

SUMMER HOLIDAYS HOMEWORK

Session 2025-26

Class -11th

Subject – Hindustani Music

1. Write about the classification of musical instruments.
2. Name at least 5 instruments in each category with pictures in notebook.

Note: It's about all instruments (Indian Classical, Western, Folk).

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Subject – Physical Education

1. Fitness Test Administration (SAI Khelo India Fitness Test)
2. Any one game of your choice recognized by IOA. Labelled diagram of Field & Equipment. Also, mention its Rules, Terminologies & Skills.

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Subject – English

PROJECT BASED

1. Highlight the plight of oppressed Gender– inequality, injustice, deprivation, agony, pain faced by them (Infographics / Data).
2. Watch the 'The Story of Plastic' it is a searing expose. Make a project on "Plastic Menace"
 - Uncover the ugly truth behind plastic pollution
 - Environmental damage created by plastic
 - Human Rights abused that occur throughout the lifecycle of plastic
 - False solution of plastic recycling.

Note : Work to be presented in file

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Subject – Mathematics

- 1) Define the following functions with their domain and range. Also represent them graphically :
 - a) Modulus function
 - b) Greatest integer function
 - c) Exponential function
 - d) Log function
 - e) Polynomial function
- 2) A and B are two sets such that $n(A - B) = 14 + x$, $n(B - A) = 3x$ and $n(A \cap B) = x$. Draw a venn diagram to illustrate this information. If $n(A) = n(B)$, then find
 - a) the value of x
 - b) $n(A \cup B)$.

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Subject – Paintings

PAINTINGS ON ANY 3 TOPICS

1. Composition
2. Landscape
3. Still life
4. Madhubani
5. Geometric pattern
6. Nature study

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Subject – Geography

1. Natural hazards and disaster
Roll No. (1 ,2, 3, 4 ,5 ,6 ,8 ,9, 10, 12 ,13)
2. World climate and climate change
Roll No. (13, 15 ,21 ,22, 25, 26, 29, 30, 31, 33, 34)

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Subject – Physics

Chapters Covered:

Chapter 1: **Units and Measurements**

Chapter 2: **Motion in a Straight Line**

Chapter 1: Units and Measurements

1. Define dimensional analysis.

Use this method to derive the formula for the **time period of a simple pendulum**.

Also, explain **two limitations** of dimensional analysis.

2. The density of a material is measured to be 8.237 g/cm^3 .

(a) Convert this value into **SI units**.

(b) Express the result using the **correct number of significant figures**, explaining each step.

3. Show that the expression $\frac{1}{2}mv^2$ is dimensionally consistent for kinetic energy.

If a body has a **mass of 5 kg** and a **kinetic energy of 150 J**, calculate its **velocity**.

Justify your units using dimensional analysis.

4. Draw a mind map that illustrates the key applications of dimensional analysis, such as checking the correctness of equations, converting units, and deriving relationships between quantities.

5. Create a mind map that connects the concepts of:

- **Significant figures**
- **Rounding-off rules**
- **Rules for arithmetic operations involving measured values**

◆ Chapter 2: Motion in a Straight Line

1. A particle moves along a straight line with acceleration $a(t)=6t-2t^2 \text{ m/s}^2$.

If the **initial velocity** is 2 m/s and **initial position** is 0 m at $t=0$:

- Find the expressions for **velocity** and **displacement** as functions of time.
- Determine the time at which the particle **comes to rest**.

2. Derive all three equations of motion using calculus.

Clearly state the **assumptions** made during the derivation.

3. A car starts from rest and accelerates uniformly at **4 m/s²** for **10 seconds**, then moves at **constant speed** for **20 seconds**, and finally **decelerates uniformly** to rest in **5 seconds**.

- Plot the **velocity-time graph**.
- Calculate the **total distance covered** during the entire motion.

4. Two trains A and B start from the same station on parallel tracks.

- Train A accelerates uniformly at **0.4 m/s²** and reaches a speed of **72 km/h**.
- Train B starts **1 minute later** with a uniform acceleration of **0.6 m/s²**.

Find the time at which **both trains have the same velocity**.

5. A ball is dropped from the top of a building **80 m high**, while **another ball is projected vertically upward** from the ground with a **velocity of 40 m/s** at the same instant.

