



# DELHI PUBLIC SCHOOL GWALIOR

UNDER THE AEGIS OF  
THE DELHI PUBLIC SCHOOL SOCIETY, NEW DELHI



# Holiday Assignment

## Class - XI

### Session (2026-27)



## **Dear Parents**

**Greetings of the day!**

**Vacations are the best time to relax and enjoy. Summer vacations are the reason behind fun in the sun, beach and shadow of the umbrella, but it is also the time to keep some analogy of academics alive in the fun to chisel the inherent potential inside your child. My suggestion to you is to spend these holidays being sociable and be vibrant in undertaking your plans so that the vacation is made purposeful.**

**To begin with, enhance every precious moment prudently by motivating your child to read informative and enlightening books. Help them improve their speech by conversing with them on every possible occasion and strop their vocabulary by providing them with new words. Spend substantial time visiting your kith and kin and people in your vicinity. Hold parley with your child on daily happenings and crucial world events as this is the best time to update, put forth your thoughts, notions and ideas before your ward and ask for an opinion, be a constant supporter of tolerance and disseminate it amongst people, teach your child to help and let him/her realize the meaning of real happiness and harmony and certainly root out all possible ill feelings and factions. Try being friendly and benevolent to all, let your child play the part in family reunions which will strengthen your family bond. Look out for the ways to abrade the plodding routine and take up some supportive vigorous activities with your child like swimming, cycling, jogging, painting or any other activity that your child enjoys.**

**It's your time to make every single moment eventful and memorable for your child and fill them with loads of experiences, which he/she eagerly wants to share with his/her pals and Educators when returned to School.**

**I wish you a pleasant vacation!**

**Regards**

**Principal  
Delhi Public School Gwalior**

## **ADD ONS TO MAKE YOUR VACATION MEANINGFUL !!**

Childhood is a crucial stage of development. Most of life's important lessons are learnt here! Let us join hands and make sincere efforts to augment and hone the learning process of the child through inculcation of self learning and keen observation.

- \* Let us attempt to enable them by allowing them to assume responsibilities of the routine household and shopping chores. (e.g.: laying the table, serving the guests, making their beds, buying groceries from the nearby stores etc.)
- \* Let us make them aware about their social responsibilities which will transform them into a responsible citizen of our society. (e.g.: keeping the surroundings clean, make use of public litter bins, switching off lights / fans / closing the taps properly etc.)
- \* They should be taught how to connect with Almighty God through prayers and meditation. (e.g.: daily prayers, thought of the day, meditate to improve the concentration etc.)
- \* Socialize and connect with people, neighbours and relatives. (e.g.: meeting & greeting neighbours, helping the elderly around, be friendly to the peers etc.)

**We wish all the great for your summer holiday time. May all the pleasure in the world embrace you, let your fun endless with friends and family.**

**Note :Kindly do all the Holiday Assignments neatly and submit it latest by July 10,2026.**

## **SUBJECT – ENGLISH**

### **Holiday Homework Guidelines**

**Students are required to complete the following work neatly and systematically in an A4 size file:**

**1. Presentation of Work**

- \* Use A4 size ruled sheets for all written work.
- \* Maintain a neat and legible handwriting.
- \* Leave proper margins on both sides.
- \* Each answer should begin on a fresh page.

**2. Content Requirements**

- \* Attempt both questions carefully.
- \* Answers must be well-structured, relevant, and within the word limit (where specified).
- \* Use appropriate introduction, body, and conclusion format.

**3. Handwritten Work**

- \* Both Question 1 (Intertextual Question) and Question 2 (Speech Writing) must be handwritten.

**4. Printed Pages**

The following pages should be typed and printed:

- \* Cover Page / Certificate
- \* Index
- \* Acknowledgement

**5. File Arrangement (in order)**

1. Cover Page
2. Certificate
3. Acknowledgement
4. Index
5. Answer to Question 1
6. Answer to Question 2

**6. Creativity & Effort**

- \* You may add a simple border or relevant illustrations to enhance presentation.
- \* Ensure the work reflects original thinking and understanding.

**7. Submission - First week of July 2026.**

- \* Submit the file within the given deadline.
- \* Late submissions may affect assessment.

Q1. "The Portrait of a Lady" by Khushwant Singh and "A Photograph" by Shirley Toulson, both explore the theme of ageing and the passage of time through the depiction of relationships across generations. Compare how the theme is presented in both texts. Highlight the emotions and reflections that emerge as time passes and loved ones grow old or pass away. ( 300 words)

Q2. Write a speech on any one of the following topics . (250 words.)

**Speech topics for Holiday Homework:-**

1. War is never justified in the modern world.

2. Powerful nations misuse military strength in global conflicts
3. Diplomacy is more effective than war in resolving international disputes
4. Military alliances are a threat to global security
5. Economic crisis caused by wars are a drawback for developing nations the most.

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## SUBJECT – MATHEMATICS

### General Instructions –

- **Holiday Assignment consists of Multiple Choice questions, Case based questions and solve the following questions.**
- **All the work to be done in A4 sized ruled sheets which are to be arranged in a stick file.**
- **All the best! Stay Home, Stay Safe!**

### Multiple Choice Questions

1. For two non-empty sets A and B the Cartesian product is
 

(a) $A \times B = B \times A$	(b) $A \times B = \phi = B \times A$
(c) $A \times B \neq B \times A$	(d) none of these
2. The range of the real function  $f(x) = 1 + 3 \cos 2x$  is
 

(a) $[-4, 2]$	(b) $[4, -2]$
(c) $[-2, 4]$	(d) $[2, -4]$
3. The value of  $[4.97]$  is
 

(a) 4.97	(b) $-4.97$	(c) 5	(d) 4
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4. If  $X = \{8^n - 7n - 1 : n \in N\}$  and  $Y = \{49n - 49 : n \in N\}$  then
 

(a) $X \subset Y$	(b) $Y \subset X$	(c) $X = Y$	(d) $X \cap Y = \phi$
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5. If set A and B are defined as  
 $A = \{(x, y) : y = \frac{1}{x}, x \neq 0 \in R\}$   $B = \{(x, y) : y = -x, x \in R\}$  then
 

(a) $A \cap B = A$	(b) $A \cap B = B$	(c) $A \cap B = \phi$	(d) $A \cup B = A$
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6. The number of subsets of a set containing n elements is
 

(a) $2^n$	(b) $2^{n-1}$	(c) $2^n - 1$	(d) $n^n$
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7.  $12^\circ 30'$  in circular measure is written as
 

(a) $\frac{25^c}{2}$	(b) $\frac{25 \pi^c}{36}$	(c) $\frac{5 \pi^c}{72}$	(d) $\frac{5 \pi^c}{36}$
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8. If  $\tan \theta = 3$  and  $\theta$  lies in the third quadrant, then the value of  $\sin \theta$  is
 

