

MPSPN – CLASS X

HOLIDAY HOMEWORK (Session 2026-27)

“Learn, Create and Enjoy Your Holidays!”

★ General Instructions

- ✓ Do all work neatly in the respective notebooks/files (as per instructed by the subject teacher)
- ✓ Use colours, borders, and pictures wherever required.
- ✓ Maintain neatness and creativity in your work.
- ✓ Complete the homework before school reopens.

📖 ENGLISH

1. Create and compile a Portfolio in a separate file using A4 size sheets, organising it in the following sequence:
 - Index: Provide a clear, tabulated list of all contents included in the portfolio.
 - Student Profile: State your full name, class, roll number, school details, weakness and strength.
 - Statement of Purpose: Write a brief introductory note (approx. 50–80 words) outlining the learning objectives of this portfolio and how it demonstrates your linguistic progress.
 - Assignment 1: Write a detailed analysis of Leslie Norris’s poem, ‘A Tiger in the Zoo.’ Focus on the contrast between natural habitat and captivity, and highlight at least three poetic devices used.
 - Assignment 2: Transform the prose ‘A Letter to God’ into a four-panel comic strip of 4 pages. Your panels must chronologically represent the story.
 - Assignment 3: You are Rahul/Rina, the Sports In-charge of New Era Public School, Delhi. You placed an order for sports equipment from M/s Pioneer Sports, Meerut. Upon delivery, you found that several items were defective and of poor quality. Write a letter of complaint to the Sales Manager asking for an immediate replacement or refund.

📖 हिन्दी

1. देश की स्वतंत्रता से जुड़े महापुरुषों के जीवन पर आधारित रचनात्मक प्रोजेक्ट। यह कार्य A4 साइज के पृष्ठों पर करना है।
2. अपनी रचनात्मकता व कलात्मकता का उपयोग करते हुए सूरदास के पदर नेताजी का चश्मा पाठों व वाच्य प्रकरण पर माइंड मैप तैयार करना। यह कार्य A3 साइज के पृष्ठों पर करना है।

📖 संस्कृत

1. किन्हीं पाँच चित्रों को अपनी उत्तर पुस्तिका में चिपकाकर उनका पाँच पाँच वाक्यों में संस्कृत में वर्णन कीजिए।
2. औपचारिक व अनौपचारिक पत्रों में से कोई पाँच पत्र संस्कृत में अपनी उत्तर पुस्तिका में लिखें।

FRENCH

1. Écrivez un Poème sur 'Ma Mère'.
2. Écrivez un essai sur 'Mes loisirs et mes sports '(On A4 size sheet)

SCIENCE

1. Do practical no.1 of each subject (Physics , Chemistry and Biology) in the lab manual provided by the school [**For all sections**] .
2. **PROJECT WORK: (FOR CLASS 10 A1 & 10 A2)**
Prepare Project Report under the headings viz. AIM, APPARATUS REQUIRED, THEORY, DIAGRAM, OBSERVATION TABLE, RESULT, PRECAUTIONS AND SOURCES OF ERROR on any two of the following-
 - Reflection of Light by Plane Mirror
 - Image Formation by Concave and Convex Mirrors.
 - Refraction of Light Through Glass Slab.
 - Verification of ohm's law.

PROJECT WORK: (FOR CLASS 10 A3 & 10 A4)

- Prepare a Chemistry project on “Water Purification Methods” including introduction, different purification methods (sedimentation, filtration, boiling, chlorination, RO, etc.). Compare these methods on the basis of cost, effectiveness, and suitability, and identify the most suitable method with proper justification.
- The project should be neat, well-labeled, and submitted in proper file format with cover page, index, diagrams, conclusion, and bibliography.

PROJECT WORK: (FOR CLASS 10 5, 10 A6 & 10 A7)

- Prepare an interactive and Comic strip/ storyboard//Foldable booklet / flash cards on “Life Processes” that helps in understanding how living organisms perform essential functions such as nutrition, respiration, transportation and excretion. (Choose any two systems of your choice)

SOCIAL SCIENCE

Prepare a project on the Consumer Rights as per CBSE guidelines to develop competency and life skills including following sub topics in it.

- Introduction & Objectives
- Who is a consumer?
- Consumer Protection and common problems faced by consumer in a market place
- Consumer movement in India
- Consumer Protection Act, 1986
- Quasi Judicial system
- Consumer rights
- Learning to become a well informed consumer

- Responsibility of a consumer
- Quality standard marks
- Conclusion

Instructions:

- * **The project should not exceed 12 pages.**
- * **Work must be neat and well-presented.**
- * **Staple the pages properly.**
- * **No file cover is required.**
- * **Please follow the guidelines carefully.**

+ MATHS

1. **Complete the Activities 1,2,3 in math lab manual as guided in class.**
2. **Solve the following questions in Maths Homework copy.**

