



DELHI PUBLIC SCHOOL, BHILAI

Date : 25.09.2025

MIDTERM EXAMINATION 2025

Time : 3 Hrs.

Class : XI

SUBJECT : PHYSICS

M.M. : 70

Name : _____

Roll No. : _____

General Instructions :

- There are 33 questions in all. All questions are compulsory.
- This question paper has five sections : A, B, C, D and E.
- All the sections are compulsory.
- **Section A** contains sixteen questions, twelve MCQs and four Assertion-Reasoning based of 1 mark each. **Section B** contains five questions of two marks each.
- **Section C** contains seven questions of three marks each.
- **Section D** contains two case study based questions of four marks each and
- **Section E** contains three long answer questions of five marks each.
- There is no overall choice. However, an internal choice has been provided in one question in Section B, one question in Section C, one question in each MCQ in Section D and all three questions in Section E. You have to attempt any one of the choices in such questions.
- Use of calculator is not allowed.

SECTION – A

- Which of the following pairs have the same dimensions:
(A) specific heat and latent heat (B) Surface tension and force constant
(C) Surface tension and force (D) Moment of inertia and torque (1)
- Number of significant figures in 8.320 J is-
(A) 1 (B) 2 (C) 3 (D) 4 (1)
- A ball is thrown vertically upwards. Ignoring air resistance, which one of the following plots represents the velocity-time plot for the period ball remains in air? (1)

(a)

(b)

(c)

(d)
- A body projected vertically upwards with a certain speed from the top of a tower reaches the ground in t_1 . If it is projected vertically downwards from the same point with the same speed, it reaches the ground in t_2 . Time required to reach the ground, if it is dropped from the top of the tower is:
(A) $\sqrt{t_1 t_2}$ (B) $\sqrt{t_1 - t_2}$ (C) $\sqrt{t_1 / t_2}$ (D) $\sqrt{t_1 + t_2}$ (1)
- If $|\vec{A} + \vec{B}| = |\vec{A} - \vec{B}|$, the angle between $\vec{A}$ and $\vec{B}$ will be:
(A) 90° (B) 45° (C) 60° (D) 0° (1)
- At the uppermost point of a projectile, its velocity and acceleration are at an angle of:
(A) 180° (B) 90° (C) 45° (D) 0° (1)
- What is the value of linear velocity, if $\vec{r} = 3\hat{i} - 4\hat{j} + \hat{k}$ and $\vec{\omega} = 5\hat{i} - 6\hat{j} + 6\hat{k}$
(A) zero (B) $18\hat{i} + 13\hat{j} - 2\hat{k}$ (C) $3\hat{i} - 14\hat{j} + 3\hat{k}$ (D) $3\hat{i} - 6\hat{j} + 3\hat{k}$ (1)
- An object is thrown vertically upwards. At its maximum height, which of the following quantity becomes zero?
(A) Momentum (B) Force (C) Acceleration (D) Potential energy (1)
- A body of mass ' m ' tied to one end of a string is rotating in a vertical circle. The difference in tensions in string at the highest and the lowest points is:
(A) zero (B) mg (C) $3mg$ (D) $6mg$ (1)
- A horizontal force of 10N is necessary to just hold a block stationary against a wall. The coefficient of friction between the block and the wall is 0.2. The weight of the block is:
(A) 20N (B) 50N (C) 2N (D) 100N (1)

Contd...2

11. A body is moving unidirectionally under the influence of a source of constant power. Its displacement in time t is proportional to:
 (A) $t^{1/2}$ (B) t (C) $t^{3/2}$ (D) t^2 (1)
12. If the kinetic energy of a moving body becomes four times its initial kinetic energy, then the percentage change in its momentum will be:
 (a) 50% (B) 100% (C) 125% (D) 25% (1)

For Questions 13 to 16, two statements are given – one labelled Assertion (A) and other labelled Reason (R). Select the correct answer to these questions from the options given below:

- (A) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).
 (B) Both Assertion (A) and Reason (R) are true and Reason (R) is not the correct explanation of Assertion (A).
 (C) Assertion (A) is true but Reason (R) is false.
 (D) Assertion (A) and Reason (R) both are false.
13. **Assertion (A) :** Work done in moving a body over a closed loop is zero for every force in nature.
Reason (R) : Work done does not depend on nature of force.. (1)
14. **Assertion (A) :** Two balls of different masses are thrown vertically upward with same speed. They will pass through their point of projection in the downward direction with the same speed.
Reason (R) : The maximum height and downward velocity attained at the point of projection are independent of the mass of the ball. (1)
15. **Acceleration (A) :** Use of ball bearings between two moving parts of a machine is a common practice.
Reason (R) : Ball bearings reduces vibrations and provide good stability. (1)
16. **Assertion (A) :** The speedometer of an automobile measures the average speed of the automobile.
Reason (R) : Average velocity is equal to total distance divided by total time taken. (1)