(a) $\frac{1}{\sqrt{10}}$	(b) $\frac{-1}{\sqrt{10}}$	(c) $\frac{-3}{\sqrt{10}}$	(d) $\frac{3}{\sqrt{10}}$
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9.  $\cos 2\theta \cos 2\phi + \sin^2(\theta - \phi) - \sin^2(\theta + \phi)$  is equal to
 

(a) $\sin 2(\theta + \phi)$	(b) $\cos 2(\theta + \phi)$	(c) $\sin 2(\theta - \phi)$	(d) $\cos 2(\theta + \phi)$
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10. If  $\tan(\pi \cos \alpha) = \cot(\pi \sin \alpha)$ , then the value of  $\cos(\alpha - \frac{\pi}{4})$  is
 

(a) $\frac{1}{\sqrt{2}}$	(b) $\frac{-1}{\sqrt{2}}$	(c) $\frac{1}{2\sqrt{2}}$	(d) None of these
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### Assertion Reasoning Questions

**Direction of questions :** In the following questions, A statement of Assertion (A) is followed by a statement of Reason (R).

- (A) Both (A) and (R) are true and (R) is the correct explanation of (A).  
(B) Both (A) and (R) true but (R) is NOT the correct explanation of (A).  
(C) (A) is correct but (R) is not correct  
(D) (A) is not correct but (R) is correct.

11. **Assertion (A):**  $\tan(3\pi - \theta) = \tan\theta$   
**Reason (R):**  $\tan(\pi - \theta) = -\tan\theta$  and  $\tan(2\pi + A) = \tan A$
12. **Assertion (A):**  $1 - \cos 2\theta = 2 \sin \frac{2\theta}{2}$   
**Reason (R):**  $1 - \cos 2x = \sin^2 x$
13. **Assertion (A):**  $180^\circ = \pi^c$   
**Reason (R):**  $180^\circ = 2$  right angles  
 $\pi^c = 2$  right angles
14. **Assertion (A):** Unit of measurement of an angle in sexagesimal system is “degree”  
**Reason (R):** Angle can be measured in degree
15. **Assertion (A):** “Set of difficult problems in mathematics” is a well-defined set.  
**Reason (R):** For a well-defined set, answer is same in all situations.
16. **Assertion (A):** Sets  $A = \{a, b, c\}$  and  $B = \{4, 5, 100\}$  are equivalent sets.  
**Reason (R):** If sets A and B are equivalent then  $n(A) = n(B)$ .
17. **Assertion (A):** In a set of prime numbers, any two elements are coprime.  
**Reason (R):** HCF of two coprime numbers is 1.
18. **Assertion (A):** An interval is a subset of real numbers.  
**Reason (R):** Infinite real numbers lie in interval  $[a, b]$ .
19. **Assertion (A):** If  $f(x) = y = \frac{(ax - b)}{(cx - a)}$ , then  $f(y) = x$   
**Reason (R):** To prove  $f(y) = x$ , put  $y = \frac{(ax - b)}{(cx - a)}$  in  $f(x)$
20. **Assertion (A):** The domain of the real function  $f$  defined by  $f(x) = \frac{1}{\sqrt{9-x^2}}$  is  $[-3, 3]$   
**Reason (R):** The domain of the real function  $f$  defined by  $f(x) = \frac{1}{\sqrt{9-x^2}}$  is  $(-3, 3)$

### Solve the following :

21. If  $f(x) = x^2 - \frac{1}{x^2}$ , then find the value of  $f(x) + f\left(\frac{1}{x}\right)$

22. If  $A = \{x : x \in W, x < 2\}$ ,  $B = \{x : x \in N, 1 < x < 5\}$ ,  $C = \{3, 5\}$ , find  
 (i)  $A \times (B \cap C)$       (ii)  $A \times (B \cup C)$
23. For any three sets A, B and C, prove that  
 $A \times (B - C) = (A \times B) - (A \times C)$
24. If  $f$  is a real function defined by  $f(x) = \frac{(x-1)}{(x+1)}$ , then prove that  $f(2x) = \frac{3f(x)+1}{f(x)+3}$
25. Prove that  
 $\sin\left(\frac{\pi}{14}\right) \sin\left(\frac{3\pi}{14}\right) \sin\left(\frac{5\pi}{14}\right) \sin\left(\frac{7\pi}{14}\right) \sin\left(\frac{9\pi}{14}\right) \sin\left(\frac{11\pi}{14}\right) \sin\left(\frac{13\pi}{14}\right) = \frac{1}{64}$
26. If  $\sin x = \frac{3}{5}$ , where  $0 < x < \frac{\pi}{2}$ , find the value of  $\sin 2x$ ,  $\cos 2x$ ,  $\tan 2x$  and  $\sin 4x$ .
27. Find the value of the expression  
 $3\left\{\sin^4\left(\frac{3\pi}{2} - x\right) + \sin^4(3\pi + x)\right\} - 2\left\{\sin^6\left(\frac{\pi}{2} + x\right) + \sin^6(5\pi - x)\right\}$
28. For A, B and C are any three sets, then prove that  
 $A \cap (B - C) = (A \cap B) - (A \cap C)$
29. In a university out of 100 students, 15 offered Mathematics, only 12 offered Statistics only, 8 offered Physics only, 40 offered Physics and Mathematics, 20 offered Physics and Statistics, 10 offered Mathematics and Statistics, 65 offered Physics, find the number of students who  
 (i) offered Statistics  
 (ii) offered Mathematics
30. If  $X = \{4^n - 3n - 1 : n \in N\}$  and  $Y = \{9(n - 1) : n \in N\}$ , prove that  $X \subset Y$ .

### Case Study Based Questions

31. In a survey of 600 students in a school, 150 students were found to be taking tea and 225 taking coffee, 100 were taking both tea and coffee.

**Based on this information, answer the following questions:**

- Find the number of students taking at least one drink.
- Find the number of students taking tea only.
- Find the number of students taking coffee only.

32. Two non-empty sets A and B are given by  
 $A = \{x : x \text{ is a letter in "I LOVE MATHEMATICS"}\}$   
 and  $B = \{x : x \text{ is a letter in "I LOVE STATICS"}\}$

**Based on this information, answer the following questions:**

- Find  $(A \cup B)$
- Find  $(A \cap B)$
- Find the number of subsets of set B.

33. Let  $A = \{x : x < 5, x \in N\}$  and  $B = \{x : x \leq 2, x \in W\}$

**Based on this information, answer the following questions:**

- Find  $(A \cup B) \times (A \cap B)$
- A relation R from A to B is defined by  $R = \{(x, y) : x + y = 4, x \in A, y \in B\}$ . Find R.
- Find the domain and range of R.

