games (Any Three)
- Football, Volleyball, Cricket, Throw ball, Kabaddi, Khoko
- Yoga – Suryanamaskar, Padmasana, Chakrasana, Paschimatyasana, Halasana, Bhujangasana,
- Salvasana, Dhanurasana, Vajrasana, Savasana,Pranayama. Forward role and backward role, cart wheel, Hand, Stand, and Arching
- Recreational Games and Rhythmic Games

Unit-10 : Project Work **Class-5 hours**

- Integrating Physical & Health Education with other curriculum areas
- Social Services around the locality of the institutions pertaining to health, visit to the surrounding of the locality with students.

Mode of Curriculum Transaction:

1) Debate and discussion for theoretical parts

For Practical Parts

2) Group Activities
3) Project Activities
4) Performances

Content

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UNIT 1

Indian Music and Musical Instruments

1.1 Introduction

1.2 Objectives

1.3 Preliminary Ideas of Indian Music

1.4 Preliminary Ideas of Notation

1.5 Preliminary Knowledge of Instrument

1.6 Structure of Tabla, Harmonium

1.7 Summary

1.8 Unit End Exercise

1.1 Introduction

Education is the backbone of a nation, and it is essential to refine the educational system from the primary level. Recognizing the urgency of this need, we are committed as responsible citizens to ensure the comprehensive development of a child from the very beginning of their education. Music education plays a significant role in this holistic approach.

This chapter covers the fundamental concepts of Indian music, the principles of notation, and the basics of musical instruments, specifically the "tabla" and harmonium. Music as a subject encompasses three forms of art: vocal music, instrumental music, and dance. Before teaching music to a child, it is crucial to provide them with a foundational understanding of Indian traditions, customs, and way of life, equipping them to be well-rounded citizens. Music is deeply intertwined with various aspects of our lives. Therefore, this chapter not only introduces the basic concepts of Indian music but also explains how melodies are transcribed into notation, the classification of various Indian instruments, and the structural concepts and application methods related to 'tala' (rhythmic cycles).

These topics will undoubtedly help boost the morale of teachers and provide students with a thorough understanding of the subject matter.

1.2 Objectives

The objectives of this unit are as follows:

i. To gain knowledge about the definition, origin, and development of music, as well as the genres of Indian music.
ii. To acquire a general understanding of musical notation.
iii. To learn about the classification and basic concepts of musical instruments.
iv. To understand the structure of the harmonium and tabla.

1.3 Preliminary Ideas of Indian Music

1.3.1 Definition of Music, Origins, and Evolution of Indian Music

1.3.1.1 What is Music or Sangeet?

The word "Sangeet" is derived from the combination of "Sam" and "Geet," where "Sam" implies completeness. In a general sense, "Sangeet" refers to the scientific and complete form of singing, known as 'Samyak Geet". However, in a more specific context, music can be defined as the combination of three art forms—singing, instrumental music, and dance. Simply put, music is an entertaining composition that harmonizes melody and rhythm.

1.3.1.2 Origin and Evolution of Music

From birth, humans express their emotions through behaviors like laughter and crying. Historical evidence suggests that as early as the primitive era, humans began to express their feelings through songs and dances. Initially, primitive people would strike wooden sticks together to create rhythms, accompanying their songs and dances in harmony with these beats. However, it's important to note that the term "music" was not used during this time; it was coined much later.

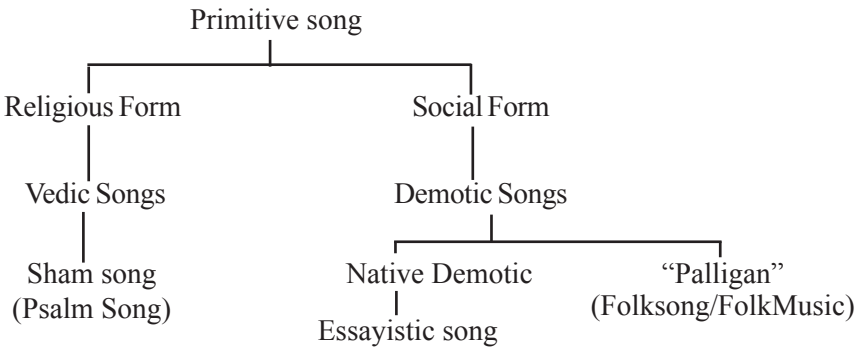
As primitive society evolved, these rhythmic and musical gatherings gradually transformed into ritualistic ceremonies such as the 'yagyajna' (sacrificial rites) during the Vedic period. This evolution eventually led to the creation of "Samgan," which many scriptural experts believe was humanity's first form of song. Although the exact style of Samgan's singing has been lost to history, it is known that three notes were used in this form of music.

Following this, towards the end of the Vedic period, "Gandharva Sangeet" emerged, composed by the Gandharva people. The Gandharva musicians combined native folk sentiments with classical elements to create "Prabandha Sangeet" (Essay Song). It is important to mention that along with Gandharva Sangeet and Prabandha Sangeet, folk and native music were also popular at that time, and their influence is still present today.

Like modern classical music, Gandharva Sangeet was highly scientific and structured. The Indian classical music we practice today is largely derived from the Prabandha songs based on the Gandharva tradition. However, it is crucial to acknowledge that the music of that time did not have the lyrical complexity found in later compositions. What we see today is an evolution from these early Prabandha songs.

1.3.1.3 Genres of Indian Music:

Understanding the evolution of Indian music is essential for a comprehensive discussion of the genre. The table below simplifies this evolution by highlighting key elements of the musical syllabus:



The progression from Native Earthly Songs to Composed Songs led to the development of medieval elite music. This evolution produced two primary genres of music:

Hindustani Sangeet and**Carnatic Sangeet.**

1.3.1.4 Different Traditions of Classical Music:

A) **Hindustani Music**

Among the various genres of Hindustani music are Dhrupad, Dhama and Khayal. These, in turn, gave rise to additional musical forms such as Thumri, Tappa, Bhajan, and Ghazal.

Dhrupad: The word "Dhrupad" is derived from "Dhruvapada," which refers to a fixed musical form. Historically, Dhrupad evolved from the Salg-hard class of essay songs and is structured into four main sections: permanent, antara, sari, and abhoga. Raja Man Singh Tomar is well-known for promoting this style. Dhrupad is characterized by its deep and rigorous approach, and it is typically accompanied by the pakhawaj. Rhythms used in Dhrupad include Chautal, Jhaptal, and Surfank Tal.

Dhamar: The "Dhamar" style is performed to the rhythm of the Dhamar tal and often features compositions celebrating Lord Krishna's Leela (divine play). This style is sometimes referred to as "Hori" due to its association with the festival of Holi. Dhamar songs must adhere to the Dhamar rhythm.

Khayal: The term "Khayal" comes from the Persian word meaning "imagination." This style of singing is characterized by its lyrical and expressive qualities, allowing singers to entertain the audience with varied tones crafted through their own creativity. Amir Khusrau is credited with the origin of this style. Khayal includes both slow and fast rhythms and is typically accompanied by the tabla. Common rhythms in Khayal music include Rival, Ektal, Jhaptal, Rupak, and Jhumura.

- **Additional Musical Forms:**

Thumri: Derived from the word "thamak," Thumri is an emotional and expressive song where the feeling is often prioritized over strict adherence to form. Thumri is often associated with dance performances and uses rhythms such as Andha, Jath, Trital etc.

Tappa: The term "Tappa" comes from the Hindi word "Thamak" and is a type of Punjabi folk song expressing the sorrow of camel herder's leaving their homes. Shori Miya, whose real name was Golam Nabi, is noted as a key figure in PanjabiTappa. The Bengali Toppa, an evolved form of Punjabi Tappa, was developed by Ramnidhi Gupta (Nidhubabu).

- **Bhajans and Ghazals:**

Bhajan: This is a devotional song praising God, usually composed by Hindu musicians. Bhajans are characterized by their spiritual content and focus on divine worship.

Ghazal: Ghazal is a poetic form consisting of rhyming couplets, usually in Urdu or Persian, set to music and mostly performed solo. Ghazals often deal with topics of spiritual and romantic love and may be understood as a poetic expression of both the pain of loss or separation from the beloved and the beauty of love in spite of that pain.

Over time, this evolved into lighter musical forms, including Rabindrasangeet, Nazrulgeeti, and the songs of Atulprasad, which became integral to this more accessible genre.

In summary, the evolution of classical music in India shows a rich diversity stemming from ancient traditions. Both folk and classical music have retained their originality while adapting to contemporary influences. The music of different regions reflects the culture, people, and lifestyles unique to each area.

India is home to a rich tapestry of folk music, each style reflecting the diverse geographical and cultural settings across the country. In Bengal, for instance, several distinct types of folk music can be found, including Bhavaiya, Bhatiali, Bhadu, Tusu, Jhumur, Gambhira, Jari, and Sari songs.

Bhavaiya: Originating from the Dinajpur region of West Bengal and parts of modern-day Bangladesh, Bhavaiya is performed by people traveling on bullock carts, buffaloes, or elephants. These songs express various emotions, from joy to sorrow, and are typically accompanied by the dotara, a traditional string instrument.

Examples include:

1) "Tomra Gailey Ki Ashiben
   More Mahut Bondhu Re..... "
2) "Oki Gariyal Bhai
   Kato Rabo Ami Panther Paane Chaia Re...."

Bhatiali: A popular form of music in East Bengal, Bhatiali is traditionally sung by sailors while rowing boats. The lyrics frequently reference elements related to boating and maritime life, and they convey a range of emotions, including sadness, seperation and frustration. The ektara, a single-stringed instrument, is often used to accompany these songs. Examples include:

1) "Oh Amar Daradi Agey Janle
   Agey Janle Tor Bhanga Noukai Chorhtam Na."

2) "Kalokalo Chhalo Chhalo, Nodi Kare Talamala
Dheu Bhange Jhor Tufan Re
Nao Baio Na Majhi Bishom Sairaatey"

Tusu: This song is performed during the Tusu festival, which takes place in the months of Agrahayana and Poush, celebrating the harvest and worship of Goddess Tusu. The lyrics are catchy and focused on bringing in the new crops.

Bhadu: Sung during the month of Birbhum and Bankura, Bhadu songs center on the 'Vadu' puja. These songs are deeply rooted in regional traditions and festivities.

Jhumur: A lively and dance-oriented genre, Jhumur is popular in Birbhum, Bankura, and Purulia. It is known for its catchy tunes and rhythmic beats.

Gambhira: Predominantly found in the Malda region, Gambhira songs are associated with the worship of Shiva. These songs, which can also be heard among Muslim communities, are often composed based on current events and situations.

Baul: Derived from the Hindi word 'bawra,' meaning 'crazy,' Baul music expresses a deep, ecstatic love for God. Though often categorized as folk music, Baul songs reflect the philosophical beliefs of the Baul community, which holds that divinity resides within the body. Thus, Baul songs are deeply introspective, focusing on spiritual meditation and self-realization.

A) **South Indian or Carnatic Music:**

In contrast to the diverse folk traditions, Carnatic music is the classical music of South India.

Carnatic music, known as Karnāṭaka saṃgīta or Karnāṭaka saṅgītam in the South Indian languages, is a system of music commonly associated with South India, including the modern Indian states of Andhra Pradesh, Karnataka, Kerala, Tamil Nadu and portions of east and south Telangana and southern Odisha. It is one of two main subgenres of Indian classical music that evolved from ancient Hindu texts and traditions, particularly the Samaveda.

Carnatic music, primarily associated with South Indian temples, has continued to thrive and remain popular across various societal levels. Initially rooted in temple rituals, Carnatic music has developed into a rich tradition with various forms, including Tillana, Kirtanam, Ghattam, Padam, and Ragmalika. This genre is distinguished from North Indian music by its unique style and performance techniques.

Unlike its North Indian counterpart, Hindustani music, Carnatic music is known for its temple-centered origins.

Both Hindustani and Carnatic traditions acknowledge the existence of musical frameworks—10 thaats in Hindustani music and 20 "mels" in Carnatic music.

1.4 Preliminary Ideas of Notation

1.4.1 Definition and Types of Notation:

Notation is the scientific process of recording a melody and rhythm through symbols. In Indian music, there are three primary types of notation systems:

1. Quantitative Notation System: Developed by Jyotirindranath Thakur, this system focuses on quantifying musical elements.
2. Hindustani Notation System: Also known as the Bhatkhande system, this method was established by Pandit Vishnunarayan Bhatkhande and is widely used in Hindustani music.
3. Barometric Notation System: Originated by Kshetramohan Goswami, this system uses specific metrics to notate music.

Among these, the 'Akarmatrik' and 'Hindustani' systems are the most commonly employed. It is important to note that Indian music notation differs significantly from Western music notation, which is known as 'Western Notation.' The Western system uses a distinct set of symbols and methods for representing musical elements.

1.4.2 Notation Method by Pandit Vishnunarayan Bhatkhande

Pandit Vishnunarayan Bhatkhande introduced a notation system primarily used in Hindustani / Classical music. The procedures and rules for this notation are detailed in all volumes of his book series. The notation rules are as follows:

1. Saptaka Notation:

Madhya Saptaka and Shuddha Swara are not marked with any symbols above or below. For example, the pure tones of the middle octave are denoted as sa, re, ga, ma, pa, dha, ni.

The Mandra Saptaka (lower octave) is indicated with dots below the notes, while the Tar Saptaka (higher octave) is indicated with dots above the notes. For instance:

Mandra Saptaka: sa. re. ga. ma. pa. dha. ni.

Tar Saptaka: sa' re' ga' ma' pa' dha' ni'

The octave above the Tar Saptaka is referred to as the Ati Tar Saptaka and is denoted with two dots above the note (e.g., sa'', re''). Conversely, the octave below the Mandra Saptaka is called the Ati Mandra Saptaka and is denoted with two dots below the note (e.g., <u>ni</u>, <u>dha</u>).

2. Note and Rhytm:

A note within a single matra (beat) should be written separately (e.g., sa, re, ga). When multiple notes occur together in a single matra, they should be written continuously and underlined with a semi-circle beneath the notes (e.g., <u>sa re</u> <u>sa re ga</u>).

If the duration of a note extends beyond one beat, use a corresponding number of dashes (—) to indicate the length of the note. For example, sa- - - - denotes a note lasting for four beats.

When a note is repeated multiple times consecutively, it should be written accordingly (e.g., sa sa sa sa).

3. Sparsha Swara (Kana Swara):

Many times we need to move from one note to another note while skipping intermediate notes. In such cases, the intermediate notes are just touched (sparsh) while moving between start and end notes. These intermediate swaras or notes are called sparsh swaras.

Kan-swar. Notes can be sung straight, but they are often sung with kan-swar (grace notes; literally "a small quantity of a note") borrowed from an adjacent note in a musical phrase. This lends mellifluousness and expressiveness to the melody.

This sur or swara which has been inserted just to beautify and smoothen the transition from one sur to another is called Sparsh Swara. For eg: Notations of Miya-Malhar raag the notations are – Sa Re Pa, Ga Ma Re Sa, Ni Dh Ni Sa. Note the swaras in bold. Re is followed by Pa and Ma is skipped.

4. "Khatka" Note:

A khatka is an ornament that involves performing a single note as a cluster of notes. The main note is emphasized, but one or two neighbouring notes are also included. The main note is the note that can be sung alone in place of the khatka without altering the underlying melody. This main note is written within brackets and should be sung within a single matra. For example, (Sa) represents Ni-Sa-Re-Sa.

5. Meend

In Hindustani music, a meend (Hindi: मींड) refers to a glide or slide from one note to another. It is indicated by a semi-circular symbol placed over the notes. For example: Ma-Dh or Să-Pă.

6. Division of Beats

Dividing a beat into two parts is denoted by the symbol **' , '** For example,**'Sa Re,** Ga**'** indicates the division of the beat into two equal parts, **Să Rĕ** being the first part and **Ga** being the second part.

7. Soft and Sharp Tones:

Soft swaras or notes are indicated by a slash (__) below the note (e.g., <u>Dh Ni</u>). Sharp tones are marked with a perpendicular line above the swaras or notes (e.g., **m^1a**).

8. Division of Rhythms:

Rhythm sections are marked using symbols "I". "+"or "X"is used for Sombeats or its multiples, a blank space or '0' for rests, and 2, 3, 4, 5 numbers for specific rhythmic values.

For instance:

Trital:

No. of beats:-	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**
Theka:-	**dha**	**dhin**	**dhin**	**dha I**	**dha**	**dhin**	**dhin**	**dha I**
Rhythmic sign:-	**X**							

No. of beats:-	**9**	**10**	**11**	**12**	**13**	**14**	**15**	**16**
Theka:-	**I na**	**tin**	**tin**	**ta I**	**ttete**	**dhin**	**dhin**	**dha I**	**dha**
Rhythmic sign:-	**0**				**3**				**X**

1.4.3 Notations

The Visva-Bharati notation system is widely used and accepted in Rabindra Sangeet, Nazrul Geeti, and other Bengali music. This Akarmatrik system was developed in 1905 by Rabindranath's elder brother Jyotirindranath Tagore which fused the tools of western staff notation with features of Indian classical music system into a unique and very effective and compact scoring system for the vocalist. This system is valued for its scientific precision, with specific dimensional "Aakaarmatrik" notations where the last note of every beat / matra ends with 'I' (a), and is detailed at the end of all publications by Visva-Bharati.

Below is a concise explanation of this modern Visva-Bharati's Dimensional "Aakaarmatrik" Notation System for Bengali Music:

1. Saptaka and Octave Symbols:The notation for musical notes follows the Saptaka system: Sa RaGa Ma Pa Dha NiSa.Bass-octave notes are denoted with a symbol below the swara / notes;Pa**,** Dha**,** while upper-octave notes have a symbol above the notes; S**'**R**'**.(Add proper symbols)
2. Flat and Sharp Notes:Komal (flat) notes are denoted as follows: Komal Ri, Komal Ga, Komal Dha, and Komal Ni.The notation for these notes is represented as:Ri, Ga, Dha, and Ni.(Bengali alphabets)Sharp notes are detonated as Kari Ma: "Khiyan madhyanasha"(Bengali alphabets)
3. Ri^{1} - Atikomal Rishabh: Atikomal rishab is located between the sa and ri notes. Gan^{1}, dha^{1}, na^{1} is followed by Atikomal Gandhar, Dhaivata and Nishad respectively. Ri^{i2}- Anukomal Rishabh. Anukomal Rishabh's place is between the notesri and ra. Gan^{2}, da^{2}, na2-- are Anukomala Gandhara, Dhaivata and Nishad respectively.
4. Symbols for the beats are as following:Single beat or Ekmatra is "I" (Bengali alphabets), half beat or Ardhamatra is "**:**"and quarter beat or Sikkimatras is"0". Two half beats is named- "**SARA**". Four quarter beats is "**SARGAMA"**. Two quarter beats is "**SAR,**"One quarter beat is "**SAO".** When oneArdhamatra and two Sikkimatras are combined into aSingle beat or Ekmatra is known as Sa**:**Gar**:**A One and a half beat and one half beat are two matras, and is known as Ra**:** Ga**:**
5. If an initial notel is preceded by a short-lived accessory note, it is written in small letters to the left of the original note, viz.^{m}ra ^{g}ra.Sometimes the note is written in small letters on the southern side of the original note, eg, ra^{s}.

6. Punctuation marks pause and section of beats are same.If hyphen is absentonly if it is not adjacent to the original note, it should be understood as the symbol of pause. A momentary absence of sound in the melody is called a pause.
7. The division of a rhythm is denoted by (I) for a single rotation from "som" to "som". Almost every lyrical line begins with two such symbols II. Every "tuk. " (sthai, antara, sanchari, abhog) begins and ends win with these II (double sticks). All songs end with a pair of these II II (double sticks).
8. The rhythm sections are grouped in bunches. The numbers 1, 2, 3, 4, 0 found over head of every first beat of these bunches denominate the specification of that Rhythm. (1) denotes "phank" and (1**'**) means "som".
9. For a temporary rotation the symbol "II" (double sticks) is used. When a lyrical line ends with II (double sticks), begin again the a temporary rotation from the last II (double sticks).
10. In permanent rotation, while singing the part of the songbeyond the II (double sticks) symbol, sing only once. Because II (double sticks) symbol is repeated at the end of every lyrical line.
11. As a sign of finale "II" (double sticks) is placed overhead, e.g. for "Sa I" stop singing here or pause here and continue with a different line.
12. "**{}**" is the symbol for repeitation. While repeating to skip notes "()" this symbol is used, e.g. { Sa Ra (Ga) Ma} I MaPA I.
13. If the tune changes during repetition, the changed tune is enclosed within [ ].this symbol, e.g. [Ra Pa]. If there is a "[ ]" inbetween the end of a line with "II" and the end of the song with "II II" like – I [ ] I, II [ ] II, return to "sthai" and sing the changed tune.
14. When a note blends into another in specific manner ( ) this symbol is mentioned beneath that note: e.g. {Ma Ra Sa Pa Ma}.
15. When there is no lyric or word underneath the note or notes, a hyphen (-) sits to the left of that the note or notes and a zero (0) is placed in the lyrical line.

    E.g. Sa-I-I-I or Sa –Ra –Ga –Ma alternately

    Ma 0 0 0 Ma 0 0 0
16. If the notes are sung then hyphen (-) sits to the left of that the note.

    E.g. –Sa –Ra –Ga –Ma I I Sa -I –I –I I Ga 0 0 N, Ga 0 0 N,

Pronunciation: In the notation care has been taken to analyze the spelling of almost all words according to pronunciation asmuch as possible. a(ে)= A(এ) and a (ে)= Aa,(অ্যা) e.g. each letter of the words are placed distinctly beneath the respective note.

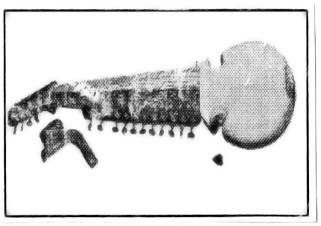
1.5 Preliminary Knowledge of Instrument

1.5.1 What is a musical instrument?

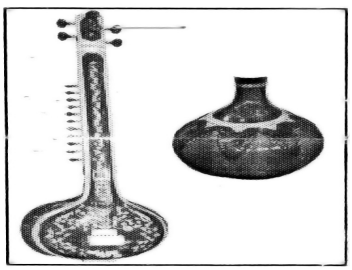
A musical instrument is an object or device that produces sound through various methods, which can then be used to create music. These sounds are typically organized in a way that is aesthetically pleasing and meaningful within a musical context.

In Indian music, musical instruments can be broadly categorized into four main types:

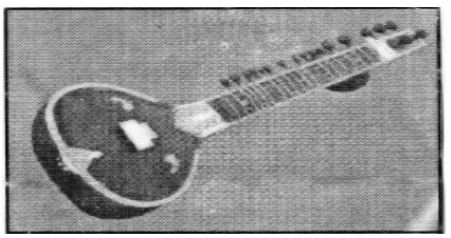
1. **String Instruments (Chordophones):** These instruments produce sound by vibrating strings. The pitch is altered by changing the tension, length, or mass of the strings. Examples include the Tanpura, Sitar, Sarod, and Veena.



sitar

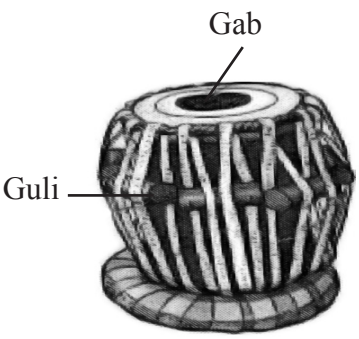


Tanpura

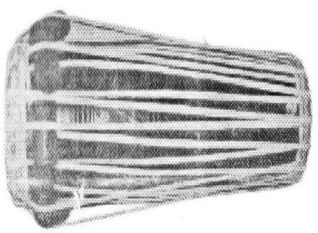


Sarod

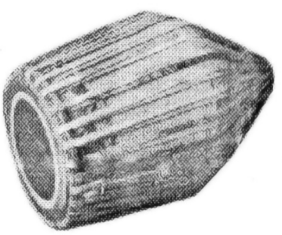
2. **Membranophones:** Instruments with a membrane stretched over a frame that vibrates to produce sound, such as the Tabla, Pakhwaz, Khol and etc.



Tabla

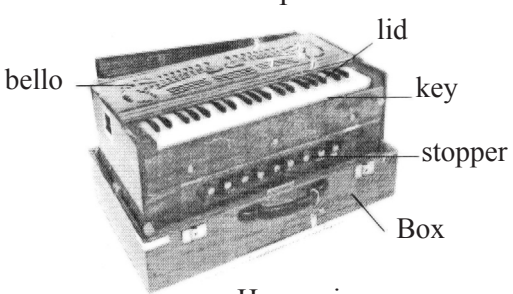


Pakhwaz



Khol

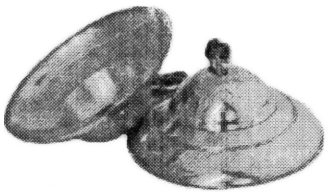
3. **Wind Instruments (Aerophones):** These instruments produce sound by the vibration of air within the instrument. Examples include the Harmonium Flute and etc.



Harmonium

Fulte

4. **Idiophones:** Instruments that produce sound through the vibration of the material itself, such as cymbals, gongs, and the khartal.



Mondira

5. **Percussion Instruments (Membranophones and Idiophones):** These instruments create sound through the vibration of a membrane or by striking, shaking, or scraping the instrument.

Each category encompasses a variety of instruments with unique characteristics and roles indifferent musical traditions and genres within Indian music.

- All the types of musical instruments mentioned play crucial roles in the performance of music. However, understanding the rhythmic aspects of music requires a more precise approach, especially when it comes to rhythm notation and application methods. Each rhythm has a specific tempo, and there are established rules for notating rhythms, which include concepts such as **Sam**, **Tali**, **Khali** and etc..

Sam: The most important point of rhythmic emphasis is the "**Sam"**, the first beat of the tala and point to which all variations eventually return. It is the central beat where the rhythmic cycle begins and is often emphasized. In most rhythmic structures, 'Sam' occurs only once per cycle.

Tali: 'Tali' refers to the beats that fall on the strong or emphasized parts of the rhythmic cycle. These are claps or beats that are not on the 'Sam' but still play an important role in the rhythm. A rhythm pattern may have one or multiple 'Tali' depending on the cycle.

Khali: 'Khali' means 'gap' or 'empty space' within the rhythmic cycle. Khali is also called "Phank". It represents a pause or a beat where no sound is produced. This absence of sound helps to create rhythmic tension and release.

1.5.2 Beat and Measure

In Indian classical music, a Matra is a beat, the smallest rhythmic sub-unit of a tala - the musical meter. It is one of the three levels of structure for tala along with Vibhag (measure) and Avartan (cycle). The significance of beats depends on their occurrence in a cycle.

Rhythms where the beats are evenly spaced are referred to as 'Sampadi' and rhythms with irregularly spaced beats are known as 'Asampadi.'

Understanding these terminologies and their roles in rhythm will provide students with a foundational grasp of rhythmic patterns in Indian music. This knowledge will aid in the accurate performance and appreciation of Indian musical compositions.

1.6 Structure of Tabla and Harmonium:

1.6.1 Harmonium

The harmonium is a Western musical instrument invented by Alexandre Debain in Paris around 1840. It is commonly used in elementary music education due to its accessible and versatile nature.

When a key on the harmonium is pressed, it produces a tone of a specific frequency (swara). However, the harmonium does not capture the microtonal nuances (shruti) characteristic of Indian music.

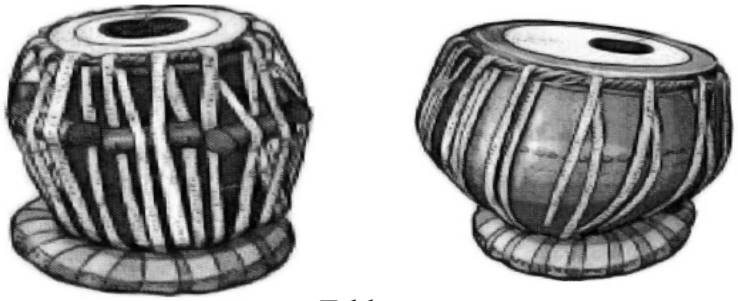
- Bellows: This component pumps air into the instrument to produce sound.
- Keys: These are pressed to generate musical tones.
- Stops: Controls that adjust the timbre and volume of the sound.
- Lid: The cover that encloses the internal parts of the instrument.
- Box: The main body of the harmonium that contains and supports all the internal components.

Harmonium

1.6.2 Tabla

The tabla is a traditional Indian percussion instrument belonging to the "Avananda" category. The tabla is attributed to Amir Khusru, a historical figure known for his contributions to Indian music. It is a pair of hand-played drums that are used in various forms of Indian music. "Daina" the Right Hand Drum alsoknown as the 'Tabla,' is played with the dominant right hand. "Baiyan" the Left Hand Drum also known as the 'Baya,' is played with the left hand.

Although the tabla and baya are separate instruments, they are typically played together in performances



Tabla

1.7 Summary

By gaining knowledge about Indian music and its instruments, students can develop a deeper interest in music, effectively pass on their knowledge to future generations, and achieve success in various competitive contexts.

Key Terms:

1. Sam: The primary beat in a rhythmic cycle.
2. Geet: A type of song or composition.
3. Samgan: Music that is sung in accordance with the rhythmic cycle.
4. Gandharva Music: Ancient Indian music tradition.
5. Prabandha Music: A classical form of Indian music.
6. Hindustani Music: North Indian classical music.
7. Carnatic Music: South Indian classical music.
8. Tat: Classification of string instruments.
9. Ghana: Classification of percussion instruments.
10. Avananda: A category of Indian musical instruments.
11. Sushir: A category of musical instruments known as wind instruments.

This overview provides a fundamental understanding of these instruments and their roles in Indian music.

1.8 Unit End Exercise

1. What is music? How many genres are there in Indian music and what are they?
2. What are the classifications of North Indian music systems? Give two examples of each category.
3. Identify a key figure in the development of musical notation, and describe the definition and types of notation associated with their work.
4. What are the classifications of musical instruments? Give two examples of each category.
5. Name four singing styles of South Indian music.
6. Comparatively discuss the metrical and Hindustani notation systems.
7. Comment on: Baul, Bhavaiya, Bhatiali, and Gambhira.

UNIT 2

Practice, Leading to Performance

2.1 Introduction

2.2 Objectives

2.3 Prayer Songs: 5

2.4 Seasonal Songs: 5

2.5 Folk Songs: 5

2.6 Patriotic Songs: 5

2.7 Rhymes: 5 (Based on new textbooks of class I - VIII)

2.8 Summary

2.9 Unit End Exercise

2.1 Introduction

This section covers a diverse range of songs and rhymes, including prayer songs, seasonal songs, folk songs, patriotic songs, and rhymes. Each category is defined and accompanied by examples to provide a clear understanding. The rhyming songs have been specifically chosen for first and second-grade students, as these young learners particularly enjoy singing rhymes and benefit from improved pronunciation skills.

The aim is to equip students to confidently assume future teaching roles. Each song category is described with its definition to ensure effective and motivated teaching. We hope this unit will boost morale among both teachers and students, making it easier to teach and enjoy these songs.

2.2 Objectives:

1. Prayer Songs: Foster respect and devotion in students, while also enhancing their concentration.
2. Patriotic Songs: Instill a sense of good citizenship and patriotism.
3. Seasonal Songs: Explore different seasonal features and experience joy associated with each season.
4. Folk Songs: Gain insight into the daily lives of people from various geographical regions through folk music.
5. Rhymes: Develop a sense of melody and rhythm and improve the ability to match words with rhymes.

2.3 Prayer Song

'Prayer' is the act of offering oneself to God. Below are some examples of prayer songs. (The teacher may choose any song from this selection.)

1. “Anandaloke Mangalaloke”..... Rabindra Sangeet
2. “Bipade more rakkha karo e nohe mor prarthana”..... Rabindra Sangeet
3. “Aguner parosmoni chhonwao prane”..... Rabindra Sangeets.
4. “Tumi nirmala karo manglo karo”..... Rajinikanth’s song
5. “Tomari Gehe Palichho Snehe”..... Rabindra Sangeet

2.3.1 Prayer Songs 1 : Aanondoloke Mongolaloke Birajo, Sotyosundaro

Rhythm - Ek Tal

Genre : Worship

..

Aanondoloke Mongolaloke Birajo, Sotyosundaro
Aanondoloke mongolaloke birajo, sotyosundaro.
Mohima tabo udbhasito mahagagonomaajhe,
Bishwojagoto monibhushano bestito charone.
Grohotaarako chandrotapono byakulo druto bege
Korichhe paan, korichhe snaan, akkhayo kirone.
Dharoniparo jhare nirjharo, mohano modhu shobha
Phulopallabo-gitogandho-sundaro-barone.
Bahe jibano rajonidino chironutanodhaara,
Koruna tabo abisram janome marone.
Sneho premo daya bhokti komalo kare praan,
Kato shaantono karo barshano santapoharone.
Jagote tabo ki mahotsabo, bondano kore bishwo
Shrisampado bhumaaspado nirbhoyosharone.

Note: This is a Brahmo song. Rabindranath Tagore’s family adhered to Brahmoism, which emphasizes the belief in a formless God. Music composed in line with this belief is referred to as Brahmosangita.

2.3.2 Prayer Songs 2 : Bipade more rokkha karo e nohe mor praartharna

Genre : Worship

Rhythm - Jhampak

Bipade more rokkha karo e nohe mor praartharna -
Bipade aami naa jeno kori bhoy.
Dukkhotaape byathito chite naai baa dile santanaa,
Dukkhey jeno korite paari joy.

Sahaay mor naa jodi jute nijer bol naa jeno tute -
Songsaarete ghotile khoti, lobhile shudhu banchona,
Nijer mone naa jeno maani khoy.
Aamare tumi koribe traan e nahe mor praarthana -
Torite paari shakoti jeno roy.
Aamar bhaar laaghab kori naai baa dile santana,
Bohite paari emoni jeno hoy.
Namroshire sukhero dine tomari mukh loibo chine -
Dukher raate nikhilo dhara je din kare banchona
Tomare jeno na kori sangshoy.

2.3.3 Prayer Songs 3 : Aaguner paroshmoni chnoao praane.

Genre : Worship

Tala (Rhythm) - Dadra

Aaguner paroshmoni chnoao praane.
E jibon punyo karo dahon daane.
Aamar ei dehokhani tule dharo,
Tomar oi debaloyer prodip koro -
Nishidin aalok sikha jwoluk gaane.
Aandharer gaaye gaaye parosh tabo
Saara raat photak taara nabo nabo.
Nayoner drishti hote ghuchbe kaalo,
Jekhane porbe sethaay dekhbe aalo -
Byatha mor utthbe jwole urdho-paane.

2.3.4 Prayer Songs 4 : Tumi nirmolo koro mongolo kore

Genre : Worship

Tala(Rhythm) - Dadra

Tumi nirmolo koro mongolo kore
Molino mormo muchhaye
Tobo punnya kirono diye jak mor
Moho kalima ghuchaye
Lokkho shunyo lokkho basona
Chutiche gobhiro andhare
Janina kokhon dube jabe kon
Okulo gorol'o pathare

Probhu bishwa bipodo honta
Tumi daarao rudhia pontha,
Tobo shree chorono tole niye esho mor
Motto basona ghuchaye
Accho onolo onile chiro nobho nile
Bhudhor'o solile gohone,
Achho bitopee lotay jolo dheero gaye
Soshi tarokay topone
Ami noyone boshono bandhia,
Boshe andhare morigo kandia,
Ami dekhi nai kichhu,
Bujhi nai kicchu,
Dao he dekhaye bujhaye.

2.3.5 Prayer Songs 5 : Tomari gehe palicho snehe tumi dhonno dhonno hey.

Genre : Worship

Tala (Rhythm) - ek taal

Tomari gehe palicho snehe tumi dhonno dhonno hey.
Aamaro praan tomari daan, tumi dhonno dhonno hey.
Pitaro bokkhe rekhecho more janomo diyecho janoni krore,
Bnedhecho sokhar pranoyodore tumi dhonno dhonno hey.
Tomar bishal bipul bhuban korechho aamar nayonolobhon-
Nodi giri bano saroso sobhan tumi dhonno dhonno hey.
Hridoy bahire swadeshe bidheshe juge-jugante nimeshe-nimeshe
Janome-marone-shoke-aanonde tumi dhonno dhonno hey.

2.4 Seasonal Song

Songs describing the six seasons of Bengal are called seasonal songs. Some examples of seasonal songs are given below.

(The teacher has freedom in the selection of songs.)

1. "Poush toder ḍak diyechhe" ..... Rabindrasangeet (Winter)
2. "Shiterhaawar lagalo nachon" ..... Rabindrasangeet (Winter)
3. Aaj dhaaner khette.. Rabindrasangeet (Autumn)
4. Ore gr̥ihobashi.. (Spring)
5. "Aaji jharojharo mukharo badoro diney"------Rabindrasangeet (Monsoon)
6. "Sharaṯ tomar aruṇalor anjali" ..... Rabindrasangeet (Autumn)

2.4.1 Seasonal Song 1 : Poush toder daak diyechhe, aay re choley aay

Genre : Nature

Winter Season

Tala(Rhythm) - Dadra

Poush toder daak diyechhe, aay re choley,
aay aay aay.
Daala je taar bhorechhe aaj paaka phosoley,
mori haay haay haay.
Haawar neshaay utthlo mete digbodhura dhaaner khete -
Roder sona chhoriye porey maatir aanchole, mori haay haay haay.
Maatther bnaashi shuney shuney aakash khushi holo.
Gharete aaj ke robe go, kholo kholo duar kholo.
Aalor haashi utthlo jegeydhaaner shishe shishir legey -
Dhawrar khushi dhorey naa go, oi je uthole,
Mori haay haay haay.

2.4.2 Seasonal Song 2 : Ore grihobaasi khol, dwaar khol, laaglo je dol

Genre : Nature

Spring Season

Tala (Rhythm) - Kaharba

Ore grihobaasi khol, dwaar khol, laaglo je dol.
Sthale jale banotale laaglo je dol.
Dwaar khol, dwaar khol.
Raanga haasi raashi raashi ashoke palaashe,
Raanga nesha meghe mesha probhato-aakashe,
Nobino paatay laage ranga hillol.
Dwaar khol, dwaar khol.
Benubano marmare dokhino baatase,
Projaapati dole ghaase ghaase.
Moumaachi phire jaachi phuler dokhina,
Paakhay baajay taar bhikharir bina,
Madhobibitane baayu gandhe bibhol.
Dwaar khol, dwaar khol.

2.4.3 Seasonal Song 3 : Aaj dhaaner khete roudrachhaayay lukochuri khela re bhaai

Genre : Nature

Autumn Season

Tala (Rhythm) – Kaharba

Aaj dhaaner khete roudrachhaayay lukochuri khela re bhaai –
lukochuri khela.
Neel aakashe ke bhaasale saada megher bhela re bhaai –
lukochuri khela.
Aaj bhromor bhole modhu khete ure beray aaloy mete,
Aaj kiser tare nodir chare chakha-chakhir mela.
Neel aakashe ke bhaasale saada megher bhela re bhaai –
lukochuri khela.
Ore, jaabo na aaj ghare re bhaai, jaabo na aaj gharey.
Ore, aakash bhenge baahirke aaj nebo re loot korey -
Jeno jowar-jawley phenar raashi baatase aaj chhutchhe haasi,
Aaj bina kaaje baajiye bnaashi kaatbe sakal bela.
Neel aakashe ke bhaasale saada megher bhela re bhaai –
lukochuri khela.

Genre Nature

Winter Season

Tala (Rhythm) – Dadra

Shiter haawar laaglo naachon aamlokir ei daale daale.
Paataguli shirshirye jhoriye dilo taale taale.
Uriye debar maaton ese kaangal taare korlo shese,
Takhon taahar phaler baahar roilo na ar antorale.
Shunyo kore bhore dewa jaahar khela
Taari laagi roinu bose sokal bela.
Shiter parosh theke theke jaay bujhi oi deke deke
Sob khowabar samay aamar hobe kakhon kon sakaale.

2.5 Folk Song

Folk music encompasses the traditional expressions and spontaneous behaviours of everyday life as experienced by common people, as well as the unique characteristics of their regional landscapes. Folk songs often reflect these elements.

Below are some examples of folk music. However, teachers are encouraged to select additional songs based on their preferences and the needs of their students.

1. “O amaar darodi”..... Bhatiyaali
2. “O ki O baondhu kajol bhromra”... Bhaowaiya
3. “Tomra gaiyley ki ashiben
   mor mahut bondhu re”..... Bhaowaiya
4. “Amaar tushu dhoney, biday dibo kemoney”..... Ṭushu gaān.
5. “Lalgarer lalmati jatoh paalay bahubeti” .....Jhumur
6. “Sujon majhi re”.....Bhatiyaali

2.5.1 Folk Song 1 : O ki o bondhu kajol bhromorare

Genre : Bhaowaiya

O ki o bondhu kajol bhromorare
Kon din asiben bondhu kaya jao kaya jao re.
Jodi bondhu jabar chao
Gharer gamcha thuiya jao re
Bondhu kajol bhromorare
Kon din asiben bondhu kaya jao kaya jao re.

Botobrikshar chhaya jemon re
Mor bondhur maya temon re.
Bondhure, bondhure, bondhure.
Bondhu kajol bhromorare
Kon din asiben bondhu kaya jao kaya jao

2.5.2 Folk Song 2 : Tomra geile ki asiben

Genre : Bhaowaiya

Tomra geile ki asiben
Mor mahut bondu re II
Hastir noran hastir charan hastir galay dori
Ore sattya kariya konre konba-
Dyashe baari re II
Hastir noran hastir charan hastir paaye beri,
Ore sotyi kariya koilam katha Gouri-purey barire II
Khato-khodo mahut re tor
Gaalay chaapa daari,
Ore, sattya kariya konre mahut ghore-
Koyjon nari re II
Hastir noran hastir charan Champa nodir paarey,
Ore sattya kariya koilam tomra biya-owna hoy morire II

2.5.3 Folk Song 3 : Amar tusu dhane

Genre : Ṭusu

Amar tusu dhane
Biday debo kamone
Mashabodi tusu dhanke khujechhi jatane
Tusu dhane II
Shankha saree sindur dilam
Alta dilam charane
Moner dukkho hoy baro
Phire jete bhabane II

Daya kore asbe amar
Thake jeno mone
Bhulo na bhulo na tusu
Asbe amar sone II

Lal gaṛerlal maṭi
Jatoh palaẏa bahu beṭi
Aar palaẏa bonerr bhaluka (gō)
O bhāluk dhuku dhuku dhuku dhuku,
Babura baape dhareche banduk II

Lal gaṛera rather mela
Ram gaṛer rathera chuṛa
Du'i jhuṛite naiko raṅger saada
Ei Jharṛgaẏete id e baṛo kaada go II..

Id dēkhtejaichhili.
Baṛo kaṣhṭo paichhili
Raate chhili baanstalatey
Thakurdidir gharetey
Taitohloke nilaaj nilaaj baley re II

2.5.4 Folk Song 4 : O amar daradi age janle

Genre : Bhatiyali

O amar daradi age janle,
Age janle tor vanga noukay chortam na.
Vanga noukay chortam na aar
Durer pari dhortam na,
Aami nobolakha banijjer besaat
Ei naaye bojhai kortam na.

Chilo sonar daar poboner boitha
Mayurpankhi nao khana
Chandra surjya golui bhori
Phul chhorate jochhona.

Shoun shoun doriyate uthe dheu
Ei tufanete keu gaang pari diyo na,
Orey bishom doirar pani deikha
Bhoyete praan banche na.

Composer: Jasimuddin

Note: Bengali folk songs feature a rich variety of regional vocabulary. These regional variations enhance the unique characteristics of folk music. When performing these songs with a focus on their regional elements, it becomes possible to preserve the authenticity and essence of the folk tradition.