SECTION – B

17. Find the dimensions of 'a' and 'b' in the relation $P = \frac{a-t^2}{bx}$; where P is pressure, x is distance and t is time. (2)
18. The angular velocity of a particle moving along a circle of radius 50 cm is increased in 5 minutes from 100 revolutions per minute to 400 revolutions per minute. Calculate angular acceleration and linear acceleration. (2)
19. (A) What is zero vector? (2)
 (B) State triangle law of vector addition.
20. An elevator which can carry a maximum load of 1800 kg (elevator + passengers) is moving up with a constant speed of 2 m/s. The frictional force opposing the motion is 4000 N. Determine the minimum power delivered by the motor to the elevator in watts. (Take $g=10 \text{ m/s}^2$) (2)
21. An object of 15 kg is suspended by a rope of length 4 m, from the ceiling. A force F is applied horizontally at the midpoint of the rope such that the top half of the rope makes an angle 45° with the vertical. What is the value of force F. (2)

OR

A monkey of mass 20 kg is holding a vertical rope. The rope will not break when a mass of 25 kg is suspended from it but will break if the mass exceeds 25 kg. What is the maximum acceleration with which the monkey can climb up along the rope? ($g=10 \text{ m/s}^2$) (2)

SECTION – C

22. (A) Calculate the value of 100J on a system which has 20cm, 250g and half minute as fundamental units of length mass and time.
 (B) Write two limitations of dimensional analysis. (2+1)
23. Derive the following equation of motion by graphical method:
 (i) $S = ut + \frac{1}{2}at^2$ (ii) $v^2 = u^2 + 2as$ (3)
- OR
- Derive following equation of motion by calculus method;
 (i) $S = ut + \frac{1}{2}at^2$ (ii) $v^2 = u^2 + 2as$ (3)
24. The period of vibration of a tuning fork may be assumed to depend on the:
 (i) length 'l' of its prong
 (ii) density 'd' and
 (iii) Young's modulus 'Y' of its material. Deduce by the method of dimensions the formula for the period of vibration. (3)

25. (A) A particle is projected an angle θ from the horizontal with kinetic energy K . What is the kinetic energy of the particle at the highest point?
 (b) The greatest height to which a man can throw a stone is h . What will be the greatest distance upto which he can throw the same stone?
 (c) At what point in its trajectory does a projectile have its (i) minimum speed and (ii) maximum speed? (3)
26. State and prove work energy theorem for a variable force. (3)
27. Derive expression for centripetal acceleration of body in uniform circular motion. Write its direction. (3)
28. (A) State law of conservation of linear momentum.
 (B) A shell of mass 0.02 kg is fired by a gun of mass 100 kg . If the muzzle speed of the shell is 80 m/s , calculate the recoil speed of the gun. (1+2)

SECTION - D

29. **Case Study – VECTORS:** (1x4=4)

The physical quantities having magnitude and direction are called vector quantities. The sum of two vectors of the same kind gives a new vector of the same type. There are two laws of vector addition- triangle law and parallelogram law of vector addition. The splitting of two vectors into its component vectors is called resolution of vectors. The product of two vectors are dot product and the cross product.

- (i) Two vectors, both equal in magnitude, have their resultant equal in magnitude of the either. The angle between two vectors is-
 (A) 45° (B) 90° (C) 0° (D) 120°
- (ii) The value of λ in the unit vector $0.4\hat{i} + 0.8\hat{j} + \lambda\hat{k}$ is:
 (A) $\sqrt{0.1}$ (B) $\sqrt{0.2}$ (C) $\sqrt{0.3}$ (D) zero
- (iii) The magnitude of the vector product of two vectors is equal to:
 (A) half the area of triangle formed by two vectors
 (B) twice the area of triangle formed by vectors as its adjacent sides
 (C) area of parallelogram formed by two vectors as its adjacent sides
 (D) both (B) and (C)
- (iv) A force is inclined at 60° to the horizontal. If its rectangular component in the horizontal direction be 40 N , then its magnitude is :
 (A) 20 N (B) 40 N (C) 80 N (D) 120 N .