34. Given  $\cos x = \frac{-5}{13}$  and  $\sin y = \frac{4}{5}$ , where  $x$  and  $y$  are angles in the second quadrant.

**Based on this information, answer the following questions:**

1. Find the value of  $\sin(x + y)$ .
2. Find the value of  $\cos(x + y)$ .
3. Find the value of  $\sin(x - y)$ .

35. Given :  $\sin x - \sin y = a$  and  $\cos x - \cos y = b$

**Based on this information, answer the following questions**

1. Find the value of  $\tan\left(\frac{x+y}{2}\right)$ .
2. Find the value of  $\cos(x - y)$ .
3. Find the value of  $\cos(x + y)$

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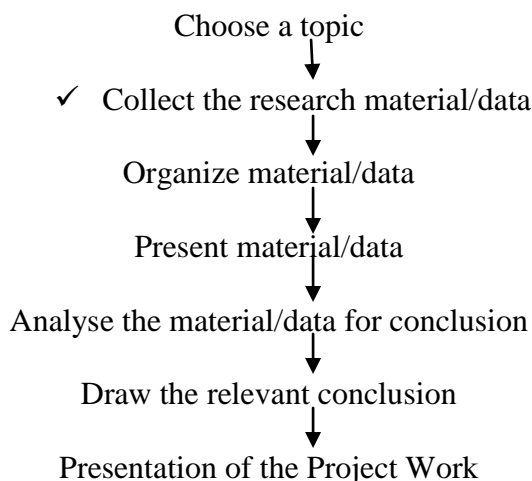
## **SUBJECT – APPLIED MATHEMATICS**

- The following guidelines are issued by CBSE to schools for the session 2026-27.
- Project work and record : 5 marks and year end presentation/ viva : 5 marks

**Following are the topics for the projects to be done individually. One has to select any one topic and prepare a detailed report on it**

- 1) Predicting the Outcome of an Election- Exit Polls.
- 2) Weather Prediction (To study how weather is predicted and understand the use of mathematics in weather prediction).
- 3) Risk Assessments by Insurance Firms from Data.
- 4) Stock Price Movements.
- 5) To show application of mathematics in real life in maximizing the profit of Kirana stores.
- 6) Effect of Temperature and Rain Variations on Various Crops.
- 7) To analyze what the infant mortality rate of a country is and how we can predict it.
- 8) Predicting a Stock Market Crash.

- **Steps involved in the conduct of the project:**



- **Expected Checklist for the project work:**

- ✓ Introduction of topic/title

- ✓ Identifying the causes, events, consequences and/or remedies
  - ✓ Various stakeholders and effect on each of them.
  - ✓ Advantages and disadvantages of situations or issues identified.
  - ✓ Short term and long term implications of strategies suggested in the course of research.
  - ✓ Validity, reliability, appropriateness and relevance of data used for research work and for presentation in the project file.
  - ✓ Presentation and writing that is succinct and coherent in project file.
  - ✓ Citation of the material referred to, in the file in footnotes, resources section, bibliography etc.
- The project report should include  
**Title page, Acknowledgements, Certificate, Contents page(Index), Introduction, Body of report, Evaluation, Conclusions and Future Work, Bibliography and Appendix.**

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## SUBJECT – PHYSICS

### Objective questions

1. One nanometre is equal to  
 (a)  $10^9$  mm                      (b)  $10^{-6}$  cm                      (c)  $10^{-7}$  cm                      (d)  $10^{-9}$  m
2. Light year is the unit of  
 (a) time                                  (b) distance                                  (c) velocity                                  (d) intensity of light
3. Parsec is the unit of  
 (a) time                                  (b) distance                                  (c) frequency                                  (d) angular momentum
4. Length cannot be measured by  
 (a) fermi                                  (b) debye                                  (c) micron                                  (d) light year
5. Gravitational mass is proportional to gravitational  
 (a) field                                  (b) force                                  (c) intensity                                  (d) all of these
6. SONAR emits which of the following waves?  
 (a) radio                                  (b) light                                  (c) ultrasound                                  (d) none of these
7. The dimension of torque is  
 (a)  $[MLT^{-2}]$                                   (b)  $[ML^2T^{-2}]$                                   (c)  $[ML^{-1}T^{-1}]$                                   (d)  $[ML^3T^{-3}]$
8. A particle moves along a straight line such that its displacement at any time  $t$  is given by  $s = t^3 - 6t^2 + 3t + 4$  m, the velocity when the acceleration is zero is  
 (a) 3 m/s                                  (b) 42 m/s                                  (c) -9 m/s                                  (d) -15 m/s
9. What will be the ratio of the distances moved by a freely falling body from rest in 4th and 5th seconds of journey?  
 (a) 4 : 5                                  (b) 7 : 9                                  (c) 16 : 25                                  (d) 1 : 1
10. A body dropped from top of a tower falls through 40 m during the last two seconds of its fall. The height of tower  $g = 10 \text{ m/s}^2$  is  
 (a) 60 m                                  (b) 45 m                                  (c) 80 m                                  (d) 50 m
11. If  $|A + B| = |A| + |B|$ , then the angle between A and B will be  
 (a)  $90^\circ$                                   (b)  $120^\circ$                                   (c)  $0^\circ$                                   (d)  $60^\circ$

12. If a unit vector is represented by  $0.5i - 0.8j + ck$ , then the value of  $c$  is  
 (a)  $\sqrt{0.01}$  (b)  $\sqrt{0.11}$  (c) 1 (d)  $\sqrt{0.39}$
13. The angle between the two vectors  $A = 3i + 4j + 5k$  and  $B = 3i + 4j - 5k$  will be  
 (a)  $90^\circ$  (b)  $180^\circ$  (c) zero (d)  $45^\circ$
14. If a vector  $2i + 3j + 8k$  is perpendicular to the vector  $4i - j + \alpha k$ , then the value of  $\alpha$  is  
 (a)  $\frac{1}{2}$  (b)  $\frac{-1}{2}$  (c) 1 (d) -1
15. The magnitudes of vectors  $A$ ,  $B$  and  $C$  are 3, 4 and 5 units respectively. If  $A + B = C$ , the angle between  $A$  and  $B$  is  
 (a)  $\pi/2$  (b)  $\cos^{-1} 0.6$  (c)  $\tan^{-1} (7/5)$  (d)  $\pi/4$

### **Assertion and Reason**

16. **Assertion :** Dimensional constants are the quantities whose values are constant.  
**Reason :** Dimensional constants are dimensionless.
17. **Assertion :** When we change the unit of measurement of a quantity, its numerical value changes.  
**Reason :** Smaller the unit of measurement smaller is its numerical value.
18. **Assertion :** A body may be accelerated even when it is moving uniformly.  
**Reason :** When direction of motion of the body is changing, the body must have acceleration.
19. **Assertion :** Position-time graph of a stationary object is a straight line parallel to time axis.  
**Reason :** For a stationary object, position does not change with time.
20. **Assertion :** position-time graph of a body moving uniformly in a straight line parallel to position axis. Says body is at rest.  
**Reason :** The slope of position-time graph in a uniform motion gives the velocity of an object.