2.5.5 Folk Song 5 : Sujan majhi re

Genre : Bhatiyali

Sujan majhi re-
Kon ghate lagaiba tomar nao.
Ami parer ashay boisa achi
Amay loiya jao..
Ei parete dorodi nai
Oi parete jaibar chai,
Hoyna amar paare jaowa

Deher anchol amar uray na batase
Uraaye amar buker pashaan,
Kapaaye na hutaashey.

Tomar dekha paina bole
Nittyo bhasi noyon jole,
Hoyni amar tomay pawa
Chanchaliya choliya jao..

2.5.6 Folk Song 6 : Ṭaangiya jhalakaẏ lagor

Genre : Native Jhumur

Ṭaangiya jhalakaẏ lagor
Jachhon go
Ba’irlen kunkdṛi ḍaake,
Sōjā gēlēn kulīr bāṭē gō

Bhaat khāabār bēlā ha'ilā,
Ēkhanō lāgor nā ā›ilo,
Kōn baāṭē kēndojaāchhēn,
Mahul boney gō.

2.6 Patriotic Song

Songs that inspire patriotism are known as patriotic songs. Below are some examples of such songs. Teachers have the freedom to select songs that resonate with their students.

1. "Jodi tor daak shuney keu…." Rabindrasangeet
2. "Janagaṇamana adhināẏaka jaẏa hē. "Rabindrasangeet
3. "Aamraa sabai raja…" Rabindrasangeet
4. "Utho go bharatalokkhi…" Atuprasader gaan
5. "Dhanyadannya pushpe bhora…" Dijendrageeti.

2.6.1 Patriotic Song 1 : Jano Gano Mano Adhinayaka

Genrer: Homeland Hymn

Rhythm: Kaharba

Rabindranath Tagore

Jano Gano Mano Adhinayaka
Jaya Hey Bharata Bhagya Bidhata,
Panjabo Sindhu Gujarato Maratha
Drabiro Utkala Bango
Bindhyo Himachalo Jamuna Ganga
Uchhalo Jalodhi Tarango
Tabo Subho Namay Jagay
Tabo Subho Ashiso Magay
Gahay Tabo Jayagatha.
Jano Gano Mangala Daayaka
Jaya Hey Bharata Bhagya Bidhata
Jaya Hey, Jaya Hey, Jaya Hey,
Jaya Jaya Jaya Jaya Hey

Aharaha Tabo Awhbano Pracharito
Shuni Tabo Udaro Bani
Hindu Bauddho Sikho Jaino
Parasiko Musalmano Khristani
Puraba Pashchimo Aashay
Tabo Singhasano Pashay

Premoharo Hawye Gantha
Jano Gano Oikya Bidhyaka
Jaya Hey Bharata Bhagya Bidhata
Jaya Hey, Jaya Hey, Jaya Hey,
Jaya Jaya Jaya, Jaya Hey

Patana Abhyudaya Bandhuro Pantha
Jugo Jugo Dhabito Jatri
He Chiro Sarathi, Tabo Ratha Chakre
Mukharito Patha Dino Ratri
Daruna Biplaba Majhay
Tabo Shankha Dhwani Bajay
Sankata Dukho Trata
Jano Gano Patha Parichyaka
Jaya Hey Bharata Bhagya Bidhata
Jaya Hey, Jaya Hey, Jaya Hey,
Jaya Jaya Jaya, Jaya Hey

Ghoro Timiro Ghono Nibiro
Nishithay Pirito Murchhito Deshay
Jagrata Chhilo Tabo Abichalo Mangalo
Nato Nayanay Animeshay
Duhswapnay Atankay
Rakkha Karilay Ankay
Snehamayee Tumi Mata
Jano Gano Dukho Trayaka
Jaya Hey Bharata Bhagya Bidhata
Jaya Hey, Jaya Hey, Jaya Hey,
Jaya Jaya Jaya, Jaya Hey

Ratri Prabhatilo Udilo Rabichhabi
Purbo Udaya Giri Bhalay
Gahay Bihangamo Punyo Samirano
Nabo Jibana Rasa Dhalay
Tabo Karunaruno Ragay
Nidrito Bharata Jagay
Jaya Jaya Jaya Hey, Jaya Rajeswara
Bharata Bhagya Bidhata
Jaya Hey, Jaya Hey, Jaya Hey,
Jaya Jaya Jaya, Jaya Hey

2.6.2 Patriotic Song 2 : Dhono dhanno pushpe bhora amader ei boshundhora

Genrer : Tribute to the Motherland

Rhythm: Dadra

By Dwijendralal Ray

Dhono dhanno pushpe bhora amader ei boshundhora
Tahar majhe achhe desh ek shokol desher shera
O shey shopno diye toiri she je sriti diye ghera
Emon deshti kothao khuje pabe nako tumi
Shokol desher raani shey je amar jonmobhumi
Chondro shurjo groho tara, kothay ujan emon dhara?
Kothay emon khele toreet, emon kalo meghe?
O tar pakhir daake ghumiye pore, pakhir daake jege!
Emon deshti kothao khuje pabe nako tumi
Shokol desher raani shey je amar jonmobhumi
Etoh snigdho nodi tahar, kothay emon dhumro pahar
Kothay emon hori khetro akash tole meshe?
Emon dhaner opor dheu khele jai batash kahar deshe?
Emon deshti kothao khuje pabe nako tumi
Shokol desher raani shey je amar jonmobhumi
Pushpe pushpe bhora shakhi, kunje kunje gahe pakhi
Gunjoriya ashe oli, punje punje dheye,
Tara phooler opor ghumiye pore phooler modhu kheye
Emon deshti kothao khuje pabe nako tumi
Shokol desher raani shey je amar jonmobhumi
Bhayer mayer eto sneho, kothai gele pabe keho
O maa tomar choron duti bokkhe amar dhori
Amar ei deshe te jonmo jeno ei deshe te mori
Emon deshti kothao khuje pabe nako tumi
Shokol desher raani shey je amar jonmobhumi

2.6.3 Patriotic Song 3 : Utho go Bharat lakhi, Utha adi jagato jana pujya

Genrer : Tribute to the Nation

Rhythm: Kaharba

By Atulprasad Sen

Utho go Bharat lakhi, Utha adi jagato jana pujya,
Duhkha dainya saba nasi, Karo durita Bharat-lajja.
Chharo go chharo sokasajjya, Karo sajja

Punah kamala-kanakadhana-dhanye!
Jononi go loho tule bokkhe,
Santan bas deho tule chokkhe;
Kaandichhe tabo chorono toley
Trinsati koti naronari go.

Kaandari nahiko kamala, Dukhalanchhito Bharatbarshe,
Shaṅkita mora sabajatri, Kalasagar-kampan-darshey.
Tomara abhaẏa-pada-sparshey, naba harshey,
Punah cholibe tarani subha lakshye.
Jononi go loho tule bokkhe,
Santan bas deho tule chokkhe;
Kaandichhe tabo charono toley
Trinsati koti naronari go.

Bharat-shmasan karo purna punah Kokil-kujita kunje,
Dwesh-hinsha kori churno,Karo puritoh premali-gunje,
Durita karo pap-punje tapoh-bhunje,
Punah bimalo karo Bharat punyya.
Jononi go, loho tule bokkhe,
Santan -bas deho tule chokkhe;
Kaandichhe tabo charono toley
Trinsati koti naronari go.

2.6.4 Patriotic Song 4 : Amra sobai raja Amader e rajar rajjotte

Genre : Ode to Nativeland

Tala (Rhythm) – Dadra

Amra sobai raja Amader e rajar rajjotte
Noile moder rajar sone Milbo ki sotte?

Amra ja khusi tai kori,
Tobu tar khusi tei chori,
Amra noi badha noi Daser rajar traser dasotte -
Noile moder rajar sate Milbe ki sotte?

Raja Sobare dey maan,
se maan apni fire paan,
Moder Khato kore rakheni keu kono oshottey
Noile moder rajar sate Milbe ki sotte?

Amara cholbo apon motey,
seshe milbo tari pothey,
Mora morbo na keu bifolotar bishom aaborttey
Noile moder rajar sate Milbe ki sotte?

Rabindranath Tagore

2.6.5 Patriotic Song 5 : Jodi tor daak shune keu naa aashe tobey aekla chalo re

Genre : Ode to Nativeland

Tala (Rhythm) – Dadra

Jodi tor daak shune keu naa aashe tobey aekla chalo re.
Aekla chalo, aekla chalo, aekla chalo, aekla chalo re.
Jodi keu katha naa koy, orey orey o awbhaaga,
Jodi sobai thaakey mukh phiraye sabai kare bhoy -
Tobey poran khuley
O tui mukh phute tor moner katha aekla balo re.
Jodi sabai phire jaay, orey orey o awbhaaga,
Jodi gahon pothey jaabar kaale keu phire na chaay -
Tobey potheyr knaata
O tui rakhtomaakha charontaley aekla dawlo rey.
Jodi aalo naa dhawrey, orey orey o awbhaaga,
Jodi jhar-baadoley aandhar raatey duwar dey ghare -
Tobey bajraanaley
Aapon buker pnaajor jwaaliey niye aekla jwalo rey.

Rabindranath Tagore

2.7 Rhyme

Rhyme, also known as nursery rhymes or children's songs, are short, catchy verses with repetitive patterns and playful language, ideal for young children. They aid in language learning, memory development, and enjoyment of music, often featuring themes from nature, animals, or imaginative stories. In Bengal, rhyme songs are considered one of the oldest forms of music.

Below are a few examples that can be sung to a melody. But teachers are encouraged to create their own tunes as well.

a. "Twinkle Twinkle Little Star"
b. "Two Little Hands.."
c. "Flip Flap....."
d. Off to school on Monday
e. "Prajapati! Prajapati! Kothaẏa Pele Bhai" Nazjarulgeeti.
f. "Je Jar Basaya Ei Je Ora Korchhe Dakaḍaki..." Nirendranatha Chakrabarti

2.7.1 Rhyme 1 : Twinkle, twinkle little Star

Twinkle, twinkle little Star
How I wonder what you are!
Up above the world so high
Like a diamond in the sky.

2.7.2 Rhyme 2 : Two little hands to clap, clap, clap

Two little hands to clap, clap, clap
Two little feel to tap, tap, tap
Two little eyes are open wide
One little head goes side to side.

2.7.3 Rhyme 3 : Flip-Flap! Flip-Flap!

Flip-Flap! Flip-Flap!
Rises my kite,
Up and Up in the sky
Blue and bright.
Flip-Flap! Flip-Flap!
Goes my kite,
Sometimes to my left,
And sometimes to my right.
Flip-Flap! Flip-Flap!
Flies my kite,
High and high above.
Touching the skies.

2.7.4 Rhyme 4 : Off to school on Monday

Off to school on Monday
Read a page on Tuesday
Write three lines on Wednesday
Solve five sums on Thursday
Sing a song on Saturday
Draw and paint on Friday
Play all day on Sunday.

2.7.5 Rhyme (Song) 5 : Projāpati! projāpati! Kothāy pele bhai emon raṅgīn pākhā

Projāpati! projāpati! Kothāy pele bhai emon raṅgīn pākhā.
Ṭukṭukē lāl-nīl jhilimilī ākā-bākā,
Kothāy pele bhai emon raṅgīn pākhā.

Tumi ṭulṭulē ban-phulē madhu khāo
Mor bandhu hoẏē shei madhu dāo,
Oi pākhā dāo, sonālī-rūpālī parāg mākhā.
Kothāy pele bhai emon raṅgīn pākhā.
Mor mon jētē chāy nā pāṭhaśālatē
Projāpati! tumi niẏē jao sāthī korē
Tōmār sāthē, projāpat.
Tumi howāy nēchē nēchē jao,
Āaj tōmār matoh morēy ānanda dāo,
Ei jāmā bhālō lāgē nā,
Dāo jāmān oi chhabi-āṅkā.
Kothāy pele bhai emon raṅgīn pākhā.

-- Kazi Nazrul Islam.

2.7.6 Rhyme (Song) 6 : Je jar basai oi je ora

Je jar basai oi je ora
Korchhey dakadaki
Orai amar babui phingey
Shalik doyel pakhi
Sath sokale orai eshe
Gharer janalai
Khokon otho bole amar
Ghum vhangia dei.

--Nirendramnath Chakrabarty.

N.T. -Collected from the poetry “Pakhira”.

N.T. - The teachers are encouraged to create their own tunes and teach.

2.8 Summary

From the topics covered in this section of the chapter, we can conclude that if students learn the songs presented here accurately, they will gain an understanding of various types of songs and be able to apply them appropriately in different contexts. Additionally, they may develop skills in event management in certain situations.

- **Key words:-**

  Prayers

  Seasons

  Patriotism

  Rhythms

  Folk

2.9 Unit End Exercise

1. List two songs to celebrate Independence Day at your school.
2. Suggest appropriate songs for the spring festival at school.
3. Name several genres of folk songs.
4. Share a few rhyming songs of your choice.

UNIT 3

Learning and Teaching through Music (Project Activity)

3.1 Introduction

3.2 Objectives

3.3 Integrating Songs and Music with Other Curricular Areas

3.4 Presentation of Concepts through Songs and Rhymes

3.5 Summary

3.6 Unit End Exercise

3.1 Introduction

This curriculum integrates subjects from classes I to VIII with music, providing a wide scope for exploration. Below is a brief description of the integrated topics.

(a) Integration of Subjects: This involves incorporating any subject from the textbooks through music.

(b) For example, engaging students with a chapter in Environmental Science through Music alongside the story "Sotti Sona" / "Real Gold" from the eighth-grade Bengali curriculum. Similarly, in first-grade math, "tables" can be set to tunes like "ek eke ek..." While the seventh-grade Bengali text "Ekusher Tattparjjya" can be combined with historical themes using the song "Nana Desher Nana Bhasha." In the sixth-grade textbook, the chapter on "Martyr Jatindranath Das" coordinates with the history subject through the song "Utho Go Bharatalakshmi."

The ideas and inputs of both teachers and students play a crucial role in selecting these subjects and songs. These were examples of themes integrated through music.

3.2 Objectives

The objectives of this unit are as follows:

- To simplify the topics from the textbooks for classes I to VIII.
- To engage students from all classes in creative activities
- To encourage thinking ability and concentration.
- To reduce school absenteeism by enhancing children's learning.
- To foster a habit of holistic self-presentation beyond traditional knowledge.
- To generate ideas for transitions between different topics in the curriculum.
- To eliminate the monotony of conventional classroom reading.
- To provide students with a clear understanding of the subjects.

3.3 Integrating Songs and Music with Other Curricular Areas

The use of music as a medium is crucial for making the presentation of various curriculum content engaging and comprehensible. Therefore, this chapter is included in our music curriculum.

The subjects integrated within the curriculum include Bengali, English, Mathematics, Science, Geography, History, and more. This unit aims to enhance the overall educational experience by making learning enjoyable and accessible through the integration of music with these subjects.

Example: Coordinating Subjects through Music and Project Work. For instance, here are some subjects that can be integrated through music and project work.

Example 1: The rhyme "Ek ekka ek, dui ekka dui..." by Sanat Singh can be effectively represented using a blackboard and chalk. The context will be the 'Tables' used for multiplication in mathematics can be enhanced through this rhyming song during the lesson. Additionally, the teacher might include a playful rhyme like "Ek Ekka Ek" written by Kazi Nazrul Islam.

The teacher begins the lesson by exchanging greetings and settling the students. Announcing that they will be singing a rhyme song instead of learning "Tables" sparks enthusiasm among the students. As the teacher sings the rhyme, writes the "table"-based song on the board, encouraging students to sing along.

Once the rhyme is on the board, students will write "Ek Ekka Ek" alongside the numbers in their notebooks. The teacher leads the students in singing the rhyme several times with clear pronunciation.

Afterward, the teacher prompts students to create their own rhymes using different numbers. This encourages them to generate and sing creative lines based on their own ideas and imagination.

Through this teaching method, students not only practice writing and speaking numbers but also feel inspired to engage in creative work independently.

Example 2: Integrating Environmental Science with Bengali Literature

The traditional story "Sotti Sona," found in the third-grade Bengali textbook, serves as an excellent example of integrating subjects. This story, which revolves around farming, allows for a harmonious connection between the concept of the environment and the Bengali subject. The song "Amra Chash Kari Anande" by Rabindranath Tagore can be utilized in this context.

To link environmental science with the Bengali story through a "Chart Assisted Illustration" process. The teacher on entering the classroom exchanges greetings with the students and that helps them to shed their inhibition. Next, the teacher announces the lesson and poses a few simple questions, such as:

1. Where is it cultivated?
2. What tools are used during cultivation?

The teacher then presents a large chart featuring images related to farming and facilitates an oral discussion about the lesson, encouraging attentive listening from the students. Afterward, the teacher

introduces the song "Amra Chash Kari Anande" by Rabindranath Tagore, singing it while the students joyfully join in several times.

Following the song, the teacher prompts students to think of other songs related to farming and encourages them to write additional verses on the topic. The teacher assists students in crafting and singing new songs based on their ideas.

This approach not only raises students' awareness of environmental issues through music but also inspires them to create original songs and poems.

Example 3: Connecting Music with History

Now, let's explore how music can be integrated with history.

In this context, we can utilize the book "Past and Tradition," which contains valuable historical information. This book covers various significant events, such as the era of 'Matsyanyaya' and the reign of the Pal and Sen dynasties. Within these historical narratives, we encounter accounts of kings and various movements. To teach these subjects through music, songs like, "Amra sobai raja Amader e rajar rajjotte" and "Chal Re Chal Sabe, Bharato Shontan" can be incorporated. Additionally, music can be applied using PowerPoint presentations to analyze specific historical information related to the Bengali subject.

By combining music with historical content, students can engage more deeply with the material, enhancing their understanding and retention of historical events and contexts.

Example 4: Integrating Music with the Mother Tongue Movement

The context of the Mother Tongue Movement is closely related to the discussion in the chapter "Ekusher Tattparjjyo" found in the seventh-grade Bengali textbook. This movement holds immense importance among various historical events worldwide. Organized in 1952, it involved the entire student community of present-day Bangladesh, successfully advocating for the recognition of their mother tongue, "Bangla," as a state language. February 21, 1952, marks this significant day, which was later designated as "International Mother Language Day" by UNESCO on November 17, 1999. Since then, February 21 has been celebrated in various ways across the globe.

The preservation of mother tongue can be emphasized through the song "Nanaan Deshe Nanaan Bhasha" by Ramnidhi Gupta. This song can effectively connect the historical significance of the movement with the lesson in the Bengali textbook, enriching students' understanding of the cultural and linguistic heritage associated with the Mother Tongue Movement.

- **Enhancing Understanding of the Mother Tongue Movement**

To foster a sense of respect and love for the mother tongue, the teacher can sing or play the song "Moder Garab, Moder Asha." Additionally, to present the language movement more vividly to the students, the song "Amar Bhai'er Rakhtoh Raangano" can also be included. The subject of the language movement can be effectively presented in the classroom using a PowerPoint presentation. Here's how the teacher can approach this:

Upon entering the classroom, the teacher begins by greeting the students and engaging them in a brief discussion. This includes a question-and-answer session designed to introduce the topic and provide an overview, helping to generate interest and set the context for the lesson. For example:

- "Do you know about any movements organized in India?"
- "What do you know about the language movement?" Etc.

This dialogue helps provide a basic understanding of the topic. The teacher facilitates a discussion on the language movement based on the students' responses. The teacher narrates the context of the language movement in a storytelling format while showing posters, slogans, and pictures of processions through the PowerPoint presentation. The language of the posters and slogans should relate directly to the Mother Language Movement. After displaying relevant images, the teacher shares information about songs related to the mother tongue and teaches the song "Nanaan Deshe Nanaan Bhasha."

3.4 Presentation of Concepts through Songs and Rhymes

Project Work on the Language Movement:

Students can engage in various activities to deepen their understanding of the language movement.

- Create informative posters related to the language movement that can be used as visual aids.
- Develop catchy slogans that encapsulate the spirit of the language movement.
- Prepare a list of songs, poems, and dramas that are inspired by or reflect the themes of the language movement.
- Design a chart featuring pictures and brief introductions of key individuals associated with the language movement.

In addition to these project activities, the following methods can be employed to activate students' critical thinking:

- Facilitate discussions on the significance and impact of the language movement, encouraging students to express their thoughts and reflections.
- Ask students to write short essays or poems about the importance of preserving their mother tongue.
- Organize role-playing activities where students can reenact historical events related to the language movement, helping them better understand its context.

These activities not only enhance learning but also inspire students to engage actively with the topic.

Example 5: Understanding the Effects of Monsoons through Music

In the chapter "Indian Climate" from the textbook "Our Earth" for Class VI, the concept of seasonal variations can be explored through music. We can use songs to illustrate the characteristics of different seasons, such as summer, monsoon, autumn, and winter. Here are some examples:

Summer:	"Daruna Agni Bane Re" — Rabindra Sangeet
Monsoon:	"Akashatle Dawley Dawley" — Rabindra Sangeet
Autumn:	"Megher Koley Rodh Heshechhe" — Rabindra Sangeet
Fall (Late Autumn):	"Himer Raater Oi Gagoney" — Rabindra Sangeet
Winter:	"Elo Shiter Bela" — Rabindra Sangeet
Spring:	"Nil Digontey Oi Fuler Agun" — Rabindra Sangeet

Students will select one of these songs and present it as part of their project work, allowing them to connect music with the understanding of seasonal changes.

Example 6: Teaching Environment and Science through Music

In the Class VIII "Environment and Science" textbook, the chapter "Antakkhara Tantra and Puberty" can be effectively taught using music to highlight the characteristics of adolescence. For example:

"Mora Jhanjhar Matoh Uddam" — Kazi Nazrul Islam

"Amra Natun Joubaneri Duth" — Rabindranath Tagore

Students will select one of these songs to present as part of their project work in the classroom. This approach helps them connect with the themes of adolescence while engaging creatively with the material.

Example 7: Teaching Environment and Science through Music

In the chapter on 'Human Rights and Values' from the Class V textbook Our Environment, we explore how music can instill moral values. For instance, the song "Mora Sattyar P'awrey Mon Aji Karibo Samarpan" a Rabindra Sangeet, will be presented by students as part of their project work.

Example 8: Teaching Environment and Science through Music

In the chapter on "Environment and Resources" from the Class V textbook Our Environment, the topic of the "Memorable Personalities" is discussed.

In conversational contexts, music can be used to honor great individuals. For example:

"Vande Mataram" by Bankim Chandra Chatterjee

"He Nutan" by Rabindranath Tagore

"Moder Garob" by Atul Prasad Sen

Example 9: Teaching English through Music

While teaching the 'Santiniketan' chapter of the sixth-grade English syllabus, the teacher can first introduce the song "Amader Santiniketan" by Rabindranath Tagore. This song not only captures attention but also encourages the development of ideas and information. Although the current curriculum prescribes the Direct Method of Teaching English, this song can be effectively utilized because it embodies many engaging and fluent elements that facilitate spontaneous learning.

Example 10: Teaching Geography through Music

In the Class 6 geography lesson "Our Country India" from the textbook Our Earth, the teacher can use the song "Ayi Bhuvanmanmohini" to enhance understanding and generate ideas. This song beautifully highlights India's natural landscape and its significance.

Example 11: Teaching Bengali through Music

To introduce and evaluate the poem "Jater Bajjati" by Kazi Nazrul Islam in Class VII, the teacher can also incorporate the song "Mora Eki Brinte Duti Kusum." This additional piece can enhance the lesson and deepen students' understanding.

Example 12: Teaching Bengali through Music

This song "Aw e ajogor ashchhe tere, aamti aami khabo pere" by Kishore Kumar can serve as a teaching aid while first-grade students Bengali Alphabets.

Example 13: Additionally, music can be used to observe significant days and celebrate various occasions with the following songs:

"Muktir Mandir Sopanotaley" by Mohini Chowdhury (Independence)
"Hou Dharametey Dheer" by Atul Prasad Sen (Independence Day)
"Chal Chal Chal..." by Kazi Nazrul Islam (Independence Day)
"Moder Garab Moder Asha" by Atul Prasad Sen (Language Day)
"Ami Banglai Gan Gai" (lyrics and tune by Pratul Mukherjee) (Language Day)
"Tomar Ashon Shunnyo Aaji" by Rabindranath Tagore (Netaji's Birthday)
Students will write and present these songs as part of their project work.

3.5 Summary

Through the project work process, students will receive a well-rounded education while engaging in creative activities that harness their thinking skills in music creation. They will also gain success by participating in various competitive events within the community.

3.6 Unit End Exercise

1. Match a chapter from the Bengali textbook of any class with a relevant piece of music.
2. Integrate rhyming songs to help teach a math concept in the classroom.
3. Explore how the chapter "Shaheed Jatindranath Das" in the sixth-grade Bengali textbook is connected to history through music.

UNIT
4

Drama

4.1 Introduction

4.2 Objectives

4.3 Concept of Drama and Stage

4.4 Folk Drama and Stage

4.5 Single Acting and Group Acting

4.6 Dance Drama

4.7 Mime Acting

4.8 Summary

4.9 Unit End Exercise

4.1 Introduction

The question of how to make learning more engaging has been widely discussed around the globe. Scholars generally agree on two essential connections for effective learning: relevance to life and the element of joy. If what students learn feels disconnected from their personal experiences, they remain disengaged and struggle to understand their lives and surroundings. Additionally, students need to recognize that education doesn't have to be a tedious obligation; it can be an enjoyable pursuit.

This transformation is challenging. For years, the notion that education is merely a necessary burden—something to endure for grades—has permeated our educational system. To shift students' perspectives, we must reevaluate the student-teacher dynamic, which often resembles a one-way transmission of knowledge where teachers impart information and students passively receive it. This model leads to evaluations based on how much knowledge students can absorb, labeling them as "good" or "bad" students based solely on their retention.

To foster a more active and enjoyable learning environment, it's essential for students to relate their studies to their own life experiences. This is the underlying principle of teaching through theatre. By incorporating drama into education, we aim to create a more interactive and meaningful learning experience that resonates with students on a personal level.

4.2 Objective

The objective of this initiative is to blend drama, literature, various art forms, and diverse materials to help students experience and interpret the world around them. By incorporating these elements into the classroom, we aim to make subjects more engaging and relatable for students.

To effectively implement this approach, prospective teachers must familiarize themselves with Drama's language repertoire, at least initially. This discussion is designed to facilitate that essential understanding, equipping teachers with the knowledge needed to inspire and enrich their students' learning experiences.

4.3 Concept of Drama and Stage

4.3.1 Understanding Theatre and Its Relationship with Education:

Let's briefly explore what theatre or drama entails and how it can be developed in an educational context. The renowned director and playwright Peter Brook famously stated, "I can take any empty space and call it a bare stage. A man walks across this empty space while someone else is watching him, and this is all that is needed for an act of theatre to be engaged."

This concept illustrates that theatre can occur in various settings—whether it be an academy, a village square, or even a classroom. In this "Theatre Space," a teacher can demonstrate through acting, while also encouraging students to participate and perform. This collaborative approach fosters an engaging environment where all students can act and observe without hesitation.

By selecting topics from the curriculum, teachers can incorporate acting into lessons. For instance, if a drama is centered on a historical event, students become immersed in that experience, allowing them to connect with the material on a deeper level. They can empathize with characters, gaining insights that go beyond rote memorization.

There's no need for elaborate arrangements to facilitate this kind of learning; the essence of drama lies in its simplicity and accessibility. By integrating theatre into education, we can transform how students engage with and understand their subjects.

4.3.2 The Power of Drama in Education:

One of the defining characteristics of drama is its ability to create a make-believe world. As Rabindranath Tagore expressed in his work 'Rangamanchaa', "A garden should be created by envisioning it." This idea challenges us to move beyond rigid interpretations of reality. In the classroom, a simple chair can transform into a peacock throne, and with a bit of creativity, students can imagine a net or a cityscape. For instance, if two students hold the ends of a veil and wave it, they can create the illusion of a flowing river.

While adults may need convincing to accept these imaginative constructs, children possess a remarkable ability to believe in and engage with make-believe, as seen in their play with dolls. It is one of our key responsibilities as educators to nurture and enhance this imaginative capacity.

To facilitate acting, some props may be necessary—like swords, crowns, or other simple items. Students can craft these elements themselves, fostering a sense of ownership and pleasure in their creations. This hands-on experience not only enhances their creativity but also enriches the learning process.

Moreover, teaching through theatre offers significant social benefits. Many children come from small families and may grow up feeling isolated, leading to self-centered behaviors. Engaging in collective arts like theatre encourages collaboration and social interaction among peers. Participating in group performances allows students to connect with one another, fostering a sense of community and enhancing their social skills. In this way, drama serves as a vital tool for both personal and social development in education.

4.3.3 Understanding Drama

Now, let's address the question: what exactly is a play? In simple terms, the literature written for performance is called drama. Notable playwrights such as Girish Chandra Ghosh, Vijendralal Roy, and Rabindranath Tagore have all contributed significantly to this genre.

Drama can also be created through oral tradition. Numerous examples of such plays exist in folk theatre, known as 'Loknattyo' or Folk Theatre. The drama performed in the classroom can certainly draw from these rich traditions. Students can collaboratively create their own plays, bringing their ideas to life through performance.

While we will discuss the specific rules and structures of drama later, it is also valuable to acknowledge the historical context of this art form. Understanding the evolution of drama can deepen our appreciation for its role in education and its potential to inspire creativity and expression among students.

❑ The Beginning of Drama

The origins of drama can be traced back to primitive times when early humans likely gathered in caves, sharing stories of their hunts. After a successful hunt, they would recount their experiences to the older members of the community and children. As they told these tales, they might have acted out parts of the story—mimicking the movements of the animal, illustrating its cries, and gesturing dramatically to convey the excitement of the hunt. Scholars suggest that this storytelling, enriched by physical expression, marks the very beginnings of theatrical performance.

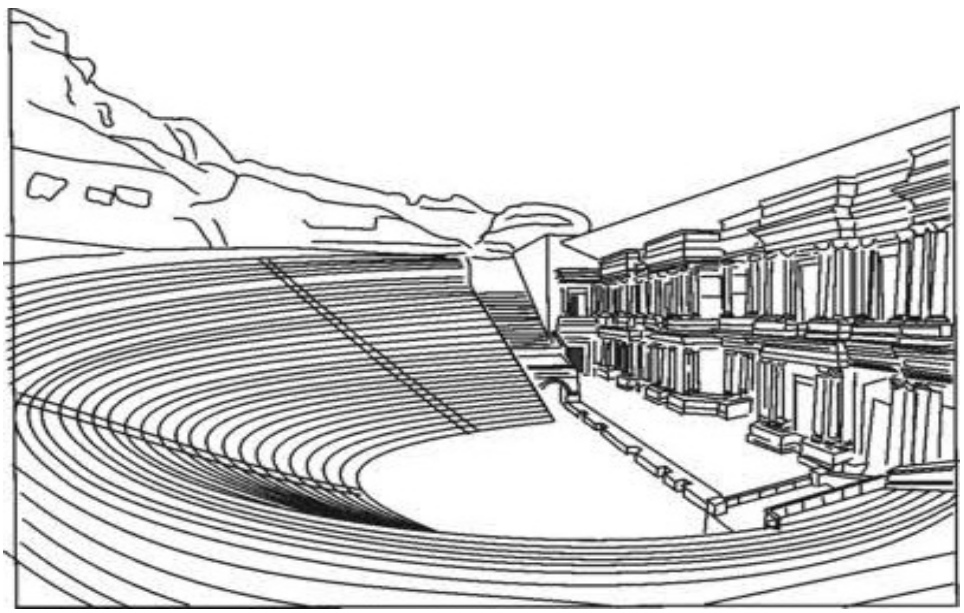
Explaining the full history of drama is complex and requires extensive discussion. However, we can highlight key episodes that have shaped its evolution, emphasizing the significance of storytelling and performance in human culture. This exploration will illuminate how these early practices laid the groundwork for the rich tradition of drama we engage with today.

❑ The Origins of Performance

The earliest recorded performance dates back to Egypt around 2400-2000 BC. Following this, between 550 and 350 BC, drama emerged in Greece, where some of the greatest works of world literature were created by playwrights such as Aeschylus, Euripides, Sophocles, and Aristophanes.

Dramatic competitions were held in honor of Dionysus, the god of fertility and wine. These performances took place in large amphitheaters carved into hillsides, accommodating audiences of about 17,000 to 20,000 spectators. To ensure they could be heard, actors often had to shout, and they wore long, flowing robes along with elevated shoes. Additionally, devices were used to amplify their voices.

The stage structure began as a simple rectangular space known as the "Skene". Over time, it was extended forward to create what was called the 'Proskenion". In front of this was a round area known as the Orchestra. While "Orchestra" typically evokes images of musical ensembles today, in Greek drama, the Orchestra was the space where the chorus gathered. The chorus would sing and act together, adding depth and unity to the performance, thus enhancing the overall theatrical experience.



Ancient Greek Open Theatre

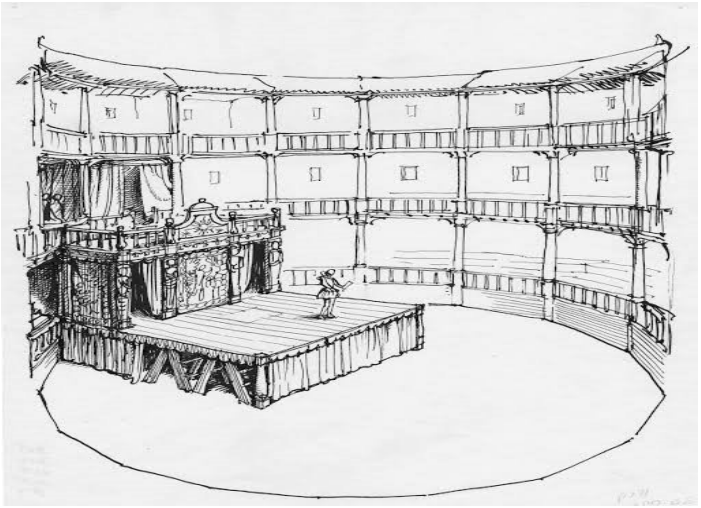
- **The Roman Theatre and Beyond:**

Following the Greek era, the age of Roman theatre emerged from the third century BC to the first century AD, with performances taking place in Rome and other major Italian cities. While Roman theatre shared similarities with Greek styles, it introduced a new structure that combined elements of genre and orchestration, forming what is known as the proscenium. Understanding this term is crucial, as it describes the format of many modern theatres, including those we see today, like Akademi, Shishi Madhya, and Girish M.

In Roman theatres, actors would enter and exit from a dressing room located behind the stage, accessing it through various pathways. Performances were held during the day, and audiences could number around 1,300 spectators.

Time progressed, and we arrive at the era of Shakespeare in sixteenth-century England. Theatres like the Globe Theatre and Fortune Theatre were built along the River Thames. The proscenium from Greek and Roman times evolved further, featuring a two-story balcony at the back of the stage where additional performances could occur. A famous example of this is the balcony scene in "Romeo and Juliet," where the second-floor balcony played a significant role.

This two-story structure extended into the audience, creating a more immersive experience. As audience sizes decreased, performances became more intimate, allowing for a more naturalistic acting style and makeup. Theatre has continued to evolve, adapting to the needs and tastes of each era, right up to the present day.



Contemporary Stage during Shakespeare's time

4.3.4 The History of Theatre in India

While we've discussed the evolution of theatre in the West, it's important to remember that theatre has deep roots in India as well. The first known Indian dramatist, Bhasa, lived around the fifth century BC, contemporaneous with ancient Greek playwrights. Other notable dramatists include Kalidasa, Dandi, Vishakadatta, and Shuka.Bharatamuni's "Natyasastra" is a foundational text on the theory of drama and acting in India, detailing the construction of theatres in ancient times. According to this text, three types of theatres were commonly recognized:

1. Chaturasr: A square theatre with equal sides.
2. Vikrishta: A rectangular theatre where the length is twice the width.
3. Rasra: A triangular theatre.

Each type of theatre was further categorized into three sizes. The largest, or "BikrshtaJyashthaChaturasr," measured 108 x 108 cubits; the medium, "Madhya Chaturasr" was 64x64 cubits; and the smallest, "Chaturasr" measured 32x32 cubits. Similarly, other theatre types also had three size variations.

In the context of modern theatre, we can draw parallels to the proscenium stage, where performances take place in a rectangular space, resembling a picture frame. This type of stage is also known as a picture-framed stage.

Other stage types include:

Proscenium Stage: The stage often had a proscenium arch, creating a clear separation between the performers and the audience, enhancing the immersive experience. It is also known as Picture Frame Stage.

Thrust Stage: The audience surrounds three sides, bringing them closer to the action.

End Stage: A stage with no wings, bordered by a back wall.

Arena Stage: The audience sits all around the performance area.

Black Box or Flexible Theatre: A versatile space that can be configured in various ways.

Profile Stage: The audience views the performance from the side.

This variety illustrates that any space can be transformed into a stage. Teachers can creatively adapt the available space, whether inside or outside the classroom, to engage students in theatrical experiences.

4.4 Folk Drama and Stage

Any art form can include literature, drama, music, and painting, which can be divided into two categories: institutional art and non-institutional art. To illustrate with theatre, one type may develop under the patronage of institutions, while another exists independently. The question arises: what constitutes an institution? When powerful individuals in society, whose opinions are widely accepted, establish rules that others are compelled to follow, that becomes an institution. For instance, our education system can be viewed as an institution, as can law, government, and religion. Some forms of art, however, can emerge from personal expression, disregarding institutional rules. If these terms seem unfamiliar, institutional art can be termed civic or refined art, while non-institutional art is referred to as folk art. Because civic art is supported by influential figures in society, we can easily identify its practitioners, as they possess a clear social identity. In contrast, there is folk theatre, which warrants a few comments.

First, let's define what 'folk' refers to in 'Folk Theatre'. The term "folk" refers to ordinary people—those without a distinct identity. Shankaracharya referred to them as "lowly," but we would phrase it differently, describing them as individuals who are integrated within a community, often illiterate, with limited exposure to the broader world of knowledge and innovation. They live within their own confines, adhering to long-standing customs and traditions. Thus, it is clear that these traditions will dominate their theatre. In other words, 'Folk Theatre' can be defined as drama performed by the common people, created for their enjoyment, and based on the narratives of everyday life.

Institutional theatre has specific venues for performance, such as stages designed for classical plays or amphitheatres established by the state for Greek drama. In contrast, folk theatre can be performed

anywhere, often even in various locations. Processions frequently play a significant role in folk dramas, with audiences moving alongside performers. This is largely because folk theatre often originates from the worship of local deities, and processions are a notable feature of these rituals. Additionally, folk theatre tends to incorporate various types of rituals. Unlike institutional or civic theatre, the authors of folk theatre are generally anonymous. This is partly because folk theatre is usually a collaborative effort rather than the work of a single individual. Performers may even spontaneously create dialogues or scenes during the show, seamlessly adapting to unexpected lines or actions.

It's important to note that compared to institutional or refined theatre, folk theatre has a much looser structure. The audience does not expect a tightly woven storyline, and interactions between performers and the audience are common. Stories about daily life can weave into performances; with music enhancing the experience and helping the narrative resonate with the audience. Civic theatre adheres to specific structural norms, while folk theatre allows for greater freedom. No particular backdrop is used, and costumes or makeup are created from whatever is available. Male actors may play female roles, and some folk performances may utilize masks.

It is evident that there are numerous forms of folk theatre worldwide. Notable examples from West Bengal include 'Gambhira', 'Alkap', 'Raibeshe', 'Bhadrajatra', and 'ChorChunni Pala'.

4.5 Single Acting and Group Acting

Having discussed the essence of drama, let's explore the concept of acting in greater depth. A simple yet effective definition of acting is: "A" is doing something while "C" is watching. While this may seem basic, it captures the fundamental nature of performance. When we portray another character, we engage in acting. In reality, we all act in various roles every day. The persona I present to my students differs from the one I adopt with the headmaster or when I'm joking with friends. This adaptability reflects our social roles, echoing Shakespeare's insight in "As You Like It": "All the world's a stage, and all the men and women merely players."

Acting is not limited to the stage; it encompasses role-playing in everyday life. Salem Al Din, a Bangladeshi playwright and theorist, posits that all literature created before the printing press was essentially drama. His argument is that stories were shared orally through performance, inherently making them dramatic.

However, one might question whether all presentations qualify as plays. For instance, when Kathak Tagore performs "Panchali," he might seem to be narrating rather than acting. Yet even in narration, elements of performance are present; his voice, tone, and demeanor bring the characters to life, making the experience engaging.

Consider a classroom without narrative flair. A skilled teacher employs vocal variety, gestures, and expressions to elevate the material beyond mere recitation. This engagement helps students connect emotionally with the content, transforming information into meaningful experience.

Now, let's focus on solo acting. When a teacher performs alone in front of students, how can they ensure authenticity? Konstantin Sergeyevich Stanislavsky, a revered figure in theatre, offers invaluable insights. He emphasizes two key elements for effective acting:

1. **The Battle between Truth and Belief:** While an actor's reality is grounded in their life—where they live, their profession—they must convincingly embody a different character, such as a Stone Age hunter.
2. **The Magic "If":** This concept encourages actors to immerse themselves in their character's situation. If you can vividly imagine being a primitive hunter, the audience is more likely to perceive your performance as genuine.

In solo acting, it's crucial to invest in the scene's reality, even if it's fictional. Similarly, in teaching, genuine understanding and enthusiasm for the subject matter will resonate with students. Authenticity is essential; students can easily detect when an instructor is being disingenuous.

In acting, performers often switch between multiple roles, using distinct voices and mannerisms. An audience may marvel at an actor's ability to portray various characters seamlessly. This adaptability is equally important in teaching, where instructors aim to captivate and engage their students.

If a student is to perform solo, guide them in understanding their characters and connecting emotionally, but allow them the freedom to explore the roles in their own way. Your role as a teacher is not merely to mold them into perfect actors but to ignite their curiosity and joy for the subject. This exploration fosters creativity and a deeper understanding, enriching their educational experience.

4.6 Dance Drama

Before delving into the concept of dance drama, let's clarify what we mean by "dance." In English, the term refers to the movement of the body in rhythm. It originates from the German word "danson," which means to spread or move the body—an action we often associate with breaking free from constraints. In Sanskrit and Bengali, "dance" conveys a similar idea: moving joyfully to a beat. Additionally, there's a Sanskrit word for "circle" that closely relates to dance, highlighting the rhythmic aspect of movement.

When we discuss dance, our primary goal is to explore the similarities and differences between theatre and dance. Both art forms share a key similarity: the physical presence of the artist, who brings the art to life through performance. However, the distinction lies in emphasis. In dance, the focus is on body movements, while in drama, dialogue plays a crucial role. Dance often features exaggeration; movements are not simply a reflection of everyday life but are enhanced for aesthetic effect. While drama can also include exaggerated performances, it typically does not reach the same level of embellishment as dance.

The boundaries between drama and dance can be fluid. Udayashankar once noted that watching ShambhuMitra perform in the play *Charadhyaya* felt akin to witnessing a dance. For those who appreciate both forms, it becomes clear that they often intertwine, and at times, merge into a singular expression.

Bengali drama has a rich history, dating back many years. The *Charyapad*, which marks the earliest signs of Bengali literature, even references a Buddha play. Ancient and medieval performances in Bengal were typically infused with dance and song, creating a vibrant theatrical experience. Folk dramas across cultures also incorporate significant elements of dance and music. However, the term "dance drama" as a distinct genre emerged only with Rabindranath Tagore, who was the first to define it in Bengali literature.

Rabindranath's plays are renowned for their musicality. Early in his career, he wrote ballads where songs served as dialogue, often without separate prose. This integration of music and movement enriches the performance, with gestures and rhythm enhancing the storytelling.