OR

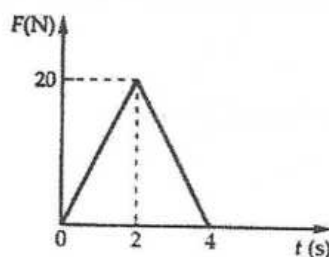
Which of the following is the correct relation between an arbitrary vector $\vec{A}$ and the null vector $\vec{O}$?

- (A) $\vec{A} + \vec{O} + \vec{A} \times \vec{O} \neq \vec{A}$ (B) $\vec{A} + \vec{O} + \vec{A} \times \vec{O} = \vec{O}$
 (C) $\vec{A} + \vec{O} + \vec{A} \times \vec{O} = \vec{A}$ (D) none of these

30. **Case Study – IMPULSE:** (1x4=4)

A large force acting for a short time to produce a finite change in momentum is called an impulsive force. For example- Blow of a hammer on a nail. Impulsive forces usually vary in an abrupt and complicated manner. It is difficult to measure force and time duration separately in such situations. Impulse is the total effect of a large force which acts for very short duration. The impulse of a force can be positive, negative or zero depending on the momentum of the body increases, decreases or remains unchanged.

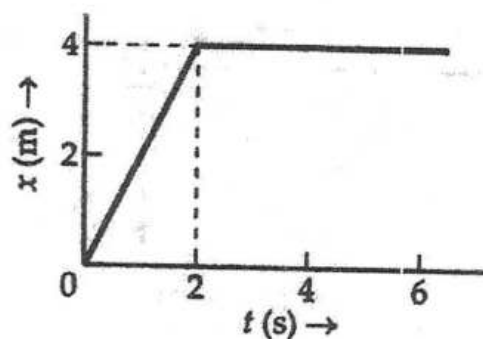
- (i) A particle is moving in a circle with uniform speed v . In moving from appoint to another diametrically opposite point-
 (A) the momentum changes by mv (B) the momentum changes by $2mv$
 (C) the kinetic energy changes by $\frac{1}{2}mv^2$ (D) the kinetic energy changes by mv^2 .
- (ii) A ball strikes a bat with velocity v . The ball has mass m and after striking it retraces its path. What is the impulse imparted by the bat-
 (A) $3mv$ (B) $2mv$ (C) zero (D) mv
- (iii) The dimension formula of impulse is same as that of-
 (A) Power (B) Stress (C) momentum (D) work
- (iv) A body is initially at rest on a smooth surface. A force F , whose time variation is shown in the figure acts on it for a duration of 4 s . The momentum of ball at the end of the 4 s is-



- (A) 10 (B) 20 (C) 30 (D) 40

OR

The position-time graph of a particle of mass 0.1 kg is shown in the figure. The impulse at $t=2$ s is-



- (A) 0.1 kgm/s (B) -0.4 kgm/s (C) 0.2 kgm/s (D) -0.2kgm/s

SECTION – E

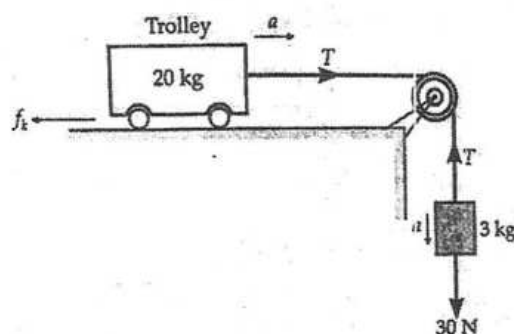
31. (A) What is elastic collision? Show that in an elastic one-dimensional elastic collision between two bodies, the relative velocity of approach is equal to the relative velocity of separation after the collision.
 (B) Calculate the percentage of kinetic energy of moving particle transferred to a stationary particle, when moving particle strikes with a stationary particle of 9 times in mass. (3+2)

OR

- (A) Draw a plot of spring force f_s and displacement x . Hence find an expression for the potential energy of an elastic stretched spring.
 (B) Two springs have force constant k_1 and k_2 ($k_1 > k_2$). Explain, on which spring is more work done, if (i) they are stretched by the same force and (ii) they are stretched by the same amount? (3+2)
- 32 (A) An object is projected from ground with velocity u making an angle θ with horizontal. Show that its path is parabolic.
 (B) A ball is thrown from the ground with a velocity of $20\sqrt{3}$ m/s making an angle of 60° with the horizontal. Calculate the time after which the ball will be at a height of 40m from the ground? (3+2)