### **Very Short Answer (3 questions)**

21. Define significant figures.  
 22. What is displacement?  
 23. Define scalar quantity with example.

### **Short Answer (3 questions)**

24. Explain dimensional analysis and its uses.  
 25. Derive relation between velocity and acceleration.  
 26. Differentiate between scalar and vector quantities with examples.

### **Case Based Question (1)**

27. A car moves in a straight line. Its velocity increases uniformly from 10 m/s to 20 m/s in 5 seconds.  
 a) Find acceleration  
 b) Calculate distance travelled  
 c) What type of motion is this?

### **Long Answer (1)**

28. Explain projectile motion. Derive expression for time of flight and range.

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## SUBJECT - CHEMISTRY

### Objective questions

#### Chapters 1 & 2 MCQs

- Q1. The number of significant figures in 0.00450 is:  
(a) 2 (b) 3 (c) 4 (d) 5
- Q2. Which of the following has the maximum number of moles?  
(a) 18 g H<sub>2</sub>O (b) 28 g N<sub>2</sub> (c) 32 g O<sub>2</sub> (d) 44 g CO<sub>2</sub>
- Q3. Avogadro number represents:  
(a) Mass of one mole (b) Number of atoms in 1 g  
(c) Number of particles in 1 mole (d) Volume of gas at STP
- Q4. The empirical formula of a compound is CH<sub>2</sub>. Its molecular formula can be:  
(a) CH<sub>2</sub> (b) C<sub>2</sub>H<sub>4</sub> (c) C<sub>3</sub>H<sub>6</sub> (d) All of these
- Q5. Which law is illustrated by the reaction: 2H<sub>2</sub> + O<sub>2</sub> → 2H<sub>2</sub>O  
(a) Law of conservation of mass (b) Law of multiple proportions  
(c) Gay-Lussac law (d) Dalton's law
- Q6. The SI unit of amount of substance is:  
(a) gram (b) mole (c) kilogram (d) litre
- Q7. The wavelength of a wave is inversely proportional to:  
(a) frequency (b) velocity (c) amplitude (d) intensity
- Q8. Who proposed the quantum theory of radiation?  
(a) Rutherford (b) Bohr (c) Planck (d) Einstein
- Q9. The maximum number of electrons in a shell with principal quantum number n = 3 is:  
(a) 6 (b) 8 (c) 18 (d) 32
- Q10. The shape of s-orbital is:  
(a) Dumbbell (b) Spherical (c) Linear (d) Planar
- Q11. Which quantum number determines the orientation of orbital?  
(a) n (b) l (c) m (d) s
- Q12. The energy of an electron in a hydrogen atom depends on:  
(a) n only (b) l only (c) m only (d) n and l
- Q13. The de Broglie equation is:  
(a) E = mc<sup>2</sup> (b) λ = h/mv (c) PV = nRT (d) E = hv
- Q14. Pauli's exclusion principle states that:  
(a) Electrons fill orbitals in order of increasing energy  
(b) No two electrons have same four quantum numbers  
(c) Orbitals are filled singly first  
(d) Energy levels are quantized

- Q15. The number of orbitals in p-subshell is:  
(a) 1 (b) 2 (c) 3 (d) 5

**Case based question:**

Q.16 Read the passage given below and answer the following questions:-

The word 'stoichiometry' is derived from two Greek words — stoicheion (meaning, element) and metron (meaning, measure). Stoichiometry, thus, deals with the calculation of masses (sometimes volumes also) of the reactants and the products involved in a chemical reaction. Many a time, reactions are carried out with the amounts of reactants that are different than the amounts as required by a balanced chemical reaction. In such situations, one reactant is in more amount than the amount required by balanced chemical reaction. The reactant which is present in the least amount gets consumed after sometime and after that further reaction does not take place whatever be the amount of the other reactant. Hence, the reactant, which gets consumed first, limits the amount of product formed and is, therefore, called the limiting reagent.

- The term stoichiometry is related to the:  
(a) Study of chemical reactions (b) Calculation of reaction rates  
(c) Determination of chemical structures (d) Measurement of energy changes
- If a reaction requires 2 moles of A for every 3 moles of B, and you have 4 moles of A and 4 moles of B, which is the limiting reagent?  
(a) A (b) B (c) Neither A nor B (d) Both A and B
- To determine the limiting reagent in a reaction, you need to know:  
(a) The balanced chemical equation (b) The amounts of reactants available  
(c) The molar masses of the reactants (d) All of the above
- Explain the concept of excess reagent.
- How does the limiting reagent affect the amount of product formed?

**Short Answer Type Questions**

- Q.17 The empirical formula and molecular mass of a compound are  $\text{CH}_2\text{O}$  and 180 respectively. What will be the molecular formula of the compound?
- Q.18 State : (i) Law of definite proportions. (ii) State Avogadro's law.
- Q.19 Write the empirical formula of the following:  
(a)  $\text{CH}_3\text{CH}_2\text{COOCH}_3$  (b)  $\text{C}_6\text{H}_{12}\text{O}_6$  (c)  $\text{H}_2\text{O}$  (d) Benzene
- Q.20 Define the following terms:  
(i) Mole fraction (ii) Molality
- Q.21 In the reaction  $2\text{A} + 4\text{B} \rightarrow 3\text{C} + 4\text{D}$ , when 5 mols of A reacts with 6 moles of B, Then  
(i) Which one is the limiting reagent  
(ii) Calculate the amount of "C" formed.
- Q.22 45.4 L of dinitrogen reacted with 22.7 L of dioxygen and 45.4 L of nitrous oxide was formed. The reaction is given below:  
$$2\text{N}_2(\text{g}) + \text{O}_2(\text{g}) \rightarrow 2\text{N}_2\text{O}(\text{g})$$
Which law is being obeyed in this experiment? Write the statement of the law

- Q.23 Calculate the mass of following:  
(i) 1 mol atom of N      (ii) 5.0 moles of Na<sup>+</sup> ion

### **Long Answer Type Questions**

- Q.24 What is a limiting reagent? 50.0 kg of N<sub>2</sub> (g) and 10.0 kg of H<sub>2</sub> (g) are mixed to produce NH<sub>3</sub> (g). Calculate the NH<sub>3</sub> (g) formed. Identify the limiting reagent in the production of NH<sub>3</sub> in this situation.
- Q.25 (a). In the reaction,  $A + B_2 \rightarrow AB_2$ , identify the limiting reagent, if any, in the following mixtures  
(i) 300 atoms of A + 200 molecules of B  
(ii) 2 mol A + 3 mol B  
(iii) 100 atoms of A + 100 molecules of B  
(iv) 5 mol A + 2.5 mol B
- (b). Determine the empirical formula of an oxide of Iron which has 69.9 % iron and 30.1 % dioxygen by mass.