Rabindranath was inspired to incorporate dance as a form of body language in 1927 during his travels to the East Indies. His encounters with the dances of Java, Bali, and Syamadesh, particularly those based on the stories of the Ramayana and Mahabharata, deeply influenced him. He reflects on this inspiration in *Java Yatri*. Toward the end of his life, he composed several notable dance dramas, such as *Chitrangada*, *Chandalika*, *Taser Desh*, and *Shyama*, initiating performances that brought these works to life.

Teachers can engage students by having them act out Rabindranath's dance dramas, a practice known as Rabindranath Sango. Beyond simply performing the text, students can infuse their own stories—whether drawn from personal experience or imagination—into the dance. This approach allows them to bring narratives alive through movement and music, fostering joy and creativity in the educational space. Through this artistic exploration, a dynamic learning environment can flourish.

4.7 Mime Acting

Mime acting, as the term suggests, involves performing without spoken dialogue. The essence of mime is to convey thoughts and emotions through silence. While we often express ourselves verbally, our bodies naturally communicate alongside our words. Dramatists identify three primary non-verbal methods of expression: gesture, expression, and movement.

Definitions:

Gesture: Any movement of the body, especially the hands and head, to convey meaning. For example, spreading your arms to illustrate the shape of the Earth during a lesson is a gesture.

Expression: The look on one's face can convey emotions, such as smiling while reminiscing about a joyful moment.

Movement: This refers to physical actions like walking or gesturing, allowing us to share feelings beyond words.

Mime, or "pantomime," has a rich history, originating in ancient Greek theatre where "mimos" (meaning mimic) referred to an actor who would perform silently, often while wearing masks. This art

form evolved through medieval Europe with performances like Mummer plays and Dumb shows. Modern artists have shown that profound meaning can be conveyed without words.

Two notable figures in mime are Charlie Chaplin and Marcel Marceau. Chaplin, a pioneer of silent film, is renowned for his ability to evoke emotion and humor without dialogue. Marceau, a celebrated stage performer, demonstrated the depth of silent expression. In one of his famous acts, he portrayed a struggle to remove a mask, expressing desperation and conflict without uttering a word. The audience was captivated by how he conveyed a narrative purely through body language.

In education, mime can be particularly valuable. Students who are hearing or speech impaired often face challenges in expression. By utilizing mime, we can help these students discover their own voices and abilities. For example, teachers can model non-verbal communication to explain concepts or encourage students to express themselves through mime. This can foster confidence and highlight their hidden talents.

However, care must be taken to ensure that the use of mime does not lead to feelings of inadequacy among students. It's essential to focus on building connections and enhancing communication rather than emphasizing differences. Through mime, students can explore a world of possibilities that transcends verbal language, awakening their potential and encouraging creativity in expression.

4.8 Summary

This unit attempts to provide a brief understanding about drama, it's origin, ancient drama and theatre and their Indian versions. This unit will help the students to understand the basics of drama and encourage them to stage drama in different occasions.

Key Terms :

Drama, Stage, Theatre, Mime, Acting

4.9 Unit End Exercise

1. Select any chapter from the literature book (III - VIII) and stage a drama.

UNIT
5

Fine Arts

5.1 Introduction

5.2 Objectives

5.3 Arts in Practices: Different forms of Visual Arts

5.4 Drawing & Painting - Sketching - Pastel / Water Colour

5.5 Alpana-- Design/Pattern/Ornamentation

5.6 Clay Work - Modelling / Relief Work

5.7 Paper Art

5.8 Collage

5.9 Crafts with Waste / Discarded Materials

5.10 Tie and Dye

5.11 Fabric Painting

5.12 Graphics - Calligraphy / Prints

5.13 Puppets

5.14 TLM

5.15 Summary

5.16 Unit End Exercise

5.1 Introduction

"The necessity and reason that inspired primitive man to paint in the dark caves arises in the minds of civilized men of the present age, but no cause has yet been determined. Burning fat torches, out of sight and reach of humans, sometimes high above, the primitive people created pictures in response to special needs. They used charcoal, crimson, yellow, green stone, kharimati (china clay), and various types of local clay and coloured stone as materials for painting. All these colours were mixed with animal fat, and the colour was applied by rubbing it on the stone wall with the help of a brush with a blunt tip like a toothpick. By applying the colour in this manner, the fat colour deeply penetrated the uneven rock and has remained undestroyed for thousands of years or more. On the other hand, the cavemen practiced VashikaranVidya with a pure attitude to seek spiritual power. All these paintings are signs of pure work." (Art and Artist-Professor Shri Krishnalal Das, Govt. College of Art and Culture, David Hare Training College, Kolkata)

Primitive humans used art as a special means of survival. Thousands of years of gradual hard work, practice, observation and experimentation have led to the pinnacle of civilization today. Free movement

in water, land and sky has become possible. The development of life has been enabled through various realizations. Now man does not fear nature, but man has become the cause of fear of nature. Art then was not related to the means of livelihood, but for the means of development of life. Educators recognize that regardless of the profession a person takes uplaterin life, some music, painting and drawing should be practiced in childhood. Otherwise, full development of a person is not possible.

Education refers to the acquisition of proficiency in reading, writing and arithmetic, and art was the vocational education of a particular community, which had nothing to do with education. Later, visual, tactile, auditory, etc., were included in pedagogy and named as aesthetic education. Educators freely admit that aesthetic education develops the student's senses, intuition, imagination, emotions, feelings and thinking power to inculcateinthe student a holistic personality. The everlasting conflict between education and art has been resolved and now the opinion about art and education have been expressed as–"Art is an expression. Science is an explanation of the same reality,"i.e., education is the regulatory system.

Art is never constant. The art of the past influences the present. Today's industry will influence the future. Art is sometimes direct, sometimes indirect, sometimes tangible, and sometimes abstract. When we can touch with our hands, see with our eyes, hear with our ears—then it is tangible. And when it comes to perception, it is abstract. As painting influences sculpture, sculpture also influences painting. Art is again asensual stimulation. Eyes, ears, nose, tongue, skin—these senses are distinct but deeply interrelated. As design is related to craft, dance is related to drama. Sensation is satisfied by imagination, so there is need for visual and tactile education. Intuition in music requires auditory learning. Feelings and emotions are developed through drama and thinking ability is developed through handicrafts.

In prehistoric times, human activities were primarily driven by necessity. This included both practical actions ('karu' craft) and actions driven by curiosity and knowledge ('charu' fine arts).Charu refers to fine arts, which are activities driven by a pursuit of knowledge and aesthetics. "Karu" refers to crafts, which involve habitual actions aimed at fulfilling practical needs.These two forms of creativity, driven by different motivations became integrated andare exemplified in activities like vase painting or decorating earthenware, where aesthetic sense and craftsmanship converge. The combination of these creative activities, stemming from both intellectual pursuit and practical necessity, has led to the amalgamation and definition of "Art"

5.2 Objectives

Students come to school to study various subjects. Each subject lesson has distinct aims and objectives. If the overall objective is successful from the single objective, the students acquire more knowledge. For example, the purpose of studying history is not merely to make a historian but to gain knowledge about the historical background, political conditions, social conditions, religion, music, arts, etc., of that time. Similarly, the purpose of art education is not to make the student a skilled artist but to awaken his

latent artistry and make it possible to support his overall development. Direct and indirect objectives can be achieved through art education. (i) The direct objective is to develop the physical, intellectual, moral and social aspects of the student through hands-on teaching. (ii) The indirect purpose is to cultivate spontaneous pleasure through freedom and to possess a healthy natural mind. Feel great joy in small creations. (iii) To express the sense of beautyand aesthetic. It is through this art that we learn how to neatly organize our daily practical things from morning to evening.

All-round development of students through art education:

1. **Intellectual Growth**

   The diverse world of shapes, tastes, scents, textures, and colors in nature excites us, but not all forms touch us deeply. Those that do we call them beautiful. From a young age, children marvel at nature, becoming ecstatic at the sight of colorful flowers or butterflies, which sparks their imagination and awakens a sense of beauty. This artistic sense finds expression through colors and lines, developing their intelligence and memory as they observe and recreate these beauties in their own way. Imagination flourishes as they concentrate on creating and analyze with a sense of proportion and logic. This process not only nurtures their creativity but also enhances their intellect, bringing them joy through their artistic endeavors.

2. **Moral Growth**

   A child faces numerous challenges as they progress in any industrial work. However, they can overcome these challenges through their intellect. Gathering materials from familiar surroundings, they complete their artwork and become their own critic, learning to analyze its quality. Through inquiry and experimentation, their sensitivity, imagination, intuition, emotions, and feelings develop. Self-reliance, nurtured through consistent artistic practice, enhances their self-confidence. Eventually, their moral character is strengthened. Practicing beauty through 'Namaskriya'—whether in appreciating virtue or saluting the virtuous—further develops the moral compass of both students and children.

3. **Physical Growth (Physical Growth) 1**

   Art education, including woodwork, metalwork, pottery, sculpting, gardening, etc., promotes proper movement of the student's body parts and enhances physical dexterity. In Japan, painters also learn swordsmanship because the art of wielding a sword requires skill and agility similar to drawing. Physical capability is crucial in artistic creation. Sculpture, various crafts, and painting help develop and refine the student's physical abilities.

4. **Social Growth**

   A suitable environment is essential for a child to develop into a responsible citizen, and school plays a crucial role in this process. As a social institution, school serves not only as an academic center

but also as a temple for nurturing students into honest individuals with complete personalities. This fosters the development of 'complete human resources' for society, the country, and the world

Art education contributes to the cultivation of several ideal qualities in students:

1. It teaches them to observe, recognize, and appreciate beauty, which later reflects in their daily lives and social interactions.
2. It raises awareness about ethics and ideals, educating students about their responsibilities and duties.
3. It promotes environmental consciousness and stewardship, enhancing the beauty of both homes and communities.
4. It refines manners and social behavior through continuous practice."

5.3 Arts in Practices: Different forms of Visual Arts

What is art? Or what is called art? Art, or the artist's art is the lush aesthetic visual form,a practical object created by the spontaneous expression of "Sukumar" (the very beautiful, delicate and tender), mind's attitude.

Scenery is a picture, drawn in colour or otherwise, depicting extraordinary architecture, sculpture, or simply created for enjoyment. Utilitarian forms refer to aesthetic artifacts, such as handicrafts.

Bhāvarupa refers to the experience of an essence that is enjoyed purely through creation, such that can be felt, seen, touched or heard. All come under "Arts" or "Fine Arts". Similarly, literary appreciation, known as BhāvarasaĀswadan, involves a deep emotional connection to the content. Art, in all its visual or material forms, is rich in creative expression.

According to the scriptures, particularly in "Saivatattva," fine arts, music, acting, and other forms of expression are considered part of the sixty-four arts (chatushashti-kalā). The Navarasas (nine emotions) are expressed through these artistic endeavors. Art is difficult to define in a single word. Philosophers and scholars have interpreted art in various ways. Some consider art to be purely an expression of imagination, while others view it as the artist's expression of practical and experienced aesthetic sensibilities.

In truth, art is neither solely pure imagination nor merely the representation of the material world experienced. It embodies a complete feeling—a consciousness that blends both imagination and reality—expressed in various forms and through different mediums. The pursuit of art elevates a person toward a higher spiritual path, seeking ultimate consciousness. While spoken languages are limited by country, time, and culture, the language of art is universal, transcending national borders. Artists themselves stand above caste and religion. Visual art, fine art, and related terms are often used synonymously, though "art" encompasses a much broader scope. In its broadest sense, art includes all forms of artistic expression, such as fine arts, music, dance, acting, sculpture, and architecture. Generally, the terms arts, crafts, and fine arts refer to artistic and craft practices.

Art is divided into several segments on the basis of functionality:

(1) Fine Arts

(2) Craft

(3) Folk Art: Art or fine art (Art or Fine Art — same meaning) as well as common people. We also find simple art made with spontaneous impulses — which is folk art. Arguably, the industry has developed in its own way since its inception. As this folk art is not bound to follow the dictates of the Principles of Art, the common man carries on this art style with the help of little materials, fearlessly, spontaneously, and unhesitatingly with his own artistic ideas.

(4) Applied Art or Commercial Art:

This form of art utilizes various mediums to promote commercial products, aiming to capture public attention effectively. It includes vibrant book covers, diverse posters, aesthetically pleasing calendars, and a variety of illustrated advertisements produced through techniques like offset printing, silk screening, graphics, and advanced printing methods. Design plays a crucial role in this context.

Marketing has a high demand for various designs and designers. A designer must possess creative, independent thinking. They should have a clear idea about taste, along with necessary skills and techniques. Materials such as soil, wood, metal, and stone are used extensively in all aspects. There is also a growing demand for these materials in the advertising field. Apart from design, this commercial art ensures the highest quality in any content. Decorative Art flourished in England towards the end of the 19th century, which helped in enriching the Applied Art.

5.3.1 What is Art?

Fine arts, or simply arts, encompass creative forms inspired by expressive creativity, aiming for aesthetic appeal. Painting and sculpture are examples of fine arts. Individuality, inventiveness, expression of innovative thoughts, and the development of heightened consciousness characterize art. Life's diverse experiences and the resulting ideas seek expression through various forms.

In a special state of mind, artists depict imagined images using lines and colors or carve them into stone. All these expressions are considered art.

In the context of fine art painting, it can be said that the line is the soul of the painting, especially in Oriental art, while color brings life to the expression. Through expression, transcendental beauty and consciousness manifest.

Love gives birth to feelings. Rasa is created to express these emotions. Art forms emerge from the union of love, emotion and passion. Artists create for enjoyment, expressing some feelings while others remain unexpressed.Comedians often strive to uncover the secrets behind words—what is said and what is left unsaid—yet the mystery persists, never fully revealed. Different people interpret it in various ways, highlighting the usefulness of art.

Art is timeless and enduring. Even today, many seek to unravel the enigmatic smile on Leonardo da Vinci's 'Mona Lisa.' Similarly, the greatest cave painting in the Seventeenth Cave of Ajanta — depicting a mother and her infant sons, Gopa and Rahula, before the colossal Buddha holding alms bowl—speak volumes. The eyes of the devoted sister Yashodhara (Gopa), her hand mudras, convey unspeakable pain, wonder, and surrender. It's more than a silent picture; its ineffable expression holds an eternal mystery.

Ajanta Cave Paintings, the Ellora Painting Collection, unique sculptures from Ajanta and Ellora, Rajput and Mughal paintings, Kangra and Basoli paintings, Jain Chitramala and numerous other art forms represent the glory of our artistic heritage.

The paintings of contemporary artists like Raja Ravi Varma, AcharyaAbanindranath, AcharyaNandalal Bose, artist Jamini Roy, artist Atul Bose, artist VasantGanguly, artist GopalGhosh and many other eminent artistsareremarkable masterpieces of timeless art.

In Sculpture – In sculpture, notable artists include DeviprasadRoychowdhury, PramathanathMallick, Sunil Pal, SomnathHore, PradoshDasgupta, and many others.

At Gandhi Ghat in Barrackpore, Sunil Pal's outstanding relief panels, DeviprasadRoychowdhury's Gandhi statue (located in Maidan), and PradoshDasgupta'sNetaji statue are exemplary works. RamkinkarBaij's 'Santal Family' at Santiniketan stands as a remarkable example of sculpture (mentioned in Chapter III).

In an attempt to express creative expression, a painting is an image created using paint on paper, canvas, board, or on a wall. A painting must exhibit rhythm of line and color, balance, harmony, and evoke sweet expressions of emotion. It is a two-dimensional art form.

5.3.2 What is Sculpture?

Sculpture is created by cutting or carving wood or stone, using chisels, hammers, and other toolsor by casting. Sculpture takes on a three-dimensional form that can be felt by touch. It encompasses relief figures, designs, and scenes. Sculptural forms can also be crafted from metal, cement, plaster, or clay.

Sculpture is an ancient art form of civilization and culture. Since sculpture is much more permanent as a medium, many of the earliest works of art still exists. Since ancient times, there is a custom of using different types of materials in the creation of sculptures. Materials such as terracotta, wood, stone, metal, cement etc. were also used. In modern times, besides those materials, plastic, fiber glass, paper, plastic clay etc. are used to create sculptures.

Difference between Painting and Sculpture

Painting and sculpture are two branches of art

Painting	Sculpture
(1) Images are created with the help of paints on paper, canvas, boardsandwalls.	(1) Sculptures are made by cutting wood and stone with the help of tools like hammers, chisels, and 'batali', or by molding and casting clay idols and pouring molten metal into plaster of Paris molds
(2) Three-dimensional perception is achieved by varying tone and light on a two-dimensional plane.	(2) Sculpture is inherently three-dimensional, enabling experiences through touch.
(3) Perspective is a significant feature.	(3) Perspective is not a primary concern.
(4) Durability is much less than sculpture; colours fade over time without proper lighting.	(4) Longevity is one of its key characteristics.
(5) Seriousness is not a defining attribute.	(5) It has unique characteristics related to volume, weight, and gravity.
(6) Creating images takes relatively less time and labor.	(6) The construction of sculpture takes a long time and requires considerable labor.
(7) Images are typically displayed indoors in suitable locations with sufficient light, avoiding exposure to sun and rain in open spaces.	(7) Pedestal sculptures are placed on high altars in open spaces. The relief idols of temples are also displayed openly.
(8) If there are mistakes, they can be corrected with the help of touch-ups	(8) Making an idol involves cutting stone, wood, or metal. If there is a mistake in casting, all the work is lost.

5.3.3 Arts, Crafts, Health and Physical Education

Different countries around the world have their own traditions of sculpture. Examining India's sculptures reveals a prevailing style dating back to ancient times. Materials such as terracotta, stone, metal, or wood are commonly used, depending on their availability for sculpting.

Despite variations in style and materials, certain principles govern the field of sculpture. These include volume, dimension, structural integrity, space, balance, rhythm, plasticity, compactness, and harmony.

Techniques vary according to the material and size of the sculpture

For instance, stone requires cutting and shaping to create a sculpture. Terracotta, on the other hand, is directly molded from clay and fired. Metal sculptures involve creating molds or casting wax figures before metal is melted and poured. Techniques differ between small and large sculptures

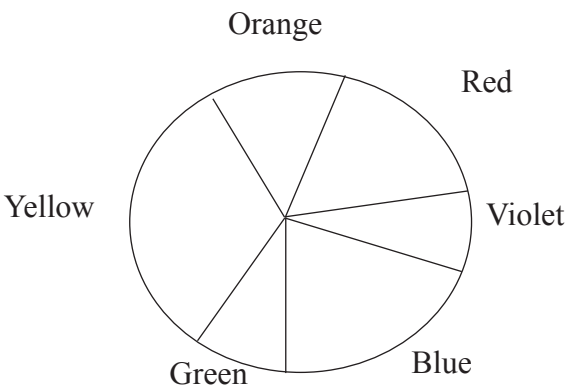
Sculpture, being three-dimensional, requires more labour than painting but evokes a more tangible response from viewers. It is perceived as more dynamic and durable, with artistic charm and craftsmanship. Sculpture emphasizes three-dimensionality, surface textures, structural integrity, plasticity, and vividness more than paintings.

Architecture holds a special place in civilization's development. Initially, architects were often painters or sculptors, blending these disciplines. Architecture involves both design and execution aspects, aiming to create functional forms harmonizing with specific natural or cultural environments. Architectural styles vary with tradition, social systems, eras, perspectives, and tastes. In essence, architecture is referred to as 'the art and science of building.' In modern society, architecture is not merely a luxury but a necessary art.

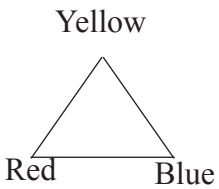
5.3.4 Basic Concept of Colours

- **Colours**

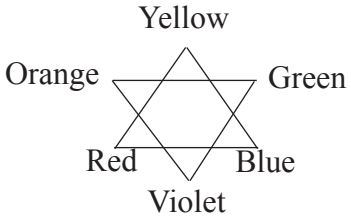
People began using colours many years ago. We see different cave paintings using colours that were used by early humans. The fascination with colour among people is timeless. During the Renaissance in Europe, warm and cool colors were used to depict subjects in paintings. Scientists have been studying colourharmony since the Renaissance. In 1838, a French gentleman named Chevreul published a book in French called 'The Principles of Harmony and Contrast of Colors'. Influenced by this book, "Impressionist" artists began to experiment with colour. Artists like Seurat and Matisse developed various colourtheories. This marked the beginning of the idea that black and white are not colours



Primary Colors



Composite Colours (Secondary Colours)



❑ **Tertiary Colours**

Every object we see normally has one colour or another. There is no concept of form without colour. All the colours we see are divided into primary or basic colours and mixed or composite colours i.e. colours are of three types, viz.—(1) Primary or basic colours (2) Composite (3) Mixed.

1. **Primary Color:** A color unaffected by any other color and which exists on its own is called a primary color, basic color, or pure color. There are three primary colors: red, blue, and yellow
2. **Composite Colours:** Colours formed by mixing primary colours are called composite colours. For example, orange, green, purple etc.
3. **Tertiary colours are colours created by mixing a primary colour with a neighboring secondary colour on the colour wheel. In other words, tertiary colours are formed by combining equal parts of a primary colour and a secondary colour that are next to each other on the colour wheel. This mixing results in six tertiary colours**

❑ **Mixed Colours**

Black + White = Gray

Blue + Black = Blackish Blue

Blue + Green = Dark Green

Blue + Brown = Russet

Red + Orange = Reddish Orange

Yellow + Orange = Yellowish Orange

Yellow + Green = Yellowish Green

Blue + Green= Bluish Green

Blue + Violet = Bluish Violet

Red + Violet = Reddish Violet

Mixing white with colors produces lighter colors, while mixing black darkens them.

❑ **Complementary Colour or Opposite Colour**

Complementary colours or opposite colours are produced by combining two primary colors on the color wheel. The third primary color that isn't used in this mix is the complementary or opposite color

to the resulting color. For example, the complementary color of yellow is purple, which is created by mixing blue and red.

Mixed colours	**contrasting colours**
Green	Red
Purple	Yellow
Orange	Blue

Warm colour

Warm colours are bright and tend to be stimulating to the eyes. Examples include red, orange, and yellow.

Cool colour

Cool colors are relatively less bright and tend to be soothing to the eyes. Examples include blue and green.

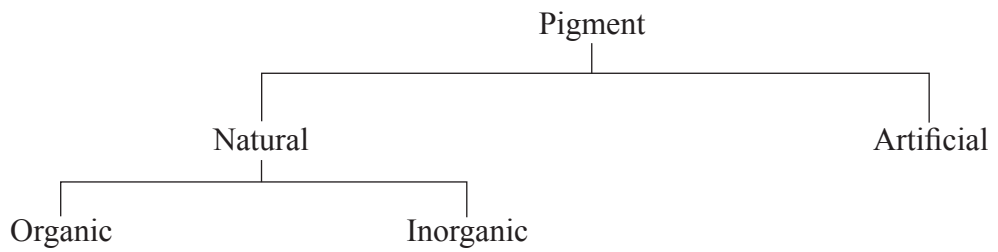
- **Modern Names of Colours:**

Colours available in the market come in various shades and hues. For instance, simply saying "red" can result in eight to ten different shades of red. Therefore, knowing the specific names of colours is essential to obtain the desired shade. These colour names are often derived from the metals, stones, or places where the colors were historically sourced.

Red	Vermilion, Scarlet, Crimson, Rose Matter, Poster Red,Carmine, Alizarin Red etc.
Blue	Indigo, Cobalt Blue, Ultramarine Blue, Prussian Blue, Cerulean Blue, Turkish Blue, Manganese Blue.
Yellow	Lemon Yellow,Chrome Yellow, Cadmium Yellow, Yellow Ocher, Naples Yellow, Gamboge, Cobalt Yellow.
Green	Viridian Green, Sap Green, Hooker's Green, Chrome Green, TerraVerde.
Brown	Brunt Amber, Raw Amber, Burnt Sienna, Raw Sienna, Indian Red, Light Red, Sepia.
purple	Cobalt Violet, Manganese Violet, Mars Violet.
White	Zinc White, Flake White, Titanium White, ChineseWhite.
Black	Ivory Black, Mars Black, Lamp Black.

- **Indigenous sources of colours**

In the past, artists used to gather colours from soil, stones, and plants for their work. These natural pigments were collected and mixed with glue or other binders for use. Today, some potters and craftsmen still employ these traditional methods.Colour pigments are currently available in two forms.



Organic Colours: The dyes obtained from animals, plants etc. are known as organic dyes. For example, Indigo, Sap-green, gamboge green dyesare obtained from plants,while colours such as carmine and sepia are derived from animals.

Inorganic colours, also known as mineral colours, are naturally obtained from minerals found in nature. Examples include yellow ochre, red oxide, light red, sienna, and various shades of black oxide, Terra-Verde, papyrus, and lapis lazuli. These colours are typically more durable when compared to organic dyes.

Artificial colours refer to those produced through synthetic methods. Examples include Prussian blue and Alizarin group of colours. Generally, inorganic and synthetic dyes are more permanent compared to natural dyes.

Below are the sources of colours obtained from nature-

Green – pi from the leaves of various plants, Terra-Verde stone

Yellow – raw turmeric, flower, alamati)

Blue – lapis lazuli stones, blue trees

White – Kharimati(China Clay), chalk

Brown – Haritaki

Red – Geri mati, alta, lac kathi

Black – Soot, burnt tree branches

The colours we collect from nature cannot be used directly for painting. They are prepared in various ways. The procedure for making an organic dye and an inorganic dye is given below.

- **Methods of making inorganic dyes**

Inorganic dyes are collected from rocks and soil. If it is a stone, it should be rubbed slowly with water on the rock to extract the color. The stone should be opened and turned forward, placing a wide-mouthed pot underneath to collect the color. Mud from the edges will accumulate in the paint pot. Once the pot is filled, transfer its contents to another container.

Next, take enough water in a separate container. Strain the rubbed paint through a clean cotton cloth into the container of water. Wait 10 to 15 seconds, and then carefully pour the colored water into a new container, being careful not to disturb the settled color at the bottom of the first pot.

This process, known as color sedimentation, should be repeated if a deeper hue is desired. Do not discard the paint or large grains that settle at the bottom of the initial pot; instead, grind them by hand and strain them again to produce softer colors.

Once prepared, the color can be molded into small cakes using a glue machine or kept in powder or crushed form. Storing in glass containers with clean water is preferable to keeping them dry. Occasionally,

discard old water and mix with fresh, clean water. Purified rainwater is ideal for delicate work, as it maintains a soft, fine layer of paint on top of the tinted paint.

Mineral colors like Elamati, Gerimati, Kharimati, etc., do not require rubbing on rocks. They are prepared by dissolving them in water as described above.

*Method for preparing inorganic colours is not mentioned in the book *

5.35 Shapes and Forms

Definition of shapes and forms: Shapes and forms refer to the physical appearance and structure of objects or entities. Shape specifically describes the outline or external boundary of an object, emphasizing characteristics such as curves, angles, and dimensions. Form, on the other hand, encompasses the overall structure, three-dimensional contour, and arrangement of elements within the object. Together, shapes and forms play a crucial role in defining the visual and tactile properties of everything from natural forms to man-made designs, influencing how they are perceived and interacted with in various contexts. Objects can be flat, oblong, round, spherical, cylindrical, conical, pyramidal, etc. Size is closely related to shape. For example, mango leaves are flat and elongated, while a piece of rectangular paper is also flat and rectangular in shape. Shape and density define the structure of matter, specifically the volume of its external form.

The concept of dimension in art refers to the fundamental characteristics or measurements that define an object or artwork.

Typically, there are three primary dimensions:

(1) Length, (2) Breadth and (3) Thickness or height or depth or density.

- Length: The extent of an object or artwork from one end to the other in a straight line.
- Breadth: The width or width-wise measurement of an object, often perpendicular to its length.
- Thickness, Height, Depth, or Density: This dimension refers to the third dimension, which adds volume or depth to an object. It can be understood as the distance from the front to the back or top to bottom of an object.

In some contexts, dimensions can be multidimensional, implying additional aspects beyond the basic three measurements. When considering dimensions and their interrelations, artists explore how objects occupy space and how these spatial characteristics contribute to the visual appearance and form of the artwork.

To understand the dimensions, one should begin with the concept of a ‘point’.

1. **Concept of Point :**A point is defined as a location in space that has no dimension—it has only position. A point has no length, width, or thickness.

2. **Concept of one dimension:** A line is defined as a straight path that extends in both directions, between two given endpoints.A line has no thickness or width; it is purely an one-dimensional object.
3. **The concept of two-dimension:** A straight line changes its direction when it moves to the right or left, and when it joins the dimensions of length and breadth at a point, it forms a shape. This shape is enclosed by lines that connect its vertices, creating quadrilaterals. The shape of an object, such as a sphere intersecting with two planes, provides an understanding of its form. For instance, paper, which varies in length and width across its surface, is crucial for depicting images. Two-dimensional refers to having two dimensions: length and width. Since paper has two surfaces, it is considered two-dimensional.
4. **The concept of three-dimension:**The concept of three-dimensional or two-dimensional refers to the addition of height, or depth, to length and width, creating a solid object. For example, a dice in a Ludo game exemplifies a symmetrical three-dimensional shape with six faces of equal length, width, and depth. Differences in size and shape alter the surface characteristics of solids, such as the round bases of cones. Three-dimensionality is perceptible through touch across six planes. Volume refers to the total space occupied by an object.

The creation of a three-dimensional effect in images is essential for presenting visual objects realistically.

When painting on a canvas or paper, which are inherently two-dimensional surfaces, the challenge lies in conveying depth without actual thickness. This is achieved through techniques such as varying light and shade, and applying the principles of perspective. By manipulating these elements, artists can create an illusion of depth, bringing solidity to the depicted objects.

For example, drawing a cube shaped dice from the Ludo game solely with lines on paper won't capture its true form or bring it to life. To achieve this, artists need to consider its full volume and apply proper perspective. Sculptures, being inherently three-dimensional, naturally embody depth and form

The technique of using light and shadow involves applying a light tone to the illuminated side of an object, often close to white or the object's base color, known as the highlight. Conversely, the darkest shade of the object's color is used for areas in deep shadow. Between these extremes lies the mid-tone, blending light and dark areas to enhance realism and depth. This method is crucial for creating a tactile sense of three-dimensionality.

Children can grasp the concept of three-dimensionality by observing solid objects and understanding their dimensions—length, width, and height. Start with familiarizing them with two-dimensional representations like paper, this helps in explaining these concepts effectively.

2.3.6 Perspective

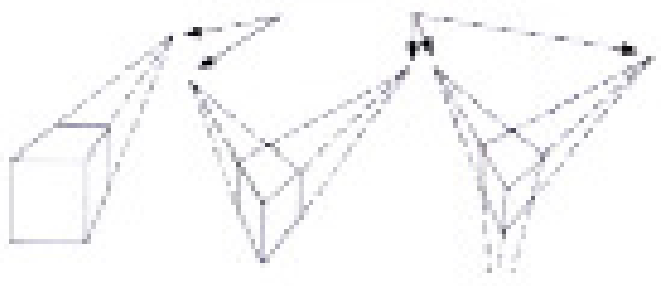
Standing in the middle of a desert, the sky and ground appear as a straight line. From a high vantage point in the desert, this line shifts upwards, known as the horizon line. Objects above eye level meet this line as they descend, while those below rise to meet it, defining the visual limits. Similarly, observing a railway track from a distance, the parallel lines gradually converge towards a vanishing point. Understanding perspective is crucial for realistic depictions: nearer objects like houses and trees appear larger and denser, while distant ones are smaller and lighter. Horizontal lines converge at the vanishing point, altering the perception of parallel lines in reality. Vertical lines, such as tree trunks or house walls, remain perpendicular (90° angle) regardless of distance, aligning with the eye level, which corresponds to the horizontal line.

There is a significant difference between the actual size and shape of objects and how they appear visually. Objects such as houses and trees of the same shape appear smaller when they are farther away in a picture, following the rules of perspective. It's crucial to correctly place the vanishing point, eye level, and baseline to ensure accurate perspective in artwork.

The beginning of the concept of perspective

The concept of perspective began with the establishment of two vanishing points, which define the plane of view (eye level or horizon line). This involves developing techniques that relate to mathematical principles. Pre-Renaissance European artists were likely unaware of these techniques. Even ancient Egyptian and Chinese artists did not employ them.

Egyptian artists of that era depicted distant objects, such as people, in upper rows and equal in sizeinstead of smaller size, not adhering to conventional rules of perspective



Ancient Indian painters may have been aware of perspective techniques but did not consistently adhere to them. Experts suggest they intentionally depicted near and slightly distant elements with equal importance, sometimes disregarding perspective rules.

Filippo Brunelleschi (1379-1446 A.D.), a renowned architect and sculptor from Florence, Italy, discovered perspective formulas based on mathematical principles in the early fifteenth century. This was a groundbreaking event in the art world. Subsequently, artists like Leonardo da Vinci, Albrecht Dürer, and others adopted and refined the rules of perspective.

❑ Colour Perspective

Color perspective, also known as atmospheric perspective or aerial perspective, refers to the visual effect where colors and tones change according to the distance and atmospheric conditions between the viewer and the objects being observed.

❑ Picture Perspective Techniques

When using color in pictures, including architecture and sculpture, understanding color perspective is essential. Darker tones of the correct colors should be applied to objects in the foreground to create depth. These tones should be vivid. As scenes recede into the distance, colors should gradually lighten. For instance, using neutral tones in a morning mist image adds a soft blur effect, avoiding bright colors entirely. Night scenes differ significantly from daytime; the sky appears dark blue or reddish-blue, and objects like houses and plants blend into blurred darkness.

In a landscape, the top of the image represents the near sky, followed by the overhead sky, and gradually the distant sky lower down. The sky tones converge towards the horizon line in the middle of the picture.

Below the horizon line, the background includes distant plants, houses, and other elements on the land. Finally, at the very front—the foreground—objects are depicted in increasing size as they approach the viewer.

In a painting, the sky at the top of the picture starts as bright and gradually lightens to a gray hue. Distant plants, houses, etc., appear smaller and lighter gray, creating a sense of distance. In the foreground, objects are darker, brighter, and detailed, providing a stark contrast. This follows the law of perspective, where the sky at eye level fades from dark to light gray toward the horizon, while objects in the foreground transition similarly. The distant part of the painting is called the background or environment.

Perspective is necessary to give dimensions to the drawn images.

Perspective drawing is a technique used to depict three-dimensional forms on a two-dimensional surface such as canvas, paper, or walls. Theorists describe it as a method to create optical illusions that faithfully represent reality, making images appear lifelike.

The foundation of painting includes: (1) accurate drawing, (2) composition, and (3) proper depiction of size, distance, and three-dimensional forms following the rules of perspective. These tasks are interconnected and essential during the drawing phase. When applying colors, using darker shades for objects closer to the viewer and lighter shades for distant objects (color perspective) must also adhere to perspective rules. A mistake in perspective can distort the image, affecting its realism. Perspective is crucial in sculpture, architecture, and composition, ensuring accurate portrayal of depth. Establishing the horizon line, eye level, and base line in drawings ensures structural accuracy, which can then be enhanced with color and beauty.

When drawing something from observation, the object should be at least six feet away from the artist to avoid perspective distortion. Vincent van Gogh's early portraits of coal miners, drawn too closely, showed distortion but conveyed powerful emotions. Correct perspective would have elevated these portraits even further.

❑ **How can students be helped to develop a sense of perspective?**

Teaching students, perspective involves drawing a base or horizontal line and an eye level on the blackboard. Objects like trees and houses are drawn in proportion, with trees starting from the base line and houses placed slightly above. Lines drawn from the tree tops and house bases converge at the horizon line, creating depth. Following perspective rules, subsequent trees appear smaller, and roads gradually narrow and curve. Using appropriate colors adds a three-dimensional effect to objects like tree trunks and leaf clusters. Varying foreground and sky colors distinctly defines proximity and distance, effectively conveying perspective.

5.3.7 Balance & Rhythm

❑ **Relation of Nature with Artistry (Art & Craft)**

Art is intimately connected with nature, drawing inspiration from its diverse forms and colors. Artists who appreciate the beauty of nature often incorporate its richness into their creations. Whether using paint, cotton, paper, clay, wood, stone, bamboo, or cane, all materials for art and craft are derived from nature. Decorative designs in art often mirror natural elements such as flowers, leaves, and birds

❑ **Ingredients of Art & Craft**

Elements of Art & Craft

According to the NandanaTattva of ShilpaShastra, art is characterized by several key elements:

I. **Beauty:** Beauty is paramount in art, manifesting as graceful form and expression. Correct form, size, structure, likeness, and color are necessary, but true beauty emerges from graceful expression, an inner perception that defines worthwhile art.

II. **Texture:** The method of application, whether painting on almost-dry cotton or using thin, wobbly strokes, defines the texture or drawing style of a picture. Sculptures, too, exhibit textures influenced by the material used, such as chiseled stone or wood grain.

III. **Rhythm:** Rhythm signifies the fluid expression of pulse and motion, evident in the balance and movement of both natural and human forms. It plays a crucial role in creating beauty across various artistic mediums. This expression of rhythm is exemplified in ancient sculptures, such as the 8th-century Trimurti of Shiva at the Elephanta Caves near Nasik (Mumbai), showcasing three faces—Madhurya, Gambhirya, and Rudra Rasa. Similarly, the Buddha statues from Sarnath in

North India, embodying Stithi Chandara, and the Nataraja statue from Tanjore in South India, a remarkable symbol of rhythmic movement, demonstrate the significance of rhythm in art. Rhythm holds a special place in the creation of beauty in any medium.

IV. **Balance:** Achieving visual equilibrium is crucial in art. Overloading any part of a picture or using colors excessively disrupts balance. Examples include the miniature images of Kaya Gopa and Rahul balancing before Lord Buddha

V. **Harmony:** Art requires harmonious integration of different elements such as scenes, colors, and sizes. For instance, distant trees should appear smaller than nearby ones to maintain visual harmony and perspective.

In summary, according to the Shilpa Shastra, all visual elements must harmonize to create balanced and beautiful art."

The key elements in art and craft as outlined in the Shilpa Shastra:

Shadanga :

"Roop Bhedah Pramanani Bhava-Lavanya-yojanam
Sadrishya Varnikabhangam iti chitra Shadangam"

Abanindranath Tagore the Guru of Art explains-

1. RoopBhedah…. "Roopa" means the outer form or appearance of the subject. The perception is visual as well as mental. „Bheda," on the other hand, means difference.
2. Pramana…."Pramana" teaches us the exact measure, proportion and distance of the subjects. It provides an insight into the structural anatomy of objects, too.
3. Bhava…."Bhava" means an emotion, a feeling, an intention, or an idea.
4. Lavanya-yojanam… painting should be gracefully high in its artistic quality. The pramanani is for stringent proportions, and bhava is for expressing movement. But, lavanyayojanam is for controlling the over expression of both. The motive is to bring about a sense of beauty in a dignified and organised manner.
5. Sadrishya….Sadrishya suggests the degree to which a depiction is similar to an artist's vision or the subject itself. In a way, it is also a way of depicting similitude.
6. Varnikabhangam….Varnikabhangam means the way a subject is being drawn and coloured. This principle focuses on the way the strokes are being applied to a canvas, and the knowledge of the artist about the different colours.

What is picture/painting?

A picture is created by the beauty, texture, rhythm, balance, harmony, imagination, and emotion that characterize two-dimensional art. According to Sharanga in ShilpaShastra, applying correct form, shape, size, expression, beauty, similarity, and appropriateness in class results in meaningful images. "Sharanga" is a distinctive feature of Indian art.

5.3.8 Dimension

Concept of dimension:

Objects in the world appear in various forms, each with distinct shapes characterized by length, width, height, and specific depth. In art, understanding different shapes is essential for drawing.

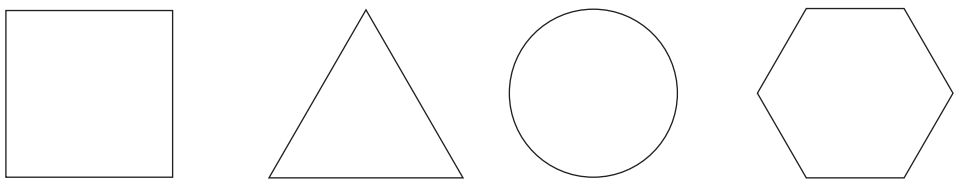
Over time, the practice of one-dimensional, two-dimensional, or multi-dimensional art has evolved. Initially, three-dimensional techniques were not employed in early paintings, but they later emerged in ancient Greece, Egypt, and India."

One dimension:

A line is formed by connecting points, representing a one-dimensional structure. This is illustrated in the figure below.A line is created by connecting points, defining it as one-dimensional.

Two dimension:

An object that exhibits length and width is termed two-dimensional. Examples include triangles and quadrilaterals depicted in the figure below, all of which are two-dimensional objects. In geometry, the study of two-dimensional shapes is fundamental. Two-dimensional manifolds serve as abstractions of three-dimensional objects.

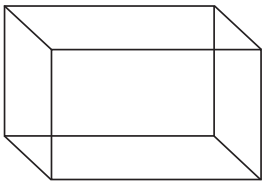


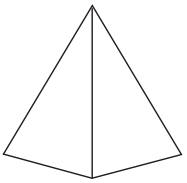
Two-Dimensional Painting: This type of painting focuses on representing objects with length and width only. It confines the view within a defined frame, encapsulating the entire perimeter. Such paintings attempt to depict two planes on a flat surface through the use of drawing techniques.

Three dimension:

Below illustrates the transformation of two-dimensional objects into three-dimensional shapes. An object that exhibits length, width, and height is termed three-dimensional. The diagram depicts changes from a circle to a sphere, square to a cube, and triangle to a pyramid. Two-dimensional objects are given three-dimensional form in art. Painting involves practicing on flat surfaces like paper or canvas, or

arranging still life setups with three-dimensional objects made from materials such as wood, as shown below. Drawing with objects like boxes, balls, cones, and pyramids strengthens understanding of three-dimensional concepts.





However, apart from these three dimensions, another dimension is utilized in the art of painting, known as the Fourth Dimension. The use of this dimension began with the pioneering artists Pablo Picasso and George Braque during the Cubist movement. Prior to them, Cézanne utilized basic structures like squares, triangles, and circles in his three-dimensional artworks, hinting at the Fourth Dimension. However, it was Picasso and Braque who definitively explored the Fourth Dimension in Analytic Cubism. Picasso's famous painting 'Les Demoiselles d'Avignon' (1907) exemplifies the incorporation of the Fourth Dimension into art. Another renowned artist, Salvador Dali, also explored the Fourth Dimension in works like 'Crucifixion-Fourth Dimension'.

Later, time was recognized as the fourth dimension in physics. Artists of the Futurist movement attempted to depict time in their artworks, influenced by this theoretical framework from physics.

To practice dimensionality in painting, artists must carefully observe various objects, noting differences in size, dimension, distance, texture, color, etc. This is why the ancient Indian annotator Yasodhara, wrote:

"Roop Bhedah Pramanani Bhava-Lavanya-yojanam
SadrishyaVarnikabhangam iti chitra Shadangam"

In the preceding verse, the first term "Rupbheda" refers to understanding differences such as variations in size, color, depth, length, width, and other dimensions.

3D Sculpture: Sculpture is a three-dimensional object characterized by length, width, and height. Sculptures can be viewed from all angles.

5.4 Drawing & Painting - Sketching - Pastel / Water Colour

In essence, drawing refers to line work, while painting involves both drawing and coloring in a picture. Drawing serves as the initial stage in any painting process and can stand alone as a distinct image. Proficiency in drawing is essential for successful painting. Various mediums, such as pencil, charcoal, pen and ink, conté, and dry pastel, are employed for drawing.

5.4.1 Drawing

When practicing drawing, it is beneficial to start with simple shapes, such as still life objects, to strengthen students' drawing skills. For example, drawing solid objects like glasses, vases, mugs, pots,

and bottles can help in understanding drawing concepts. After mastering these, drawings can progress to include leaves, flowers, trees, and eventually animals, birds, and people. Drawing builds confidence in students, although initially, it's advisable to focus on simple, deliberate lines rather than experimenting with various techniques, styles, or creativity.

