D.A.V. PUBLIC SCHOOL, SASARAM

H.A. & P.W. FOR DEEPAWALI & CHHATH VACATION

CLASS – IX | SESSION: 2026–27

MATHEMATICS

Q1. Proposition (Logic / Geometry)

Statement: If a triangle is equilateral, then it is equiangular.

(a) Write the converse of the given statement.

(b) Is the converse true? Justify your answer with a brief explanation.

Answer:

_____

Q2. Proposition (Number Theory)

Statement: If n is an even integer, then n^2 is even.

(a) Write the converse of the given statement.

(b) Is the converse true? Give an example to justify your answer.

Q3. Combined Average

The average marks of 30 boys in a class is 80. The average marks of 20 girls in the same class is 90. Find the combined average marks of the whole class (30 boys + 20 girls).

Q4. Average – Transfer Problem

The average salary of 50 workers in a factory is ₹25,000. The average salary of 30 workers in another section is ₹30,000. Now, 5 workers are transferred from the 30-worker section to the 50-worker section. Calculate:

(i) The new average salary of the 50-worker section after 5 workers are transferred in.

(ii) The new average salary of the 30-worker section after 5 workers are transferred out.

PROJECT WORK – INFOGRAPHIC ACTIVITY

Topic: "Real-Life Use of Average (Mean) During Puja Festival"

Infographic Instructions:

- Create an infographic poster on an A4-size sheet on the topic given above.
- Include a suitable title and heading with visuals.
- Collect and show example data, such as average expenditure on sweets, decorations, clothes or donations during Diwali for 5 households (you may use hypothetical data in a small table).
- Calculate and display the average (mean) expenditure using the data.
- Represent the data using a simple bar graph or pie chart (draw neatly).
- Write 3–4 lines on how average is useful in planning a Diwali budget.
- Use neat diagrams, labels and colours. Keep it informative and creative.
- Submit the infographic on a separate A4 sheet along with this worksheet.

SCIENCE

PHYSICS

Q1. Give reasons for the following:

(a) A gunman gets a jerk in the backward direction while firing a gun.

(b) A bullet fired at a glass window makes a fine hole in it, while a stone smashes the glass when it hits it.

CHEMISTRY

Q2. (i) Consider the following chemical reaction:

$$CH_3COOH + NaHCO_3 \rightarrow CH_3COONa + CO_2 + H_2O$$

8.4 g of $NaHCO_3$ was treated with 6.0 g of CH_3COOH. The residue was found to weigh 10.0 g. Determine the mass of carbon dioxide that escaped in the reaction.

(ii) In ammonia, nitrogen and hydrogen are always present in the ratio 14 : 3 by mass. State the law which explains the above statement.

(iii) During the formation of ammonia, what mass of hydrogen gas would be required to react completely with 42 g of nitrogen gas?

BIOLOGY

Q3. An organism breaks into several pieces, and each piece develops into a complete organism.

(a) Identify the mode of reproduction.

(b) Give one example.

(c) Is it sexual or asexual reproduction?

SOCIAL SCIENCE

GEOGRAPHY

Q1. Write short notes on marine resources and their significance.

POLITICAL SCIENCE

Q2. Do you think students can contribute to "good governance"? Write a short note on five ways in which students can become responsible and active.

HISTORY

Q3. During colonial rule, many communities resisted British policies that threatened their traditional rights, customs and livelihoods. Despite facing strict laws and punishments, they continued to protect their culture and way of life. Explain this statement with suitable examples.

ECONOMICS

Q4. What is income? What are its sources?

विषय – संस्कृत

1. **वर्णानाम् उच्चारणस्थानं चित्रेण सह लिखत।**

2. **पर्यावरणसंरक्षणम् विषये दश वाक्यानि लिखत।**

3. **दीपावलीपर्वस्य सुन्दरं चित्रं निर्माय संस्कृतेन पञ्च वाक्यानि लिखत।**

हिन्दी

1. (P.W.) **चार्ट पेपर पर झाँसी की रानी का चित्र बनाकर या चिपकाकर उनका जीवन-परिचय लिखिए।**

2. (H.A.) **लता जी के जीवन में संगीत का क्या महत्व था**?

3. (H.A.) **'घर की याद' कविता में कवि ने सावन का वर्णन कैसे किया है**?

ENGLISH (KAVERI)

A. HOME ASSIGNMENT (H.A.)

Answer the following questions in your English notebook.

Q1. The Carrier of Words: Describe the importance of communication and the role played by the carrier of words in the chapter.

Q2. Twin Melodies: Explain the central idea of the chapter "Twin Melodies". How does the chapter highlight the beauty of music and harmony?

B. PROJECT WORK (P.W.)

Topic: "The Power of Words and Music"

Prepare a creative project based on the following points:

- Collect five inspiring quotations about the importance of words and communication.
- Write a short paragraph (100–120 words) on how music connects people beyond language barriers.
- Decorate your project with suitable pictures, illustrations or drawings.

Instructions:

- Complete the work neatly and creatively.
- Use A4 sheets or a small project file.
- Submit the assignment after the Diwali break.

ARTIFICIAL INTELLIGENCE

Q1. What are the different types of businesses?

Q2. Write any five qualities of an entrepreneur.

Q3. Identify a renowned entrepreneur, such as Bill Gates or Elon Musk, and write a brief life story about him/her on chart paper.