Real Number

1. Find the LCM of 96 and 360 by using the fundamental theorem of arithmetic.
2. Find the largest number that will divide 398, 436 and 542 leaving remainders 7, 11, and 15 respectively.
3. If the HCF of 408 and 1032 is expressible in the form $1032 \times 2 + 408 \times p$, then find the value of p .
4. Prove that $2 + 3\sqrt{5}$ is an irrational number given that $\sqrt{5}$ is an irrational number .
5. Prove that $\sqrt{11}$ is an irrational number.
6. HCF and LCM of two numbers is 9 and 459 respectively. If one of the numbers is 27, find the other number.
7. Explain why $(17 \times 5 \times 11 \times 3 \times 2 + 2 \times 11)$ is a composite number?
8. Check whether 4^n can end with the digit 0 for any natural number n .
9. Can two numbers have 15 as their HCF and 175 as their LCM? Give reasons.
10. Three bells toll at intervals of 9, 12, 15 minutes respectively. If they start tolling together, after what time will they next toll together?
11. Two tankers contain 850 liters and 680 liters of petrol. Find the maximum capacity of a container which can measure the petrol of each tanker in the exact number of times
12. The length, breadth, and height of a room are 8 m 50 cm, 6 m 25 cm and 4 m 75 cm respectively. Find the length of the longest rod that can measure the dimensions of the room exactly.
13. Dudhnath has two vessels containing 720 ml and 405 ml of milk respectively. Milk from these containers is poured into glasses of equal capacity to their brim. Find the minimum number of glasses that can be filled.
14. Amita, Sneha, and Raghav start preparing cards for all persons of an old age home. In order to complete one card, they take 10, 16 and 20 minutes respectively. If all of them started together, after what time will they start preparing a new card together?

Polynomials

15. If the sum of zeroes of the quadratic polynomial $3x^2 - kx + 6$ is 3, then find the value of k .
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17. If the sum of the zeroes of the polynomial $p(x) = (k^2 - 14)x^2 - 2x - 12$ is 1, then find the value of k .
18. Form a quadratic polynomial whose zeroes are $3 + \sqrt{2}$ and $3 - \sqrt{2}$.
19. Find a quadratic polynomial, the sum and product of whose zeroes are $\sqrt{3}$ and $1/\sqrt{3}$ respectively
20. Find the zeroes of the quadratic polynomial $\sqrt{3}x^2 - 8x + 4\sqrt{3}$.
21. If the zeroes of the polynomial $x^2 + px + q$ are double in value to the zeroes of $2x^2 - 5x - 3$, find the value of p and q .

22. Find the zeroes of the quadratic polynomial $3x^2 - 75$ and verify the relationship between the zeroes and the coefficients.
23. If α and β are the zeroes of the polynomial $6y^2 - 7y + 2$, find a quadratic polynomial whose zeroes are $1/\alpha$ and $1/\beta$
24. If α and β are zeroes of $p(x) = kx^2 + 4x + 4$, such that $\alpha^2 + \beta^2 = 24$, find k .
25. If α and β are the zeroes of the polynomial $p(x) = 2x^2 + 5x + k$, satisfying the relation, $\alpha^2 + \beta^2 + \alpha\beta = 21/4$ then find the value of k .

Linear Equations in Two Variables

26. The rectangular garden has a perimeter, and half of it measures 36 m. If the length is 4 m greater than the width, determine the dimensions of the garden.
27. How many solutions does the pair of equations $y = 0$ and $y = -5$ have?
28. If $ax + by = a^2 - b^2$ and $bx + ay = 0$, find the value of $(x + y)$.
29. For what value of k , the pair of equations $4x - 3y = 9$, $2x + ky = 11$ has no solution?
30. Calculate the area bounded by the line $x + y = 10$ and both the co-ordinate axes.
31. Solve the following pair of linear equations for x and y :

$$141x + 93y = 189; \quad 93x + 141y = 45$$

32. man earns ₹600 per month more than his wife. One-tenth of the man's salary and $1/6$ th of the wife's salary amount to ₹1,500, which is saved every month. Find their incomes.
33. The sum of the digits of a two digit number is 8 and the difference between the number and that formed by reversing the digits is 18. Find the number.
34. The age of the father is twice the sum of the ages of his 2 children. After 20 years, his age will be equal to the sum of the ages of his children. Find the age of the father.
35. A two digit number is seven times the sum of its digits. The number formed by reversing the digits is 18 less than the given number. Find the given number.

ARTIFICIAL INTELLIGENCE

Create a Portfolio as a part of your Practical Assessment as given below-

Part A : Take any one topic as given below and prepare a descriptive report on it-

- A. Methods of Communication
- B. Types of Verbal Communication
- C. Types of Non-verbal Communication
- D. Visual Communication and its examples
- E. 7Cs of Communication and Barriers to Effective Communication
- F. Techniques of Self Management
- G. SMART method to set goals
- H. Time Management and its four steps to manage
- I. Basic Tips to take care of Computer Devices
- J. Qualities and Functions of an Entrepreneur
- K. Sustainable Development Goals

2. Part B : Take any two topics given below and prepare a descriptive report on it -

- (a) Revisiting AI Project Cycle
- (b) The three domains of AI and their applications.
- (c) Frameworks, Ethical Framework and need of Ethical Frameworks for AI.
- (d) Types of Ethical Frameworks.
- (e) Bioethics and a case study in bioethics.
- (f) Differentiate between AI, ML, and DL
- (g) Types of AI Models: Rule Based Approach, Learning Based Approach
- (h) Categories of Machine learning based models: Supervised Learning, Unsupervised Learning and Reinforcement Learning, Subcategories of Supervised Learning Model: Classification Model, Regression Model, Subcategories of Unsupervised Learning Model: Clustering, Association, Subcategories of Deep Learning: Artificial Neural networks (ANN), Convolutional Neural Network (CNN)

Note :-

- **Use A4 size colorful lining sheets .**
- **Use pictures or paper cuttings wherever applicable.**
- **Any one update in the field of AI also be included.**
- **A Front Cover, Certificate and Learning Outcome is also to be enclosed.**
- **Use a stick file to submit all these papers together.**