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## **SUBJECT – BIOLOGY**

### **Objective Questions**

- The science of naming organisms is called:  
(a) Morphology      (b) Nomenclature      (c) Ecology      (d) Physiology
- The second word in a scientific name indicates:  
(a) Genus      (b) Species      (c) Family      (d) Order
- Organisms with similar characteristics are grouped into:  
(a) Species      (b) Class      (c) Kingdom      (d) Taxa
- Which kingdom includes unicellular eukaryotes?  
(a) Monera      (b) Protista      (c) Fungi      (d) Plantae
- Slime moulds belong to:  
(a) Fungi      (b) Protista      (c) Monera      (d) Plantae
- Lichens are a symbiotic association between:  
(a) Algae and fungi      (b) Bacteria and fungi  
(c) Algae and bacteria      (d) Fungi and virus
- The cell wall in plants is made of:  
(a) Chitin      (b) Cellulose      (c) Glycogen      (d) Protein
- Diatoms are known for:  
(a) Silica cell wall      (b) Chitin wall      (c) No cell wall      (d) Protein wall
- Which of the following is a virus-caused disease?  
(a) Tuberculosis      (b) Malaria      (c) Dengue      (d) Typhoid

10. Blue-green algae are:  
 (a) Protists                      (b) Fungi                      (c) Cyanobacteria                      (d) Plants
11. The term “phylogeny” refers to:  
 (a) Structure                      (b) Evolutionary history  
 (c) Classification                      (d) Function
12. Pteridophytes reproduce by:  
 (a) Seeds                      (b) Spores                      (c) Fruits                      (d) Flowers
13. Angiosperms are characterized by:  
 (a) Naked seeds                      (b) Covered seeds                      (c) No seeds                      (d) Only spores
14. The study of fungi is called:  
 (a) Phycology                      (b) Mycology                      (c) Bryology                      (d) Zoology
15. Which organism is prokaryotic?  
 (a) Amoeba                      (b) Bacteria                      (c) Fungi                      (d) Algae

### **Assertion-Reason**

- (a) Both A and R are true and R is correct explanation  
 (b) Both A and R are true but R is not correct explanation  
 (c) A is true but R is false  
 (d) A is false but R is true

- Assertion:** Taxonomy is important in biology.  
**Reason:** It helps in identification of organisms.
- Assertion:** Algae are autotrophic.  
**Reason:** They contain chlorophyll.
- Assertion:** Fungi store food as glycogen.  
**Reason:** They are heterotrophic.
- Assertion:** Gymnosperms lack flowers.  
**Reason:** They produce naked seeds.
- Assertion:** Viruses can reproduce independently.  
**Reason:** They need host cells for multiplication.

### **Case Study**

A biologist studied different plant groups like mosses, ferns, and flowering plants. He observed differences in reproduction and structure.

#### **Answer the following:**

- Q. ((a) Which group is called amphibians of the plant kingdom?  
 Q. ((b) Which group reproduces through spores but has vascular tissue? Give an example.  
 Q. (c) Which group produces flowers? Give an example.  
 Q. ((d) Why are bryophytes dependent on water?

### **Short Answer Questions**

1. Define species.
2. What are lichens?
3. Give two features of Protista.
4. Differentiate between gymnosperms and angiosperms (any two points).
5. What are viruses?

### **Long Answer Questions**

1. Describe the characteristics of kingdom Monera and Protista.
2. Explain classification of plant kingdom with key features of each group (Bryophytes, Pteridophytes, Gymnosperms, Angiosperms).

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## **SUBJECT – ACCOUNTANCY**

### **A) MULTIPLE CHOICE QUESTIONS**

1. **Basic function of financial accounting is to**  
(a) record all business transactions.      (b) interpret financial data.  
(c) assist the management.      (d) None of these
2. **Which of the following will not be recorded in the books of account?**  
(a) Sales of goods      (b) Payment of salary  
(c) Quality of staff      (d) Purchase of Goods
3. **Which of the following transaction is not of financial character?**  
(a) Purchase of asset on credit  
(b) Purchase of asset for cash  
(c) Withdrawing of money by proprietor from business  
(d) Strike by employees.
4. **Which of the following limitations of accounting states that accounts may be manipulated to conceal vital facts :**  
(a) Accounting is not fully exact  
(b) Accounting may lead to window dressing  
(c) Accounting ignores price level changes  
(d) Accounting ignores qualitative elements
5. **Which external user of accounting information is most interested in knowing the long-term solvency position of the firm?**  
(a) Employees      (b) Management  
(c) Bank and Financial Institutions      (d) Researchers
6. **During the life-time of an entity, accounting produces financial statements in accordance with which of the following accounting concept?**  
(a) Matching      (b) Conservatism  
(c) Accounting period      (d) Cost
7. **M/s Future Ltd. has invested ₹ 10,000 in the shares of Relicam Industries Ltd. Current market value of these shares is ₹ 10,500. Accountant of Future Ltd. wants to show ₹ 10,500 as value of investment in the books of accounts, which accounting convention restricts him from doing so?**  
(a) Full disclosure      (b) Consistency  
(c) Conservatism      (d) Materiality

8. **According to the Cost Concept**
  - (a) Assets are recorded at lower of cost and market value.
  - (b) Assets are recorded by estimating the market value at the time of purchase.
  - (c) Assets are recorded at the value paid for acquiring it.
  - (d) Assets are not recorded
9. **According to Convention of Conservatism closing stock is valued at:**
  - (a) At cost Price
  - (b) At Realisable value
  - (c) Cost price or realizable whichever is less
  - (d) At Real value
10. **Convention of conservatism takes into account:**
  - (a) All future profits and losses
  - (b) All future profits and not losses
  - (c) All future losses and not profits
  - (d) Neither profits nor losses of the future

### B) Case Study

Mohan started business for buying and selling of readymade garments with ₹40,00,000 as an initial investment. Out of this he paid ₹20,00,000 for the purchase of garments, ₹2,50,000 for furniture, ₹2,50,000 for computer and the remaining amount was deposited into the bank. He sold some of the ladies and kids garments for ₹15,00,000 for cash and some garments for ₹7,50,000 on credit to Rajesh.

Subsequently, he bought men's garments of ₹10,00,000 from Satish. In the first week of next month, a fire broke out in his office and stock of garments worth ₹5,00,000 was destroyed. Later on, some garments which cost ₹6,00,000 were sold for ₹6,50,000. Expenses paid during the year were ₹45,000. Mohan withdrew ₹1,00,000 from business for his domestic use.