OR

- (A) An object is projected from ground with velocity u making an angle θ with horizontal. Derive expressions for its (i) Time of flight (ii) Maximum Height and (iii) Horizontal range.
 (B) A projectile has a horizontal range of 40m and attains a height of 10m. in oblique projection. Calculate the angle at which the projectile is fired? (3+2)
- 33 (A) Define angle of friction and angle of repose. Deduce its relation with coefficient of friction. Draw necessary diagrams.
 (B) Calculate the acceleration of the block and the trolley system shown in the figure, if the coefficient of kinetic friction between the trolley and the surface is 0.04? What is the tension in the string? Take $g=10 \text{ m/s}^2$. Neglect the mass of the string. (3+2)



OR

- (A) What is banking of road? Determine the angle of banking so as to minimize the wear and tear of the tyres of a car negotiating a banked curve. Draw necessary diagram.
 (B) A circular race track of radius 300m is banked at an angle of 15° , if the coefficient of friction between the wheels of the car and the road is 0.2, what is (i) optimum speed of the race car to avoid wear and tear on its tyres, and (ii) maximum permissible speed to avoid slipping? (Take $g=10 \text{ m/s}^2$ and $\tan 15^\circ=0.2679$) (3+2)

**DELHI PUBLIC SCHOOL, BHILAI**

Date : 25.09.2025

MIDTERM EXAMINATION 2025

Time : 3 Hrs.

Class : XI

SUBJECT : ACCOUNTANCY (055)

M.M. : 80

Name : _____

Roll No. : _____

General Instructions:

1. This question paper contains 34 questions. All questions are compulsory.
2. Question Nos.1 to 20 carries 1 mark each.
3. Questions Nos. 21 to 26 carries 3 marks each.
4. Questions Nos. from 27 to 29 carries 4 marks each
5. Questions Nos. from 30 to 34 carries 6 marks each
6. There is no overall choice. However, an internal choice has been provided in 7 questions of one mark, 2 questions of three marks, 1 question of four marks and 2 questions of six marks.

Q. No.		Marks																																			
1	Which of the following statements is/are incorrect in relation to a business transaction? I. Bought furniture of ₹ 10,000 for business. II. Paid for salaries of employees ₹ 5,000. III. Paid sons' fees from her personal bank account ₹ 20,000. IV. Paid sons' fees from business ₹ 2,000. Codes (A) I and II (B) II and III (C) Only III (D) Only IV OR Match the following <table><tr><th>Column I</th><th>Column II</th></tr><tr><td>a. Amount invested by the owner</td><td>(i) Drawings in the business</td></tr><tr><td>b. Amount withdrawn by the owner</td><td>(ii) External users</td></tr><tr><td>c. Tax authorities</td><td>(iii) Internal users</td></tr><tr><td>d. Employees</td><td>(iv) Capital</td></tr></table> Codes <table><tr><td></td><td>a.</td><td>b.</td><td>c.</td><td>d.</td></tr><tr><td>(A)</td><td>(i)</td><td>(ii)</td><td>(iii)</td><td>(iv)</td></tr><tr><td>(B)</td><td>(ii)</td><td>(iii)</td><td>(i)</td><td>(iv)</td></tr><tr><td>(C)</td><td>(iv)</td><td>(i)</td><td>(ii)</td><td>(iii)</td></tr><tr><td>(D)</td><td>(iii)</td><td>(iv)</td><td>(i)</td><td>(ii)</td></tr></table>	Column I	Column II	a. Amount invested by the owner	(i) Drawings in the business	b. Amount withdrawn by the owner	(ii) External users	c. Tax authorities	(iii) Internal users	d. Employees	(iv) Capital		a.	b.	c.	d.	(A)	(i)	(ii)	(iii)	(iv)	(B)	(ii)	(iii)	(i)	(iv)	(C)	(iv)	(i)	(ii)	(iii)	(D)	(iii)	(iv)	(i)	(ii)	1
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	a.	b.	c.	d.																																	
(A)	(i)	(ii)	(iii)	(iv)																																	
(B)	(ii)	(iii)	(i)	(iv)																																	
(C)	(iv)	(i)	(ii)	(iii)																																	
(D)	(iii)	(iv)	(i)	(ii)																																	
2	Which of the following is correct with respect to objectives of accounting? (A) To ascertain profit or loss (B) To communicate accounting information to its users (C) To protect business assets (D) All of the above	1																																			
3	Use of common unit of measurement and common format of reporting promotes (A) comparability (B) understandability (C) relevance (D) reliability OR The amount received or receivable by selling assets, goods or services is known as (A) receipts (B) profit (C) income (D) gain	1																																			
4	Assertion (A) : Bank overdraft is a liability. Reason (R) : Liability means the amount owed by the business to the outsiders and to the owners. Alternatives (A) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A) (B) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of Assertion (A) (C) Assertion (A) is false, but Reason (R) is true (D) Assertion (A) is true, but Reason (R) is false	1																																			
5	Outstanding salary' of the current year, though not paid, is shown in the profit and loss account as per which accounting concept? (A) Historical cost concept (B) Matching concept (C) Prudence or conservatism concept (D) None of the above OR Which of the following statement is incorrect? (A) A transaction is recorded at the time it takes place (B) Accounting policies and practices should not be changed year after year (C) All the transactions are recorded in the books on the assumption that it is a non-continuing enterprise (D) All are correct	1																																			