Light and shadow:

In drawing, grasping the concepts of light and shade, referred to as "Alochaya," is crucial. Even in purely linear drawings, the image retains a two-dimensional quality. Light manifests in various forms: (a) natural sunlight, (b) artificial electric light, and (c) controlled or planned lighting setups. For practice, students should concentrate on observing natural light and shade, using tools such as pencils or monochrome techniques to understand tonal variations effectively.

Composition:

Creating a compelling picture involves several elements: (1) Drawing, (2) Composition, (3) Perspective, (4) Focus, (5) Light and Shadows, and (6) Color. Composition, crucial in painting, refers to the arrangement or structure of elements. Over time, composition styles have evolved from Renaissance principles to modern interpretations. Key aspects include content, style, texture, and aesthetics.

While various compositions like symmetrical, formal, circular, or horizontal have been used historically, beginners are advised to start with simpler compositions to build confidence. Working with straightforward subjects like one or two people or animals can be effective.

The focus (The focal point):

Every picture should have a focal point, emphasizing the main subject. Other elements should support rather than distract from this focal point. Gradually, the composition should guide the viewer's attention to the main subject, clarifying the image's narrative or message.

5.4.2 Sketching

The traditional definition of sketching involves providing a rough idea or brief description. It's a simply or hastily executed drawing or painting, typically preliminary that captures essential features without intricate details.

Sketching holds significant importance in art. Within the art realm, the terms sketching, drawing, and study are commonly used, with sketching being the most concise of the three. The purpose of sketching is to swiftly capture something with fluid lines, showcasing the artist's summarizing and expressive skills. Sketching serves as the foundation for drawing and further artistic endeavors, fostering maturity and confidence in an artist's hands.

Historically, artists often created preliminary drafts or sketches before embarking on major works. This practice was prevalent among artists from the pre-Renaissance, Renaissance, and post-Renaissance periods in paintings, sculptures, and other forms of art. Sketching helped build confidence and provided different perspectives for the artwork. Over time, sketching evolved into a distinct art form, allowing artists to express immediate creative thoughts.

Today, sketching is considered a specialized art medium that reflects the artist's spontaneous creative process. Different mediums and materials used in sketching can alter the originality and character of the sketch. Various sketching mediums are discussed below.

Pencil:

The pencil is the primary medium for sketching. It holds significant value in today's society, being widely used across various domains—from children to artists, craftsmen to engineers. Despite advancements in drawing technology, the pencil remains indispensable. It is rare to find someone who has not used a pencil. In art, pencils are commonly used for preliminary sketches and studies. The pencil drawings of renowned artists such as Leonardo da Vinci, Michelangelo, and Picasso demonstrate their sensitivity and depth.

Before the invention of the pencil, charcoal or styluses were used for drawing. Thin leads or lead pieces were employed in Ancient Greece, followed by lead-tin alloys centuries later. However, these materials had limitations. Graphite was discovered in Bavaria around 1400 AD, but its softness posed challenges. In 1875 AD, the modern pencil lead was created by mixing graphite with clay, credited to Nicolas Jacquisquinti. The wooden casing of the pencil was later developed by Italian couple Simonio and Lyndiana Bernacotti.

A pencil consists of two parts: the lead and the wooden casing. Pencils come in different grades—soft, medium, and hard—which determine their quality and darkness of the line they produce. The grading of pencils is illustrated in the chart below.

6H 5H 4H 3H 2H H (HB) B 2B 3B 4B 5B 6B 7B 8B 9B 10B

The term HB stands for Hard Black, signifying a balance between hardness and darkness. HB pencils are considered medium. They are commonly found in the market and are versatile for various uses.Soft pencils range from B to 10B, with higher numbers indicating softer and darker leads. These pencils are ideal for drawing and shading. The softest and darkest pencil is 10B, suitable for achieving deep shading effects but prone to breaking if mishandled.

Hard pencils range from H to 6H, designed for tasks like tracing due to their harder lead. Pencil grades can vary between companies; some may offer grades from H to 3H and from B to 6B.

- **Creating paintings by drawing and colouring:**

  Materials : HB, 2B, and 6B pencils, an eraser, sketch pens, brushes in sizes 1, 4, and 12, colours, a pallet, a waterbowl, a piece of rag, a drawing board, board pins or clips, and cartridge paper.

Begin by drawing on plain white paper using only your hand. Avoid using rulers or compasses. Hold the HB or 2B pencil lightly and spread your palm gently over the paper. Practice drawing straight lines vertically, horizontally, and in both directions without using an eraser. Next, practice drawing circles and semicircles consecutively, aiming for a minimum radius of 3 units. Lightly correct mistakes without erasing completely, and use the eraser only once after final adjustments.

Then progress to drawing triangles, quadrilaterals, and curves, using numbers 1 to 9 as guides. Practice drawing animals, trees, people, leaves, flowers, and fruits using techniques like Matchstick drawing and Mass drawing. Matchstick drawing involves arranging sticks to create simple poses. These exercises are fundamental and aid in developing hand skills and fluent lines.

To draw a tree, start by sketching a semicircle for the canopy. Below it, draw two lines resembling tree trunks. For a house, draw a triangle with the bottom quadrant forming the base. It's crucial to observe trees, houses, boats, etc., attentively before attempting to draw them. Many students frequently see boats on the river, yet when drawing, the shape often becomes distorted. This occurs because the mind visualizes images; thus, careful observation is the key. Study something closely, create a mental picture, and then draw it with ease. The drawing doesn't need to be exact but should capture the essence of the subject. Always draw by observing nature and looking ahead for inspiration.

If using a pencil for drawing is challenging, practice with Sketch Pens, brushes, Chinese ink, or black poster color. When sketching, observe your subject directly and try to draw continuously without lifting your pen or brush from the paper. Capture any changes in position or posture until you're satisfied. Focus on drawing swiftly and avoid relying solely on memory to complete your artwork.

Next, apply shading to create a three-dimensional effect. Start by leaving lighter areas where there is more light and gradually darken towards the opposite side, using frequent pencil strokes. If needed, shade the entire area again with frequent strokes. Then, add another layer of shading in the same manner to intensify the shadows.

For achieving three-dimensional light effects, use dense shading for shadows, pure white for highlights, and adjust shading as necessary for other areas.

To practice shading effectively, place a clay pot near a window edge and observe the light and shadows from a distance of six feet. Secure the drawing paper on a board with four pins at its corners. Use a soft pencil, cut it flat, like a narrow chisel, and hold it differently, resting it in the palm to avoid applying excessive pressure. Gradual practice will improve shading technique, creating smooth transitions and enhancing overall drawing quality.

Afterward, the process of developing three-dimensional forms with colors begins. You'll need various colors, a palette or paintballs, rags for wiping, water containers, and watercolor brushes in sizes 1, 3, 6, and 12 with sable or squirrel hair. Sable hair is preferred, but squirrel hair or other alternatives like goat hair can also be used.

Dip the appropriate brush size into the diluted color from the palette, ensuring it's evenly loaded. Apply the color quickly and evenly on the paper without letting the brush become dry to avoid unwanted stains. Once the paint slightly dries, avoid reapplying or rubbing over it to prevent smudging. Limit painting sessions to three to four layers to maintain the integrity of the artwork and prevent it from becoming muddy.

Maintain cleanliness by ensuring no color is applied to fully lit areas on the paper, avoiding the use of white. However, if using tempera style, prepare the required colors by mixing white paint and gently applying it to cotton paper, Nepali handmade paper, or other thick paper. Check the color shade against a nearby piece of paper to ensure accuracy before continuing with your work

Drawing still life objects: Drawing urns

Drawing still life objects, such as urns, begins with practicing using only one color, monochrome. For example, an earthen pitcher can be shaded using various tones: leave the brighter areas light with cyan, lighten the shadows with a lighter color, and deepen the shadows with a darker hue like umber. The central rounded part of the pitcher should be lighter in color, gradually darkening towards the base. Add a touch of black to mix where needed.

Avoid focusing on too many details when painting. For instance, when drawing a tree, depict only the branches, not each individual leaf. While following the traditional Indian method,the leaves are depicted within a black border, as seen in Kangra and Rajput paintings. Studying and practicing illustrations from AcharyaNandalal Bose's 'Rupavali' (in several volumes) can greatly aid in improving your drawing skills.

To draw human figures, trees, and animals, it's beneficial to refer to drawing books for guidance. For example, a baby's head is larger in proportion to its body compared to an adult's. When drawing babies, emphasize their round shapes, which lack the hardness of adult bones. Male bodies typically have broader shoulders and chests compared to females, whose hips are generally wider. Use cartridge paper, known for its ability to hold watercolors and pencil colors well due to its grainy texture. Additionally, consider using wax pastels for shading and drawing.

5.4.3 Pastel

Pastels are versatile crayons resembling wax, categorized into three types: 1)oil pastels, 2)dry pastels, and 3)wax pastels. Pastels are different from chalks. They are used on pastel paper, unlike chalk used on chalkboards.

The term "pastel" originates from the Latin word "pasta," meaning paste, and gained popularity among French artists in the 19th century, notably Escher Degas. In India, GopalGhosh has made significant contributions to pastel art, especially in landscapes. Dry pastels are made from powdered colors mixed with water and dried into a paste, while wax pastels use melted wax. Oil pastels, introduced later, are made with oils like linseed and turpentine, offering vibrant colors and the ability to blend with each other or over watercolors for unique effects, ideal for landscapes and special tonal effects on various papers. The word "Pastel" came into use since 1662.

(a) Dry pastel is made by drying powdered colors mixed with water into a paste.

(b) Wax pastel, also known as oil pastel, is made from a paste of powdered color mixed with melted wax and then dried.

(c) Oil pastels are made by drying powdery pastes mixed with oils like linseed oil and turpentine oil. They are known for their high brightness and can be layered over each other, as artist GopalGhosh often did. Pastels work well not only on pastel paper of various colors but also on coarse-grained paper, where special colored pastels are used to create unique tonal effects in images. Painting light watercolors and layering them with pastels produce distinctive effects, especially in landscapes.

❑ **How to draw with pastels:**

1. Drawing with pastels is easy, but achieving high-quality results requires skill. Layering colors without dulling their brightness takes practice.
2. Choose pastel paper, thick cartridge paper, or other suitable thick paper to achieve desired tonal effects.
3. Stretch out the paper on a drawing board placed on an easel and secure it with board clips on all sides.
4. Begin with a light sketch using a pencil. Avoid using an eraser excessively as it can damage the paper and leave smudges. With practice, drawing can be done directly with pastels.
5. There are two main techniques: using strokes to draw lines or applying color by pressing and blending. Mastery depends on personal experience.
6. Pastel colors are durable. If needed, a bit of oil paint can be mixed with pastels.
7. Unlike oil paint, pastels do not require drying time between layers. Colors can be applied continuously
8. Generally, start with lighter colors and progress to darker shades. Use white over dark colors to lighten or leave white spaces for highlights.
9. Oil pastels are known for their vibrant colors.
10. Pastels are popular among children for their ease of use. Wax pastels, in particular, are affordable and come in a wide range of colors in one box.
11. Children often enjoy blending colors by rubbing.
12. Pastel paintings are completed faster compared to other mediums.
13. For dry pastels, a light misting of water using a fine sprayer can enhance blending.

❑ **Characteristics of Pastels:**

1. Pastel painting is simple and enjoyable, making it suitable for children without intimidation
2. Pastel colors are resistant to fading.
3. Corrections can be made by applying white paint over areas as needed.

4. Paintings can be completed quickly compared to other mediums.
5. Pastels are readily available at affordable prices.
6. Minimal materials are required: just pastels and paper.
7. Pastels can generally be used on any type of paper.

5.4.4 Water Colour

Water colour painting is a technique where pigments are mixed with water to create transparent or opaque layers of colour. It's known for its ability to create delicate and translucent effects, making it popular among artists for centuries. There are two main types of water colours: (1)cakes and (2)tubes. Water colour painting includes various mediums like tempera, gouache, and poster colours, all of which involve the use of water to achieve different effects. Two kinds of paintings are done water colour.

(1) Transparent water colour
(2) Opaque water colour

The origins of water colour painting trace back to ancient civilizations such as Indian and Egyptian artists who used water-based mediums like tempera and gouache. However, it was in the 15th century that the German artist Durer is credited with first discovering the specific technique of modern water colour painting. Throughout history, notable artists such as J.M.W. Turner and Winslow Homer have produced renowned works in water colour, contributing to its popularity and development as an art form. In the early 19th century, British artists played a significant role in popularizing transparent water colours. In India, artists like Gopal Ghosh, Vasant Ganguly, Ronen Ayan Dutta, Dhiren Dey, and Ganesh Haloi have made significant contributions to water colour painting, enriching its tradition with their unique styles and subjects.

Overall, water colour remains a versatile and expressive medium cherished by artists worldwide for its luminous, ethereal qualities and its ability to capture light and atmosphere with subtlety and finesse.

- **Water Colour Materials:** Paints, paper, boards, clips, palettes, water containers, brushes, water colour easels, pencils, erasers, cloths, etc.
- **Water Colour Method:** When painting in water colour, the best result can be obtained by using the following method.
  - Paper plays an important role in water colour painting. It is crucial to choose paper that can absorb and hold water for a long time. In this regard, handmade paper is best suited for water colour work. Among handmade papers, David Cox and Whatman paper are highly recommended. Additionally, good quality cartridge paper can also be used for water colour painting. Using acid-free paper is essential to maintain the vibrancy of colours.
  - For painting water colour pictures, wetand stretchthe paper on the drawing board and mount it with brown tape tokeep the paper taut.
  - It is essential to drawvery lightly while using the pencil, or else the pencil drawing can be seen through the transparentcolour.
  - The drawing board should be slightly tilted upwards before starting the water colour painting. This allows the pigment to spread evenly
  - Complete the water colour painting by securing the board in place. If the board moves around, the pigments may shift with the water and potentially ruin the image.
  - Start colouring from the top and gradually continue downwards.
  - Water colour should be done using the light-to-dark method.
  - While painting with water colours use thin layers of paints.
  - The Chinese method of soaking the entire paper wet and then applying colouronit, is a wide practice at present. This technique gives a very soft effect to the paintings.
  - Mistakesmade while painting in water colour cannot be corrected.
  - To create highlights in the image, leave areas of white on the paper.
  - Swiftness in brush movements is necessary. Otherwise, while painting one side of the picture, the other side might dry, leaving stains.
  - It is essential to have a clear understanding of the tone of the image, specifically mastering the technique of using light and shade.
  - Painting with water colour requires a lot of practice. Thick brushes should be used first followed by fine brushes.
- **Advantages of using Water Colours:**
  - Cost of water colours is relatively low.
  - Painting in water colour takes much lesser time than other mediums

- Driesupfast.
- Everybody from beginners to children can work in water colour.
- Water colour is the best medium for outdoor study.

❑ **Features of Water Colour:**

- Water colour refers to transparent water colour.
- The light-to-dark method is its main feature.
- Highlight is created by leaving areas of white on the paper or using thin layers of colour.
- Every tone of the paintingcan bedistinctly identified
- The picture is completed very quickly.
- Completion of a painting does not take much time
- Painting with water colour while the paper is wet increases the softness of the image.

❑ **Water Colour Challenges:**

- Painting in water colours demands special skills, which is why not all artists use this medium.
- Working aggressively fast is essential in water colour painting.
- Water colour images are not durable.
- Photos can be damaged by insects.
- Over time, the vibrancy of the picture fades.
- Preserving water colour paintings presents numerous challenges.
- Water colour paper deteriorates rapidly.
- Errors in drawings cannot easily be corrected.

❑ **Remarkable water colour paintings:**

"The Red Rigi" by J.M.W.Turner and, "Rowing Home" by Winslow Homer

5.5 Alpana-- Design/Pattern/Ornamentation

Alpana

Alpana refers to the decoration of a house or festival place with colors and lines using various rhythmic decorative units during a festival. This decorative form is also known as "Mandana" art.

Pattern

When paper, cloth, punthi-patra, walls, temples, mosques, etc., are adorned with colored lines or other media, employing the repetition of various decorative units in a pleasing rhythm, the resulting ornamentation is referred to as a design.

❑ The Essence and Features of Design and Decoration:

The essence of design and decoration lies in the rhythmic arrangement of units, creating a balanced pattern. Design helps in decoration. Design and decoration utilizes specific tools and methods.

Lotus, lotus petals, petals of other flowers, creeper-leaf motifs, "kalka", conch shell, duck, peacock, fish, or any other ornamental form serves as the Alpana or design unit. When rendered in a specific rhythm without replicating its exact real form, it transforms into an ornamental motif. Special places are embellished with rhythmic designs, while geometric designs are employed in diverse ways.

❑ Techniques/Methods of Design, Pattern and Alpana Drawing:

To create designs, a design chart should first be drafted on paper using pencils and colors, incorporating different units. This draft is then traced and painted using brush and paints. Various colors are applied in the design process. Stencils are employed by cutting, spraying, or other methods of imprinting. Designs can also be implemented through printed cards, batik, bandhani, and silk screen printing. Relief work is conducted on the ground or in stone to add texture and depth to the designs.

❑ Method of Creating Alpana on surface:

Clean the floor or designated area where Alpana will be created using soap and soda water. Ensure it is thoroughly dried. Outline the Alpana design on the floor using chalk.Fill the outlined design with white and other colors using thick brush. Typically, only white colour is used in Alpana. While using rice paste, mix a small amount of chalk powder and glue to the paste. There's no need for additional glue while using poster colour. Red, green, and yellow colors areused to add variety to the Alpana.Alpana usually radiates from a central point. Begin by drawing a duck, lotus, pair of conches hells, etc., in the center the surround them with a circle of thick lines, then continue with flower petals, creepers, and leaves.Alpana lines should be thick, and areas like leaves and flower petals should be filled with color. This is a distinctive characteristic of Alpana.

Alpana is commonly used in auspicious ceremonies hence where black color is typically avoided.

❑ History of Design and Alpana:

The history of design and Alpana is ancient, with its influence spreading since the dawn of civilization.

Design:

Throughout history, various forms of design and decoration have been integral to Indian art. They have been employed in diverse ways to adorn pottery, paintings, and to enrich the architectural beauty of temples and mosques. Designs are sometimes painted or intricately carved into stone, or used to embellish clay products.

The design styles of different cultures have fused with our own. For instance, the designs of Mughal-era mosques exhibit a blend of Persian influences. Over time, designs etched or painted on walls and architectural marvels in temples, mosques, and other sites serve as testaments to exceptional artistic skills. Particularly remarkable are the unparalleled designs seen in the cave paintings of Ajanta, the intricate

carvings of Ellora, the exquisite craftsmanship of the TajMahal, and the artistic creations on the walls of South Indian temples. Jain and other scripture paintings are also noted for their exceptional design ornamentation.

"Kantha" are intricately sewn with various threads to produce beautiful designs, a craft easily mastered by housewives and grandmothers in their spare time. The artistry involved is unparalleled. Sarees, shawls, bedcovers, curtains, batik, "bandhni-work", and fabrics also showcase intricate prints and designs. Various textile weaving techniques incorporate diverse designs. Nowadays, designed tiles beautify floors and walls of homes. In village cottages, walls are adorned with unique designs painted in vibrant colors, showcasing the residents' artistic expressions. While design has no limits, it requires a thoughtful selection of colors and lines.

Alpana:

Throughout India, there is a tradition of creating Alpana on occasions and festivals or as anauspicious symbol. It is known by different names in different regions.

For example,

In Bihar — Aripana

Rajasthan — Mandana

Maharashtra, Karnataka — Rangoli

Uttar Pradesh — Sanchjhi (drawn in the evening)

Gujarat — Sathiya

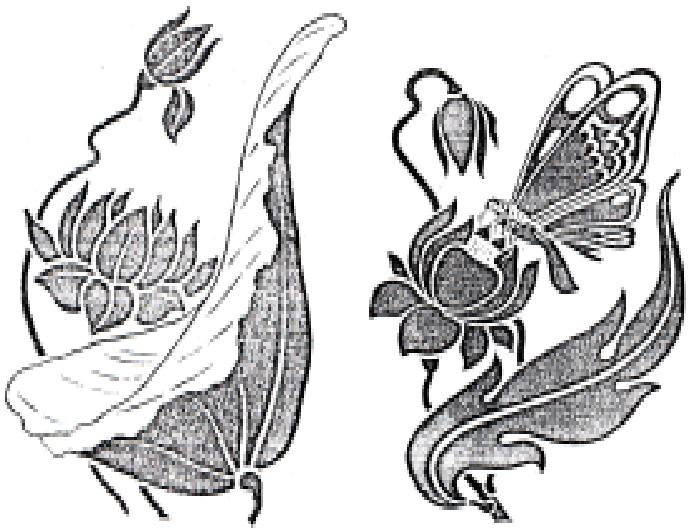
Odisha — Osya

Kerala, Tamil Nadu — Kolam

Andhra Pradesh – Mugga etc.

- **Characteristics of Alpana:**
  - Alpana is a ceremonial art where black color is traditionally avoided. It is revered as a genre of folk art and represents a primitive art form indigenous to Bengal. However, Alpana varies in style across different regions. For example, in Maharashtra, it is known as Rangoli, created using thin perforated tin cans to sprinkle white chalk powder on the floor.Alpana embody the domestic aesthetic of rural areas.
  - Alpana originated during the festivals, Pujas and other auspicious occasions and are drawn in every household during such occasions.
  - Preferably the women of the house like mothers and sisters, without any formal art training, effortlessly draw intricate designs. Alpana's characteristics vary with each occasion and region. Designs for Lakshmi Puja often feature motifs such as conch shells, lotus petals, rice measuring bowl, and paddy bunch. Alpana typically emanates from a central point, filling a defined space and often adorned with leaf motifs around doorways, along with footprints symbolizing deities like Lakshmi and Saraswati. Clay pots and other symbolic elements are also depicted.

- Distinct Alpana designs correspond to different rituals. For instance, Senjuti's vow Alpana may depict houses, trees, moons, and suns without a central radiance. Subachani's Rat Alpana presents a rectangular area with smaller designs on one side and narrative symbols on the other. "Punyipukur" Alpana, within a rectangular field, emphasizes symbolic representations like ponds, pots, and palm trees rather than repetitive motifs. Abanindranath Tagore's "BanglarBrata" introduces various designs of VratAlpana.



- Alpana is created using a small ball of rag or cotton dipped in white atapchal butter, applied with fingers to create thick lines, defining its bold and distinctive brushwork. Rabindranath Tagore's influence enhanced Alpana's popularity at Santiniketan, where additional colors and rhythmic variations in lines are observed. Harmony, balance, and overall coherence of colors and lines are crucial in Alpana artistry.

❑ **Decorations during Festival and Function:**

Before organizing the school festival, a detailed plan must be made outlining what needs to be done, how to arrange everything, and what materials will be required.

This plan will only succeed if all teachers are fully involved, and ideally, students should also be briefed and engaged. The work will commence according to the planned schedule, ensuring individual responsibilities are clear.

The ceremonial room will be adorned with various materials such as Shola Chandmala, flowers, kalka, thermcol design cutouts, zari ribbons, sequence embedded paper designs, alpana designs on paper, paper chains, flowers, batik or bandhni tablecloths, colorful fabrics, painted pots, and more. Pots adorned inAlpanas will be placed on either side of the entrance of the specific room, with flowers and leaves in them. Small planters of decorative plantsmust have Alpanas painted on them.Alpanas are to be drawn in other required locations too. Tables will be draped with batik or bandhni table cloths.

For the background screen of the stage, dark blue or mauve colored cloth could be hung and decorated with colorful paper chains in various arrangements. The walls of the room will display students' artwork, including pictures, paintings, designs, masks, and other decorations. Special areas will feature incense, lamps, and flowers on plates, creating a pleasant and inviting atmosphere.

Ornamental forms such as kalka, conch shells, lotuses, lotus leaves, and flowers will serve as units of Alpana. While there are limitations to traditional designs, creativity is encouraged, such as creating saree border designs.

This book's illustrations are in black and white, but in Alpana art, colors like blue, red, and yellow are used instead of black, enhancing vibrancy and visual appeal.

Pattern /Design Units: Pattern units include lotus, lotus petals, flowers, foliage, kalka, duck, peacock, elephant, horse, and geometric shapes. These designs can be applied to walls, floors, paper, or any other surface.

Pattern /Design Features: Design features entail the repetition of ornate forms while maintaining rhythm and structure. Colors and lines are central to their regeneration. Additionally, designs can incorporate materials such as shola, thermocol, lace, cloth, and colored paper.

In schools, demonstrating the arrangement of petals and papaya leaves can help children grasp the form and rhythm of Alpana. Both teachers and students can benefit greatly from practicing these techniques.

5.6 Clay Work - Modelling / Relief Work

❑ Using Clay to Make Art:

Clay artwork is created using one of the most readily available materials. However, the characteristics of clay vary from region to region, which is natural. For instance, the black silty clay soils found in the estuaries of South Bengal are considered ideal for such work. Potters in Kumartuli (Kolkata) used to transport this clay by boat. Similarly, artwork made from the reddish sticky soil mixed with sand from Bankura and Purulia resembles burnt earth.

The history of clay and terracotta work is ancient. Pottery was originally crafted by women. Evidence of terracotta work can be seen in the terracotta statues of Mohenjo-daro (3000 BC-1500 BC) (discussed further in the sections on clay or terracotta work).

❑ Variety of Soil and Collection of Suitable Soil:

Soils are classified into three types based on their characteristics: (1) sandy soils, (2) loamy soils, and (3) clayey soils. Sandy soil, due to its high sand content, does not hold together and easily crumbles. Loamy soil, with an almost equal proportion of sand and silt, lacks the necessary stickiness required for work and tends to fall apart during shaping. Clayey soil, because of its notably high stickiness, is preferred clay work. However, clayey soil is prone to cracking due to shrinkage during drying. To mitigate this, mixing a small amount of fine sand or loam with clay soil prevents cracking. Nevertheless, the best soil for pottery is silt-clay soil from creeks and river banks, which can also be sourced from "Kumorpara" the local neighborhood of the potters. Care should be taken to ensure, the soil is free from chaff or straw.

Potters sometimes mix chaff, jute, or straw shavings into their clay, which they use for making clay idols on straw structures, this helps in holding the clay together. However, this mixture leads to cracking when the soil dries. Such cracks can be seen at the backside ofthe idols. Potters typically cover such cracks in the front side of the idols with a thin cloth dipped in mud. In certain cases, a small amount of chaff, jute, or straw can be added to the soil.

For added stability in clay work mix clean and fine sand with silt-clay soil, dry the clay work in shade and then fire the work as discussed further in the terracotta section of the method. Silt-clay soil is suitable for educational purposes in schools or for crafting small items like incense burners, vases and dolls. If cracks appear during the drying process, gently scratch the area and smooth it with water and mud to prevent further cracking. Clay work should be dried in shaded areas to avoid rapid drying and cracking.

❑ How to Prepare the Soil for Clay Work- First Method:

When the soil is dry, place it on a large wooden plank and break it with a hammer. Transfer the soil into a large clay tub and soak it in water for two days. After two days, knead the softened soil in the pot like dough, expelling any trapped air by pressing it against the ground. Remove any foreign objects such

as stones, jute fibers, or brick pieces found in the soil. Black silt soil is ideal if available; otherwise, to ordinary clayey soil add sifted and cleaned fine sand. Loamy soil can also be used instead of regular sand. When kneading the soil if it does not stick to your palms, that means your clay is now ready.

❑ How to Prepare the Soil for Clay Work- Second Method:

Another method of preparing soil involves pouring plenty of water over powdered soil in an earthentub and soaking it for two to three days until it becomes like a muddy watery mixture. Next, pour this muddy watery mixture through a fine cloth or sieve into another earthentub.All debris such as brick chips, jute fibers, or grass will be strained out, leaving behind clean soil slurry. Allow the slurry to settle for a day and then carefully decant the water without disturbing the settled soil. Dry the soil slightly to achieve the right consistency for working.

Shape the clay with your fingers and palms as needed, and then dry the clay work in the shade. When making fired clay work, adding a small amount of fine sand can improve its properties, as mentioned earlier.

Use of Modeling Tools:

For small tasks, two palms and fingers are sufficient. However, for more intricate work, a "taarkaathi' wired-stick, knife, and flatlong stick are used to cut and level the soil. The eyes and nose of the idol and designs are carved out with a sharp and pointed stick. Additionally, various clay pots are shaped using molds. Knives and flat rulers with sharp edges called "cheyaari" can be made out of bamboo skin, variety of wooden flat sticks from broken wooden rulers and hairpins can be used to create wired-stick. Any excess soil is trimmed off with a wired-stick. "Cheyaaris" are also used for this purpose. Specific tools for clay modeling can also be purchased.

Conservation: To conserve unfinished clay work and unused clay, both must be sprinkled with water, covered with a thick wet cloth and then wrapped tightly with a wet polythene sheet to prevent air exposure. This method allows soil and semi-finished work to be stored for future use.

Some tools and other equipment for ordinary work:

1. Various "taarkaathi' wired-stickis used for cutting or scrapping layers ofclaywhileworking.
2. A variety of scrappers,"cheyaari" and"nraruna" a narrow sharp chisels used for intricate works/ carvings.
3. A broad flat stick for placing clay.
4. A large wire for cutting clay
5. Club or hammer for pounding clay.
6. Sieve or colander for sifting clay.
7. Rolling pin, large wooden plank.
8. Paint, brush, water, rags and clay are a must have.

- **Clay Work:**

Materials: Clay, paint, brush, pencil, modeling tools and clayey soil

Crafting a Clay Duck: (Can be easily shaped by hand)

Take a ball of soil or clay and roll it in your palms to make it smooth and free of air bubbles.

Flatten the ball slightly between your palms. Ensure one side is thicker and shorter (the body), and the other side is longer and thinner (the neck and head).Using your index finger, lift the longer, thinner side to form the neck and shape it into a beak.Press the neck gently onto the body, ensuring it adheres well without cracking. This forms the basic structure of the duck.Attach two small flattened pieces of clay or soil to the sides of the body to form wings. Blend the edges to ensure they are securely attached. Use tools or your fingers to add details such as eyes, feathers, and texture to the duck. These details can be carved or pressed into the surface of the clay.

If you plan to use the duck as a holder for items like lamps or incense, create a hole in the back of the duck while the clay is still wet. Ensure it is large enough and positioned correctly for your intended use.

Allow the clay duck to dry thoroughly in shade. Once the duck is completely dry, you can paint it using suitable paints for clay or soil. This step allows you to add color and further detail to your creation.

In this manner you can create mango, banana, elephant, and horse from a big ball of clay. To cutoff excess clay use wired stick. To add clay wherever needed the excess clay needs to be pressed properly or else it will come off. If necessary insert wires or stick into it.

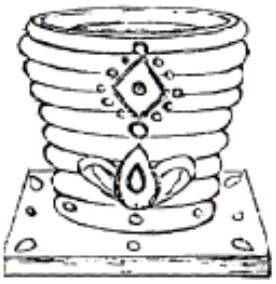
- **Relief Work:**

If you make a 1” thick clay tile and place leaves and flowers on it, pressing them will create a beautiful impression. Next, use a stick or wooden knife to carve out the outer part of the design impression to about 1/2” down, and even out all around the base so that the design remains slightly higher than the surrounding. This is called relief work. Beautifully relief works can also be created by putting clay onto the drawn designs or figures on clay base. First apply a coat of white chalk or white poster colour on the dried clay work then paint with different colors. Market-bought earthenware, small pots, etc., can also be painted using medium size brushes. Before painting, a light pencil drawing will be helpful.

Relief works are of two types-

1. Low-relief: Low-relief refers to any design or figure raised very slightly from the surface. This technique is used in clay work as well as in stone carvings.
2. High-relief: If a design or figure is significantly raised from the surface, with only the base attached, it is called high-relief. High-relief work is commonly seen in temples.

- **Coiled Work** (Prepare soil as mentioned earlier).



Pen Stand Using the Coil Method

Procedure:

Prepare a small but thick plate of clay as the base. Then roll out the rest of the clay into a thin, round rope. Place one end of the rope on the plate and start coiling it around, stacking each new coil on top of the previous one to build up the sides of the pot. Before adding each new coil, apply a thin layer of slurry (muddy water) to help the coils stick together. After finishing the main structure, you can create designs by adding more clay ropes in decorative patterns.

Pottery equipment is available for purchase, but you can also use old wooden scales, bamboo, etc., as mentioned earlier.

Terracotta is very durable. Apply organic or earth colours and dry them before firing the clay work to achieve beautiful, permanent colour. For example, mix black "khayer" powder with some hot water and stir well. Add a small amount of baking soda to the mixture. In a separate container, mix red oxide in cold water to make a paste. The color should not be too thin and should be free of grains. If needed, let the color mixture sit for a while. Then, paint the clay with the help of thick brush. Apart from ingredients like "khayer" and baking soda, you can mix earth colours with gum to make a paste. Red oxide can be replaced with green oxide or black paint. Every ingredient will give a different colour.

You can also use oil paints or glue mixed water colour, poster colour on or any earthenware to adorn or decorate them.

- **Decorating Earthen Plates:**

  Materials: Burnt clay plates, pencil, tracing paper, various poster colours, thin and thick water colour brushes, water, rag, palette, 1st grade sand paper. Colourful designs on paper.

  Method: Smoothen out the surface of the earthen plate by rubbing it with 1st grade sand paper. Using the tracing paper, transfer / draw the design on the surface of the earthen plate. First apply white colour and then use other colours of your choice to decorate the earthen plate.

- **Using Oil Paint:**

  Materials: Oil paints, palette, thick and thin oil brushes, tracing paper, pencil, purified linseed oil, turpentine oil, purified varnish and rags

  Method: Draw the design in colours as before (palette with linseed and turpentine oil colours) then the design in oil colours. After painting, varnish will be painted to bring out the glaze after drying.

  Just as before draw the design on the earthen plate. Mix Oil paints with linseed oil and apply on the drawn patterns. Apply varnish once the paint has dried.

  Clay pots, vases, dolls everything can be painted or decorated with water-colours or oils paints.

- **Making Clay Molds and Dolls from Them :**

  Materials: Any doll, coconut-oil and soap solution, thick brush, clay, clay tools (knife, flat stick, wired stick, etc.), water, and rag.

  Method: To prepare the Doll apply a thin coat of the solution made of coconut oil and soap,on the back of the doll using a thick brush. Press a half-inch thick layer of clay onto the oiled side of the doll.Level the edge of the clay from top to bottom using a stick and a flat stick.Shape the edge of the clay slightly to create a locking mechanism with two notches, one at the top and one at the bottom. Allow the clay to dry well for two days. To createthe second half of the mold, apply coconut oil and soap solution to the remaining half of the doll and the edge of the first half of the mold.Press clay onto the oiled side of the doll as before.Once dry, carefully remove the two halves of the mold from the doll by gently applying pressure with the tip of a knife at the joint.It is better to fire the mold to harden it.

  To make a Doll from the Mold, add grated soap to hot coconut oil. Apply this solution to the inner side of the two halves of the molds.Press paper pulp or clay into both parts of the mold.Join the two parts of the mold together and tie them well with a rope.Fill with more clay or paper pulp using a narrow stick from the bottom.Once dry, remove the bindings and carefully separate the mold halves by applying slight pressure with the tip of a knife.The doll will be released from the mold. Let it dry well and finally, paint the doll as desired.

- **Plaster Mold Making**

  Materials: Plaster of Paris (POP), tub/trough, water, dolls, wired sticks, flat sticks, wooden planks, clay, oil and soap solution, brush.

  Method:

  To prepare the Barriers/Walls, press some clay in the palms of both hands to form narrow strips.

  Place these strips on a wooden plank and beat them with a flat stick to form long ribbons, a quarter inch thick and half an inch wide. These are the barriers or walls.

To Preparing the Dolls, apply an oil and soap solution to the doll using a brush.To make this solution, mix grated soap and coconut oil with a little water, stirring over low heat until well mixed. Ash isalso used.

To mixing the Plaster, pour some water into a tub/trough, filling it less than halfway.Add Plaster of Paris and mix by hand to form a thick, muddy consistency. Ensure there are no bubbles or dirt in the mixture.

Creating the First Half of the Mold:

Place the doll vertically on the wooden plank.Align and stick the clay ribbon-like barrier, dividing the back from the front of the doll from top to bottom.Apply a half-inch thick layer of plaster to the front of the doll, covering it as high as the barriers.After a day, when the plaster has dried, remove the barriers. Cut a V-shaped notch at the edges of the plaster to create a locking mechanism.

Creating the Second Half of the Mold:

Apply the oil and soap solution to the edge of the plaster and the doll.Cover the back of the doll with a half-inch thick layer of plaster as before.The next day, when the plaster of Paris has dried completely, carefully remove the two plaster parts from the doll by applying slight pressure with the tip of a knife at the joints. These two parts form the mold.

Making a Doll from the Mold:

Apply oil and soapy water to the inner side of both parts of the mold.Press clay or paper pulp into the mold with your fingers.When it is thick enough, fit the two parts of the mold together, ensuring the lock mechanism is properly engaged, and tie them together.Fill more clay or paper pulp into the mold with the help of a stick and seal the opening.After two days, remove the plaster mold.Paint the doll when it has dried properly. Masks or other items can also be made using such molds.

- **Making Pen Stands Using Clay Plates**

Materials: Clay, wooden planks, wire sticks, knives, sticks, flat sticks, water, rags, etc.

Procedure: Make five clay slabs of about half an inch thick.Carve out designs on four of these slabs using a stick or other tools. On top the fifth slab place the four designed plates along the edges, forming a hollow box / can like structure using mud slurry. Even out the joints and edges with fingers adding soft clay. After drying in the shade it may be colour or fired.

When firing, mix the clay with sand for better results.

- **Making Clay Elephants, Horses, Puppets, etc.: Creating Three-Dimensional Objects**

Materials: Clay, water, thin bamboo knife, knife, flat stick, wired-stick. Clay elephants, horses, and puppets can be used as models.

Method: Roll a bit of clay in the palms of both hands to make a ball. For the doll's head, press the ball, attach both hands to the waist, narrow the waist, and gradually widen it like a ghagara. Feet need not be shown. Create a bun at the back of the head. Shapes such as spheres, pyramids, and cubes can be made by applying hand pressure.

Place a small amount of clay on a slab of clay and press it to shape into elephants and horses. Use visual references by placing models of puppets, elephants, horses, etc. in front of you. Use knives and sticks as needed for detailed and intricate work. Dry the objects in the shade. Once dry, paint the objects as desired.

5.7 Paper Art

After the invention of paper in China, it began to be used for various purposes. Some of the techniques that utilize paper include Paper Pulp, Papier-mâché, Paper Cutting, Origami, and Kirigami. From decoration to religious ceremonies, paper art plays a significant role. The word 'paper' originates from the Latin word 'papyrus.'

❑ Paper Pulp:

Pulp is a non-porous material made chemically or mechanically from wood, fibrous grain or waste paper. Recycled paper is used to make paper pulp. In this case the fibers of the paper are broken.

Ancient Egyptians wrote on papyrus, which was made from the papyrus tree. After the invention of paper in China in the 2nd century AD, "Paper Pulp" was also produced. At present, "Paper Pulp" is being used in various ways and in various fields. There are variations in the method of making "Paper Pulp" in different regions. The way "Paper Pulp" is made in Kashmir is completely different from our West Bengal. Here, cow dung, chaff, soil are used along with the pulp. Again in Rajasthan Multani soil is used. "Paper Pulp" is used in handicrafts all over the world. Various types of masks, boxes, jewelry, and even modern art are using it a lot.

Method of Making Paper Pulp:

Materials: Old newspaper, glue, scrubber, sponge, mortar or grinding machine, mold, water, container etc.

Preparing the Pulp:

Tear up old newspapers into small pieces and soak them in water for 24 hours. Use hot water to reduce the soaking time by hours. Grind the soaked paper using a mortar and pestle or in a mixer until the fibers are completely broken down. For a finer texture, stone grinders maybe used. Drain the excess water using a cloth, preferably fine mercerized cotton cloth. Mix the pulp with cellulose powder glue, gelatin, or any other type of glue by hand. Use 50 grams of glue to every three liters of pulp. Let this mixture sit for a two hours. After resting, knead the pulp again thoroughly. The pulp

should now have a clay-like consistency and be ready for use. Use the pulp within a couple of days for the best results or it may go bad. If stored in an airtight container, it may last a few more days.

Using the Pulp to Create Objects:

For shaping objects with paper pulp, a mold is required. The mold can be of plaster, plastic, or rubber. Clean the mold thoroughly and apply a releasing agent to ensure the paper pulp releases easily once dry. A homemade releasing agent can be made by heating turpentine oil with wax and stirring until the wax dissolves. Apply this solution to the mold 2-3 times while it is warm.

Remove excess water from the pulp with a sponge. Gradually apply the paper pulp to the mold, smoothing it with a sculpture's scrubber.

Allow the pulp to dry on the mold for three days under the Sun. Alternatively it can be dried in a microwave oven at a specified temperature. Once dry, carefully remove the paper pulp object from the mold. Smooth any rough areas by applying more pulp if needed.

After drying, paint the object white. If using acrylic paint, use white acrylic paint. For poster colors, mix zinc oxide, clay or whiting with any white color. To dilute the colour add Fevicol and water. Once the white primer is dry, decorate the object with any colors as desired.

Benefits of Paper Pulp:

- Papier-mâché works are much lighter in comparison to other materials and can be easily carried.
- A single mold can be used multiple times to reproduce the object in bulk quantity.
- This medium is very suitable for creating texture.
- Paper pulp is a good alternative for clay. It is especially suitable in cities and urban areas where it is difficult to find the right kind of clay.
- Discarded papers are recycled.

Disadvantages of Paper Pulp:

- Paper pulp is not a durable medium.
- If the preparation of Paper Pulp is not proper the artwork will spoil or decay fast.

❑ **Papier-mâché:**

The term "papier-mâché" comes from the French language. Papier-mâché is made by layering paper and binding it with adhesive to form a pulp. In ancient Egypt, coffins and masks were made using this technique, though they often used papyrus or cloth instead of paper. Over time, various materials have been incorporated into the pulp. In India, papier-mâché is traditionally used in Kashmir for making boxes, trays, and other decorative items. In the Purulia district, the papier-mâché method is used in the creation of masks for the Chhau dance. Today, papier-mâché is widely used in theatre, puppetry, and other artistic applications.

Papier-mâché method:

Materials: Old newspaper, glue, paint, brushes, varnish, etc

Method: Tear the newspaper into small pieces. The mold in which the papers will be placed must be cleaned thoroughly. Soak the torn pieces of paper in water and apply them to the mold. Start with one or two layers of water-soaked paper and apply them to the mold. The water-soaked paper prevents the glue-soaked paper from sticking directly to the mold. Once the paper dries, it can be easily removed from the mold. Apply seven to eight layers of paper using a thin paste made from flour or arrowroot. Ensure the adhesive paper is applied evenly, especially in the small grooves of the mold. Use a wooden spatula for this purpose. Nowadays, synthetic glue, such as polyvinyl acetate (PVA) or Fevicol, is often used instead of flour or arrowroot.

The papier-mâché work should be dried thoroughly in the sun along with the mold. If any areas are not properly dried, removing the papier-mâché from the mold may distort the work. Once dry, apply a base layer of white paint. It is preferable to use white paper for the top layer if available. Decoration can be done in any desired color. Finally, applying varnish will enhance the appearance, making the work look very beautiful.

The Advantages of Papier-Mâché

- **Lightweight:** Papier-mâché work is very light and easy to carry.
- **Easy to Work With:** Papier-mâché is very easy to work with, making it suitable even for children.
- **Recyclable:** Discarded paper can be reused, promoting recycling.
- **Low Cost:** Papier-mâché projects can be completed at a very low cost.