**From the above, answer the following:**

- a) What is the amount of capital with which Gopal started business?
- b) What Non-current assets did he buy?
- c) What is the value of goods purchased?
- d) Who is the creditor and state the amount payable to him?
- e) Who is the debtor and what amount is receivable from him?
- f) What is the amount of Expense?
- g) What is the amount of drawings of Mohan?

**Project: Collect the different vouchers (Invoice, Cash Memo, Pay-in-slip, Withdrawal form, cheque) and explain them.**

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## SUBJECT – ECONOMICS

### A) MULTIPLE CHOICE QUESTIONS

1. Which of the following statements reflects the actual relationship between the marginal opportunity cost and production possibility frontier?
  - a. When the marginal opportunity cost remains constant, the production possibility frontier is a downward sloping straight line
  - b. When the marginal opportunity cost remains constant, the production possibility frontier is an upward sloping straight line
  - c. When the marginal opportunity cost remains constant, the production possibility frontier is a central sloping straight line

- d. There is no relation between the marginal opportunity cost and the production possibility frontier
2. Which of the following statements is the actual meaning of scarcity?
- The actual meaning of scarcity is that there is an increase in the resources
  - The actual meaning of scarcity is that there is a shortage in the resources
  - The actual meaning of scarcity is that there is no change in the resources
  - None of the above
3. Which of the following statements about the economy is correct?
- An economy is a system that helps in the production of goods and also enables people to earn a living
  - An economy is a system that helps in the production of services and also enables people to earn a living
  - Both a and b are correct
  - Both a and b are incorrect
4. Which of the following statements reflect the correct situation related to the allocation of the resources?
- Allocation of the resources comes under the causes of economic problems
  - Allocation of the resources comes under the causes of opportunity cost
  - Allocation of the resources comes under the causes of central problems
  - Allocation of the resources comes under the causes of marginal demand
5. The branch of economics that deals with the allocation of resources is \_\_\_\_\_.
- Econometrics
  - Macroeconomics
  - Microeconomics
  - None of the above
6. Which of the following is a type of economic activities
- Production
  - Consumption
  - Exchange and Investment
  - All of these
7. Which of the following statements about the production possibility curve is true?
- If a point falls inside the production possibility curve, it indicates that the resources are over utilised
  - If a point falls inside the production possibility curve, it indicates that the resources are underutilised
  - If a point falls inside the production possibility curve, it indicates that there is adequate employment in the economy
  - If a point falls inside the production possibility curve, it indicates that there is inadequate employment in the economy
8. Which of the following is a sign of a free economy?
- The prices are regulated
  - The prices are partly regulated
  - The prices are determined with the help of the forces of demand and supply
  - None of these
9. Which is the first law of Gossen:
- Law of Demand
  - Law of Diminishing Marginal Utility
  - Consumer Surplus
  - Law of Equi-marginal utility



13. Name the two broad categories of business activities.
- |                          |                       |
|--------------------------|-----------------------|
| a) Trade and commerce    | b) Trade and Industry |
| c) Industry and commerce | d) None of these      |
14. The possibilities of inadequate profits or even losses due to uncertainties are known as ?
- |                           |                   |
|---------------------------|-------------------|
| a) Business contingencies | b) Business risks |
| c) Business ventures      | d) None of these  |
- 15 'Earning of profit is considered to be the subsidiary objective of the business'. The given statement is
- |         |          |               |         |
|---------|----------|---------------|---------|
| a) True | b) False | c) cannot say | d) None |
|---------|----------|---------------|---------|

**Case Studies based Questions:**

Q.1 Nikhil wants to start a wholesale business of stationery items. But he is hesitating as it will involve hindrances related to finding consumers, moving goods from place of production to market, storing goods because of time gap between production and consumption, risk of theft, fire, accidents, procurement of capital to finance above activities, providing information to the consumers about products etc.

He approaches his friend Anant to discuss his problem. Anant, who himself imports the electric appliances for the purpose of exporting them to other countries, advises Nikhil to carry on with his plan and explains to him various functions performed by the second limb of business i.e., Commerce.

Anant elaborates on various advantages of trade and auxiliaries to trade. After getting convinced by the advice given by Anant, Nikhil starts the business named Nikhil Ltd. and finds no major problems at all in converting his desire into a business venture. Nikhil gets his company registered under the companies Act 2013.

- (a) Name the part of commerce which exclusively helps in the process of trading the goods and services.
- (b) Name the type of trade under which Anant was doing his business.
- (c) Name the service which helps Nikhil to remove the hindrance of storing the stationery items.
- (d) Name the service which helps Nikhil to remove the hindrance of place.

Q.2 Abdul is a single owner of a shoe manufacturing business. His business was suffering from continuous losses. To revive his business and to expand, he took a loan of '20 lakhs from Progressive Finance Co.' In suffer losses. This resulted in the declining assets and mounting debts. Abdul started defaulting on his repayment schedule. Finance company served him final notice to repay the loan and settle the account. He proposed the finance company to take over the business assets and clear their dues. Finance company took over the assets of the business in part settlement of their dues as the assets were not sufficient to settle the debts and they claimed the remaining amount from Abdul from his personal assets. Abdul refused to do so on the ground that loan was taken for the business and by him for personal use.

- (1) Name the form of business organization followed by Abdul.
- (2) Is the finance company justified in asking for remaining amount form Abdul's personal assets? Justify your answer by giving suitable feature of the business organization.

Q.3 A, B, C, D and E are partners in partnership firm. The firm has different types of partners. Mr. A has contributed capital and participates in the management of firm. He shares profits and losses and is liable to an unlimited extent to the creditors of the firm. Mr. B has contributed capital and shares its profits and losses. He also has unlimited liability but he does not take part in day to day activities of business.

Association of Mr. C is not known to the general public but in all other respects he is like an active partner.

Mr. D has allowed the firm to use his name as he enjoys good reputation among clients but he does not either contribute capital or take part in the management.

Mr. E, 15 years of age is entitled to the benefits of partnership with mutual consent of all their members. He is not eligible to take part in management of firm and shares only profits and not losses of the firm.

- (i) How many partners of the firm has?
- (ii) Who is the active partner and what is the nature of his liability in the firm?
- (iii) Who is the sleeping partner in the firm and what is the nature of his liability?
- (iv) What kind of partner is Mr. C and what kind of liability does he have in the firm?
- (v) How does the partnership relationship of Mr. C differ from Mr. D? How do they differ in their liability?
- (vi) Is Mast. E legal partner? Can be held liable for the liability of the firm?