Calculate:

- The **time** when the two balls meet
- The **height** above the ground where they meet
(Take $g=10 \text{ m/s}^2$)

6. **Design a mind map** that integrates the following graphical concepts:

- **Position-time graph**
- **Velocity-time graph**
- **Acceleration-time graph**

Use the mind map to explain the **motion of a body under varying acceleration**.

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Subject – Artificial Intelligence

Prepare a 2-3 page report on how AI is being used in any 2 sectors in Gujarat and Jammu and Kashmir.

- AI in wildlife conservation in Gir National Park and Dacchigam National Park.
- AI in agriculture, irrigation in Kutch and R.S.Pura.
- Robotics in textile industries of Surat and Samba.
- AI in medical diagnostics in Ahmedabad and Jammu and Kashmir.

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Subject – History

General Instructions:

1. Read all instructions carefully before beginning your work.
2. Holiday homework should be done neatly and systematically on A4 size sheets.
3. Use proper headings, subheadings, and bullet points wherever necessary.
4. Include relevant maps, timelines, pictures, or diagrams where appropriate.

1. COMPARATIVELY TABLES

Create a table comparing Roman and Mesopotamian societies on the following parameters:

Political Structure

Economy

Urbanization

Army

Role of Slavery

2. RESEARCH WORK

Create a pictorial timeline showing the evolution of writing in Mesopotamia.

Include at least 5 major stages with short descriptions

3. INTERDISCIPLINARY (HISTORY + ART) activity.

Design a Roman mosaic or floor pattern that might be seen in a Roman villa.

Explain the symbols and materials used.

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Subject – Psychology

- Q1. Write about any five psychologists with their picture (refer to chapter-1) and their contributions in the field of psychology.
- Q2. Write in 50-60 words analyzing the role of psychology in a particular social issue (eg-mental health, crime prevention).
- Q3. Explain the historical development of psychology, highlighting key figures and schools of thought.
- Q4. Analyze the role of psychology in understanding and addressing social problems.
- Q5. How can the principles of psychology be applied to everyday life and personal development?

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Subject – Biology

INVESTIGATORY PROJECTS

1. Prepare a Herbarium of 5 Monocot and 5 Dicot Plants.
2. Mention their Botanical Names, Local / Vernacular Names, Families of the plants they belong.

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Subject – Sociology

1. Social media & its impact on relationships.
2. Education's role in social stratification.
3. Role of education in social mobility.
4. Exploring gender stereotypes in modern society.
5. Digital eras impact on identity.

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Subject – Entrepreneurship

1. Conduct a case-study of any entrepreneur in your nearby area.
2. Visit any business firm in your locality; interact with the owner of the business firm and prepare a field report like -type of business, scale of operation, product and services dealing in, target customer, problem faced and measures to solve the challenges.

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Subject – Chemistry

- Q1. Explain the concept of molarity, molality, normality, and mole fraction.**
Provide formulas and numerical examples for each.
- Q2. State and explain Hund's rule, Pauli's exclusion principle, and Aufbau principle** with examples. Illustrate how electronic configurations are built up for elements up to atomic number 30.
- Q3.** Using de Broglie's hypothesis, derive the relationship between wavelength and momentum of a particle. Also, explain its significance in atomic structure.
- Q4. Calculate the empirical and molecular formula** of a compound containing 40% carbon, 6.7% hydrogen, and 53.3% oxygen. The molar mass of the compound is 180 g/mol.
- Q5. Define and explain the law of multiple proportions and law of definite proportions** with suitable examples.

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Subject – Economics

Write the following question- answers on your Micro notebook. Also learn and revise these.

- Q1. Define Production Possibility Curve. Explain why it is downward sloping from left to right.
- Q2. What is meant by expansion in demand? Explain it with the help of a schedule and a diagram.
- Q3. Explain law of demand with the help of a demand schedule.
- Q4. The initial demand for a commodity is 80 units, the demand falls by 4 units due to rise in price by Rs.10. If price elasticity of demand is 1.5, calculate the price before change in demand.
- Q5. When the price of a commodity falls by Rs. 2 per unit, its quantity demanded increases by 10 units. Its price elasticity of demand is -1. Calculate its quantity demanded at the price before change which was Rs.10 per unit.

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Subject – Accounts

- Project on vouchers and receipts

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Subject – Business Studies

- Case study based project on sole proprietorship

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Subject – Political Science

Project work

Topics:

1. Indian constitution and it's philosophy.
2. Rights in the Indian constitution.

First seventeen students will make project on first topic and rest of the seventeen students will make project on second topic.