Disadvantages of Papier-Mâché

- Non-Permanent: Papier-mâché is not a permanent medium and cannot be used for long-lasting projects.
- Water Sensitivity: Papier-mâché work is easily damaged by contact with water.

❑ Paper Cutting

Paper cutting is believed to have started in China in the sixth century AD and is closely associated with Chinese folk culture. This traditional paper cutting method is called Jianzhi. Generally, red-colored thin paper is used by the Chinese, who consider this paper cutting a symbol of progress and prosperity. As a result, paper cuttings can be seen on the doors of houses and in various places throughout China. Handcrafted traditional paper cutting has reached the level of extraordinary art in

the region of Menghera in China, which is why UNESCO has included paper cutting in the "Intangible Cultural Heritage" list.

In addition to China, the art of paper cutting is also practiced in countries like Japan, Israel, and Mexico. In our country, Rangoli designs are cut out of paper, decorated, and pasted on the floor, often filled with colored powders or other materials.

Different designs are obtained by varying the number of folds in the paper, such as four-folds or eight-folds, and then cutting patterns.

This technique of uniquely folding the paper and cutting is known as Kirigami in Japan. The word "Kirigami" comes from the Japanese words "kiru," meaning "cut," and "gami," meaning "paper." Although kirigami is considered a part of origami, it typically involves cutting the paper symmetrically on both sides.

Below are some methods of paper-cutting.

Paper Design

Materials: Marble paper, scissor and glue.

Method:

- Take a square piece of colored marble paper and fold it evenly as shown in Figure 1.
- The paper should then be folded into a rectangular shape as shown in Figure 2.
- Now, fold the paper diagonally as shown in Figure 3.
- Draw a design on the folded paper as shown in Figure 4.
- Cut out the drawn parts with scissors.
- Unfold the paper and paste the cut-out design onto another piece of colored paper of the same size, as shown in Figure 5.

Various designs can be created by folding the paper in different ways. Below is an example of a paper doll cut-out image…

❑ **Silhouette Paper Cutting**

Making silhouettes by cutting dark-colored paper is called Silhouette Paper Cutting. Silhouette work was seen in Greek Vase Paintings and later in book illustrations. Shadow puppetry also uses silhouette images. A composition or portrait is usually created by cutting shapes from dark-colored paper and placing them on light-colored paper.

Materials: Black paper, scissors, glue, white or light-colored paper

Method:

- Draw any shape with a pencil on black paper. If you are skilled at drawing, you can cut the shapes directly with scissors.
- Cut the paper with scissors according to the drawing.
- Stick the cut paper onto another surface or a piece of light-colored paper.

This technique can be used to create good compositions through silhouette art.

❑ Paper Cut Composition

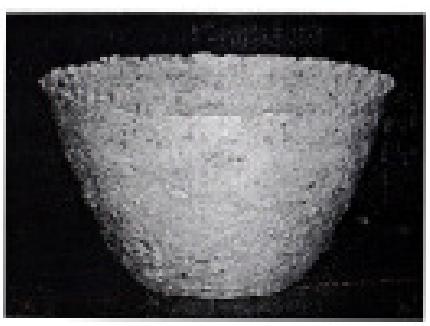
Compositions are made by cutting different colored paper and arranging the pieces to depict a character or landscape. Start with the background, first the sky and the ground should be cut and placed first, followed by distant objects, and finally the objects or people in the foreground.

Advantages of Paper Cutting

- The work can be done very easily and quickly.
- The cost is much lower than other mediums.
- Paper is a readily available medium.
- Any kind of paper can be used.
- Children can also work with this medium.

Disadvantages of Paper Cutting

- It is not a permanent medium.
- It cannot be reused.
- If care is not taken while handling the paper, the work may be ruined.
- The artwork cannot be preserved easily.



Paper page work

❑ Origami

The word "origami" comes from the Japanese words "ori" meaning to fold, and "kami" (changed to "gami") meaning paper. Origami is a traditional art form of folding paper, originating in Japan in the seventeenth century and became popular in the mid-nineteenth century. The number of basic folds in origami is limited. Authentic origami is done using a perfect square paper. At times, rectangular paper is also used. When paper is folded and cut as needed, it is called kirigami.

Features of Origami:

- Basic folds used in origami include valley folds, mountain folds, reverse folds, squash folds, etc.
- Square paper is commonly used.
- Only one side of the origami paper is colored, the reverse side is white.
- Origami is created solely by folding paper.

Benefits of Origami:

- Can be done by just folding papers.
- Can be done without any prior preparations.
- Can be easily taught to children of primary schools.
- Can be done just by using our hands and paper, no specific tools required.

Difficulty Level in Origami:

- Paper is a perishable medium.
- Objects cannot be created if folds are not correct.
- Paper tears very easily.

❑ Papier Mâché mask

Papier Mâché mask made with the help of terracotta "Shawra" (a very shallow bowl like earthen plate):

Materials: Terracotta "Shawra", Papiermâché / paper pulp, fine cotton rags, old newspaper, glue, water, knife, scissors, paint, sponges, hand wipes, water and water container.

Procedure: If it is a Joker's mask--

Wipe the "Shawra" with a wet rag. Stick a layer of newspapers over the terracotta "Shawra", ensuring there is no air inside, spreading it evenly by hand. After that, apply thicker layers of papiermâché, pressing it down while shaping the nose, eyes, and lips as needed. Finally carve out the Joker's face using the sculpting tools. Now layer it tautly with fine cotton rags soaked in a paste of flour and water. Pierce holes for the eyes and nose.

After a few days of drying, remove the mask from the terracotta "Shawra". Apply white primer. Then paint the mask with colours of your choice. Oil paints may also be used. Lastly, apply a coat of varnish for preservation.

Masks of tiger or any other characters can also be made in this method.

Papiermâché / paper pulp can be used to make puppets or other items using molds, in the same method.

- **Making of Cover File**

Materials: Stiff cardboard (1 piece, 10"x13"), hard pastel or board paper (half-sheet), marble paper or brown paper, cardboard (2 pieces, 10"x13"), scissors, 12-inch ruler, pencil, glue, tape, ribbons, and a ready-made file. If the file cover paper is not strong enough, glue the pastel papers on top of each other to create a sturdier sheet.

Method: Using the prepared file and the image provided as a reference, cut two pieces of pastel paper to wrap both sides of the file. Both pieces should be 12.5" in length. One piece should be 9" in width and the other 7" in width. Alternatively, both pieces can be made 9" wide, and then cut into two parts of 6.5" x 9.5".

Place the four parts onto the four edges of the board and stick them with glue.

Cover the back of the board with brown paper or marble paper. Carefully rub the marble paper with a rag to remove any air bubbles or creases. Repeat this process for the other side of the board too.

Make two holes with the tip of a knife as shown in the picture. Press the edge of the scale at the folding points and fold it into 2/3 folds to create the folds.

Decorate the cover by spraying, paper cutting, or stenciling as desired.

- **Making of Office Envelopes**

Materials: Brown paper, glue, knife, scissors, envelope, scale, pencil.

Method: Take an 11" × 8.5" piece of brown paper and draw the design as shown in the picture on its rough side.

Cut along the drawn lines with scissors and remove the excess part. Fold the two spread-out wing like sides (one a little more than 2.5" and the other a little less than 2.5") overlapping of the other slightly. The top width will be equal to the bottom, i.e., 4.5". Apply glue to cover the overlapping part. Fold and glue the extra 0.5" at the bottom. Leave the top triangular 1" section open. Now you have made an envelope. Referring to a readymade envelope will be helpful.

- **Teaching Paper Cutting to Children:**

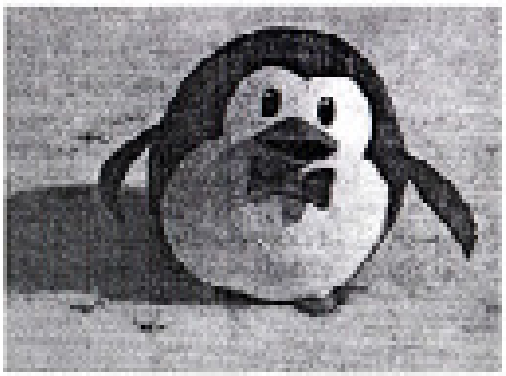
It's best to start teaching paper cutting from the third grade. Younger children in first and second grades should not use scissors. Initially, children can practice peeling mangoes, bananas, or other items

with their hands. They will learn to cut out parts of colored pictures later, starting with simple images like a house or a tree. Gradually, their skills will improve.

To enhance their creativity, have them cut paper and create beautiful designs. They can also use stencils to make artistic patterns on art paper.

- **Making a Paper Pinwheel:**

  Materials Needed: Thick paper, Pencil, Eraser, Ruler, Scissors, Glue, A piece of wire or a thin nail or a Pin, and thick bamboo stick. A stick from a broken discarded basket can be used.



Paper pulp work

Draw a square on a piece of paper using a ruler and pencil, and then cut it out. Connect the four corners with straight lines as shown in the picture, creating an "X" shape. Now, there are four straight lines from the center.

From the four corners cut halfway towards the center along the dotted lines (as shown in the picture). Fold the corners marked with (x) towards the center and glue them together. Cut two small circles of equal size from the remaining paper and glue one circle on each side of the pinwheel. Insert a thin, sturdy wire or nail, or pin through the center of the Pinwheel from front to back. Fasten or fix it to the end of a stick so it can spin easily in the wind.

- **Various Other Paper Works**
- **Making Kites from Tissue Paper or Kite Paper:**

  Materials Needed: Tissue paper or kite paper, Wooden dowels or bamboo sticks, Scissors, Glue or tape, String, Ruler, Pencil, Markers or paint (optional, for decorating).

  Instructions:

  Prepare the Frame:

  - Measure and cut two wooden dowels or bamboo sticks. One should be longer than the other. For a traditional diamond-shaped kite, the longer stick will be the spine and the shorter one will be the crossbar.

- Lay the longer stick vertically and the shorter stick horizontally across it, forming a "T" shape. The crossbar should be positioned about one-third of the way down from the top of the spine.
- Secure the sticks together at the intersection using glue or string.

Shape the Frame:

- Tie a piece of string around the ends of the sticks, creating the outline of the kite. This string will form the kite's frame, which the paper will be attached to.

Cut the Paper:

- Lay the tissue paper or kite paper flat on a surface. Place the kite frame on top of the paper.
- Using a pencil, trace around the frame, leaving about an inch of excess paper all around.
- Cut out the paper along the traced lines.

Attach the Paper to the Frame:

- Apply glue or tape along the edges of the paper.
- Fold the excess paper over the string frame and press it down to adhere it firmly. Ensure the paper is tight and smooth.

Attach the Bridle:

- Cut a piece of string about twice the length of the kite's spine.
- Tie one end of the string to the top of the spine and the other end to the bottom of the spine. This is the bridle.
- Tie a loop in the middle of the bridle. This loop is where you will attach the flying string.

Add the Tail:

- Cut a long piece of string for the tail. Attach small strips of tissue paper or kite paper at intervals along the tail for stability.
- Secure the tail to the bottom of the spine.

Decorate (Optional):

- Use markers, paint, or additional paper to decorate your kite. Be creative and add designs that will make your kite unique.

❑ **Making masks, puppets (from molds) with Papier-mâché**

Materials Needed: Paper: Newspaper or tissue paper, Adhesive, Molds: Balloons, cardboard, or pre-made masks for shaping. Soap and oil solution, Paints: Acrylic or tempera paints for decorating. Brushes, Scissors, Additional Decorations: Feathers, beads, fabric, etc.

Process:

Prepare the Paper: Tear the newspaper or tissue paper into small strips or pieces. Smaller pieces create a smoother surface. Combine glue with water or mix flour with water to create a smooth paste. The consistency should be like thick cream. Choose a mold for your mask or puppet. Apply a thin coat of the solution. Apply Papier-mâché or dip the paper strips into the adhesive, removing excess glue by running the strip between your fingers. Then, layer the strips over the mold, smoothing them out as you go. Continue layering until you have several layers (usually 3-4) for strength. Allow the papier-mâché to dry completely. This can take several hours to a day depending on the thickness. Once dry, carefully remove the mold if applicable (e.g., popping a balloon for a mask). If the structure needs more strength, you can add additional layers. Paint your mask or puppet with acrylic or tempera paints. Once the paint is dry, add any additional decorations like feathers, beads, or fabric to enhance the appearance. Ensure all decorations are securely attached and make any final adjustments. Your mask or puppet is now complete.

Creating Designs by Cutting Paper: Take a 4-inch square piece of paper and fold it 2 to 3 times. Use a sharp pair of scissors to cut out small, random shapes. When you unfold the paper, it will reveal intricate patterns. You can create a variety of designs using this technique.

Paper Chain: Select the colors of paper you want to use for your paper chain.Cut strips of paper that is about 1 inch wide and 6 inches long. You can make as many strips as you like, depending on how long you want your chain to be. Take one strip of paper and form it into a loop, overlapping the ends by about 1/2 inch. Secure the ends together with glue, tape, or a staple. Take a second strip of paper, thread it through the first loop, and form it into a loop, overlapping the ends. Secure the ends of the second strip as you did with the first one. Continue adding strips, threading each new strip through the last loop formed, and securing the ends until your chain reaches the desired length.

Flags of different colors can also be made using the same technique. Cut the paper into petal shapes, resembling those of a lotus flower. Apply glue to the base of each petal and attach them around a wire or thin stick to form the flower. You can use this method to create other types of flowers or leaves as well. Velvet paper can be used to make flowers. You can use these paper flowers to arrange a beautiful stage decoration.

❑ Instructions for Creating a Bulletin Board

Take an old piece of thick paper and cut it to the size of the bulletin board you want to create (e.g., one foot by one and a half feet). Alternatively, you can use cardboard instead of thick paper. Before applying glue, gently wipe the surface of the paper with a wet rag to moisten it. This helps prevent the paper from curling or swelling when glued. Apply glue evenly to the surface of the bulletin board or mount board. Place the moistened paper onto the glued surface. Press the paper down firmly using a flat object, such as a board or a ladder. This helps ensure that the paper adheres smoothly without air bubbles. Leave it

to dry for one day. After the paper has dried, remove any excess or uneven parts. The result will be a smooth, well-adhered bulletin board. This method ensures a neat and durable bulletin board surface.

- **Making a tray**

  Materials: A rectangular piece of cardboard (approximately 9" ×14"), scissors, glue, coloured marble paper, rags, ruler, pencil.

  Procedure: Draw a rectangle measuring 7" x 12" on the cardboard, positioned 1" from the perimeter. Score and cut along the lines, making one cut per side from the outer corner to the inner mark, as shown in the picture. Fold the 1" wide edges on all sides. Use some strong paper and glue the corners to secure the edges. Slightly tilt the four edges for a better look and alignment. Apply glue to the marble paper and press it onto the tray with a wet rag to avoid air bubbles. Allow it to dry. Now you have a beautiful paper tray. This method can be used to create trays of any size as desired.

- **Diagrams for Making Paper Tray:**

  How to Make a Tiger Mask with Thick Cardboard

  Materials Needed: Two sheets of yellow-colored hard pastel paper, Glue, Scissors, Stapler, Ruler, Pencil, Marble paper, Toothpicks (for whiskers).

  Procedure: Glue two sheets of yellow pastel paper together for extra thickness. Draw a 9" x 9" square on the glued sheets and cut it out. At the top, cut a 1" V-shaped notch in two places, as shown in the picture. Overlap part B over part A and staple them together. Repeat this for the lower parts, ensuring the bottom is slightly wider. Cut out two ear shaped pieces and staple them to the folded mask. Apply marble paper for decoration as shown in the book's mask image. Paint areas for the cheeks white. Cut out eye holes. Attach toothpicks for whiskers. Cut along the dotted line of the nose, allowing it to rise when the mask is worn. Fold the middle line of the nose downwards, coloring part "Y" red. The mask will be ready to wear, featuring folds for a better fit on the face.

- **How to Make a Goat Mask with Black Cardboard:**

  Materials: Black cardboard, Scissors, Stapler, Glue, Red marble paper, Pencil.

  Procedure: Draw the outline of a goat mask on black cardboard and cut it out. Cut a 1" notch at the top, creating two parts, and staple them together. At the bottom center, cut a 1" indent and overlap the pieces to shape the mask, securing with a stapler. Cut two 1" loops above the ears, overlapping and fastening them together.

  Lift the ear parts above the mask, securing them under the horns with a stapler. Fold and let them hang downwards. Twist the two horns into a spiral shape, glue them, and attach them to the appropriate places on the mask. Cut nostrils and mouth shapes from the red marble paper and glue them onto the mask.

Cut out eye holes for visibility. The goat mask is now ready to wear.

Cardboard mask(picture)

5.8 Collage

Collage is the art of gluing various bits and pieces, such as colored paper, parts of pictures, fabric, or other materials, onto a surface (paper, board, canvas) to create a meaningful image.

- **Origin:**

The word "collage" comes from the French word "COLLER," meaning "to glue." It is also referred to as a picture made by sticking things together. When a small amount of paint is used in the collage, it is called "semi-collage." The term "collage" was coined by artists Picasso and Braque.

Though not always called "collage," the technique has been used in many countries for a long time. Spanish artist Pablo Picasso, the founder of Cubism, along with his friend Georges Braque, experimented with this technique. In 1908, they created a piece called "Le Reve," where a small gouache painting was glued in the center to give a three-dimensional impression, marking one of the earliest examples of collage. (Sources: Aban Tagore's KutumKatam and Picasso's Collage Sculpture by ShriShyamal Jana, West Bengal, AbanindraEdition, 1402 Bangabd, Department of Information and Culture, Govt. of West Bengal)

Gouache painting involves using opaque watercolors on paper like thin leather, called "Vellum". Picasso started collage work under the name "Assembled Painting." In 1912-13, Braque and Picasso glued a piece of colored oilcloth next to a partially painted oil painting on canvas. The woven pattern of cane chairs was printed on this oilcloth. Thick rope was wrapped around the oval image, creating "Still Life with Chair Caning," an example of a wonderful collage. Later, Picasso and Braque moved to three-dimensional works, called "Assembled Sculpture." An example is the "Pregnant Goat" sculpture made in 1950. This remarkable piece was crafted using dry palm branches, brooms with handles, pieces of wood, wicker baskets, and other materials, put together with plaster of paris.

- **Materials and Methods for Collage Work:**

Materials: Thread, Rope, Cotton, Jute, Dry tree bark and leaves, Dry straw, Pieces of cardboard, Sharpened pencils, Photo pieces, Paint, Paint sticks, Grains of sand, Sawdust, Various spices, Dry seeds. In other words, anything and everything can be used.

Procedure: Avoid Drawing. No preliminary drawing should be done for collage work, as it takes away the spontaneity and fun from the process of creating a collage work. Tear the papers by hand instead of cutting it. The white edges created by tearing add a beautiful dimension to the collage. Scissors and drawing can be used in special cases. Children can begin by cutting out pictures of different fruits, animals, houses, and trees by hand and pasting them onto the paper. The round wooden flakes we get while sharpening pencils with sharpener, stick them onto the paper, stick a red "bindi" at the center. Use thick green thread for stems and attach leaves to create a beautiful flower collage. These collages can also be used to make greeting cards.

First, think of the image you want to create and gather materials accordingly, for example, a landscape.

Take a piece of paper and mark an even border around it with a pencil. Paste light blue paper or a picture of sky for the sky as a background. Add a thin layer of white cotton to represent clouds. Alternatively, pull the blue or sky paper a while after pasting it. This will create a cloud effect with some of paper parts that will be left sticking on to the base paper. Now add the distant elements like trees and houses. Use rice straw for houses and dry bark for tree trunks. Foil and beads can be used for detailing the night sky.

Collage by Paper Cutting: By cutting with scissors or tearing up various colored marble papers or pictures them by hand, and arranging them on paper or a suitable surface using glue, a beautiful collage can be created. Children are very enthusiastic about collage work as it does not require drawing skills. By sticking various bits of coloured paper on a surface helps in creating a happy picture. While painting with water-colour requires deciding what color to use and where, this is not a concern with collages. Having all the materials ready at hand contributes to the popularity of paper cutting and collage.

Preservation of Collage Work: If there are parts of the collage that might fall off, cellophane paper can be used to wrap and secure them. Additionally, framing the collage with glass will help preserve it.

- **Characteristic Features of Collage:**
  - Its numerous materials can be easily procured.
  - There is no fear or apprehension of drawing and coloring correctly. A variety of colorful objects are easily available.
  - Wonderful three-dimensional pictures can be created by working wisely and patiently.
  - If the work is not satisfactory, it does not need to be discarded. It can be easily corrected by adding new layers of suitable materials.
  - Creative Thinking and Creativity are easily developed. Skill too is achieved without much effort. Thus enthusiasm and eagerness to work is increased, leading to a wide range of knowledge and understanding of various materials, which is an important aspect of education.

- Collage is a completely different art medium. Anyone can do this easily without using paint. These features contribute to the widespread practice and popularity of collage.
- Collage's subject can be decorative and pictorial.

❑ **Types of Collage:**

Collage work is now widespread and can generally be categorized into three types:

1. Pictorial
2. Ornamental and Decorative
3. Subjective

1. Pictorial Collage:

Pictorial collage involves creating images or pictures using various collage materials. As mentioned earlier, beautiful greeting cards can also be made using this method.

2. Decorative Collage:

Decorative collages are created by gluing different materials onto cloth, board, or any other suitable surface to decorate stages for festivals or to adorn houses.

Materials used can include various sequins, colored ribbons, paper flowers, "Chand mala" (decorative disc shaped danglers made from sponge wood or hat plant), and painted paper patterns such as kalka-alpana and glue. Threads may also be needed for securing certain elements.

Method: Arrange and glue the materials wherever they fit to create a decorative form.

3. Subjective Collage:

Subjective collages are created to illustrate a particular subject by arranging and placing various related photographs and materials on a surface like Photo Montage.

For example, to create a collage showcasing Netaji's patriotism:

Materials: Photographs of Netaji's various activities published in newspapers on the occasion of his birthday, various photographs of him, excerpts from writings about him, excerpts from his own handwritten notes, his various quotes mentioned at different times and glue.

Method: Collect and arrange the materials related to the subject and glue them onto the chosen surface to create a cohesive and illustrative collage.

5.9 Crafts with Waste / Discarded Materials

There are many items that are often thrown away or are easily available which, with a little ingenuity, can be transformed into beautiful crafts. Teacher-trainees can use these materials to teach children how to create various crafts. Children will have a lot of fun making these items with their own hands. Some of these crafts can also be used as Teaching-Learning Materials (T.L.M.).

❑ **Some Simple Crafts:**

1. Greeting Card:

   Method: Stick a white sheet of paper on the surface of the unnecessary notebook cover to form the base of the greeting card. Create beautiful flower petals by arranging pencil shavings in a circular and sticking them with glue. Stick a red bindi or a small round piece of coloured paper in the center of the flower. Draw green stems brush and paint. Print leaf shapes on the stems. Beautiful cards can also be created by colouring threads and leaves and taking their prints on paper, or by using paper stencils and spray paints.

2. Vase Decoration with Flowers:
   Tear pieces of kite paper or colored paper and glue them together to form petals. Alternatively, arrange and stitch pieces of colorful ribbon or thin sponge into petal shapes. Glue or stitch the petals together to form the flower. Bend a stick to form the stem of the flower. Attach the flower to the stem using glue or by wrapping it with additional ribbon or paper. To make a flower garland, connect the flowers by tying or gluing them together with ribbon or string.

3. Paper bags, envelopes, flat files, cover files; trays etc. can be made from old newspapers and glue.

4. Paper masks can be made.

5. Making a Geographical Model with Cardboard:
   Cut old stiff paper boards into different shapes and sizes to represent mountains, plateaus, plains, and seas. Glue these pieces onto a base cardboard in stages, layering them to create a 3D effect. Paint the highest parts (mountain peaks) white to represent snow. Paint the mountains dark blue. Paint the plateaus brown. Paint the plains green. Paint the seas light blue. Use a narrow brush to paint a white line representing a river flowing down from the mountains and meeting the sea. This model can be used as a Teaching-Learning Material (T.L.M.) in Geography lessons to illustrate different geographical features.

6. Using cardboard and thermocol sheets you can create houses, vehicles, T.L.M., and other objects from. Craft pen stands and flower vases by attaching a cylindrical cardboard roll to a round cardboard disc with glue. Additionally, glue two discarded thick paper cups face to face, decorate them with beautiful designs and sequins, and cut the top in a round shape to create unique vases.

7. Discarded egg cartons from stores can be collected, soaked in water, softened, and mixed with glue to create a pulpy material. This material can be shaped into various items such as masks, vases, dolls, incense holders, and lamps. To create a mold, apply a thick layer of clay to a plastic doll. After the mold dries, press the pulp into it. Let it dry, and then remove the doll from the mold.

8. Kantha is created by stitching with threads from the borders of torn or discarded sarees.

A run stitch, also known as a straight stitch or running stitch, is one of the most basic and commonly used hand-sewing techniques. It's called a "run stitch" because the needle and thread "run" through the fabric in a straight line. Start by threading your needle and tying a knot at the end of the thread. Push the needle through the fabric from the back to the front at the starting point. Move the needle a short distance along the fabric and push it back through to the other side. The length of the stitch can vary, but it's typically about 1/8 to 1/4 inch. Continue this process, making evenly spaced stitches by pushing the needle up and down through the fabric. The stitches should be straight and uniform in length. In Kantha stitching, run stitches are used to create intricate patterns and designs on layers of fabric, often resulting in beautiful and functional textiles such as blankets and clothing.

9. Making Rag Dolls with discarded fabric:
   Draw the outline of a doll on a folded piece of cloth and cut it out. Stitch around the edges, leaving the bottom side open. Turn the fabric inside out so that the seams are on the inside. Fill the doll with cotton or sawdust, and then sew the bottom closed. Use black thread to stitch the hair and eyes, and red thread for the lips. Slightly pinch the fabric for stitching the nose. Decorate the doll with a saree, ghaghra, and head veil. Add embellishments like sequins to the neck and waist. Follow the same process for male dolls, dressing them in appropriate attire.
   For making paper dolls, refer to the section on 'Paper Work,' which describes using the marbles and empty vials.

10. Jute Dolls, Lions with Palm stone/seed, Egg Shell Penguins, Pen Stands with Narrow Bamboo:
    To create jute puppet take a bunch of golden jute and comb it to separate the fibers. Place the center of the jute on your finger, allowing the fibers to hang down on both sides. Hold the part beneath your finger and tie the section with thread to form the head. Hang down some jute on either side of the head and braid them as hair. Tie pieces of jute around the shoulder area, below the neck, to represent the arms. Cover the puppet with a frock or other clothing made from rags or colored paper, using glue to secure the fabric in place. Cut a piece of black paper to create the eyes and red for the lips and attach them to the face. Black thread or wool can also be used for hair. This technique can also be applied to create jute decorations on other projects.
    By adding four wheels to a cardboard box, a toy car can be made.
    After burying a palm seed or stone in the ground for several weeks, you can retrieve it and transform it into a lion's face. The fibers around the seed will serve as the lion's mane. Use a piece of paper and glue to create the eyes, nose, and mouth, completing your lion's face.
    You can create various figures, such as penguins and birds, using egg shells. First, fill the opening of the egg with sand to weigh it down. Then, slightly press a small clay plate or slab onto the base. Make the penguin's long beak and wings with black paper and glue, and use red and black marbled paper to create the eyes.

Dolls can be created using clay molds. After shaping the clay in the mold, remove the dolls and allow them to dry. Once dried, paint the dolls with white primer and paint them with various colors to add details and vibrancy.

- **Dolls Made with Ice Cream Spoons**

You can create different characters as puppets using ice cream spoons, which can be used to tell stories.

Materials: Ice cream stick or spoon, Sketch pen, Colored or printed paper, Old card, Fevicol (or similar glue), Scissors and Gold paper.

Method: Start by drawing the face, nose, and eyes on the ice cream spoon using a sketch pen. Cut colored or printed paper into triangles to create clothing. Glue these pieces to just below the face on the spoon. Use black paper to create hair by sticking it above the forehead. Cut and attach a piece of gold paper near the neck for added detail. Feel free to use other colored paper and decorations to enhance the doll as desired. These ice cream spoon puppets can be a fun and creative way to engage in storytelling!

- **Pen Stand**

You can create a stylish pen stand using discarded plastic or tin cans.

Materials: Cold drink cups (plastic or tin), Colored paper, Paints (poster or watercolor), Pastel colors, Brushes and Fevicol (or similar glue).

Method: Cut a piece of colored paper to fit around the can. Use white pastel colors to create a simple design on the paper. Consider using motifs like leaves, flowers, or simple lines. Give the paper a wash with poster color or watercolor of your choice. The white pastel design will resist the paint due to its oily texture, allowing it to stand out against the background color. Allow the painted paper to dry completely. Once it is dry, use glue to securely attach the paper around the can. Your pen holder will be ready in no time.

- **Egg Tray Turtle:**

You can create a beautiful turtle using an egg tray, making a fun and decorative project.

Materials: Egg tray, Thick card, Colored paper, Fevicol (or similar glue), Scissors, Paints and Sketch pen.

Method: Start by cutting out an egg cup from the egg tray. Make sure the edges are rounded and neat. Cut a piece of colored paper into a round shape to represent the turtle's shell and glue it onto the egg cup. For added appeal, you can paint the egg shell before gluing on the paper. On the thick card, draw and color the turtle's face and feet. Once the features are drawn, cut them out and attach them to the turtle's shell using glue. And there you have it—a beautiful turtle created from an egg tray that's both fun to make and delightful to display.

5.10 Tie and Dye

The art of dyeing fabrics and doing artwork on fabric has been practiced since ancient times, with evidence dating back to the Neolithic period. During this era, ornaments made from iron oxide and clay was commonly used. The Chinese were creating dyes from tree bark since five thousand years ago. Similarly, evidence of dyeing fabric has been found in the Sindh province of Pakistan. Dyeing fabric with plant extracts was also prevalent during Mohenjodaro civilization. Creating patterns and designs by dyeing fabric was evident in Peru, between 500AD and 800 AD. Peruvians used bright red, yellow, blue, and green colors. Indigo dye was widely used in West Africa. The word "dye" entered the English language in the 12th century, meaning to color. "tie and dye" refers to the method tying the fabric and then dyeing it.

Tie and dye involve folding and tying cloth in different ways before dyeing it. This technique was practiced in Japan from the 8th century, where traditional kimonos were designed using this method, known as "Shibori". In Indonesia, tie and dye is referred to as "Planggi" and "Tritik". Another method of dyeing is known as "Ikkat".

There is evidence that the method of dyeing fabrics prevails in various regions of India. Today, dyeing of fabrics is a significant cottage industry in Rajasthan, known as "Bandhani". Bandhani involves dyeing cloth by tying it in intricate patterns to create small circular designs. This technique is popular for sarees, veils, and churidars, typically using bi-colors. There are two types of dyes: natural and synthetic. Natural dyes are being used since ancient times, while synthetic dyes were discovered by William Perkins in 1856. To make the dyes permanent naturally, substances such as salt, vinegar, alum, and ammonia are mixed with the dyes.

Natural dyes are obtained from:

a) Minerals (Inorganic Colours)

b) Plants and Animals (Organic Colours)

According to the characteristics of the color, there are two types:

a) Dye Color: This type of color dissolves easily in water and does not settle at the bottom. It is used for dyeing clothes.

b) Surface Color: This type of color settles at the bottom after mixing with water. It is used in fabric printing.

There is a detailed discussion on Dye and Surface colours in Chapter 6.

❑ **Classification of Dye :**

There are different methods of dyeing.

(1) Acid Dye

(2) Basic Dye

(3) Substantive cotton dye

(4) Sulphfur Dye

(5) Mordant Dye

(6) Vat Dye

(7) Developed Dye

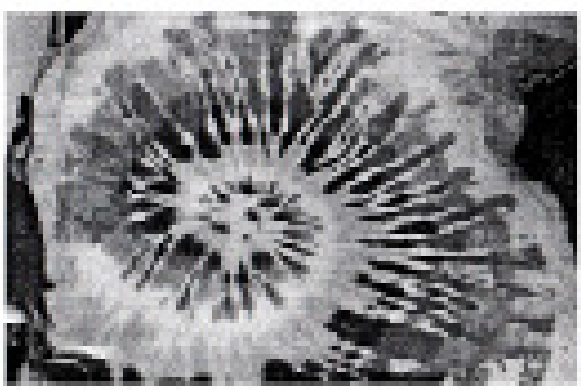
❑ **Bandhani (Tie and Dye)**

Bandhani, also known as tie and dye, is a traditional Indian textile art that involves dyeing fabric which has been tied tightly in specific patterns. This method creates intricate designs and patterns, particularly popular in regions such as Rajasthan and Gujarat since ancient times. Bandhni can be seen in "Salwar suits", "Sarees" and "Daupattas".

❑ **Bandhani (Tie and Dye) Process:**

Preparation:

Begin by removing the starch from any cotton cloth. According to your design, place objects like marbles, lentils, or peas into the cloth and tie them securely. Use thread to twist and tie the fabric tightly. The tied parts will remain white after dyeing. If multiple dyes are to be applied, tie the cloth again after each dye application. Always start with the lightest color and end with the darkest. For example, if using yellow and maroon, dye with yellow first and maroon last. Different effects can be achieved by using various tying methods, such as tying with coconut coir rope or thick thread or by using stitches. If the cloth is wrapped around a stick and tied, that too will give a different effect.



Binding Works

Example of Bandhani Work:

Indigo Dye Preparation: Mix a small quantity of indigo dye with warm water. Add sodium nitrate to the mixture. Combine the mixture with 4 liters of cold water. After about fifteen minutes, submerge the cloth completely in the mixture, ensuring no part is left out. Soak the cloth for twenty minutes, and then let it dry in the shade. Once dry, prepare a solution by mixing 4 liters of water with 10 ml of sulfuric acid. Soak the dried cloth in this solution for a while, and then let it dry in the shade for a

few days. Once completely dry, carefully remove the ties. If using multiple colors, repeat the tying and dyeing process for each color.

- **Dyeing Methods for Bandhani:**

Various methods are used for dyeing Bandhani, with all dyes typically available in powder form. Here are some common techniques:

1. Naphthol / Brenthol (Developed Dye)
2. Indigosol or cellulosic (Solubilised Vat Dyes)
3. Vegetable Dyes

- **Naphthol / Brenthol (Developed Dyes):**

To dye cloth using Naphthol or Brenthol (developed dyes), you will need the following materials: Steel Bowl, Spoon, Two Large Tubs and Stove. A proportion for colour or colour base and salt is mentioned below.

Colour Base:

Naphthol / Brenthol -1 part

Raw detergent bar soap or Turkey Red Oil or Monopol – 1 part

Hot water - 3 parts

Caustic soda- one and half parts

Formaldehyde-1 part

In a steel bowl, create a mixture using soap solution or turkey red oil, Naphthol or Brenthol dye, and caustic soda. If you plan to store the color base for an extended period, add formaldehyde to the mixture. If you intend to use it immediately, formaldehyde is not necessary. In a tub or large container, add water equal to ten times the weight of the cloth you will be dyeing. Pour the prepared mixture from the steel bowl into the tub of water and mix thoroughly to create the color base.

- **Preparation of Colour Salt:**

Color salt (Naphthol / Brenthol): 1.5 to 2 times the weight of the fabric

Table salt: 2 to 4 times the amount of color salt

Cold water: 10 times the weight of the fabric

Color Salt being easily soluble in water can be applied directly to the fabric without any reagent. In a bowl, mix the color salt with a small amount of cold water. In a large tub, add cold water equal to ten times the weight of the fabric. Gradually mix in the table salt (2 to 4 times the amount of color salt) into the water and stir until fully dissolved. Pour the color salt mixture into the tub with the saltwater

solution and mix thoroughly. Now, soak the waxed cloth in cold water for at least an hour to allow the dye to soak well into the fabric. After soaking, remove the cloth from the water, drain it, and proceed to dye as mentioned. This method ensures that the dye penetrates the fabric effectively, resulting in vibrant and long-lasting colors. Dip the waxed cloth first into the color base solution, then into the color salt solution. For a darker color, repeat the dipping process a few times. If using different colors, apply wax to the desired areas and dye again, repeating the process as needed.

This chart provides a guideline for the quantity of color salt needed for dyeing one meter of fabric effectively.

1. **Lemon Yellow**
   (a) AT – 5 g
   (b) Scarlet RC or yellow GC-10g
   (c) Caustic soda-1 tsp
   (d) Monopol Soap-1 tsp
2. **Red**
   (a) MN or AS-5 gm
   (b) Scarlet RC-10 gm
   (c) Caustic soda – 1 tsp
   (d) Monopol Soap-1 tsp
3. **Maroon**
   (a) MN or AS-5 grams
   (b) GP or Red Salt - 10 grams
   (c) Caustic soda-1 tsp
   (d) Monopol Soap-1 tsp
4. **Black**
   (a) MN or ON 5 grams
   (b) Black Salt -1 tsp
   (c) Caustic soda - 1 tsp
   (d) Monopol Soap - 1 tsp
5. **Golden Yellow**
   (a) AT – 5 grams
   (b) GP Salt - 10 grams
   (c) Caustic soda – 1 tsp
   (d) Monopol Soap 1 tsp

6. Orange.

(a) AS - 5 grams

(b) Orange RC Salt - 20 grams

(c) Caustic soda - 1 tsp

(d) Monopol Soap - 1 tsp

7. Blue Black

(a) MN or BN 5 grams

(b) Blue Salt-10 grams

(c) Caustic soda-1 tsp

(d) Monopol Soap-1 tsp

8. Light Brown

(a) AT-5 grams

(b) Blue Salt-10 grams

(c) Caustic soda 1 tsp

(d) Monopol Soap-1 tsp

5.11 Fabric Painting

Fabric painting is a technique that involves applying paint directly to fabric to create designs, patterns, or images. It can be done using various types of paints, such as fabric paint, acrylic paint mixed with a fabric medium, or even spray paint designed for textiles.

❑ Materials:

Drawing board with clips, Patterned tracing paper, Drawing board with clips, Patterns or designs on tracing paper, Pencil, Carbon paper, Fabric paint (available in bottles similar to poster paint), Medium (if required, to mix with some colors) and Fabric dye in a tube (such as "3-D" colors, which can be applied using a nozzle)

❑ Method:

Any fabric can be used for painting. For old clothes, wash them thoroughly with soap and water. Dry and then iron them. For new cotton fabric, soak it in water for 12 hours or overnight then dry and iron them. This is done to remove the starch from the fabric.

Draw the desired design on tracing paper. Use carbon paper to transfer the design onto the fabric.

Stretch the fabric tautly on a drawing board and secure it with clips.

Prepare the paint by mixing water or medium accordingly to acquire a thick consistency.

Fill the design with paint using brushes (sizes No. 0, No. 1, or No. 2). If multiple colors are to be applied, use separate brushes for each color to prevent mixing and ensure clean, distinct applications. Allow each color to dry in the shade before applying additional colors. Fabric should always be dried in the shade to prevent fading.

Using "3-D" Colors: First, use the "3-D" color to outline the borders of the design. Now, fill up the design with a thick application of the color. Once dried, apply an even thicker layer to enhance the design's height.

Techniques like linocut, stencils, or painting on leaves can also be used to create designs.

To use stencils, draw the design on a thick piece of cardboard (such as pastel paper), carefully cut out the parts of the design, then press the stencil onto the fabric and paint over it. This method allows for endless creativity and customization in fabric painting, resulting in unique and personal designs.

5.12 Graphics - Calligraphy / Prints

❑ What is Graphics or Print Painting?

To create multiple images of a design or picture, the design can be engraved on a plate made of materials such as wood, linoleum (linocut), copper, or zinc. The engraved plate is then used to print the design on paper or other surfaces. Here are several methods for achieving this

By painting a design or picture on a stone or similar plate and pressing paper onto it, the image is printed using the lithographic method.

Engraving on wood (relief process), zinc, copper plate etching (acid etching), dry point, and linocut are all methods for making direct impressions with paint or ink on a surface. To create an impression, first, draw the outline of the plate or surface—whether wood, copper, or stone—on tracing paper. Then, flip the tracing paper upside down and transfer the design onto the plate. This makes it easy to take the impression. Examples of impressions can be seen in pictures or designs, similar to how rubber stamps work.

❑ History or Preface of Printing Art

Although the word "graphics" comes from the Greek word "graphia", limestone and woodblock prints were used to draw plans for the pyramids in ancient Egypt. Between 600 and 250 BC, the Greeks used graphics to represent geometric shapes, such as circles and the Pythagorean Theorem. A prehistoric depiction of a bison, done with a left-hand impression can be found in the Castillo Cave in Spain, hinting at early ideas of creating composition with impressions. After the invention of paper in China in 105 AD, wood engraved prints on paper began. Around the same time, wood carving, engraving, and etching started in the West. Fabric printing appeared in Egypt in the 5th century. During the 15th century, printing

in various parts of Europe underwent numerous experiments to produce accurate images at a low cost. Today, high-quality printed images can be easily produced with the help of computers.

❑ The Practice of Printmaking in the West

Although the history of printmaking is ancient, it took many centuries for printing to develop fully. Famous artists such as Rembrandt and Dürer created prints in Europe after the 1600s. Initially, wood planks and stone carvings were used with different colors, and their impressions were taken on paper. For multiple colors, multiple blocks of wood or stone were used. Sometimes, images were painted directly onto wood or stone without engraving and then printed. A large number of images were not printed at once, and some prints were damaged. Eventually, the use of metal in printmaking also began.

Gradually, different methods also began to be used in the printing industry. E.g.:

1. **Etching:** Images are printed by etching with acid on a copper plate.
2. **Dry Point:** A special type of image is printed on a copper plate by engraving with a special needle.
3. **Lithography:** Pictures are printed by engraving or painting on stone.
4. **Linocut:** Images are printed by engraving on a linoleum sheet or cutting below the parts not to be painted, similar to the method used for creating rubber stamps.
5. **Offset Printing:** Beautiful images are printed using high definition machinery in this method.

Background:

The beginning of the printing industry in our country can be traced to the late 1800s. During this time, local craftsmen learned the trade from English craftsmen and became proficient in printing. In addition to book printing, photo printing presses were developed, and images were primarily printed using metal engraving techniques.

In the mid-19th century, in the Battala area of ancient Calcutta (present-day Chitpur area), both book and picture printing flourished, leading to the creation of illustrated books. Popular works included the Puranas, Ramayana, Mahabharata, Mangalkavya, Panchali, stories, novels, character introductions, and Dharapat. Notable figures like Rabindranath Tagore and artists such as NandalalBasu, Jamini Roy, MukulDey, and RamendraNathChakraborty were directly and indirectly involved in the development of the printing industry. Later, artists like Haren Das and SomnathHore further propagated this art form. Lithography developed further as it was being taught at the Art College in Calcutta.

The printing of inscriptions for special purposes became widespread. The renowned artist Raja Ravi Varma printed his oil paintings of mythological images using the ‘oleograph’ (metal engraving) method and established his own printing press in Bombay. Today, printed images include pictures, designs, and illustrations, produced using presses or modern methods. Computer-animated cartoon pictures and other designs are also being printed with advanced technology.

- **Specific Features of Printmaking:**

  (1) Replicas of the Artist's Paintings: High-quality replicas of original paintings are available in large quantities, making precious and rare images more accessible.

  (2) Color Printing Technology: Modern technology, including computer printing, allows for easy and high-quality color printing. Advanced methods have made it simpler than ever to produce very high-quality color photos.

  (3) Illustrations in Printed Material: Illustrations are used extensively in printed materials, enhancing their appeal and effectiveness. This widespread use highlights the importance of understanding printmaking techniques.

  (4) Prevalence and Importance in Advertising: The use of illustrations is highly prevalent, particularly in the advertising industry, where it is considered an essential art form.