Q.4 Sharma brothers inherited some ancestral property. They decided to form a Hindu undivided family consisting of four male members. Mr. Raman Sharma was eldest brother so he became Karta. The business took a loan of Rs.20 lac from Canara Bank, which was to be returned within 5 years. Due to poor financial position of the business, they were unable to repay the loan. Brother sold the ancestral property for Rs.10 lac and paid the amount to Canara Bank. The Bank filed a case for recovery of balance amount. Mr. Raman Sharma pleaded the court that the loan was taken for the purpose of Business; so all members of business are liable to repay. The court said all members are responsible only to the extent of their share in business and business property is already sold, but you being karta will have to repay whole amount even by selling your personal property.

- (a) In this case who has unlimited liability.
- (b) Was the decision of court to claim only from Raman is justified?

Q.5 Sneha after her course in designing started taking jobs for designing logo, wedding cards, pamphlets, advertisements etc. Her work became quite popular and she had continuous orders. She decided to have a separate office with some staff to help her. She was suggested by her father to have a business organization and run it properly.

- (a) Her business was constantly growing and she was facing problems with handling all orders and finishing them on time. Her friend Pooja, who was also a designer, proposed to join her as a business partner. Sneha was confused whether to continue her business as a sole trader or convert into a partnership firm. As a true friend of Sneha, you are required to suggest the advantages and disadvantages of a partnership business. (two each)
- (b) Sneha and Pooja decide to form a partnership firm and do the business together. Suggest them on the following issues with proper reasons.
  - (i) What kind of liability will they have and how will it affect them?
  - (ii) Is it necessary for them to have an agreement and register their firm?

### **DESCRIPTIVE QUESTIONS:**

1. Define Business . Discuss the characteristics of business.
2. Differentiate between Business, Profession and Employment.
3. Explain the various objectives of business.
4. Define Commerce. Discuss the various functions of commerce.
5. Explain the various types of Industries with suitable examples.
6. Define Sole proprietorship. Discuss the advantages and disadvantages of Sole proprietorship.
7. Discuss the features of Partnership form of business organisation.
8. Explain Joint Hindu family business.

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## **SUBJECT – HISTORY**

### **SUGGESTIVE TOPICS FOR PROJECTS -**

1. Facets of the Industrialization in sixteenth- eighteenth centuries.
2. Crusades: causes; rationale; events; outcomes; Holy Alliance
3. Ancient History in depth: Mesopotamia
4. Greek Philosophy and City States
5. Contributions of Roman Civilization
6. The spirit of Renaissance: Manifestation in art; Literature; Sculpture; Influence on Trading Community; Social Fabric; Philosophy; Political Values; Rational Thinking; Existentialism
7. Aspects of Development -South American States /Central American States
8. Different schools of thoughts- Realism: Humanism: Romanticism
9. Piecing together the past of Genghis Khan
10. Myriad Realms of Slavery in ancient, medieval, and modern world
11. History of Aborigines – America /Australia
12. Facets of Modernization – China /Japan/Korea

Projects are an imperative component in enhancing students learning with the related themes. In the research project, students can go beyond the textbook and explore the world of knowledge. They can conceptualise under the embedded themes.

### **Note-**

#### **1. Steps involved in the conduct of the project: Students may work upon the following lines as suggested:**

1. Choose a Title/Topic
2. Need of the Study, Objective of the Study
3. Hypothesis
4. Content -Timeline, Maps, Mind maps, Pictures, etc. (Organization of Material/Data Present Material/Dat(a)
5. Analysing the Material/Data for Conclusion
6. Draw the Relevant Conclusion
7. Bibliography

#### **2. Expected Checklist for the Project Work:**

1. Introduction of topic/ title
2. Identifying the causes, events, consequences and/or remedies
3. Various stakeholders and effect on each of them
4. Advantages and disadvantages of situations or issues identified
5. Short-term and long-term implications of strategies suggested during research

6. Validity, reliability, appropriateness, and relevance of data used for research work and for presentation in the project file
7. Presentation and writing that is succinct and coherent in project file
8. Citation of the materials referred to, in the file in footnotes, resources section, bibliography etc.

**Project Work has broadly the following phases: Synopsis/ Initiation, Data Collection, Data Analysis and Interpretation, Conclusion.**

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## **SUBJECT – GEOGRAPHY**

### **1. WRITING SKILLS**

- ❖ Prepare notes -
  - Chapter-1 - Geography as a Discipline (Book-1 Fundamentals of Geography)
  - Chapter-1 - India- location (Book-2 India Physical Environment)
- ❖ NCERT Textbook Exercises -Complete exercises and questions from the NCERT textbook related to the chapter.
- ❖ Geographical Terms: Prepare a glossary of geographical terms related to India's physical features.

### **2. MAP SKILLS**

Mark the following on the political outline map of India and paste it in your notebook.

- Latitudinal extent of India
- Longitudinal extent of India
- Standard Meridian of India
- Important latitude passing through India (Tropic of Cancer)
- Southern Most Point of mainland of India (Kanya Kumari)

### **3. PRACTICAL FILE**

Complete the following chapters in the practical file -

- Chapter 1 - introduction to maps
- Chapter 2 - Map Scale
- Chapter 3 - Latitude, Longitude, and Time

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## **SUBJECT – POLITICAL SCIENCE**

- According to CBSE academic guidelines and standard practices, your file should follow this sequence:
  - **Cover Page:** Project title, student name, roll number, and school details.
  - **Certificate:** Signed by the teacher/supervisor confirming the work is original.
  - **Acknowledgement:** Expressing gratitude to those who assisted (teachers, parents, etc.).
  - **Index:** Table of contents with page numbers.
  - **Introduction:** Background and scope of your chosen topic.
  - **Main Content:** The detailed research, divided into headings/sub-headings (25–30 pages suggested).
  - **Conclusion:** Your findings, reflections, and learnings.
  - **Bibliography:** A list of books, websites, and sources used.

### **Submission Guidelines**

- **Mode:** The project must be handwritten on A4-size sheets.
- **Word Limit:** Usually between 1500–2000 words.
- **Visual Aids:** Enhance your project with relevant maps, cartoons, photographs, and newspaper clippings.

### **Suggestive Topics (ANY ONE)**

- Making of the Constitution.
- Elections in India.
- Working of the Indian Judiciary System.
- Social Justice: Are ethics followed in Indian Politics
- Human Rights Act and its gratification in India.
- Political impact on Indian Legislation.

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## **SUBJECT – PSYCHOLOGY**

**Note – Kindly do in practical file.**

### **Q.1 Give answer of given questions.**

- a) Explain the three terms utilized in the definition of Psychology.
- b) What are the 7 different types of Psychology?
- c) State four points to point out the connection between mind and behaviour.
- d) Define the following terms:  
i) Objectivity ii) Sample iii) Data iv) Population v) Hypothesis
- e) Differentiate between:  
(i) Naturalistic and controlled observation.  
(ii) Control and experimental group.  
(iii) Participant and non participant observation.