- **Printing Activities for School Children:**

  To introduce school children to the concept of printing pictures, follow these fun activities:

  (1) Thread Printing: Apply color to a long, thick thread and lay it on a sheet of paper. Press another sheet of paper on top, using the palm of your hand to apply pressure. Then, gently pull the thread to reveal a beautiful printed design.

  (2) Linocut Printing: Create prints using thermocol, linoleum sheets, or rubber soles by making linocuts, similar to the way rubber stamps are created.

  (3) Stencil Printing: Use stencil cuts to produce images on paper. Children can create their own stencils with various shapes.

  (4) Leaf Printing: Press a leaf onto the paper or lightly stick it down after spraying with paint (using an old toothbrush for effect) to create a beautiful printed image.

  (5) Vegetable prints: Cut cross sections of lady's finger, onion, beans and other such vegetables. Apply paint on them and take impressions on paper for a unique printed design.

These activities provide hands-on experience with printmaking and foster creativity in children. More techniques can be explored later.

GRAPHICS

Materials:

Long thread, Different colors of paint, Old toothbrush, Rubber or linoleum sheet, Paper, Blade or knife and Polythene packet.

These materials can be used to explore various methods of creating beautiful prints. With these techniques, you can easily produce artistic designs suitable for greeting cards, invitations, and other creative projects.

Impressions with Thread:

Cut a 2-foot long piece of narrow thread. Paint sections of the thread with different colors (e.g., red, blue, and green, black, yellow). You can use a paintbrush or your fingers while wearing a polythene bag or gloves to avoid getting paint on your hands. Twist the painted thread and place it on a piece of paper in a random or intentional pattern. Make sure both ends of the thread extend about 3/4 inch beyond the paper's edges. Place another piece of paper on top of the thread, sandwiching the thread between the two sheets of paper. Hold the paper sandwich in place with one hand or secure one end of the thread with your big toe. With your other hand, slowly pull the thread out from between the papers. The paint from the thread will transfer to the paper, creating abstract patterns and impressions. Carefully separate the two pieces of paper to reveal the abstract designs created by the pulled thread.

Sketch a Design

Sketch a design (e.g., house, bird, and tree) on the rubber sole, linoleum sheet, or thermocol. Cut away material around the design to create a raised, relief effect, similar to a rubber stamp. Evenly coat the raised surface with paint or ink using a brush or roller. Press the inked design onto paper, applying even pressure to transfer the image. For multiple prints in a row, repeat with consistent spacing.

Stencil Printing and Creative Impressions

Stencil Printing: Draw a design on thick paper and cut it out with a blade or knife. Place the stencil on another sheet of paper. Dip an old toothbrush in red paint and spray it over the cut-out area. Repeat with yellow and blue paint. Remove the stencil to reveal the colorful spray design. Brush can also be used to paint over the stencil for a solid color design. Press a leaf (e.g., banyan leaf, peepal leaf) onto paper and spray paint over it. The area under the leaf will remain white, creating a beautiful negative space effect.

Additional Printing Techniques:

Carve designs on potatoes and eggplants to use them as stamps. Make thumbprints with paint and add lines with a brush or pen to create images of animals or people. Cut vegetables like lady's finger and dip in red poster paint. And then take impressions to create flower shapes on paper. Add leaves using leaf impressions with yellow, green, and paint. With a narrow brush and black paint draw the branches.

- **Wood cut:**

Materials : Soft wood block, thin knife, pencil, carbon paper, tracing paper, printing ink, thick paint, coarse Brush, White paper, rag, roller.

Woodcut Printing

Draw your design on tracing paper with a pencil. Use carbon paper to transfer the design onto the soft wood block. Carefully carve along the design lines on the wood block using a thin knife. Remove

the wood from the areas that will remain white (non-printed areas), leaving the design raised. Apply printing ink or thick paint to the carved wood block using a coarse brush or roller. Ensure the ink is spread evenly over the raised design. Place a sheet of white paper on top of the inked wood block. Press down firmly on the paper, using a rag or a rolling pin to ensure the ink transfers evenly from the block to the paper. Carefully peel the paper off the wood block and dry to reveal your printed design. For multiple coloured design you need to have multiple blocks, one for each colour and all the blocks should be of same size. Similarly we can also get the same design in various different colours.

Cotton sarees with wood block prints on them are very popular.

- **Lino Cut Engraving and Printing Guide**

Materials: Linonium sheet, thin knife for cutting the sheet, pencil, carbon and tracing paper, printing ink or thick ink, two rollers, coarse brush, white paper and rag etc.

Method: Place the drawing on the tracing paper upside down on the linoleum sheet. Put carbon paper underneath and trace the drawing to transfer its impression onto the linoleum. Cut out the parts of the image that will not be printed, leaving the areas to be printed raised. This will create two levels on the sheet. Apply press printing ink (with an oil medium) or thick watercolor or oil paint to a roller and roll it onto the sheet. The ink will adhere to the raised areas. Use a coarse brush to ensure even application of the ink. Avoid using too much or too little ink.

Carefully place white paper onto the inked sheet. Roll over the paper with a roller or a wooden rolling pin, similar to those used in bread making. Carefully lift the paper to reveal the printed image. For multicolor prints, repeat the inking and printing process for each color, ensuring proper alignment. Typically, linocut prints are done in black ink, resulting in a monochromatic print. AcharyaNandalalBasu's illustrations in "Sahajapath" are examples of this linocut printing method.

- **Potato Printing Guide**

Materials: Large and firm potato, Paint or ink, Brush, Palette and White paper

Method: Cut the potato in half. Draw the desired pattern on the cut surface of the potato with a pencil. Carefully cut around the drawn pattern, removing the parts that will not be printed, leaving the design raised. Use a brush to apply paint or ink to the raised pattern on the potato. Press the painted side of the potato onto white paper to transfer the design. Lift the potato carefully to reveal the print. This method is ideal for creating unique and beautiful greeting cards.

- **Mono Print Guide**

Materials: Ink or paint, Thick cotton, small, smooth glass or any other hard, smooth surface, Thin stick and White paper

Method: Apply the ink or paint of your choice to the smooth glass surface using thick cotton. Use a thin stick to draw your desired design on the inked surface. The stick will remove the ink where it touches, creating lines within the ink. Carefully place a piece of paper on top of the inked surface, making sure it does not move.

Press the paper evenly to transfer the ink onto the paper. Slowly lift the paper from one corner to reveal the printed image. This method is called Mono Print because each print can only be made once.

Alternative Method: Paint thick lines on a small piece of glass or a similar smooth surface. Quickly place a piece of paper over the painted surface before the paint dries. Apply equal pressure on all sides of the paper to transfer the paint. Carefully lift the paper to reveal a beautiful printed image.

CALLIGRAPHY

❑ Calligraphy: The Art of Aesthetic Writing

Calligraphy is the art of beautiful and decorative handwriting. It originated in China, where the first calligraphic works were created using black ink and brush. This practice later spread to Japan. The term "calligraphy" is derived from the Greek words "kallos" (meaning beauty) and "graphein" (meaning to write), emphasizing the art's focus on beauty and craftsmanship. Calligraphy refers to the practice of writing in a beautiful and aesthetically pleasing manner.

❑ Decorative Writing:

Decorative writing involves giving characters or letters in ornamental forms or creating three-dimensional effects with light and shadow. This style is often done with fine or medium nibs and can use black ink or various colors. It is widely used in advertisements, posters, and various commercial fields to attract attention easily. Decorative writing is not only legible but also artistically enhanced with embellishments. Advanced printing techniques as well as traditional hand methods are used. Before the invention of the printing press, all writing was done by hand using black ink and quills made from bird feathers. Calligraphy can be seen in ancient scriptures and manuscripts. The craftsmanship of these handwritten works was remarkable, and they can still be admired in archaeological museums. Calligraphy continues to be valued for its beauty and its ability to convey messages in an aesthetically pleasing manner. Whether through traditional hand methods or modern techniques, calligraphy remains an important and admired art form.

❑ Introduction to the Evolution of Script and Calligraphy:

In prehistoric times, wild animals hunted by forest-dwelling people were their main source of food. These early humans painted pictures of various animals and hunting scenes on rocks to express their feelings

and experiences. Over time, these illustrations evolved. Instead of depicting entire scenes, people began to paint only the indicative or meaningful parts of the pictures. For example, an early image might show a horned beast with a spear, while later, a simple line between two horns, resembling an English 'U', indicated a spear piercing between the horns—a clear hint of hunting. This marked the beginning of script.

As time passed, very short dashes and lines were used to express different meanings, leading to the development of various scripts. These scripts became the universal written forms of words and letters used to express spoken language. This evolution began with simple tools like the brush. Even today, in China and Japan, writing or calligraphy with brushes remains a common practice in some areas.

Several significant scripts emerged through various transformations, including the Brahmi script, Kharosthi script, Devanagari script, and Roman script. During Emperor Ashoka's time, inscriptions carved on hills in Brahmi script provided evidence of early education and communication methods. Over time, many modern scripts, such as Arabic, Urdu, Hindi, Bengali, Oriya, and English, evolved from these ancient scripts.

In contemporary writing, small and capital letters, as well as decorative letters, have become meaningful. Mathematical concepts have also found their written forms. The advent of script brought a revolutionary change to communication, extending beyond the age of hearing to the visual representation of language.

The evolution of writing and calligraphy has significantly shaped human communication, transforming how we express and record our thoughts, ideas, and experiences.

- **Different Types of Writing:**

Devanagari, Bengali, Oriya, and English Scripts start from the left and move gradually to the right. Arabic Script is written from right to left. Bengali Script uses a "vertical line" (|) to mark the end of a sentence. English Script uses a full stop (.) to end sentences. Bengali and English scripts incorporates various punctuation marks such as commas (,), semicolons (;), colons (:), question marks (?), and exclamation marks (!) to indicate pauses, ends of sentences, and intonation. In Bengali Script some letters have half or full "matras" (-).Each script has unique characteristics and rules, contributing to the rich tapestry of written communication worldwide.

- **Writing Alphabets Beautifully:**

Calligraphy defines the various Styles of Writing.

While writing in Bengali scripts attention to the similar rhytm, size and structure of the letters along with their specific "matras" is essential. Ensure perfect spacing between each letter and word, writing within parallel lines for clear, easy-to-read, and aesthetically pleasing handwriting.

❑ **Techniques for Beautiful Cursive Handwriting:**

The Bengali writing method is often described as the 'Clockwise' method, where strokes follow a clockwise rotation.

In contrast, English lowercase writing uses a reverse method, moving counterclockwise. All other rules are similar. Start by practicing with a pencil, then transition to an ink pen. Create decorative letters and English capital letters with a thin brush, adjusting pressure to enhance beauty. To achieve fast and elegant writing, tilt slightly to the right and connect letters with minimal pen lifts. Take care so that the shape and form of the letters are not compromised. While writing like the printed version of letters, ensure that the upper and lower parts of round letters are slightly larger for a balanced appearance.

The first letter at the beginning of an English sentence is always a capital letter, followed by lowercase letters. Bengali writing does not have this distinction. Use of Light and shade gives a three dimensional or typed effect. Calligraphy can be divided into several categories based on the techniques used

1. **Mechanical Technology:** Three-dimensional and decorative artistic writing is done using computers or printing machines, commonly seen in advertisements.
2. **Ordinary Pens:** Extraordinary artistic writing is achieved with regular pens, revealing the character traits of the individual through their handwriting.
3. **Special Pen Nibs:** Artistic writing can be done using special nibs (narrow, flat, or wide), allowing for variations in thickness and ink flow.
4. **Brush Techniques:** Three-dimensional and decorative writing can be created using a brush in one or more colors. This technique is widely used in cards, posters, and advertisements. Careful attention to appropriate space, style, and size must be adhered. In Bengali, letters such as ত and অ stand out due to their unique shapes and forms.

CALLIGRAPHY/PRINTS

❑ **Different Styles of Decorative Type Fonts**

Typography also uses decorative type in different styles, two-dimensional or three-dimensional is printed Even if you copy them with the help of a pencil, different types of writing will be obtained.

To make children write in beautiful handwriting- (Bengali and English) two parallel bows should be drawn to write large letters on the plate. In case of Bengali characters, each letter has dimension, half dimension or dimensionless as the case may be and letters in between. The space will be written. Children will write on it. They will practice writing on their own when they gain some knowledge. In the case of writing English letters, the habit of writing 'capital' and 'small letter above' should be practiced. Upper class students should practice handwriting drawn with a pencil on paper - keeping the rhythm, shape, shape of the letters correct. Write with ink. Sometimes a fountain pen or a nib pen will be used. Dot pen will not be used. It should be remembered that proper handwriting is the ideal script.

Typography incorporates decorative type in various styles, including two-dimensional and three-dimensional.

Even if you copy printed text with a pencil, you will achieve different styles of writing.

To help children develop beautiful handwriting in Bengali and English, draw two parallel lines to guide the writing of large letters on the board. For Bengali characters, each letter may vary in size and spacing, with some letters being full-sized, half-sized, or dimensionless. Children will write within the spaces provided. As they gain experience, they will practice writing independently. When learning English, children should practice writing capital and small letters in their proper positions. Older students should practice maintaining the correct rhythm and form of letters when writing with a pencil on paper. They should also practice writing with ink, using a fountain pen or a nib pen, and avoid using ballpoint pens. Remember, proper handwriting is the ideal script.

5.13 Puppets

Puppets have long been a valuable tool in primary and elementary education, serving as engaging, interactive instruments for enhancing children's learning experiences. These playful characters foster creativity, improve language skills, and support social-emotional development by encouraging imaginative play, role-playing, and storytelling. Through puppetry, young learners can gain confidence in communication, expand their vocabulary, and develop critical thinking skills in an enjoyable, memorable way. As a result, puppets not only aid in educational instruction but also create a dynamic, supportive environment for children to explore new ideas and perspectives.

- **When and How to Use Puppets in the Classroom:**
  1. **Storytelling:** Use puppets to narrate stories, creating dynamic characters that children can relate to. This can help improve listening skills and comprehension.
  2. **Role-playing and Drama:** Students can use puppets to act out scenes, which can be particularly helpful for practicing language, social situations, or historical events.
  3. **Instructional Tools:** Puppets can introduce new topics in subjects like math, science, and language arts. They can serve as "teachers" to present concepts in a fun way.
  4. **Classroom Management:** Puppets can be used to signal transitions, encourage positive behavior, or simply add a light-hearted touch to the day.

- **Key Considerations for Effectively Using Puppets in Education:**
  1. **Keep it simple:** Introduce puppets in short, focused sessions to avoid overwhelming students.
  2. **Involve the children:** Let them create their own puppets and develop their characters, which can help them feel more engaged.
  3. **Be expressive:** When using puppets, ensure that your voice and movements are lively and engaging to captivate your students.

❑ **Different Types of Puppets:**

There are several types of puppets, each with unique features and methods of manipulation. Here are some common types:

Hand Puppets:

Also known as glove puppets, these are worn on the hand and controlled by the fingers and thumb. They are often used in children's shows.

These are easy to use and engage children in storytelling, role-playing, and interactive lessons. Teachers can use them to introduce new concepts, practice language skills, or discuss emotions.

Marionettes:

These are string puppets controlled by strings or wires attached to different parts of the puppet. The puppeteer manipulates the strings from above.

Rod Puppets:

Controlled with rods that are attached to different parts of the puppet's body. The puppeteer holds the rods to move the puppet's limbs or head.

Shadow Puppets:

These are flat, cut-out figures held between a light source and a screen, creating shadows that are projected on the screen. The puppeteer moves the figures to animate them.

Ventriloquist Puppets:

Also known as ventriloquist dolls, they are typically manipulated by a ventriloquist, who uses voice manipulation to make the puppet appear to speak.

Finger Puppets:

Small puppets worn on a finger, typically used in storytelling or educational settings. They are simple and easy to manipulate.

These are small and simple to use, making them ideal for younger children. They can be used for storytelling, learning vocabulary, or teaching basic concepts in subjects like math and science.

Bunraku Puppets:

A traditional Japanese style of puppetry where large, intricate puppets are operated by multiple puppeteers who are visible to the audience.

Balloon Puppets:

Puppets made using balloons, where air inside allows the puppet to be inflated and manipulated.

Sock Puppets:

These are inexpensive and easy to make, allowing students to create their own puppets. Sock puppets can be used for group activities, storytelling, and encouraging creativity and communication skills.

Each type offers a different experience in terms of complexity and the kind of performance it is suited for.

❑ **Simple Puppet Types for Educational Use in Schools and How to Create Them:**

1. Hand Puppets /Sock Puppets

Materials Needed:

Old sock or cloth, Scissors, Fabric glue or a hot glue gun, Markers, buttons, or felt (for eyes, mouth, nose and decoration)

Instructions:

i. **Prepare the Sock:** If using an old sock, ensure it is clean. The sock will serve as the body of the puppet.

ii. **Create a Mouth:** Cut a small slit in the heel of the sock to create an opening for the puppet's mouth. This will allow you to use your hand to make the puppet's mouth move.

iii. **Decorate the Puppet:** Use fabric glue to attach buttons for eyes, a piece of felt for a nose, or yarn for hair. You can also use markers to draw facial features to create specific characters.

iv. **Finish:** Once the decorations are set, slide your hand into the sock, and the puppet is ready to perform.

2. Finger Puppets

Materials needed:

Felt or cardstock, Scissors, Glue, Markers or colored pencils, Small googly eyes (optional)

Instructions:

i. **Cut the Felt:** Cut a small rectangular piece of felt or cardstock. Make sure it fits around your finger.

ii. **Shape the Puppet:** Fold the felt or cardstock to create a tube-like shape that fits around your finger. Glue the sides together.

iii. **Add Features:** Cut small pieces of felt for eyes, nose, or mouth, and glue them onto the tube. You can use markers to add more details or decoration.

iv. **Finish:** Once dry, slide the puppet onto your finger, and it's ready to use!

3. Paper Bag Puppets

Materials Needed:

Paper bag (lunch bag size), Construction paper or colored paper, Scissors, Glue or tape, Markers, crayons, or colored pencils, Google eyes (optional) and Felt or fabric (for decoration)

Instructions:

i. **Prepare the Paper Bag:** Take a paper bag and open it up, placing the flap facing you. This flap will serve as the puppet's mouth.

ii. **Create the Face:** Cut out circles from construction paper to make the eyes, nose, and mouth. Glue them onto the flap of the bag.

iii. **Add Details:** Use markers to add facial features, such as eyebrows, eyelashes, or a smile. You can also glue on fabric or paper to create hair, ears, or a hat.

iv. **Decorate the Body:** Optionally, you can add arms, hands, or clothes using construction paper or fabric to give your puppet more character.

v. **Finish:** Once all the pieces are glued and dried, slide your hand inside the bag (through the bottom) to make the mouth open and close.

4. Paper Stick Puppets

Materials Needed:

Paper (construction paper or plain white paper), Scissors, Markers or colored pencils, Craft sticks (Popsicle sticks), Glue or tape

Instructions:

i. **Cut the Puppet Shape:** Cut out a figure or character from the paper. It can be an animal, person, or any shape you like. For a simple puppet, draw and cut out a face or body shape.

ii. **Decorate the Puppet:** Use markers to draw the face and other details on the paper figure. You can cut out accessories like hats, clothes, or a background and glue them on.

iii. **Attach a Stick:** Glue a craft stick to the bottom of the figure to serve as the handle for the puppet. Make sure it's securely attached.

iv. **Finish:** Let the glue dry and then use the stick to move the puppet around for a fun, interactive performance.

5. Paper Roll Puppets (using toilet paper rolls)

Materials Needed:

Toilet paper roll (or paper towel roll cut in half), Construction paper, Scissors, Glue, Markers, crayons, or paint, Googly eyes (optional)

Instructions:

i. **Prepare the Roll:** Take a toilet paper roll and cover it with construction paper if you want a specific color. Glue it to fit around the roll and trim any excess paper.

ii. **Create the Face:** Cut out circles or other shapes for eyes, nose, and mouth, and glue them onto one end of the roll. You can also use googly eyes for extra effect.

iii. **Add Hair or Accessories:** Use yarn, paper, or fabric to create hair, hats, or other accessories. Glue them to the top of the roll.

iv. **Finishing:** Once the decorations are dry, your paper roll puppet is ready to use.

These simple paper puppets can be great for storytelling, classroom activities, or just fun craft time.

Using puppets in schools is a valuable tool for enhancing student engagement, fostering creativity, and supporting learning across various subjects. Puppets allow teachers to present lessons in an interactive and enjoyable way, helping students better understand complex ideas, develop communication skills, and express themselves confidently. They also promote emotional development, as children can relate to puppet characters in a safe environment. For teachers, puppets provide a versatile, low-cost resource that enriches the classroom experience, making learning more dynamic and memorable for all students.

5.14 Teaching-Learning Materials (TLM)

Teaching-Learning Materials (TLMs) refer to the resources and tools used by teachers to facilitate student learning and achieve educational objectives. TLMs can be physical or digital and are designed to support the teaching-learning process.

❑ **Types of TLMs:**

1. **Audio TLM :** Radio, Tapes, Recorded Cassettes, CDs etc.
2. **Visual TLM :** Charts and Diagrams, Textbooks, Printed or digital books, Workbooks etc.
3. **Audio-Visual Aids:** Resources like videos, audio recordings, and images that support teaching.
4. **Models:** Three-dimensional representations of objects or systems.
5. **Digital Resources:** Online materials, such as educational websites, apps, and games.
6. **Manipulatives:** Hands-on materials that allow students to explore and learn through experimentation.
7. **Realia:** Everyday objects used to illustrate concepts and make learning more engaging.

- **Importance of TLMs:**
  1. **Enhance Student Engagement:** TLMs can make learning more interactive and fun.
  2. **Support Diverse Learning Needs:** TLMs can cater to different learning styles and abilities.
  3. **Improve Understanding and Retention:** TLMs can help students visualize complex concepts and retain information better.
  4. **Develop Critical Thinking and Problem-Solving Skills:** TLMs can encourage students to think critically and develop problem-solving skills.
  5. **Facilitate Teacher Instruction:** TLMs can support teachers in planning and delivering effective lessons.

- **Effective Use of TLMs:**
  1. **Select Relevant and Accurate Materials:** Choose TLMs that align with learning objectives and are accurate and up-to-date.
  2. **Integrate TLMs into Lesson Plans:** Incorporate TLMs into lesson plans to support teaching and learning.
  3. **Use TLMs to Differentiate Instruction:** Use TLMs to cater to different learning needs and abilities.
  4. **Monitor and Evaluate the Effectiveness of TLMs:** Regularly assess the impact of TLMs on student learning and adjust instruction accordingly.

5.15 Summary

As human civilization evolves, from primary to higher education, the central means to enhance society, the nation, and the world towards a more meaningful and enriched life is through the establishment and appreciation of art and aesthetics.

The effort to make life vibrant and idealized is essential. For this, occupation is necessary for sustenance and livelihood. Another important aspect is to live aesthetically. For example, a water pitcher is essential for drinking water in daily life. However, when aesthetic vision is applied to the pitcher, decorating it with designs, flowers, and leaves, it transforms into an object of beauty, reflecting aesthetic values in everyday life. Along with practical aspects, bringing vibrancy to life is another facet of aesthetics. The source of this aesthetic vision lies in the sense of art, respect for artworks, and the mastery acquired through devoted pursuit. This artistic sense awakens from childhood, highlighting the necessity of making art education compulsory in schools to enhance the aesthetic aspect. Art makes everything beautiful and sacred. The presence of art prevails in every aspect of civilization. The main objective is to imbibe this aesthetic consciousness. Daily activities, festivals, events, cultural celebrations, sacred practices, and home environments are beautified through this spirit.

The combination of visual and performing arts has enhanced has enhanced Art even further. Colors and sketches have become rhythmic and fluid.

International child education policy has incorporated art education. This policy's slogan "Education through art" has defined that education should be initiated through various artistic mediums such as painting, music, acting, crafts, and toys.

- **Language of Art**

The meanings of words change and expand for various reasons, often losing their original meanings and adopting broader ones. A notable example is the change and expansion of the word "masterpiece" in the context of art. Historically, in Bengali, "masterpiece" referred to "Tutor's fee".

The term "monumentality" or "monumental quality" refers to the grand, impressive, and enduring nature of an object, structure, or work of art. It often implies a sense of timelessness, significance, and scale that commands attention and evokes a sense of awe. In painting and sculpture, the term "architectonic" refers to the qualities or elements that are reminiscent of architecture. This can include the structural, geometric, and compositional aspects that give a work a sense of order, stability, and cohesion, often resembling the design principles found in buildings and other architectural forms.

Architecture is often considered the purest form of art because it combines functionality, aesthetics, and engineering into a cohesive whole. Architecture addresses practical concerns such as stability, utility, and durability, while also achieving beauty and emotional impact. This synthesis of form and function exemplifies the essence of art in its most integrated and comprehensive form. Similarly, when completeness and stability are observed within the specific volume of an image, the construction of that image can be considered architectonic.

The Bengali term "lekhaankon," meaning ornamental writing, corresponds to the English word "calligraphy," derived from the Greek "callos" (beautiful) and "graphein" (writing). In drawing, "calligraphic" describes the quality of free and spontaneous lines created with a pen, while in painting; it refers to similar lines made with a brush. This term emphasizes the smooth, expressive quality of the lines over mere imitation.

Rabindranath Tagore often felt the need for new vocabulary while composing Bengali prose and in his "Shabdochayan" he used Sanskrit vocabulary that include words like aprava (obscure), obeksha (observation), aangik (technique), karukarakshilpajibi (artisan), porilikhon (outline, sketch), pekkhanika (exhibition), mudralipi (lithograph), shilpavidhi (rules of art), shilpalaya (art institute), and satkala (fine art). BinodbihariMukhopadhyay introduced terms such as aalokdharmi (bhavanyash), aakar, garon (form), aamage (tint), protimarup (image), bunot (texture), and sadrishya (association). Nandalal Bose used expressions like swabhab (nature), parampara (tradition), swakiyata (originality), proman (proportion), bharsamyata (balance), bastugynasha (realistic), mongara (imaginery), kaatthamo (construction), ghanattyo (volume) and monobeg (emotion) etc.

Other expressions found in Bengali art discussion include bimurtya (abstract), anurup / samodharmi (similar, analogous), varnikbhanga (colour scheme), bahirekhaparinah), seemarekha (contour), khodai, ttakkhon (engraving), ritibaad, ritisarvasattwa, rupsarvasattwa, bidhibattwa (formalism), barnanam, barnava (hue), sprishyagun, ghanyttwa (tactile), chitrika (miniature), prakandya, bismaykar (monumental) and kattam (mosaic).

5.16 Unit End Exercise

1. What does art mean? Explain with examples.
2. What is fine art and applied art? Explain with examples of their reflection in the educational field, as well as in personal and social life.
3. Explain the differences between arts and crafts.
4. In the prehistoric era, for what reasons, how and by what means did early humans create images?
5. List and explain the materials needed for different art mediums.
6. Compare and contrast models and sculptures, focusing on their characteristics and the materials used to create them.
7. What are the similarities and differences between water colour and oil painting?
8. What methods are used to conserve paintings?
9. What is miniature painting? Define with examples.
10. How did Mughal miniature painting originate? Provide examples of paintings from Akbar's time and define.
11. Architectural Sculptures and Paintings: Briefly explain the significance of the Ajanta Caves.
12. The use of warm and cool colors in painting - discuss with reference to the seasons. (Summer, Monsoon, Autumn, Winter, and Spring).
13. What are two-dimensional and three-dimensional images? Provide examples
14. What is perspective in art? How are colors used in landscape paintings to create visual imagery?
15. Define "baseline", "eye level" and "vanishing point".
16. Briefly explain rhythm and balance in sculpture.
17. What do two-dimensional images mean? Explain the Ajanta mural paintings with examples in reference to its colours and lines.
18. What guidelines should be followed for creating a picture composition? What should the aspect ratio of the background and foreground be when the composition features a wide horizon?
19. What dimension does the use of light and shadow add to an image?

20. What are the differences between Water colour painting and Oil colour painting?
21. What are the characteristics of pastel colours?
22. Discuss the advantages and disadvantages of water colour.
23. Discuss the characteristics of "Designs" and "Alpana" and their applications in specific contexts.
24. Discuss the materials and application methods of Alpana in any one festival or auspicious ceremony.
25. What challenges arise in clay works? What should be done to prepare the soil for work? What materials and equipment are needed?
26. How is paper pulp made? Explain the process of creating an artwork using this medium.
27. What is a collage? Explain the materials and methods used to create collages.
28. The importance of handicrafts for individuals and society, explain with examples.
29. What is Tie & Dye? Name the state where it is widely practiced. Explain the materials and techniques used for Tie & Dye.
30. Discuss the materials and methods of fabric painting.

UNIT 6

Teaching and Learning through Creative Drama and Fine Arts

6.1 Introduction

6.2 Objectives

6.3 Integrating Creative Drama and Fine Arts with Other Curricular Areas

6.4 Presentation of Concepts through Creative Drama and Fine Arts

6.5 Summary

6.6 Unit End Exercise

6.1 Introduction

There is an inherent conflict between education and drama, and it's essential to acknowledge this from the outset. When we watch a play, what do we experience? A series of events unfold before us, conveyed through actions, performed by individuals we refer to as actors. In contrast, education is grounded in evidence, reasoning, analysis, and conclusions. How can these two seemingly opposing domains be reconciled? Furthermore, studies outside the realm of literature or art often strive to reach conclusions impartially, setting aside emotions, personal preferences, and biases. However, the essence of drama is to evoke these very emotions in people. So, how is this apparent conflict resolved by incorporating drama into the educational process?

In this exploration, our goal is to present information visually and through dialogue without necessarily offering definitive answers. It's important to remember that drama operates within a world of assumptions—where if we accept something improbable as true, the audience is likely to believe it as well. For instance, if five children stand in a circle and declare it as their country, both they and the audience will believe it to be so.

Taking advantage of this power of assumption, the examples we use in the classroom can be transformed into short dramas to simplify the concepts. These examples should be both visible and audible. Without further delay, let's present two plays. These are not the only methods for creating plays based on academic subjects—you can devise your own approaches as well. I hope this serves as inspiration.

6.2 Objectives

Teaching and learning through creative drama and fine arts can have a profound impact on students' cognitive, emotional, and social development. Here are some key objectives of using creative drama and fine arts in education:

1. **Develops Collaboration and Teamwork Skills:** Encourages students to work collaboratively and develop teamwork skills.

2. **Builds Resilience and Perseverance:** Helps students develop resilience and perseverance through the creative process.
3. **Fosters Emotional Intelligence and Well-being:** Encourages students to express and manage their emotions in a healthy and constructive way.
4. **Develops Cross-Curricular Connections:** Helps students make connections between different subjects and disciplines.
5. **Prepares Students for Future Careers:** Provides students with skills and knowledge that can be applied to various careers in the arts and beyond.

6.3 Integrating Creative Drama and Fine Arts with Other Curricular Areas

Example : 1

HISTORY AND TRADITION

Sixth Grade

5 {From Township (Janapada) to Great Kingdoms (Mahajanapada)}

(Narrator enters and writes "The Shorosho Mahajanapada" "{Sixteen Kingdoms}" on the board.)

Narrator: What words did I write down?

Student 1: The Sixteen.

Student 2: Great person.

Narrator: Why, isn't "Maha" a separate word?

Student 3: Yes, yes. "Mahavir,"(The courageous one.)

Student 4: Or "Mahayogi", (The great monk.)

Narrator: And what about the villain? (The evil one)

(Everyone starts saying - "Mahapaji," [Great Scoundrel or Notorious Rascal], "MahaBadar" [Great Deceiver or Major Fraud], "Mahavicchu" [Great Trickster or Master of Deceit] etc.)

Narrator: Okay. So, "Maha" is indeed a separate word. The meaning doesn't need to be explained. Now, let's take the word "Jan" (People). Can you remember any other words with "Jan" in it, this time?

Student 1: Public place.

Student 2: Population.

Student 3: The crowd

Student 4: The people

Narrator: So many words came out. So, what does the word "Jan" means?

Everyone: People.

Narrator: And “pada” means what?

Everyone: Estate or place or township.

Narrator: So, “Jan” means “Janata” (people), and where the people set up their estate or township is “Janapada.” Got it? (Students excitedly hop and each takes a position saying….)

Student 5: This is my township!

Student 6: It’s mine!

Student 7: But why the Sixteen Township?

Narrator: Hold on. Before that, let’s start a game.

Everyone: A game?

Narrator: Yes! Come on, everyone. Stand in groups of five to form a circle.

(Five students each form a circle, and say five such circles are formed.)

Narrator: Each circle represents a township, okay?

Everyone: Okay!

Narrator: (Going to each circle) This is your township, your country. It belongs to no one else, correct?

Students: Yes!

(Students in the first circle start acting.)

1st: Oh no! Our town has become smaller.

2nd: It has! The population is growing, and space is becoming scarce.

3rd: There’s barely enough space to live. Have you seen how much farmland has decreased? How will so many people survive on what’s harvested?

Three students: Impossible!

4th: Will just whining help? We need to find a way out of this.

5th: May I say something?

Everyone: What is it?

4th: What if we take over the neighboring town?

2nd: Shall we conquer it?

5th: Yes, then it will be ours too!

1st: Yes, that makes sense. Then I’ll get more land, more fields.

Everyone: That’s right! Exactly! Let’s go to war!

(Battle bells ring as students perform a battle through dance. Three more students join the first circle, expanding it, while the second circle diminishes to just two or three people. Narrator raises his hand to pause the activity, and everyone calms down.)

Narrator: This is how small towns started to grow. Can an extremely large township, be called just a "Janapada" (town)?

(First Circle Actors)

1st: From now on, no more townships — we have to call it a "**Maha-**janapada.", a Kingdom.

Everyone: Yes, "Mahajanapada!"kingdom.

2nd: But brothers, we shouldn't stop here. We need to expand our borders.

3rd: Exactly! We need to strengthen our capacity.

4th: And for that, we need —

5th: More war! More war!

Everyone: War!

(The battle begins again.)

Narrator: Two hundred years before the birth of Jesus Christ, sixteen townships—rather, Kingdoms—were established in this manner. "Sholo" is known as "Shorosho" in formal Bengali, which gives us the term "ShoroshoMahajanapada," meaning the Sixteen Kingdoms. However, did all of them endure? No, warfare raged among them, and ultimately, only four Mahajanapadas or Kingdoms survived.

(Students form four large circles.)

Narrator: Tell me, which town are you from?

(2nd Circle Students)

Everyone: Magadha!

(3rd Circle)

Everyone: We are Avanti!

(4th Circle)

Everyone: We are the people of the Vatsa country!

(1st Circle)

Everyone: We are Kosala!

Group 1: Kosala!

Group 2: Avanti!

Group 3: Vatsa!

Group 4: Kosala! We are the best!

(Everyone keeps saying—our town is the best. There's a great uproar.)

Narrator: So, how to decide that? There's only one way to know which kingdom is the best. War!

(War dance resumes. At the conclusion of the battle, one group cheers...)

Everyone: We've won! We are the best! We are the people of Magadha! Magadha!

(Everyone starts jumping. Narrator speaks.)

Narrator: Hey, wait! Being the best isn't just about winning. Explain why you're the best.

1st: Our Magadha is encircled by hills and forests, making it impossible for the enemy to breach our defenses.

(Everyone shouts in agreement.)

2nd: The Ganges flows close by, and the soil is rich and fertile. Just scatter some seeds, and the fields will be bursting with crops. We can then transport our goods along the river.

(The others immediately mime rowing a boat.)

3rd: And the forest is home to the biggest elephants. We can capture and tame them.

(A few students pretend to be elephants while some ride them on the back.)

5th: What can we do with these elephants?

2nd: A lot! Let's siton their backs and fight. They will crush anyone who comes in our way.

Everyone: They will crush them!

(Students mimic marching on the backs of elephants, while others flee in fear, some pretending to stumble and fall beneath their feet.)

4th: That's not all. How many iron and copper mines we have?

Everyone: Mines! Mines! Iron mines, copper mines!

2nd: From iron —

Everyone: Weapons!

3rd: From copper—

Everyone: Weapons!

4th: Enter the mine. Get copper! Get iron!

Everyone: Get copper, get iron!

(Everyone pretends to bring ore from the bottom of the mine.)

5th: And above all, our king! Let's talk about how our king governs the entire nation. Hail to the King!

Everyone: Hail to the King!

(Students in another circle begin to speak.)

1st: I disagree. I really don't agree.

2nd: We don't need any King.

3rd: We will have discussions and manage the state on our own.

Everyone: We will manage the state ourselves!

Narrator: Aha, you're talking about democracy. A system where there is no King and the people govern themselves. As it is in our country. Was it like that even then, that long ago?

Everyone: Absolutely.

Narrator: Could everyone have a voice in the discussions?

4th: But not everyone—not girls or slaves.

4th: That's why our kingdom is recognized as a republic in history.

Narrator: What is the name of your republic?

Everyone: Vriji! You could also call it Vajji. It's right next to Magadha.

2nd: Do the other states not try enough to conquer our country?

5th: There's another republic like this—Mallya.

Everyone: Mallya!

2nd: Do you know who taught us how to govern the state?

Narrator: Who?

Everyone: Gautama Buddha, the Enlightened One.

(One student adopts a Buddha pose as the others gather around him.)

Narrator: What did Lord Buddha teach?

3rd: A lot of rules. For example—

Buddha: The state should be run by an assembly.

2nd: And whatever is decided in the assembly should be followed unanimously.

3rd: That's right.

4th: We make our own laws.

3rd: And everyone must obey those laws, no matter who they are.

Buddha: The laws ensures that women, slaves, temple deities—

2nd: And even plants and animals should be cared for.

Narrator: Wow, those are some great rules!

(The student playing Lord Buddha stands up.)

1st: But I don't know how long we can maintain this.

Narrator: Why do you say that?

3rd: Other states are attacking us. If we want to defend ourselves, we'll need an army. We'll need weapons.

4th: But where will we get the money?

2nd: We'll have to tax everyone. People will get angry. There will be conflict.

1st: But still, we must try.

Everyone: Yes, we must try.

(Everyone stands still as Sutradhar comes forward.)

Narrator: They were all like us once, living their lives. Today, they are gone. But what if we could bring them back through drama, where they could tell us about themselves? How would that be?

(The actors come forward and bow to the audience.)

Example : 2

BEAUTY AND THE BEAST

- **Characters:**

  -Narrator

  -Belle

  -Father

  -Beast

  -Sisters

  -Merchant

  -Servant

Scene 1

The Merchant's Home

Narrator: Once upon a time, there was a wealthy merchant who had three daughters. The youngest daughter, Belle, was kind and loved by everyone. One day, the merchant lost all his wealth.

(Father and three daughters on stage. Father looks worried.)

Father: (sighs) My dear daughters, we have lost all our wealth. We must move to the countryside and live humbly.

Sister 1: (complaining) Oh, how terrible! I cannot live without my luxuries!

Sister 2: (whining) This is unbearable!

Belle: (comforting) Don't worry, Father. We will manage. We still have each other.

Scene 2

The Journey

Narrator: One day, the merchant heard that one of his ships had come back with goods. He decided to go and see if he could recover any of his wealth.

Belle: Father, please bring me a single rose.

Father: Of course, Beauty. I will bring you the most beautiful rose.

Scene 3

The Beast's Castle

Narrator: The merchant found the ship had nothing valuable. On his way back, he got lost in a forest and found a magnificent castle.

(Father enters the castle, looking amazed. The castle is represented by a backdrop or simple props. A servant appears.)

Servant: Welcome, sir. Please come in and rest.

Narrator: The merchant ate and rested. The next morning, as he was leaving, he saw a beautiful rose garden.

(Father picks a rose. Beast enters, looking angry.)

Beast: (roaring) How dare you steal my rose?

Father: (frightened) I am sorry! It is for my daughter, Belle.

Beast: You may go, but in return, you must send your daughter to live here with me.

Scene 4

Belle's Sacrifice

Narrator: The merchant returned home and told his daughters what had happened. Belle, being kind-hearted, decided to go to the Beast's castle to save her father.

Belle: Do not worry, Father. I will go to the Beast's castle. Everything will be fine.

Scene 5: Life at the Castle

Narrator: Beauty arrived at the castle. The Beast treated her kindly, and she began to see his true, gentle nature.

(Beast and Belle on stage. They are having dinner.)

Beast: Belle, do you think you could ever love me?

Belle: (hesitant) I will be your friend, Beast.

Narrator: Belle started to miss her family and asked the Beast if she could visit them.

Beast: You may go, but promise to return in a week.

Scene 6

Belle's Return

Narrator: Belle visited her family but stayed longer than she promised. She had a dream that the Beast was dying.

(Belle wakes up, looking distressed.)

Belle: I must return to the castle! The Beast needs me!

Scene 7

The Transformation

Narrator: Belle rushed back to the castle and found the Beast lying on the ground, weak and dying.

(Beast lying on the floor, Belle kneels beside him.)

Belle: (crying) Oh Beast, please don't die! I love you!

Narrator: As Belle spoke these words, a magical transformation took place.

(Beast stands up, transforming into a Prince.)

Beast/Prince: Belle, your love has broken the spell. I was cursed to be a Beast until someone loved me for who I truly am.

Belle: (amazed) You are a prince!

Scene 8

The Happy Ending

Narrator: Belle and the Prince were married and lived happily ever after. The kindness and love in Beauty's heart had saved them all.

(All characters come on stage and bow.)

Narrator: And so, the story of Beauty and the Beast teaches us that true beauty comes from within, and love can transform even the darkest of times.

The End. (All)

6.4 Presentation of Concepts through Creative Drama and Fine Arts

HUMAN FOOD

(Unit)

(A group of students recites a poem together, keeping a strong boy in the front.)

(The poem is about Shashticharan, a strong boy who can juggle elephants at any time, and he weighs 7.6 tons with a body of iron.)

(Shashticharan played by the strong boy, acts out the scene, mimicking juggling elephants and swinging a mallet. He continues to enact the following lines.)

Everyone: One day, a thug hit him hard with a bamboo stick, but the bamboo snapped like sponge wood as soon as it touched his elbow.

(A student plays the thug. As the bamboo breaks, the thug exits the stage, crying. Shashticharan also exits. The thug returns, and another character enters from the opposite side—we'll call him Don.)

Don: Why are you crying? You ran away after getting hit, but aren't you ashamed to be crying?

Thug: What can I do? I got thrashed badly.

Don: Take revenge! Get even!

Thug: Oh no! Not even my fourteen generations could take him on. The bamboo stick snapped just by touching his elbow!

Don: Hmm, I've got an idea.

Thug: What are you thinking? I told you, I can't face him again.

Don: You will, you will! Go and tell him while crying…..

(Don exits. Shashticharan enters from the opposite side. The Thugs approaches him, crying.)

Shashticharan: What happened? Hey, what's wrong?

Thug: He's going to kill me!

Shashticharan: Kill you? Who's going to kill you?

Thug: My Don! He said, "You came back after getting beaten by a man, so I'm going to kill you today!" He asked, "Who is this Sashticharan? I could defeat him with just my little finger!"

Shashticharan: Really? Such audacity? Let's see about that. Take me to him.

Thug: Come on, let's go!

(They circle the stage once.)

Shashticharan: Where's your Don?

Thugs: He's here somewhere! He must be nearby. You sit here; I'll go find him.

(Before leaving, the Thugs closes the door.)

Shashticharan: Why did you close the door? What's going on? Why did you lock the door?

(Don enters and stands at a corner, as if speaking from outside the room.)

Don: You're staying right there! You won't get any food, not even a drop of water. Let's see how long your bravery lasts! Ah, juggling elephants, are we? I'll show you what juggling elephants is all about!

(Everyone steps forward and recites or possibly sings.)

Everyone: One day passed, then two, and now three,
The hunger gnaws, my stomach's not free.
Four days gone, on the fifth, my head spins,

Sasthicharan, the elephant juggler, feels his strength thin.
If one doesn't eat enough, it's clear to see,
They'll fall ill with every disease in the world, surely.

(Everybody cries. Sasthicharan stands up and says)

Sasthicharan: But what does that mean?

Everyone: What do you want to know?

Sasthicharan: If you don't eat, your whole body will weaken and become vulnerable to diseases. But what's the connection between the two?

Don: Look at him! All he cares about is eating. He doesn't understand the link between food and the body.

Sasthicharan: No, I don't get it. So what's there to criticize? Explain it to me!

Don: Listen, you fool! A lot more than just food enters your body when you eat. Haven't you heard of that?

Sasthicharan: What else could possibly enter besides food?

Don: What do you usually eat, rice or bread?

Sasthicharan: I eat rice during the day and bread at night.

Don: Well, sugar enters your body through that—meaning "carbohydrates." It's not just rice and bread; fruits and milk have carbohydrates too!

Sasthicharan: Wait, wait! Such a complicated word!

Thug: Carbohydrates!

(Three or four students rush in and sing together.)

Sugarcane, honey, ripe mangoes, and bananas,
Grapes, apples, rice, wheat, sorghum, and millet,
Carrots, potatoes, sweet potatoes, spinach red and green,
Lentils - red and yellow, with honey in between.
Milk and more, they all impart,
Carbohydrates for the body's health!

Carbo 1: We are those carbohydrates. Here I entere this belly! (Runs behind Sasthicharan , then comes out.) I'm digested! (Sasthicharan burps.) I became small particles.

Carbo 2: Then we're named…..

Everyone: Glucose!

(Glucose runs around Sasthicharan.)

Sasthicharan: Hey, hey! What are you all upto!

All Glucoses: Don't you understand?

Glucose 1: By flowing through the bloodstream, we reach every part of the body.

Glucose 2: The body has oxygen taken from the air, we mix with it and become…

Everyone: (Jumps up and says) Strength!

Sasthicharan: That's it!, If I regain my strength, I don't want anything else.

Glucose 1: And if your body cells close their doors?

Sasthicharan: The cells will close their doors? What does that even mean?

Glucose 2: Oh, that's easy! We'll mix with oxygen inside the body's cells and circulate, but without the cells allowing it in, the body won't receive any strength!

Thug: (Mimicking) Aha! Walk around! As if everyone has gone Pandal hopping during the Puja vacation.

Glucose 1: No joke, sir! Not letting us in means "Madhumeh/Sugar"!

Sasthicharan: Meaning, I can eat honey/sugar? What joy!

Glucose 2: "Madhumeh/Sugar" means Diabetes! Your heart will malfunction, your kidneys will be affected, your eyes will suffer and your feet will swell!

Sasthicharan: Hey! Don't you scare me!

Don: That's why I'm saying, the key to managing this "Diabetes" isn't just about eating abundantly, but about eating right, and—

Sasthicharan: And?

Thug: Exercise regularly!

Sasthicharan: You don't have to tell me anymore! Don't just focus on my 7.6-ton weight; keep in mind my elephant juggling as well.

Don: I have one question. What do you eat besides rice, bread, milk, and fruit? Do you fish, meat and, eggs?

Sasthicharan: (Slurps his saliva) Ooooh! Why did you have to mention all this when I'm starving?

Thug: All of them bring protein into the body!

Sasthicharan: What tin?

Don: Who gave this fool the address to this place? Not tin, tile nor asbestos; it's PROTEIN!

Sasthicharan: What happens when it enters the body?

Thugs: What if it enters? There is protein everywhere in your body.

Sasthicharan: How?

Don: (Rhymes). On your fingernails,
In your hair and toenails.

Everyone: Keratin has entered!

Don: You can feel it in your strong muscles, too.

Everyone: Actin, myosin.

Thug: The blood running through your veins is full of red blood cells.

Everyone: And hemoglobin, too.

Thug: There's plasma in your blood, just like in breast milk.

Everyone: And don't forget about globulin and fibrinogen in the blood.

Don: Your bone marrow even produces another kind of protein—

Everyone: Collagen!

(Sasthicharan suddenly collapses. Everyone rushes to him, concerned.)

Everyone: What happened? Are you okay?

Sasthicharan: You mentioned so many names! What are they?

Don: They're all proteins—different types of proteins.

Sasthicharan: Ugh! All these strange-sounding proteins are inside me?

Thug: Be grateful they are! Without protein, how would you build muscle? Even a minor illness could knock you down, and wounds wouldn't heal properly.

Don: You even need protein just to breathe properly. Got it?

Sasthicharan: I get it, I get it! That's why I eat meat, fish, and eggs for both lunch and dinner—so I get plenty of protein.

Don: Do you eat soybeans?

Sasthicharan: No!

Thug: What about lentils or wheat?

Don: Peas, broad beans, jackfruit seeds?

Sasthicharan: No, none of that!

Another Person: How about casein, paneer, or crab?

Sasthicharan: Well, I do eat crab!

Don: You need all of those—they all have protein. It's important to have a variety.

Sasthicharan: What if I don't eat all of them? I eat protein-rich foods like fish, meat, eggs, and crab—

Don/Thug: Too much protein isn't good either.

Sasthicharan: What happens if you eat too much protein?

Don: Kidney stones.

Thug: Arthritis. You'll suffer from aches and pains.

Sasthicharan: Oh no! So overeating causes problems too?

Everyone: Eating the wrong proportions can lead to sickness and disease.

Sasthicharan: I see. So, besides carbohydrates and proteins, what else does our body need, and what foods provide it?

Don: That's a lot of information. It's not something you can learn in an instant.

Thug: Exactly. You should head home now. We'll talk about it another time.

Everyone: Goodbye! Take care!

(Sasthicharan turns back as he's leaving.)

Sasthicharan: Thank goodness the thug took me hostage. I've gained so much knowledge today.

Exercise: Write and produce a short play on any part of the text.

6.5 Summary

Teaching and learning through creative drama and fine arts is an innovative approach that fosters cognitive, emotional and social development in students. By integrating creative drama and fine arts into the curriculum, educators can create engaging, interactive and immersive learning experiences that cater to diverse learning style. By embracing creative drama and fine arts in education, the educators can unlock students' full potential, foster a love of learning and prepare them for success in an ever changing world.

6.6 Unit End Exercise

1. Select any topic from the syllabus of class III - VIII and present and stage a drama.

UNIT 7

Health Education

7.1 Introduction

7.2 Objectives

7.3 Physical Education: Aims and Objectives

7.4 Personal Health and Hygiene

7.5 Chart for Communicable Diseases and its Prevention

7.6 Preparation for Charts for School Health Program - Campus Cleaning

7.7 Sanitation, Air Pollution, Sound Pollution etc.

7.8 Special Activities: Physically Challenged Children

7.9 Good Habits for Maintenance of Good Posture

7.10 Measuring Height and Weight for Assessing BMI and Growth

7.11 Summary

7.12 Unit End Exercise

7.1 Introduction

Like other living organisms on Earth, human beings have emerged with an inherent organic nature. This organic nature must be cultivated into what we recognize as human nature. The process of this transformation from mere life to full humanity is known as education.

During growth and development, childhood, adolescence, and young adulthood are crucial periods for discovering one's strengths and skills, shaping personality, and mastering social qualities through the integration of individual and social identities. Achieving this requires the guidance and support of a competent teacher, along with a carefully planned learning environment, a well-designed curriculum, and a thoughtfully executed teaching method.

Currently, the curriculum includes essential components such as effective communication, a sense of balance, theoretical and practical knowledge of logical thinking, a scientific mindset, and an understanding of the environment. Additionally, physical education plays a vital role in cultivating both a healthy body and a healthy mind. As the Latin phrase goes, "Orandum est ut sit mens sana in corpore sano," meaning "Let us pray for a sound mind in a sound body."

The social qualities developed through physical education not only contribute to individual socialization but also help individuals become responsible citizens. Therefore, physical education is timeless and universally relevant, applicable at all levels of learning.

7.2 Objectives

The importance of physical education in primary education is undeniable. Not only is it essential in our country, but many developing nations have also recognized its value, making it a key component of general education. Through physical education, every student is given the opportunity for personality development and character building.

It's important to remember that a balanced development of the individual cannot be fully achieved through knowledge of literature, science, and mathematics alone. Physical education is crucial for a child's physical growth and development, as well as for their mental health. A child's mental development is influenced by their environment, dietary habits, and the behavior of parents and peers. Therefore, the goal of physical education is the comprehensive development of human beings—fostering the physical, mental, social, and emotional aspects of personality through participation in various physical activities.

7.3 Physical Education: Aims and Objectives

The modern scientific definition of physical education is "education through physical activity." It is an essential component of holistic education, aiming for the comprehensive development of individuals as well-rounded citizens through the physical, mental, social, and emotional benefits of physical activity.

According to J.M. Williams, physical education encompasses all physical activities that are selected as methods to achieve specific goals. These activities are chosen to foster overall personality development, instilling discipline, regularity, and other virtues through active participation.

Similarly, Charles A. Bucher defines physical education as the educational process aimed at exploring human potential through selected physical activities.

Despite this, some people still view physical education as merely sports practice or showcasing skills in various sports. This notion is incorrect. While sports and games are indeed a part of physical education, they represent just one aspect of a broader approach. Recreational sports also play a crucial role. The practical application of physical education involves elevating basic physical activity experiences to the highest level, ultimately leading to excellence in sports.

7.3.1 Aims of Physical Education

The primary aim of physical education is the holistic development of individuals, encompassing physical, mental, social, practical, and intellectual qualities. This requires effective leadership to organize physical activities in a way that participants experience satisfaction, whether individually or in groups, and through the joy of participation, they have the opportunity to develop these qualities.

J.B. Naas describes physical education as a form of education primarily expressed through the activity of the body's large muscles and the corresponding responses of the physical organs involved.

The curriculum content in physical education is guided by its three domains:

1. **Psycho-motor Domain:** Focused on establishing neuromuscular coordination.
2. **Cognitive Domain:** Concerned with the development of intellectual capabilities.
3. **Affective Domain:** Involves the application of practical aspects.

Thus, the main goal of physical education is to enhance human skills through carefully selected physical activities.

Health is a central theme in physical education. The financial progress, prosperity, and development of any country are directly tied to the health of its citizens. Therefore, a healthy population is essential for a healthy nation. The key components of good health include proper nutrition, adequate rest, sufficient sleep, and regular exercise. The importance of physical education as a means to promote and maintain health cannot be overstated.

7.3.2 Objectives of Physical Education

1. Achieving Good Health
2. Developing Good Habits
3. Attaining Physical Fitness
4. Enhancing Nerve and Muscle Coordination
5. Fostering Personality Development
6. Acquiring Knowledge and Skills
7. Promoting Social Development

7.4 Personal Health and Hygiene

Health is a central theme of physical education, as the economic development of any country relies heavily on its human resources. In a nation like India, with the second-largest population in the world, the proper utilization of human resources can significantly boost the economy. The adage “health is wealth” highlights how a healthy and strong workforce can elevate a country to new heights. A prime example of this is modern-day Germany.

Despite its smaller population, Germany has achieved remarkable development by effectively leveraging its human resources. The citizens of Germany are physically and mentally ahead of many other countries, which is rooted in their emphasis on health. This focus has led to a strong overall standing in science and technology, social practices, and sports. Therefore, increasing awareness about personal health is crucial.

Maintaining a healthy, energetic self with a generally disease-free body and a stable mental state is essential for overall well-being. This is achieved through personal health management, which involves

adhering to health principles with regularity and discipline. Key factors include a balanced diet, consistent rest and sleep, and regular health practices—all of which are fundamentally linked to the physical activities promoted in physical education.

- **Aspects to Prioritize Through Health Practices:**

Maintaining Physical Fitness:

Promoting physical activity by fostering both the quantity and quality of endurance, neuromuscular coordination, strength, speed, flexibility, agility, and other essential fitness components is essential for maintaining physical fitness.

Health of Organs:

Ensuring the proper use and rest of physical systems and organs to restore their functionality is important. This includes taking care of sensory organs by developing habits such as regular care of the eyes, ears, nose, skin, nails, and other body parts.

Disease-Free Body:

Building a disease-free body requires regularity and discipline in adhering to proper hygiene practices.

It is often said: "A healthy mind resides in a healthy body." To complete daily activities effectively, one must maintain personal hygiene, which refers to the cleanliness of the body. Proper structure and cleanliness of the body protect against various diseases, and neglect can lead to unhealthy habits. Habits formed in childhood often become ingrained and difficult to change later in life. According to Indian philosophy, the human body is the means through which one can attain the highest goal of life—salvation. This belief emphasizes the importance of achieving personal hygiene.

Elements of Health Policy:

1. Developing good and healthy habits.
2. Maintaining cleanliness of various body parts such as hair, eyes, ears, teeth, nose, and throat.
3. Keeping nails and fingers clean.
4. Ensuring that clothes and shoes are clean.
5. Recognizing that good and healthy habits become second nature to humans.

- **Hygiene**

Hygiene is the science dedicated to maintaining health and preventing disease through proper physical care and exercise. It involves not only individual practices but also educating families and communities about health and wellness.

The principle "A healthy mind resides in a healthy body" highlights two critical aspects of human development: physical health and mental well-being.

7.4.1 Care of the Teeth

i. **Oral Hygiene:** Regularly brushing your teeth every morning and night, and after meals, is crucial for proper digestion and overall dental health.

ii. **Balanced Diet:** A diet rich in vitamin C is vital for protecting your teeth. Consuming foods high in this vitamin helps maintain strong and healthy teeth.

iii. **Toothbrush Use:** Opt for a soft-bristled brush to effectively clean your teeth without causing damage to your gums.

iv. **Dietary Choices:** Include foods such as sugarcane, pulses, chickpeas, peas, and stalks in your diet to support good dental health.

v. **Avoid Harmful Substances:** Refrain from consuming intoxicating drinks and substances harmful to dental health, such as betel leaf and tobacco.

vi. **Professional Consultation:** Regular dental check-ups are important to address any issues and maintain optimal oral health. Pyorrhea, a specific dental condition, can impact both teeth and stomach, so seeking professional advice when needed is essential.

7.4.2 Care of the Eyes

The eyes are a crucial part of the human body, allowing us to appreciate the beauty of the world around us. A person's education, activities, consciousness, overall development, and personality are all closely linked to the health of this vital organ. Therefore, proper eye care is essential. To protect and maintain healthy eyes, follow these guidelines:

i. **Maintain Cleanliness:** Encourage children to keep their eyes clean by rinsing them with clean, sterile water 2-3 times a day.

ii. **Avoid Contaminants:** Ensure that children avoid contact with dirty objects to prevent eye infections and irritations.

iii. **Proper Lighting:** Ensure that reading and studying are done in well-lit areas to reduce eye strain.

iv. **Balanced Diet:** Include Vitamin A and Vitamin C in the diet to support optimal eyesight. These vitamins are commonly found in milk, butter, and vegetables.

7.4.3 Care of the Ears

The ears are crucial sensory organs for hearing and communication, allowing us to perceive and respond to sounds from our environment. Due to their delicate nature, the ears require careful maintenance to avoid damage and prevent infections. Follow these hygiene practices to ensure ear health:

i. **Regular Cleaning:** Clean the ears regularly using medicated buds to maintain hygiene and prevent buildup.

ii. **Avoid Loud Noises:** Protect your ears from excessive noise by maintaining a safe distance from loud sources and avoiding prolonged exposure to high sound levels.

iii. **Protective Gear:** Use ear protection, such as earplugs or earmuffs, to shield your ears from loud sounds and environmental elements.

iv. **Winter Protection:** Cover your ears during cold weather to prevent exposure to harsh temperatures and avoid potential discomfort or harm.

v. **Prevent Water Accumulation:** Ensure that water is thoroughly dried from the ears after bathing to prevent the risk of infections. Consult a doctor if any issues arise.

7.4.4 Care of the Nail

Proper nail care is essential for maintaining overall health. Nails, commonly referred to as fingernails, are made of a unique type of tissue and grow continuously. Keeping nails clean and trimmed is important, as children often develop habits like finger-biting and nail-biting from an early age. To promote healthy nail care, the following practices should be encouraged:

i. **Hand Hygiene:** Wash hands thoroughly with soap before and after eating. Encouraging the use of utensils, like spoons, can also help maintain cleanliness.

ii. **Regular Nail Maintenance:** Clean nails regularly with soap and trim excess nail growth. If any issues arise, such as infections or abnormalities, it's important to consult a doctor.

7.4.5 Care of the Nose

The nose is a vital organ responsible for the sense of smell and plays a crucial role in our breathing. Keeping the nose clean is essential to prevent various health issues. For children, it's particularly important to maintain nasal hygiene, especially in cases of chest congestion, which can be alleviated with the use of nasal drops. To protect and care for the nose, the following hygiene practices should be observed:

i. **Regular Cleaning:** Clean the mouth and nose with fresh water 3-4 times a day to maintain nasal hygiene.

ii. **Use of Clean Handkerchiefs:** Always use a clean handkerchief to wipe the nose.

iii. **Correct Breathing Practices:** Practice breathing exercises and yoga poses such as Padmasana, Bakrasana, and Pranayama to improve nasal function and overall respiratory health.

iv. **Avoid Smoking:** Refrain from both direct and indirect smoking to protect the respiratory system and nasal passages.

v. **Proper Nose Cleaning:** Clean the nose gently by applying light pressure, following specific techniques for nasal hygiene. Seek medical advice if necessary.

7.4.6 Care of Clothing and Bathing

In our country, the changing seasons, influenced by the monsoon, necessitate different types of clothing throughout the year. These changes not only reflect our adaptation to the climate but also play a role in expressing our personality and enhancing our appearance. However, cleanliness and appropriateness of

clothing are essential for both personal hygiene and professional efficiency. The following guidelines should be followed:

i. **Seasonal and Occupational Dressing:** Wear clothes that are suitable for the season and appropriate for the specific demands of your occupation.

ii. **Undergarment Hygiene:** Children should be encouraged to keep their undergarments clean at all times to prevent infections caused by germs.

iii. **Regular Cleaning:** Wash clothes regularly with mild soap to maintain cleanliness and hygiene.

iv. **Comfortable Clothing:** Dress children in comfortable, loose-fitting clothes, especially from infancy. Opt for light clothing at night to ensure comfort.

Regular Bathing: Bathe in clean water at least twice a day to maintain personal hygiene. Pay extra attention to washing your hands and feet with soap after coming home to prevent the spread of germs and diseases.

7.5 Chart for Communicable Diseases and its Prevention

Communicable diseases are illnesses transmitted from an infected person to a healthy individual through direct or indirect contact or other means. These diseases can spread via human-to-human, animal-to-human, or animal-to-animal contact, and through various environmental mediums such as water, air, or insects.

In countries like India, the spread of diseases such as **malaria, cholera, smallpox, tuberculosis, and plague** was once a significant concern. However, with advancements in modern science and education, numerous measures have been implemented to combat these diseases. For example, public awareness campaigns, informational booklets, and the efforts of health regulatory agencies and NGOs have been instrumental in educating people about preventive health practices.

Although the complete eradication of infectious diseases has not been achieved, these efforts have greatly reduced the frequency and severity of outbreaks, preventing them from reaching epidemic proportions as in the past. The rise in public awareness, particularly in remote villages where local governments are actively involved, has played a crucial role in this progress.

7.5.1 Mode and Extent of Transmission:

The modes and levels of transmission can be categorized into three groups:

(i) Rapid Transmission: Cholera, enteritis, plague, pox

(ii) Moderate Transmission: Malaria, influenza

(iii) Prolonged Infection: Whooping cough, persistent cough

7.5.2 Modes of Transmission:

1. Direct Transmission:

Direct transmission occurs when an infection is passed from an infected person to a healthy person through physical contact, such as sexual intercourse or kissing. Unscientific blood donation practices can

also cause infections, but the risk has been significantly reduced due to blood testing and the adoption of the "Use and Throw" system, which ensures that needles and syringes used by infected individuals are destroyed after a single use.

2. Indirect Transmission:

i. **Vector-borne Transmission:**

Diseases can be transmitted through vectors such as mosquitoes, flies, insects, rats, snails, etc.

ii. **Airborne Transmission:**

The transmission of airborne diseases often depends on seasonal changes. Sudden weather shifts can strengthen microbes, making them more potent. Typically, higher temperatures can kill bacteria. In regions like ours, diseases such as pneumonia, colds, coughs, and mild respiratory infections, along with chickenpox and influenza, are common.

iii. **Waterborne Transmission:**

Waterborne diseases can spread through contaminated water, milk, and vegetables. It is important to be mindful of the quality of water used, especially in items like uncovered cut fruits, which can also be a source of infection. Examples of such diseases include diarrhea, cholera, hepatitis, and various arsenic-related illnesses.

❑ **Modes of Transmission:**

(i) Direct Contact
(ii) Airborne Diseases
(iii) Waterborne Diseases
(iv) Droplet Transmission
(v) Animal Bites
(vi) Contact with Infected Dead Animals

7.5.3 Prevention:

(i) Identification of the disease, its source, and control measures, followed by treatment
(ii) Notification and updates from health-related public organizations or NGOs
(iii) Isolation of the patient to prevent further spread of the disease
(iv) Effective treatment
(v) Immunization
(vi) Investigation of the underlying cause
(vii) Public health initiatives
(viii) Raising health awareness about specific diseases

7.6 Preparation for Charts for School Health Program - Campus Cleaning

School health programs are essential for fulfilling the primary objectives of education. Active participation of children and adolescents in these programs is crucial. The main goal of education is the holistic development of personality, which is largely influenced by factors such as the development of a child's consciousness, effective teaching methods, home environment, school environment, health programs, and the influence of the surrounding environment and peer behavior.

The school environment encompasses more than just the physical school building. It includes various facilities, such as clean toilets, safe drinking water, regular health check-ups (weekly or monthly), and overall cleanliness, all of which contribute to an ideal school setting. Additionally, factors like the cleanliness of the surrounding area, the levels of air, water, and noise pollution, proper seating arrangements in classrooms, adequate lighting and ventilation, availability of drinking water, and playgrounds are vital in creating a conducive school environment.

7.6.1 Health Services

The term "school health program" refers to the integration of food and nutrition, hygiene, opportunities for exercise, rest, immunity, and preventive measures against infections within the school education system to ensure the attainment of optimal health for children and adolescents.

The school health program can be categorized into three key components:

(i) Health Services

(ii) Health Education or Guidance

(iii) Health Inspection

I. Health Services:

A key aspect of the school health program is the provision of health services, which relies primarily on the guidance of experienced healthcare professionals. Schools should employ doctors, nurses, or health assistants whenever possible to offer appropriate health services and advice to students, tailored to their age and maturity. This includes educating students on the causes of infectious diseases, preventive measures, the importance of hygiene, and nutrition, such as mid-day meals. Regular health check-ups should be conducted, with results recorded in health cards to monitor each child's health. This allows for a clear overview of students' health histories.

1. **Playgrounds and Libraries:**Clean and safe playgrounds and libraries should be provided. Classrooms should be designed to open on the south side to accommodate seasonal changes during summer and winter.

2. **Furniture:**Regular cleaning of classrooms is essential to prevent the accumulation of dust and sand, ensuring a clean learning environment.

3. **Drinking Water:** Access to clean drinking water must be ensured. If necessary, the school should coordinate with the government water supply center to provide safe drinking water, as uncontrolled extraction of underground water has been linked to arsenic-related diseases.

4. **Toilets and Bathrooms:**Toilets and bathrooms must be kept clean, with the mandatory use of cleaning agents like phenyl and bleaching powder.

5. **Dustbins:** To maintain a clean school environment, waste disposal should be managed effectively. Dustbins should be placed around each classroom to prevent littering of food waste, paper, and other trash.

6. **Laboratories, Farms, and Storage Areas:**These areas should be cleaned daily, just like classrooms. Laboratories should have safe storage for chemicals, and precautions must be taken when using them.

7. **Fire Extinguisher:**If possible, fire extinguishers should be installed within the school premises. If not, the school should establish contact with the nearest fire brigade for safety measures.

II. Health Advice or Instructions:

Science-based health education in schools or educational institutions, which focuses on the health principles and theories relevant to students, is referred to as health advice or instruction. This education aims to develop healthy behaviors and habits by teaching students about various health-related topics. These include the definition and prevention of infectious diseases, the benefits of exercise, proper use of medication, understanding food and nutrition, awareness of drug misuse, and most importantly, a correct understanding of first aid. School doctors, teachers, or individuals trained in hygiene are responsible for delivering this essential health education.

III. Health Inspection:

Health inspection involves a thorough and diligent evaluation of any health-related activities or plans within the school. School authorities can collaborate with the school management organization (such as the Inspector of Schools) and seek assistance from district or block-level health service organizations (such as government hospitals) when needed. All government-provided facilities should be utilized for this purpose.

Schools also have a significant role in promoting public health service programs. They can coordinate with the health department based on parental advice and, if necessary, organize vaccination programs within the school.

7.6.2 Campus Cleaning

The primary goal of school education is the holistic development of children, encompassing their physical, mental, social, and emotional growth. To effectively achieve these objectives, maintaining

cleanliness in the school environment is crucial. Since students spend a significant portion of their day at school, ensuring a clean and healthy environment is essential. Attention should be given to the following aspects:

(i) Location of the School:

The school should be situated in a clean environment, free from air and noise pollution.

(ii) School Building:

Classrooms should be spacious, with adequate lighting and ventilation to ensure a comfortable and conducive learning environment.

7.7 Sanitation, Air Pollution, Sound Pollution etc.

7.7.1 Sanitation

Ensuring adequate sanitation facilities in schools is crucial for maintaining a healthy environment. Schools should have a sufficient number of toilets (both urinals and latrines) and bathrooms, with a reliable water supply. Unfortunately, many primary schools lack separate facilities for urinals and latrines, and existing facilities are often unhygienic and poorly maintained. Additionally, some schools lack a water supply system altogether, leading to contaminated and unsanitary conditions that significantly impact the school environment. Rural schools often face even greater challenges, with limited access to proper sanitation facilities, increasing the risk of various diseases.

Many school authorities have successfully implemented affordable toilet solutions on their own. Currently, central and state governments have mandated the installation of affordable toilets in primary and elementary schools and are providing financial assistance to support this effort. Teachers are also playing a key role in promoting personal hygiene practices, such as hand washing with soap, which has become a common habit among students.

7.7.2 Air Pollution

Carbon monoxide, produced by the reaction between oxygen and carbon from vehicle emissions, poses a health risk to students. Additionally, emissions from nearby factories contribute to air pollution, leading to respiratory issues, asthma, and lung cancer. Government agencies have begun issuing vehicle pollution certificates to combat air pollution, and measures have been introduced to control vehicle traffic around school areas.

7.7.3 Noise Pollution

Urban areas often experience high levels of noise pollution from sources such as car horns, factory operations, and loud music. This excessive noise, often exceeding 65 decibels, negatively affects the environment and can lead to hearing-related health problems. Efforts to control noise pollution include afforestation projects, public awareness campaigns, and monitoring by local authorities, particularly during festivals.

7.7.4 Water Pollution

In rural areas, water bodies are frequently contaminated by open drains, and the use of pesticides and chemical fertilizers in agriculture contributes to water pollution. These chemicals can eventually mix with rainwater, affecting rivers and canals. To combat water pollution, the government's Public Health Engineering (PHE) department is extracting groundwater and supplying it through pipelines. Drinking boiled water is recommended to prevent waterborne diseases such as cholera and enteritis.

7.8 Special Activities: Physically Challenged Children

Adapted Physical Education (APE) is a specialized approach aimed at the holistic development of children or adolescents affected by physical or mental impairments due to birth conditions or other incidents. Despite advancements in science and technology, many children still face challenges in achieving a healthy life. Therefore, APE plays a crucial role in their comprehensive development and in preventing feelings of isolation or depression. Its primary objective is to integrate physically and mentally challenged children and adolescents into society by encouraging their participation in physical activities suited to their abilities, thereby nurturing their latent talents through various APE programs.

Typically, physically and mentally challenged children or adolescents may have different levels of capability compared to their peers. They might struggle with normal speech, movement, or behavioral expression. These children can be categorized into different stages based on the degree and nature of their disabilities:

1) Physically Handicapped
2) Hearing Impaired
3) Visually Impaired
4) Mentally Retarded
5) Cerebral Palsy: Impairment of brain and nerve function

7.8.1 Physically Handicapped

Children or adolescents who struggle with fundamental movements due to physical impairments are categorized as physically handicapped. To support their development, various adapted physical education programs are offered, including wheelchair table tennis, swimming, chess, carom, and wheelchair basketball. Additionally, they can participate in activities such as dance, music, drama, handicrafts, and earthworks.

7.8.2 Hearing Impaired

Hearing impaired children require special attention from birth due to factors such as hereditary conditions, congenital issues, or malnutrition. Alongside their physical development, they can be engaged in sports such as basketball, football, cricket, athletics, and swimming, tailored to their specific needs and the extent of their disabilities. Typically, physical education teachers use colored flags or visual signals to conduct games and activities, ensuring effective communication and participation.

7.8.3 Visually Impaired

Visually impaired individuals face challenges similar to those experienced by those with hearing impairments, though the causes and effects differ. For their development, activities such as pranayama, yogasana, and yoga mudras are beneficial. Additionally, music can play an important role in their education and well-being. Noise generators and throwball are also organized to provide engaging and accessible physical activities.

7.8.4 Mentally Retarded

Based on medical advice, individuals with mental retardation can participate in a range of activities designed to support their development and well-being. These may include basic movement exercises, physical activities such as football and swimming, as well as pranayama, yoga, and recreational activities like picnics and camping. These programs are tailored to their needs to promote physical and mental growth.

7.8.5 Cerebral Palsy

For individuals with cerebral palsy, the focus is on enhancing physical strength, basic body movements, and self-concept. Programs often include exercises to improve overall physical capabilities, pranayama for breathing exercises, and opportunities to participate in team sports. These activities are tailored to their specific needs to support their physical and emotional development.

7.9 Good Habits for Maintenance of Good Posture

Best Practices for Maintaining Proper Posture: Sitting on the Floor, Chair, Desk During Reading, Standing, Walking, Climbing Stairs, and Lifting Objects.

Posture reflects an individual's personality and is closely related to the musculoskeletal structure, as defined by doctors. Just as an artist's posture can express their personality and emotions, posture in physical education represents a well-developed physical, social, and mental state, demonstrating one's skill and proficiency in various tasks.

Posture refers to how a person positions their body while sitting, standing, or walking, and how they manage their body weight in different situations. In health and fitness, proper posture is crucial, as it allows a trained individual to perform tasks efficiently and with minimal energy expenditure, showcasing their skill and style.

Effective performance involves executing actions with minimal energy expenditure, and posture plays a crucial role in this process. A healthy and fit posture allows an individual to perform movements such as standing, walking, running, and jumping with ease. Proper posture ensures that pressure is evenly distributed across the body, preventing strain on specific organs and contributing to overall physical efficiency.

- **Sitting Posture:**

  Ensure body weight is evenly supported on the thighs.

  Both feet should be flat on the ground at a 90° angle.

  Keep the spine straight and rest both hands on the chair's armrests.

  Position the head to avoid straining the throat and neck.

  Use a chair with a desk when studying, with books placed 8-12 inches away from the body.

- **Standing Posture:**

  Distribute body weight evenly on both legs.

  Adjust the distance between your legs to maintain balance.

  If standing for extended periods, shift your weight occasionally or move your hands to avoid fatigue or faintness.

- **Walking Posture:**

  Walk using a heel-to-ball-toe motion.

  Keep your head upright and eyes forward to avoid straining the neck and throat.

  Maintain an upright chest to support proper posture.

- **Sleeping Posture:**

  Sleep on your back (similar to Savasana) for optimal air intake and blood flow to the abdominal area.

  If you turn to one side, prefer the right side to reduce pressure on the left side of the heart and maintain better blood circulation.

7.10 Measuring Height and Weight for Assessing BMI and Growth

7.10.1 Body Mass Index (BMI):

BMI is a measure used to assess the growth and development of the human body by evaluating the relationship between height and weight. It provides a numerical value that reflects a child's growth over time, considering that height and weight should increase with age.

- **Factors Influencing BMI:**

BMI is influenced by factors such as diet (nutrition-rich food), rest, sleep, and physical activity levels. Thus, a balanced approach to growth and development is essential for maintaining good health.

BMI Calculation Formula: $BMI = Weight(kg)/Height(m)^2$

Interpretation of BMI:

Underweight: BMI below 18

Normal Weight: BMI between 18 and 24

Overweight: BMI above 24

Obesity: BMI above 30

Understanding BMI helps in monitoring excess body fat and assessing overall health, ensuring that growth and development are aligned with a child's well-being.

7.11 Summary

Health Education is a vital component of overall education, focusing on empowering individuals with the knowledge, skills and attitudes necessary to maintain optimal health and well-being. Effective health education enables students to make informed decisions about their health, adopt healthy lifestyle and develop essential life skills.

7.12 Unit End Exercise

1. What is the primary goal of Health Education?
2. How can you calculate your own BMI?
3. Discuss the importance of Health Education in promoting healthy behavior, good habits and disease prevention.

UNIT
8

First Aid

8.1 Introduction

8.2 Objectives

8.3 Treatment of Wounds, Hemorrhage, Fracture, Dislocation, Shock, Burning, Snake Bite, Drowning, Artificial Respiration, Sports Injuries, Application of Ice

8.4 Dressing and Bandage Skull, Collar Bone, Shoulder, Limbs and Joints, Splint, Arrangement of an Annual Exhibition on Health and Hygiene

8.5 Summary

8.6 Unit End Exercise

8.1 Introduction

The help of bystanders to save the life of an injured or sick person before the arrival of a doctor in a sudden accident is called first aid. It should be remembered that the person who will give first aid must have knowledge of that otherwise the patient's condition will worsen and can even die.

The essential duties of a person who is providing first aid are—

(i) Responding quickly to an accident victim or sick person's call for help.

(ii) To treat an injured person in a systematic manner.

(iii) Resolving quickly the possible reasons which are endangering the patient's life like arranging for quick breathing in case of cessation of breathing.

(iv) To use all available materials as first aid and to relieve the suffering of the patient quickly.

(v) Special attention should be paid to the surrounding conditions, environment, light, air etc.

(vi) Performing duties calmly without panicking.

(vii) Doing necessary things to make sure that the injured condition does not deteriorate further or become life-threatening. It is useless to overdo it by being too eager.

(viii) Gathering or crowding should be minimised around the injured person.

(ix) Seek assistance from bystanders as necessary and need to avoid neurological injury of the injured person with as little movement as possible.

(x) Arrangements should be made to send the injured person to the nearest doctor or hospital as soon as possible.

The meaning of first aid is implied in the word FIRST AID itself. The meaning of the word is determined below by breaking the word:

F- Fast	:	Take action as fast as possible.
I- Investigation	:	Investigate the injured person.
R- Relief	:	Reduce the suffering of the injured person.
S- Symptom	:	i.e. determining the symptoms of illness.
T- Treatment	:	Provide the basic Treatment.
A- Arrange	:	Making necessary arrangements.
I- Immediate	:	i.e. to do that as quick as possible.
D - Disposal	:	Transferring the sick person to doctor or hospital.

8.2 Objectives

The chief objectives of learning first aid are—

1. to preserve life and prevent future harm or injury.
2. to determine the nature and severity of the illness.
3. to determine the type and method of first aid.
4. to transfer the injured or sick person safely to the hospital quickly.
5. to provide emotional support and reassurance to the patient and their family members.

8.3 Treatment of Wounds, Hemorrhage, Fracture... etc.

8.3.1 First Aid Box:

To get the equipment of first aid easily all those things are kept in a specific box. This box is called a first aid box. The box is usually white in colour and has a red plus sign + or red cross painted on the top. The essentials contained in this box are-

1. **Bandage:** Roller bandage, Triangular bandage, Crepe bandage.
2. **Cotton:** For cleaning and dressing the wound.
3. **Gauze:** To press the wounded place.
4. **Tourniquet:** To stop the bleeding with a tourniquet and bandage over the snake bite area.
5. **Disinfectants :** Rectified spirit, mercurochrome, KM_nO_4, lotion, dettol, benzene, tincture of iodine, bernol, savlon, neosporin ointment etc. are used to prevent germs in the wounded area.
6. **Metal instruments:** Metal instruments such as blades, scissors, tweezers etc. are used for cutting bandages, gauze, and other purposes.
7. **Leucoplast:** To keep the bandage in place and protect the wound from external weather.

To perform first aid correctly and properly the knowledge, experience and appropriate training is needed for the person who is giving first aid. Various government and private voluntary organisations conduct various training courses on first aid throughout the year.

Individuals who complete these training courses are considered trained and competent to perform first aid. A few like this organisations are – International Red Cross, St. John Ambulance, Rotary Club, Lions Club, Ramkrishna Mission, Bharat Sevashram Sangha, World Health Organization (WHO), UNICEF, Health Department of Central Government, Health Department of State Government etc. From the school level to make every student aware and proficient in first aid, teaching and training are organised on this.

8.3.2 Wound

Wounds are when the skin is torn or cut or ruptured due to external injury. Wounds caused by injuries by knife, scissors or blade; bruised by falling down, stumbling, animal scratches or bites, nails or sharp objects penetrating the skin, etc. are different types of injury . The nature and depth of the wound depends on the cause of the wound. Common wounds that we see in daily life are-

(1) Incised: Incised wound is the type of wound caused by cutting by injury such as knife, scissors, blade, glass etc.

(2) Contused: This type of injury is caused by tripping and falling.

(3) Lacerated: This type of wound is caused by the scratch or bite of an animal.

(4) Punctured: This type of wound is caused by sharp objects like nails, pins etc.

❑ **Treatment of Wounds:**

(1) First stop the bleeding by pressing the wound with clean cotton or any other clean cloth.

(2) Clean and wipe the blood stained area with clean cotton. Clean with dettol or rectified spirit.

(3) The wound should be bandaged with gauze, dressing pad, and cotton by applying anti-bacterial medicine.

(4) The injured person should be shifted to the nearest doctor or hospital.

8.3.3 Hemorrhage

Bleeding begins when a wound is formed as a result of an injury. Bleeding can occur in a variety of ways. Bleeding depends on the nature of injury or wound

As a result of a scratch, if the capillary is cut, in that case, bleeding happens slowly.

If the vein is cut, as a result of injury, dark red blood gushes out.Again, if the artery is cut, bright red blood is spurted out. If the wound caused by the injury is deep, the bleeding starts at a rapid rate. This bleeding should be stopped as soon as possible. It should be remembered that excessive bleeding can lead to death of the patient. To stop the bleeding, pressure is usually applied in two ways on the wound or on the side of the wound -

Direct pressure: To stop the bleeding by pressing directly on the wound is called direct pressure.

Indirect Pressure: Direct pressure often does not stop the bleeding. Then bleeding is stopped by applying pressure on the wound's 'pressure point'. This is called indirect pressure.

Indirect pressure applied most commonly to the following pressure points

(1) Carotid pressure point: near the throat or lower jaw

(2) Subclavian pressure point: near the junction of the shoulder and upper arm

(3) Brachial pressure point: over the lower brachial artery.

(4) Femoral pressure point: around the groin near the femur bone.

❑ **Treatment of Hemorrhage:**

(1) First stop the bleeding as soon as possible by direct or indirect pressure on the wound.

(2) Elevation of the bleeding site stops the bleeding quickly.

(3) If the blood has clotted in the wound, it cannot be removed.

(4) If sand or foreign matter adheres, it shall be cleaned with rectified spirit and gauze.

(5) The injured area should not be moved and the injured person should be shifted to hospital immediately.

8.3.4 Fracture

The breaking of a bone by direct or indirect injury or by force generated from sudden muscle contraction is called bone fracture. The main cause of bone fracture is – application of uneven force on the bone. Uneven pressure causes excessive force on the bone resulting in fracture.

❑ **Types of Bone Fracture:**

The following types of bone fracture happens:

(1) Simple Fracture: In this type of bone, only the bone is broken. Peripheral veins, splenic veins or the muscles remain intact and no damage is caused. This type of bone fracture is called simple fracture.

(2) Compound Fracture: In this type of fracture, veins, muscles and skin are exposed after the fracture. Hence this type of posture is also called 'open fracture'.

(3) Complicated Fracture: This type of fracture causes damage to the various internal organs of the body like, kidney, liver, lung, spine etc. and a complicated condition is created inside the body, so it is called complicated fracture.

(4) Comminuted Fracture: In this type of fracture, the bone is broken into a large number of fragments.

(5) Impacted Fracture: After this type of fracture, the tips of the bones touch each other and enter into each other. Hence this type of fracture is called an impacted fracture.

(6) Green Stick Fracture: Children's bones are not strong enough to break their bones completely so their bones get bent or crack. This happens because of soft bones.

(7) Depressed Fracture: Many times due to injury, a soft bone of the body that is not completely broken is crushed and the broken part goes inside. For example, bones of the skull.

❑ **Symptoms of Fracture:**

(i) severe pain at the injured site

(ii) swelling around the fracture site

(iii) the colour of the concerned area gets distorted after fracture,

(iv) accumulation of blood at the site of injury

(v) loss of power to move the limb as a result of the fracture of the bone

(vi) the fractured area underneath the skin can be felt with the touch of the hands

(vii) deformity is noticed in the fractured area

(viii) abnormal circulation happens in the area of bone fracture.

❑ **Treatment of Fracture:**

(1) Unnecessary movement should not be done. Try to keep the fracture site as stable as possible.

(2) If a wound occurs, measures should be taken to stop the bleeding first.

(3) The injured person should be supine. If he loses consciousness, sprinkle water in his face and eyes to regain consciousness.

(4) Bandaging the fracture site is very important. Sometimes the fracture is secured with thin wooden supports. It is called a splint. But care should be taken that the wooden binding is not so tight that the blood circulation is stopped.

(5) The patient should be sent to the hospital quickly without wasting time..

8.3.5 Dislocation

When a bone is displaced from its normal position in a joint due to a sharp external force impact or injury, it is called a dislocation. In this case, the joint becomes swollen and painful. Joint movement increases pain and injury.

❑ **Treatment of Dislocation:**

(1) The deviated bone should be pressed back into place and fixed with a bandage. Movement should be minimised.

(2) Ice water should be applied to the affected area. This cool concoction reduces swelling and provides relief. A hot water soak is required after 24 hours of cold soak.

(3) After deviation of the joint is supported with a splint or a thin wooden plank so that additional movement does not happen at the joint.

(4) Urgent referral to an orthopaedic specialist should be arranged.

8.3.6 Nervous Injury (Shock)

Nervous injury or shock occurs when the vital functions of the organs are disrupted due to deep depression. In case of shock, the function of the nervous system in the brain is mainly disrupted. Changes

in blood circulatory function happens from neurological injury. Fainting occurs. Skin turns pale, nausea occurs, hands and feet get cold. Severe neurosis injury can result in death. Shock is generally of two types. Namely-

(1) Primary Shock: Primary shock is again of three types—

(a) Nervous Shock

(b) Haemorrhagic shock

(c) Toxic shock

(2) Secondary shock: When the above three types of primary shock are combined, the intensity of the shock is very strong. This type of shock is called secondary shock.

❑ **Treatment of Shock**

(1) The morale of the patient should be raised by giving him encouragement and courage.

(2) Clothes should be loosened. The patient should be placed with the head down and the legs slightly elevated. It should be noted whether body temperature is decreasing. If the temperature is decreasing then a blanket should be put.

(3) If the patient does not lose consciousness, something hot can be given like tea, coffee etc.

(4) If there is no head or abdominal injury, the head and shoulders may be elevated and reclined. If shock results from bleeding then nothing should be given to eat. .

(5) Anti Shock Solution (ASS) can be administered if required. A = Aqua(Water), S = Salt, S = Sodium bicarbonate (baking soda). A mixture made with 1 teaspoon of soda and salt as required in a glass of water is called ASS. In case of shock, if this mixture is fed, the patient recovers quickly.

(6) Patient to be sent to the nearest doctor or hospital as soon as possible.