### **Q.2 Write about enquiry methods and prepare a questionnaire for Survey with survey report.**

#### **Topics for Survey (Choose any one)**

- a) Can screen time habit change your thinking and perception about life.
- b) Adoption of smart home devices and their impact on daily life.
- c) Preferences for online VS in-store shopping.
- d) Introvert behaviour at adults consequences and reasons.

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## **SUBJECT – SOCIOLOGY**

Prepare the given sociology project as per the CBSE guidelines. Prepare a rough draught on any one of the following topics the Rough draught should have complete and detailed information along with the critical analysis of the topics.

### **Some suggested topics for project work are:**

- (1) To explore how society itself functions. Is it harmonious or conflict ridden? Are status and roles fixed? And what kinds of inequalities exist?
- (2) Sociology and Society
- (3) Relationships between Sociology and other social science
- (4) Role of Family in Society
- (5) Marriage
- (6) Social Groups
- (7) Social Stratification

- (8) Kinship
- (9) Socialization
- (10) Dimension of Culture
- (11) Rural and Urban Societies

**Students should prepare the Sociology project under the following headings**

1. Acknowledgement
2. Index
3. Cover page
4. Project synopsis
5. Data/Statistical analysis
6. Analysis/Explanation and Interpretation
7. Conclusion
8. Bibliography

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## **SUBJECT – ENTREPRENEURSHIP**

### **A. PROJECT WORK:**

[Case study on any one UNICORN Company of India]

- Introduction
- Journey towards Entrepreneurship
- Contribution in Economy
- Achievements and Acknowledgements
- Business Mantra
- Message to youth

❖ Collect the information covering the above aspects and then write neatly on A4 size ruled thick sheets. Project should be hand written with minimum of 15 sheets. Be creative.

### **B. Choose the correct option:**

1. Entrepreneurship is the process of:  
a) Earning salary  
b) Starting and managing a business venture  
c) Working in an office  
d) Saving money
2. An entrepreneur is a person who:  
a) Avoids risk  
b) Takes initiative and organizes resources  
c) Works under someone  
d) Only invests money
3. Which of the following is a key function of an entrepreneur?  
a) Risk-bearing  
b) Innovation  
c) Decision making  
d) All of these
4. Innovation means:  
a) Copying ideas  
b) Creating something new  
c) Selling products  
d) Hiring workers
5. Who introduced the concept of innovation in entrepreneurship?  
a) Adam Smith  
b) Joseph Schumpeter  
c) Peter Drucker  
d) Karl Marx

6. Risk-bearing means:
  - a) Avoiding uncertainty
  - b) Taking responsibility for losses
  - c) Managing employees
  - d) Planning production
7. Which of the following is a reward of entrepreneurship
  - a) Salary
  - b) Profit
  - c) Rent
  - d) Interest
8. Which function involves combining various factors of production?
  - a) Innovation
  - b) Organising
  - c) Risk-taking
  - d) Planning
9. An entrepreneur is also called:
  - a) Manager
  - b) Leader
  - c) Innovator
10. Entrepreneurship contributes to:
  - a) Economic development
  - b) Employment generation
  - c) Innovation
  - d) All of these

### C. DESCRIPTIVE QUESTIONS:

1. Define Entrepreneurship. Discuss the process of Entrepreneurship.
2. Discuss the Advantages and Disadvantages of Entrepreneurship.
3. Describe any five Managerial functions of an entrepreneur.
4. Discuss the various myths of entrepreneurship.
5. Explain the importance of entrepreneurship in Indian economy.

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## SUBJECT – MASS MEDIA

- A. Engage yourself in watching a movie **The Godfather**

OR

### A Satyajit Ray Movie

- Write the review of the movie.
- The plot of the same.
- Your favourite character and the reason why.
- Also frame five questions you will ask your favourite character in the movie if you get to meet them.

- B. Prepare a portfolio file separate for the entire year.  
Do **EIGHT** Portfolio Questions for Holiday Homework.

- C. Revise all the chapters done.

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## SUBJECT – SANSKRIT

### ग्रीष्मावकाश गृहकार्य

1. भू , कृ, लभ्, दृश् धातुओं के रूप लट्, लृट्, लङ्, लोट्, विधिलिङ् लकारों में लिखें। (नोट बुक में)
2. किम् शब्द के रूप पुल्लिंग, स्त्रीलिंग में तथा पितृ, गुरु, भवत्, नदी के रूप लिखें। (नोट बुक में)
3. 'भगवद् गीता' आधारित कोई सात श्लोक अर्थ सहित लिखें एवं कंठस्थ करें। (प्रयोजना कार्य फाइल में)

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## **SUBJECT – PHYSICAL EDUCATION**

- 1. Standard 400 M Track**
  - (a) Draw Labelled diagram of 400 M Track
  - (b) Calculate Marking Radius for 400 M Track.
- 2. Students to describe Changing Trends in Sports & Games in terms of changes in**
  - (a) Playing Surface
  - (b) Wearable gears
  - (c) Equipment
  - (d) Technological advancements
- 3. Anyone IOA recognized Sport/Game**
  - (a) Draw Labelled diagram of Field & Equipment and show all the specifications.
  - (b) Rules, Terminologies & Skills.

**Note: Students have to write these three Practicals in Practical Lab Manual.**

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## **SUBJECT – COMPUTER SCIENCE**

**Answer the following:**

1. What is a Computer System? Explain its components.
2. Define Hardware and Software with examples.
3. What is the difference between System Software and Application Software?
4. Explain the functions of:
  - CPU
  - Memory
  - Input Devices
  - Output Devices
5. What is an Operating System? Write its functions.
6. Explain different types of memory (Primary & Secondary).
7. What is Data Representation in computers?
8. Explain:
  - a. Binary Number System
  - b. Decimal Number System
  - c. Hexadecimal Number System
9. Convert the following:
  - d.  $(1011)_2$  to Decimal
  - e.  $(25)_{10}$  to Binary
  - f.  $(7F)_{16}$  to Decimal
10. What is Character Encoding?  
Explain ASCII and Unicode.

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## **SUBJECT – HINDUSTANI VOCAL MUSIC**

1. Learn Definition about : Nada , Shruti , Swar , Saptak
2. Brief study of the following: Dhrupad , khyal , tarana

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## **SUBJECT – PAINTING**

**Practical 1- Draw and color a color wheel on Buff sheet.**

**Medium** : Poster color

**Practical 2- Draw a fruit/ vegetable composition on Buff sheet.**

**Medium**: Poster/ Water color

-----X-----

## **SUBJECT – DANCE**

Write definitions and do practical exercise as well

Thaat , aamad , gat nikaas , gat bhaav

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