8.3.7 Burning

When excessive heat or exposure to chemicals destroys the skin or deep tissue inside the body and causes scarring is called burning. Burns are generally of two types—

(1) Dry Burns: Burns caused by contact with fire or hot objects on the skin or tissue are called dry burns.

(2) Moist Burns: Burns caused by strong acids or alkalis on the skin or body tissues are called moist burns.

❑ **Treatment of Burning:**

(1) If there is a fire on the body, arrangements should be made to put out the fire quickly by covering the person with a blanket or a thick sheet. If necessary, the fire should be put out by rolling on the floor and covering the body with something.

(2) Do not move the burnt area excessively and do not attempt to remove the burnt clothing.

(3) If there is a neurological injury it should be remedied.

(4) In case of wet burns, the burnt parts should be washed with plenty of water. If necessary, submerge that part in water.

(5) In case of acid burns washing with alkali lotion and in alkali burns quick washing with lemon juice or vinegar, would not allow the injury to get deep.

(6) Arrangements should be made to send the patient to hospital as soon as possible.

8.3.8 Snake Bite

There are about 2000 species of snakes in the world, out of which 350 species are venomous and the rest are non-venomous. Venomous snakes like – Cobra, Chandrachur, Russell's Viper etc bite can lead to death. Snake bites are more dangerous than poisoning in most cases. People can die out of trauma. Usually, a snake bite causes severe pain and swelling at the bite site.

❑ Treatment of Snake Bite

(1) The patient should be given hope and courage.

(2) The patient should be moved as little as possible. So that the poison cannot be spread all over the body, a pair of bandages should be arranged above the bite site. Every 20 minutes this bandage should be loosened for 1 minute.

(3) The bite site should be washed thoroughly with carbolic soap or KMnO mixed with warm water.

(4) Keep the patient warm.

(5) In case of cessation of breathing, artificial respiration should be attempted.

(6) The only antidote for snake bite is antivenom serum to be injected as soon as possible, the patient should be sent to the doctor or hospital after the bite.

8.3.9 Drowning

The technique of floating on water by throwing arms and legs into deep water and dislodging the water by creating an upward force greater than body weight is called swimming. Those who don't know this technique are unable to float in deep water and drown in the water. As a result, death occurs due to cessation of breathing. During drowning, water enters the body, most of which accumulates in the stomach and a small amount of water also enters the lungs.

The accumulated water should be taken out from the body of a drowned person in a scientific manner after being pulled out of the water.

❑ First Aid of Drowning

(1) To drain the water from the stomach, the patient should lie supine so that the head is a little lower than the rest of the body.

(2) Remove wet clothes and put on dry clothes.

(3) Pressure on the stomach and chest forces most of the water out of the stomach through the mouth.

(4) To be laid on a blanket. Check if breathing is going on properly. To restore consciousness in case of unconsciousness necessary steps should be taken. Artificial respiration should be adopted.

(5) Treat shock in case of shock. If the body temperature drops too much, the patient may suffer from hypothermia. In that case, hands and feet should be warmed and the body temperature should be brought back to normal. If necessary, the patient should be kept in a warm room, and should be given warm milk or warm water.

(6) Arrangements should be made to take the drowned person to the nearest hospital as soon as possible if his condition gets better. Doctors should be consulted immediately because the accumulated water in the stomach can be removed by pressing the stomach, but water does not come out easily from the lungs, so there is a possibility of death.

8.3.10 Artificial Respiration

If the casualty or patient is about to stop breathing, the first aider should immediately administer artificial respiration. Two methods of artificial respiration are widely used.

- **Holger Nielsen Method**

(i) The injured person should be laid down on the stomach. One hand should be placed on the other under the victim's forehead and the head should be turned to any side while lying on a flat floor so that the air flow through the nose and mouth is not obstructed in any way.

(ii) The first aider should sit on the patient with one leg bent at the knee and the other leg resting on the heel. Now two palms of the first aider should be placed on the back of the patient. The first aider's fingers should be placed on the patient's ribs in such a way that the fingers are pointing towards the feet.

- Resting arms straight and firm, slowly lean forward so that the weight of the body goes downward through the hands. This kind of load transfer should be done for 2 seconds.
- The adjuster will then tilt backward and transfer pressure forward.
- Then the adjuster grasps the elbows of the patient and tries to lift the arms of the patient in such a way that it feels tight. But care should be taken that the patient's chest does not rise from the ground.

During the above three types of circulation the first aider will count the number in mind. In the first case 'one-two' i.e. two seconds, in the second case 'three' i.e. one second and in the third case 'four-five' i.e. two seconds and 'six' i.e. one second later the elbow should be placed on the ground again. That is, the patient will be in the previous state again. This process takes a total of six seconds. All the circulation process will be rhythmically ten times a minute and will continue until the breathing starts.

If there are signs of respiration, only the second circulation should be continued until respiration gets normal. Such a system of circulation is very effective for artificially initiating respiration.

❑ **Shapher Method**

(i) The injured person should be laid down on the stomach. One hand should be placed on the other under the victim's forehead and the head should be turned to any side while lying on a flat floor so that the air flow through the nose and mouth is not obstructed in any way.

(ii) The first aider shall, without bending the elbows, apply hand pressure to the patient with the lower back straight, the body leaning forward, in such a way that the patient's lower abdomen is in contact with the ground. An increase in intra-abdominal pressure will transfer pressure to the diaphragm, forcing air out of the lungs and causing the patient to exhale. This circulation should be done for 2 seconds.

(iii) After applying the pressure for 2 seconds the first aider should sit on the heel and release the pressure. Hold the position without pressure for three seconds. When the pressure is released, the lower abdomen and the diaphragm will return to normal, allowing air to enter the lungs.

(iv) If this process is continued slowly and rhythmically 12 times a minute for 5 minutes, the air enters and leaves the lungs and breathing will resume. This process should be stopped when breathing is normal.

If the patient stops breathing or is about to stop breathing, without wasting any time apply either of the above two methods as soon as possible to start artificial respiration. A first aider who is properly trained can easily master the techniques of artificial respiration. Learning two of these processes for a skilled first aider is very important.

8.3.11 Sports Injuries

In sports, an athlete faces various types of injuries. The most frequently occurring ones are—

❑ **Skin Injuries :**

(A) Contusion

It is a type of skin injury. In this case, blood clots in the skin due to injury. It can also be caused by intense friction.

Remedies:

(i) Ice water should be given.

(ii) Crepe bandage should be used.

(iii) After 24 hours cold and hot compression should be done.

(iv) Light massage with hand pressure can be given.

(v) Refer to a doctor if the injury is severe.

(B) Abrasion

Many times, if you fall in the field, the surface of the skin is scratched due to the strong friction of the skin with the field. Due to this, many of the capillaries get open. Blood starts falling off gradually if the wound is not deep. This kind of skin injury is called abrasion. This type of injury often happens in sports.

Remedies:

(i) Dettol or any disinfectant should be mixed with water and the wound should be cleaned and washed.

(ii) Blood should be stopped with cold ice water.

(iii) Apply antiseptic ointment and bandage with gauze.

(iv) If the injury is severe, the player should be sent to hospital.

(C) Laceration

A sharp object (conch shell) often cuts the surface of the skin which is called laceration.

Remedies :

(i) Clean the wound with disinfectant.

(ii) Bleeding should be stopped.

(iii) Apply ointment and bandage with gauze.

(iv) If the wound is deep, it should be referred to a doctor. Doctor can stitch if necessary.

(D) Blister

Accumulation of watery matter (fluid) causes pain under the skin due to friction from using hard shoes or holding a hard handle of a bat or racket for long periods of time. It is called a blister.

Remedies :

(i) Blisters should be incised with a sterile needle.

(ii) The wound should then be soaked in ice cold water.

(iii) Clean the wound with disinfectant.

(iv) Bandaging should be done.

(v) Seek medical advice as necessary.

❑ **Muscular Injury:**

(A) Muscle Pull

Without proper warm-up, muscles do not get ready for intense body movement. So if the body movement is accelerated suddenly, it can cause muscle strain, sometimes tearing muscle fibres. This muscle injury is called a muscle strain or muscle pool.

Remedies:

(i) Stop the movement of the injured limb so that the muscle is adequately rested.

(ii) Apply ice water to the affected area.

(iii) Gently massage the muscle.

(iv) Hot and cold compression should be given after one day.

(v) If the injury is severe, consult a doctor.

(B) Muscle Cramp

A sudden high-intensity contraction and expansion of a cold muscle causes a painful vibration in the muscle. It is called a muscle cramp. Excessive sweating during prolonged exercise or sports can also cause muscle spasms or cramps.

Remedies :

(i) Stretching of the spasmed muscle relieves it.

(ii) The muscle should be kept at rest.

(iii) Massaging the muscle leads to rapid recovery.

(iv) Medical advice should be sought if muscle spasms are severe.

(v) High salt water should be consumed.

(C) Muscle Strain

Stretching of muscles excessively that are not ready to perform high frequency contractions and extensions causes severe muscle tension and muscle sprains. This type of muscle injury is called a muscle sprain or strain.

Remedies :

(i) Contraction-extension of the strained muscle should be stopped completely so that the muscle gets adequate rest.

(ii) Ice-cold water or ice should be given.

(iii) After 24 hours repeated cold and hot water compression should be given.

(iv) If the injury is severe, consult a doctor.

(D) Muscle Rupture

When the twisting of the muscle is severe, some of the muscle fibres within the muscle are often torn. The result is intramuscular bleeding. The muscle swells abnormally and causes severe pain and soreness.

Remedy:

Remedy for this injury is like a muscle sprain. However, it is important to consult a doctor quickly.

❑ **Injuries to Bones and Joints**

(A) Sprain

This injury is often seen in players. In this case, there is extra tension on the ligaments. This results in injury and tearing of the adjacent musculature. This type of injury is caused by excessive tension. Joint pain begins. Excessive swelling and movement of the joint becomes difficult and inconvenient. The colour of the joint becomes slightly pale.

Remedies:

(i) Movement of the sprained area should be stopped completely.

(ii) Apply ice-cold water immediately after twist to prevent excessive swelling of the area.

(iii) Crepe bandage should be applied and tied tightly to the joint.

(iv) After 24 hours cold-hot beeprit should be cooked.

(v) Mixing MgSO, and glycerine in specific proportions to make a paste and applying it to the sprained area reduces the swelling and pain quickly.

(vi) X-Ray should be done and doctor's advice should be taken as necessary.

(B) Dislocation

Previously described.

(C) Fracture

Described earlier.

In addition to the above injuries in sports, there are many other types of injuries that an athlete can suffer.

Below is a list of all these injuries:

(1) Head injury- shock, haemorrhage, loss of sense etc.

(2) Facial injuries – haemorrhages, lacerations, broken teeth etc.

(3) Neck injuries – dislocations, fractures etc.

(4) Shoulder injuries— muscle strain, fracture, dislocation etc.

(5) Arm Injuries – Tennis Elbow (Lateral Epicondylitis)

Golfer's Elbow (Medial Epicondylitis)

Mallet Finger

Skier's Thumb

(6) Back injuries— slip disc, low-back pain, sciatica etc.

(7) Spondylitis, spondylosis, spinal cord injuries.

(4) Hamstring pull, quadriceps pull

(9) Calcaneus bursitis

8.3.13 Application of Ice

Most of the injuries in sports occur due to physical collisions or impacts or injuries caused by sports equipment. Ice is one of the most important and essential first aid measures for all these injuries. Ice is applied first to the injured area to treat almost all types of injuries. Application of ice reduces the temperature of the affected area thereby reducing the level of excess fluid accumulation in the injured area. As the swelling decreases, the injured part heals faster. So it can be said that ice acts as a great cure in the problem of injury in sports.

P.R.I.C.E

It is an acronym made up of the English words for the five basic processes of first aid. The processes are—

P = Prevention

R = Rest

I = Ice

C = Compress

E = Elevation of the injured limb

This is the method for any type of injury, whether it occurs on the field of play or in the course of daily life and very useful for primary treatment of all injuries. Nowadays 's' is added at the end which means s = Stabilization i,e to keep the injured part stable. So, the whole process is called PRICES.

8.4 Dressing and Bandage Skull, Collar Bone... etc.

8.4.1 Dressing

Covering a wound with a special type of sterile cloth to care for a wound or injury is called dressing. Reasons for using dressings are—

(i) dressing helps stop bleeding

(ii) dressing protects the site from re-injury

(iii) prevents contamination or virus/bacteria from entering the wound site.

(iv) Absorbing the liquids discharged from the wound like pus, blood, plasma etc. dressing keeps the wound dry resulting in faster wound healing.

8.4.2 Bandage

A specially prepared cloth used to bind a wound or a sprain or fracture or a swollen and injured area is called a bandage.

Bandages are again of different types, such as—roller bandage, triangular bandage, crepe bandage, tourniquet bandage, sling bandage.

❑ **Bandage of the Skull**

(i) The ground side of the triangular bandage should be slightly folded and placed on the forehead just above the eyebrows.

(ii) The top of the bandage should be pulled back over the head so that the top is close to the neck and the two edges should be taken back from two sides.

(iii) Both the ends should now be turned from the back and brought again in front of the forehead and knotted.

(iv) Now by gently pressing on the head, lift the top from behind and twist the two ends and tie them to the top, the whole head will be covered.

❑ **Sling:**

After bandaging the hand, the rope-like bandage used to hang the hand is called a sling. This is made from triangular or roller bandages.

(1) Collar & Calf Sling

Collar and cuff slings are used to hang the wrists. To use this sling, the elbow should be bent so that the fingers can touch the affected shoulder. Now bend the elbow like this and keep the hand close to the chest. Then a clove hitch should be given on the wrist. The ends of the bandage should be tied around the neck. Reef knots should be on the side of the collar.

(2) Arm Sling

Arm slings are used to comfortably hang the forearm. A triangular bandage should be placed over the healthy shoulder with one end encircling the back of the neck and brought over the injured shoulder and the other end should be draped over the front of the chest. Then place the forearm in the middle of the bandage and bring the top forward behind the elbow. Now tie the first end with the second end. The top should be folded up to the elbow and pinned to the upper arm bandage. Care should be taken to keep the fingernails open. Because the blood is circulating. You have to see the blood on the nails. Care should be taken to ensure that the tip of the arm does not hang after bandaging.

❑ **Roller Bandage**

This type of bandage is usually 3-4 inches wide. But the length is several feet. They are kept on a roll. That is why this is called roller bandage. After dressing with this bandage, the injured area is bandaged. Roller bandages usually have two parts, namely head and tail. The procedures of roller bandage are-

(i) The part to be bandaged should be well supported.

(ii) Keep the tail part of the roller bandage over the injured area and slowly roll the head part around. After the bandaging is done, the end should be closed with clips or leucoplast.

(iii) Thick cotton should be applied to the wound before starting the bandage.

(iv) The pressure during bandaging should be such that the bandage is firm i.e. it does not come off easily and the pressure is not such that the blood flow is obstructed.

❑ **Crepe Bandage**

This type of bandage is a special type of bandage made of thick cloth. This type of bandage is mainly used for knee pain or ankle and wrist sprain.

❑ **Tourniquet**

It is a 5-6 cm wide stiff padded bandage.

A tourniquet bandage is used when the artery is cut and blood comes out of it. This is also used to tie above the bite site of the snake to prevent the venom from spreading throughout the body. This type of bandage can also be tied with rope or rubber tube.

Place the tourniquet just above the wound and twist the tourniquet with a pencil or piece of wood. Stick the pencil or wooden stick to the binding when the binding is tight. After a few minutes loosen the binding and after normalising the blood circulation for a while, a similar bandage should be applied again above the previous one.

❑ **Splint**

In case of fracture, thin pieces of wood called splints are used to support the fracture. Splints are used to avoid uneven stress on the fracture site. Care should be taken while applying this bandage so as not to stop the blood flow. Sprints are usually used when the bone breaks into multiple pieces. Using sprints helps stabilise the bone and protects the fracture site from other stresses and injuries. Depending on the size of the bone, the sprint can be of different sizes, with long bones using larger sprints and short bones using smaller ones.

8.4.3 Annual Exhibition on Health & Hygiene

Annual exhibitions on health & hygiene may be organised in schools where various topics of health awareness can be represented through charts and models. Demonstrations can be done on how to take personal hygiene and cleanliness. That is, they can be informed about how to take care of eyes, ears, teeth, nails and skin. First Aid training can be provided at one of these exhibitions.

Students can be taught to determine their BMI, and each student's BMI is calculated based on their body weight-to-fat ratio.

❑ **Importance of Health and Hygiene Exhibition**

1. Increases health awareness.
2. Students get enthusiastic in protecting personal health.
3. Students can be given an idea about the spread and transmission of infectious diseases.
4. Students get active in the prevention of contagious diseases, thereby contagious diseases can be prevented.
5. Students are taught personal hygiene.
6. Students can be given an idea about environmental pollution, thereby awareness regarding prevention of environmental pollution among students and other members of the society is increased.
7. Students can be made aware of the need to form good habits.

8. Awareness can be given about the benefits of physical activity and exercise in disease prevention.
9. Students can be motivated in social service and other activities of kindness.

8.5 Summary

First aid education is a vital component of health education that empowers individuals with the knowledge and skills necessary to respond to medical emergencies and provide care until professional help arrives. Effective first aid education can help prevent injuries and illnesses, reduce the severity of emergencies, and promote timely and effective treatment.

8.6 Unit End Exercise

1. What is the primary goal of first aid education?
2. Write some key principles of first aid education?
3. What are the key components of a first aid kit?
4. Describe the steps to take when responding to a medical emergency.
5. Discuss the importance of first aid education in promoting community resilience and preparedness.

UNIT 9

Track and Field Events

9.1 Introduction

9.2 Objectives

9.3 Fundamental Skills of Running, Jumping, Throwing and Walking

9.4 Fundamental Skills of the Games (Any Three) Football, Volleyball, Cricket, Throw ball, Kabaddi, Kho Kho

9.5 Yoga

9.6 Recreational Games and Rhythmic Games

9.7 Summary

9.8 Unit End Exercise

9.1 Introduction

Track and field events are a cornerstone of athletic competition, requiring a unique blend of speed, strength, endurance, and technique. These events have been a staple of the Olympic Games and international competitions for centuries, with a rich history dating back to ancient civilizations. From the 100-meter dash to the marathon, and from the high jump to the javelin throw, track and field events offer a diverse range of challenges that test athletes' physical and mental limits.

Track and field events are not only a thrilling spectacle for spectators but also provide a platform for athletes to showcase their skills, dedication, and perseverance. These events promote physical fitness, coordination, and teamwork, while also fostering a sense of community and camaraderie among participants.

In this chapter, we will delve into the world of track and field events, exploring the various disciplines, techniques, and strategies involved. We will also know about fundamental skills for different games, yoga- its influence and benefits and different recreational games and rhythmic games.

9.2 Objectives

By the end of this chapter, students will be able to:

1. Define and explain the concept of track and field events.
2. Identify and describe the different types of track and field events.
3. Recognize the value of track and field events in promoting physical fitness, health, and well-being.
4. Understand the value of practicing Yoga.

9.3 Fundamental Skills of Running, Jumping, Throwing and Walking

- **Running, Walking, Jumping and Throwing related Style :**

Running- On Toes (with Touching Heel)

Walking- Heel, Ball and Toe-

The main difference between **walking and running** - any part of the heel, ball or toe will be in contact with the ground(surface) at certain times during walking. But in the case of running, at a certain time these two feet have to leave the ground for a certain time (off in surface).

The fundamental skills of running include Proper Foot Strike, Stride Length and Frequency, Posture and Alignment, Breathing and Relaxation, Pacing and Speed Control.

The fundamental skills of walking include Posture and Alignment, Foot Strike and Roll-Off, Stride Length and Cadence

The speed part of the run plays an important role in **jumping**. Though in spot jumping, this theory has no application. In that case, the swinging of the hand and flexing of the knee generate the speed into the body. Along with that the muscle power of the person plays an important role.

The fundamental skills of jumping include Approach and Takeoff, Knee Bend and Hip Explosion, Arm Swing and Body Positioning, Landing and Absorption, Flexibility and Mobility.

Throwing requires hand strength as well as the ability to use maximum power (explosion), which largely depends on the individual's level of athletic training. It is usually possible to combine strength and speed (Power = Strength × Speed) with advanced training. With that the skills of holding the apparatus correctly in shot-put, javelin etc are primarily an important condition.

The fundamental skills of throwing include Grip and Stance, Step and Transfer, Arm Swing and Release, Follow-Through and Balance, Core Strength and Stability.

9.4 Fundamental Skills of the Games (Any Three)

9.4.1 Football:

To play football, the techniques of ball passing and receiving should be primarily mastered. The techniques usually give a special dimension to sports skills. We generally say that he, who receives the ball correctly and passes the ball in time, is a good player. There are multiple techniques for receiving the ball like- inside receiving, chest trapping/receiving, thigh trapping, instep trapping, toe trapping etc; as well passing the ball have many techniques like- Push-Pass (Inside Pass), Instep Passing (very difficult to control), Chest Passing, Heading Pass etc. Apart from these there are High drive, low drive, Dribbling, Tracking, Throw-in, corner kick, penalty kick etc. To acquire all those techniques use of a certain drill is significant- with the ball and without the ball.

Drill can be divided into four stages:

(i) Approach / Approach Run→ will be always in the line of the ball

(ii) Stanee / Body position → very important thing

(iii) Execution→ hitting the ball with the right part

(iv) Follow through → in the final part it plays a very important role

- **Push-Pass (Passing the ball through the inside of the foot) :**

(i) Approach Run: Run two to three feet behind the ball and place the non-kicking foot next to the ball.

(ii) Stanee : The non-kicking foot should be placed next to the ball and knee flexed, eyes on the ball and upper body over the ball. Both hands should be next to the body. Kicking foot should be taken behind the body and the inner part of the foot should be opened and raised to the air.

(iii) Execution: In this part, the skill should be executed by bringing the kicking foot forward from behind and hitting the back of the ball. In this case, the straight line distance to whom the ball is delivered will depend on how fast the ball has to be hit.

(iv) Follow Through: When the execution is complete, the kicking foot should be kept pointing towards the direction to which the ball will be sent. Immediately look at the partner player.

- **Trapping/Receiving:**

Proper possession of the ball coming towards a player is called trapping. In this case an important point should be addressed from the beginning of learning. That is after receiving or trapping the ball should not stop (Dead Stop). After receiving the ball should be in motion and under control.

- **Dribbling:**

Dribbling is the act of rolling the ball or moving it forward on the ground with any part of the two feet. Through this, it is possible to easily fool the opposing players and move towards the goal. At this point remember to keep the ball under your control and use the technique

- **Tackling:**

It is a special technique by which a player can take the ball away from the opponent. Along with a very high level of physical ability, the player needs timing, courage and intelligence as well as a good understanding of aspects of the rules.

9.4.2 Volleyball

Playing volleyball is a combination of individual sportsmanship and, in some cases, team sportsmanship. This game is usually played by hand. The ball is light in terms of weight. The techniques of playing volleyball are:

(i) **Service:** Serving the ball

(ii) **Receiving/Passing/First Pass / Under-hand Pass:** Passing the ball

(iii) **Upper hand pass/ Set up:** Correctly and properly placing the ball to hit.

(iv) **Spiking:** Hitting the ball with power.

(v) **Blocking:** blocking the ball

(vi) **Defence /Fielding:** Preventing the ball from hitting the ground

(vii) **Drop Shot**

(i) **Service:** Service is of different types: (a) Under-hand Service (b) Tennis Service (c) Jump and Tennis Service (d) Round arm Service (e) Floating Service (f) Side arm Spin Service.

(ii) **Passing:** It is very important to set the pass correctly and send it to the other player.

(iii) **Upper hand pass / set up:** The ball is set up from the fore-header to a certain height of the net.

(iv) **Spiking:** Long/high Ball, Short Ball, Pole Play etc.

(v) **Blocking:** Single Block, Double Block

(vi) **Defence:** Short angle defence, Long angle defence, one-handed drive, Double handed drive etc.

9.4.3 Kabaddi:

Kabaddi is one of the oldest sports of our country. At first it was known as Ha-doo-doo. Later some additional regulations were added. There are two types of strategies in this game.

(i) **Attacking Technique:** Raid, Squat Leg thrust, Toe-Touch, Round Leg Kick, Side Kick, Aero-fly kick, Mule kick and use of lobby to touch any opponent player so that the umpires can be sure that one is out.

(ii) **Defensive Technique:** Single Chain, Double Chain, Thigh hold, Toe hold and turning, ankle hold etc. Usually 7 players take the field for the team. If there are 6 or 7 players on the field, any player from the opposing team gets bonus points if they cross the specified bonus line while raiding. A team gets 2 points as loan if they dismiss 7 of the opponents.

9.5 Yoga

According to Patanjali, Yoga is the concentration of mind with abstract meditation. That is, Yoga is the union of the soul with the supreme soul. Yoga is an ancient sports practice in India. Its primary purpose is to create control over the body. In ancient times sages used to pave the path of sadhana through yoga.

Generally, the types of yoga are explained according to different physical postures.

(i) **Meditation Posture :** Padmasana, Vajrasana, Pawan Muktasana

(ii) **Forward Bending Posture :** Paschimottanasana, Padahastasana

(iii) **Backward Bending Posture :** Dhanurasana, Bhujangasana

(iv) **Sideward Bending Posture :** Ardha Chandrasana

(v) **Standing Posture :** Vrikshasana

(vi) **Mixed Posture :** Surya Namaskar

(vii) **Relax above Posture :** Sabasana

Apart from this, Pranayama is one of the most popular yoga practices today. Cleaning of different parts of the body by Pranayama or purity of the organs or system is possible. Moreover, Kapalavati, Anulom-Bilom etc. are also significant.

Many times we notice Indian cricket players playing football or volleyball before an important match. This serves two purposes. It is possible to keep the level of physical ability while keeping the mental factors that work temporarily in the players such as pressure, fatigue, inattention etc.

Handkerchief theft, Dodge Ball, Zig Zag running etc.-Usually there is no special equipment needed to organise these games and anyone can participate as there are no specific rules and regulations.

❑ **Benefits of Yoga**

Yoga education offers numerous benefits for individuals of all ages and backgrounds. Some of the most significant advantages of incorporating yoga into one's educational journey include:

1. Improves flexibility and balance
2. Improves strength and muscle tone
3. Enhances physical fitness
4. Reduces stress and anxiety
5. Improves focus and concentration and memory
6. Enhances self-awareness
7. Increases sense of community and relationship
8. Develops teamwork and communication skills
9. Helps in better time management
10. Enhances creativity

❑ **Forward Roll:**

Feet should be placed shoulder width apart and both hands should be placed on the ground two feet in front of the feet and the fingers should be forward. Slowly lift the lower body up and tuck the chin into the chest. Both hands should be broken so that the neck and the back of the shoulders touch the ground; lift both feet from the ground and roll the body forward. Keep the feet on the ground and bring the weight of the body on the feet and stand upright while maintaining balance.

❑ **Backward Roll:**

Bend your knees and stand backwards in the direction you want to roll. Then sit in a squat position and keep both hands on the ground next to the body. Slowly keep the weight of the body backwards,

whenever the middle of the back touches the ground, the palms of both hands should be placed on the ground next to the ears. Wrapping up the body, roll back with pressure using the hands so that the feet touch the ground. Then you have to stand straight by maintaining the balance of the body.

❑ **Cart Wheel:**

Stand with left or right leg in front. Hands should be raised in front in parallel with the shoulders(palms will be towards the ground). Then keep the left or right shoulder at an angle from the waist to the upper body. After breaking the part, both the hands should be placed on the ground in a line one foot in front of the feet at a distance of shoulder distance, and immediately the knee of the front leg should be slightly broken and the legs should be pushed up and straightened. Get down on one leg and keep the other leg on the ground. Then push the ground hard with your hands and stand straight.

❑ **Hand Stand:**

Stand with left or right foot forward. Both hands should be kept straight above the head beside the ears. Palms will be facing forward. Break the upper body from the waist to the arms around the front legs. One foot should be kept in front. At the same time, breaking the knee of the front leg and pushing it hard on the ground, the body rests on the hand. Raise the body up and stand on the hands. Feet together, body straight and head slightly forward.

❑ **Arching or Bridge:**

Legs should be equally spaced between the two shoulders and the hands should be straightened next to the ears, keeping the palms facing forward, should be raised above the head. Slowly bend the upper part of the body backwards by breaking the waist while maintaining the balance of the body. Both the hands should touch the ground slowly and the fingers should be inwards. By pressing the ground with the hands, the body should be pushed up like a bridge and the whole feet should be planted on the ground. The head will be between the two legs.

9.6 Recreational Games and Rhythmic Games:

❑ **Recreational Games:**

Among the various physical activities, firstly if its purpose is physical development, the other side is enjoyment and pleasure. Participating in sports along with physical, mental, social and emotional development can develop a sense of discipline, cooperation, leadership ability, morale, self control, self realisation through which to face various social and emotional problems in the future. Sports that involve participating in competitive sports, training is provided in which the participating students are temporarily diverted from the main training through fun games. The main objective is to prevent depression, stress etc. among the students. (*Bn Page No 149)*

❑ **Rhythmic Games :**

As its primary component, it is called group rhythmic games. Where the harmonious development of students is possible apart from the presentation of sports. For example: Callisthenics (beauty exercises

with bare hands), lezim, wand, dumbbells, dance and bratachari etc. By participating in such rhythmic games, general and specific objectives are achieved among students.

The general objective is to develop neuro-muscular coordination among the students and the specific objective is to develop rhythmic habits among the participating students— to inculcate special qualities such as team spirit, followership quality, discipline etc. and to give opportunities to all students to participate. The main theory of which is based on the most important principles of physical education. Not to win but to take Part.

- **Sports Facilities in Schools:**

Most schools are equipped with standard-sized playing fields, which typically include a 400-meter athletic track. The 400-meter track consists of both straight and curved sections. Here's how the track is designed:

Straight Sections: The track includes two straight segments, each running for a portion of the total length.

Curved Sections: The track also features two curved segments, which complete the track's circuit.

Mathematically, the design of the track involves dividing the track into straight and curved sections. Specifically, 2/5 of the track's length is allocated to the straight sections, while the remaining 3/5 is dedicated to the curved sections. The following analysis explains how these sections combine to form a 400-meter track.

- **Ratio of a 400mtr Track**

Straight **:** Curved = 2 **:** 3

400mtr Track's Straight sections = (400x2) divided by 5 = 160 mts

400mtr Track's Curved sections = (400x3) divided by 5 = 240 mts

400mtr Track's Single Straight section = 160 divided by 2 = 80 mts

400mtr Track's Single Curved section = 240 divided by 2 = 120 mts

- **Calculation of the Radius of the Curved section:**

Track =2 x straight sections distance + 2 π r

For 400 meter track:

$400 = 2 \times 80 + 2\,\pi\, r$

or, $400 = 160 + 2 \times \frac{22}{7} \times R$

or, $400 = 160 + \frac{44R}{7}$

or, $\frac{44R}{7} = 400 - 160$

or, $R = \frac{7 \times 240}{44}$

or, R = 38.19 mts

Since no competitor runs over the line, the curve radius is reduced by 30 cm, meaning the curve radius for a 400-meter track (38.19 m - 30 cm) = 37.89 meters (if there is a raised border). The radius of the first lane's line will be = 37.89 m. The radius of the second lane's line (37.89 + 1.22) m = 39.11 m. If there is no raised border, the radius of the first lane will be (38.19 m - 20 cm) = 37.99 meters.

Now generally there are 8 lanes for a 400m track. So now if it is said how much space is required in Length and Breadth direction to build a 400 m track with 8 lanes, the calculation is given below:

Length = (½ × 160 m) + (2 × 37.89 m) + (2 × 8 × 1.22)

$= \frac{160}{2} + 75.78 + 19.52$

$= 80 + 95.30$

$= 175.30$ m

Breadth = 175.30 m – 80 m

= 95.30m

Marks will be placed at specific points at the start and finish of the track.

To ensure that competitors in different lanes run the same distance, competitors in lanes 2 to 4 need to start ahead in sequence. This distance is called the staggered distance. In a 400-meter track, when two semi-circles are crossed, a full stagger is applied, and when one semi-circle is crossed, a half stagger is applied.

There are two types of stagger.

Rules for calculating stagger distance:

$2\pi\{w(n-1) - .10\}$

$= 2\pi \{1.22 (1-1) - .10\}$

$= 2 \times \frac{22}{7} \{(1.22 \times 0) - .10\}$

$= \frac{44}{7} \times 0$

= 0 (First Lane Stagger distance)

[Here ı

$\pi = \frac{22}{7}$

w = Width of the lane = 1.22 mtr

n = Lane number [1.....8]

For 2nd Lane :

$2\pi\{w(n-1) - .10\}$

$= 2 \times \frac{22}{7} \{1.22 (2-1) - .10\}$

$= \frac{44}{7} \times \{(1.22 - .10\}$

$= \frac{44}{7} \times 1.12$

$= 44 \times .16 = 7.04$ mtr

Following formula is used for each Changing Zone Marking of Relay Race(in case of 400 m track)

$$\text{1st Zone} : \frac{TCD - DCPR}{TCD} \times \text{Full Stagger (2nd Lane)}$$

$$= \frac{240 - 100}{240} \times 7.04$$

$$= \frac{7}{12}\frac{140}{240} \times 7.04$$

$$= 4.10 \text{ mtr.}$$

$$\text{2nd Zone} : \frac{TCD - DCPR}{TCD} \times \text{Full Stagger}$$

TCP = 240 mtr

DCPR = 120 mtr

$$\text{3rd Zone} : \frac{TCD - DCPR}{TCD} \times \text{Full Stagger}$$

TCD = 240 mtr

DCPR = 220 mtr

9.7 Summary

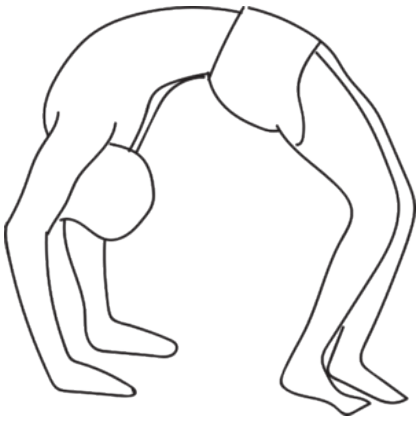
This unit explored the fundamentals of track and field events and yoga, highlighting their importance in promoting physical fitness, athletic development, and overall well-being. Throughout the unit, the importance of incorporating physical activity and mindfulness practices into daily life was emphasized. By combining track and field events with yoga, individuals can develop a well-rounded approach to physical fitness, athletic development, and overall well-being.

9.8 Unit End Exercise

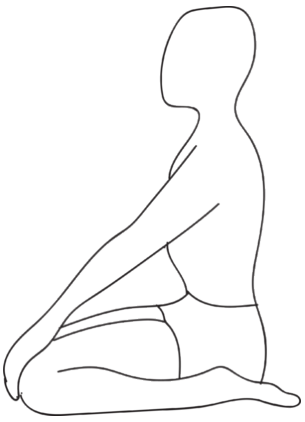
1. Write down the fundamental skills of Running, Walking, Jumping and Throwing.
2. What is Dribbling?
3. Describe the Cart Wheel Gymnastics.
4. Write down the benefits of Yoga.
5. Try and practice the yoga postures given in the next pages.

Various Yoga Posture

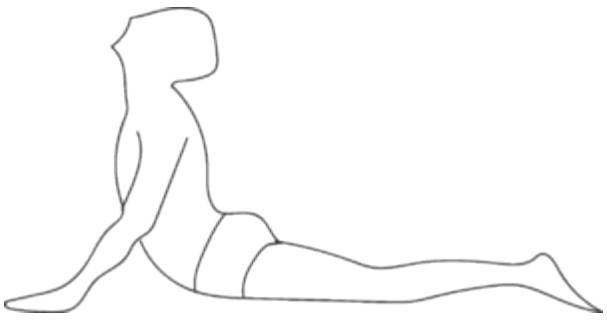
Padmasana



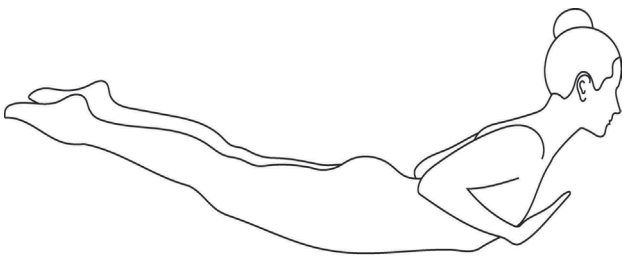
Chakrasana



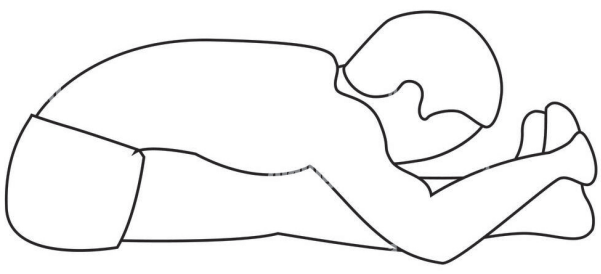
Vajrasana



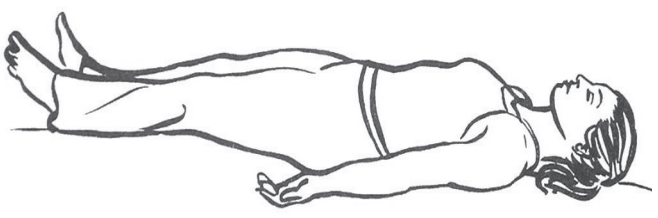
Bhujangasanaa



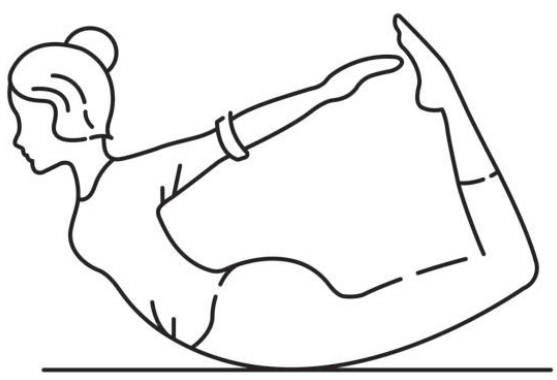
Salvasana



Paschimatyasana

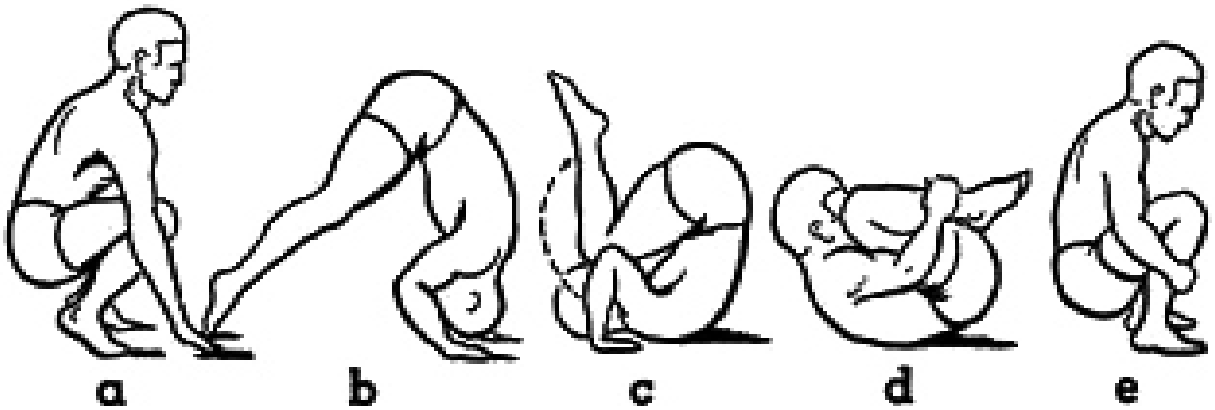


Savasana

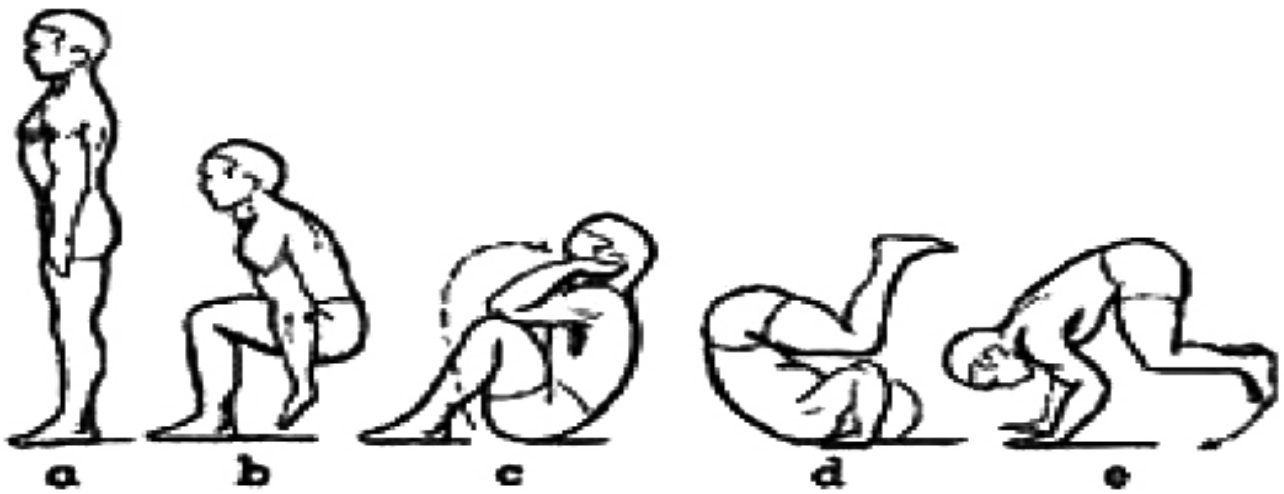


Dhanurasana

Halasana



Forward Roll



Backward Roll

Cart Wheel

* Image Source : Internet

UNIT 10

Project Work

(1) Classify different types of infectious diseases and write their remedies.

(2) Make a chart about the problem of germs in the body of the people living in the surrounding area near the school.

Where does he work	What causes the disease?	What is the problem	What is the solution
1. Asbestos factory	Asbestos	Lung problems	Seek medical advice

(3) Explain the mathematical form of measuring a track of 400 mt.

(4) Social Service around the locality of the institution pertaining to health, visit to the to Surrounding of the locality with students :

Survey and educational campaign on what carelessness and unhygienic habits are responsible for the risk of various diseases

Disease	Cause	Which unhygienic practice is responsbile	Remedy
1. Hepatitis	Viral transmission in drinking water	Drinking contaminated water	Drinking water after boiling

(5) Debate & Discussion: To arrange a special question and answer session at the end of the meeting with experienced and established experts on various topics such as health practice, medicine, social service etc. during the free time of school students.

For example:

(i) Role of exercise in physical fitness

(ii) Importance of blood donation-social significance

(iii) Importance of NSS / NCC in national service

(iv) Effect or importance of physical education or NCC in army or police service

(6) Practical :

(a) Group Activity : Calisthenics, Dumbbell, Wand, Marching, Ribbon drill, Lezim etc.

(b) Project Activities : Survey related to physical education management in different schools (Boys/ Girls) of the city.

(i) Playground – Area – Drawing with—

(ii) Football – Cricket – Volleyball, Kabaddi, Kho-Kho etc

(iii) Inter-school (block/district level) position of schools in various sports

(iv) In Secondary Examination – Number of students taking Physical Education as optional

(7) Performance

(i) Participation in block or district wise games (Event wise)

(ii) Number of students represented in the district team

(iii) State level representation

(iv) Participation in national level competition (school based) and participation in Open merit

(vi) Number of students receiving Government aid – from State or Central Government.

NOTES

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