6	Choose the correct option in respect of objectives of GST. (A) Eliminate classification dispute between goods (B) Bring uniformity in tax rates (C) Ensure free movement of goods across the country without any additional tax (D) All of the above	1
	Direction Read the following case study and answer the questions 7 and 8 on the basis of the same The founders and promoters of the company hold the highest number of shares of the company, approximately around 55%. All these founders belong to a single family. Unfortunately, all of them died in a car accident recently. However, the company continued to exist and grow. In the year 2004, the company imported multiple machines for producing low-cost plastic sheets. The machines were recorded at the price prevailing in 2004 and have been subjected to depreciation year on year based on written down value method. The depreciation is treated as a non-cash expense while preparing the cash flow statement.	
7	Which principle is highlighted in the fact that the company continued even after death of the founders? (A) Business entity principle (B) Money measurement principle (C) Duality principle (D) Historical cost principle	1
8	Which principle is highlighted in the line, "The machines were recorded at the price prevailing in 2004" ? (A) Full disclosure principle (B) Conservatism principle (C) Duality principle (D) Historical cost principle	1
9	It is prepared when seller receives goods returned from the buyer. (A) Debit note (B) Invoice (C) Credit note (D) Receipt	1
10	Which of these information is presented on invoice? I. Party to whom goods are sold II. Goods sold III. Total sale amount Codes (A) I and II (B) II and III (C) I and III (D) All of these OR Raghav purchased furniture on credit ₹ 20,000 and paid rent in advance ₹ 1,000. As per final equation, total of capital and liabilities was ₹ 1,20,000. What will be the amount of cash in final equation? (A) ₹ 1,00,000 (B) ₹ 99,000 (C) ₹ 1,20,000 (D) ₹ 90,000	1
11	"Paid security deposit for a telephone connection." Security deposit will be considered as (A) an expense (B) an asset (C) a liability (D) capital OR In which book, all accounts are opened? (A) Journal (B) Ledger (C) Cash Book (D) Journal Proper	1
12	Sold goods to Rahim ₹ 10,000 plus CGST and SGST 6% each. Allowed cash discount 5%. On what amount GST will be levied? (A) ₹ 10,000 (B) ₹ 9,500 (C) ₹ 9,000 (D) None of these	1
13	"Income tax paid ₹ 2,000." Which accounts are to be debited and credited? (A) Income Tax A/c (Dr), Cash A/c (Cr) (B) Drawings A/c (Dr), Cash A/c (Cr) (C) Capital A/c (Dr), Cash A/c (Cr) (D) Either (A), (B) or (C) OR Why 'outstanding rent account' is credited in above journal entry? (A) Because outstanding rent is an income (B) Because outstanding rent is a liability (C) Because outstanding rent is an asset (D) None of the above	1
14	If the GST rate is 18% then rate of CGST will be in case of sale/purchase of goods and services within the state. (A) 10% (B) 9% (C) 12% (D) None of these	1
15	Assertion (A) : Discount received from Ajay will not be recorded in bank or cash column. Reason (R)n: The transactions i.e. discount received from Ajay does not involve cash or bank account. Alternatives (A) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A). (B) Both Assertion (A) and Reason (R) are true, but Reason (R) is not the correct explanation of Assertion (A). (C) Assertion (A) is false, but Reason (R) is true. (D) Assertion (A) is true, but Reason (R) is false.	1

16	On 1 st April, 2025, the balance of cash column of cash book stood at ₹ 50,000. After paying salaries of ₹ 20,000, receiving ₹ 20,000 from debtors and giving a cheque of ₹ 5,000 to a creditor Sanjay, balance of cash will be (A) ₹ 45,000 (B) ₹ 50,000 (C) ₹ 70,000 (D) ₹ 85,000	1
17	A column for 'debit note' is made in (A) sales book (B) purchase book (C) sales return book (D) purchase return book OR Credit note is used to prepare (A) sales return book (B) purchase book (C) sales book (D) purchase return book	1
18	Which of the following transactions will be recorded in purchase book? (A) Goods purchased for cash (B) Machine purchased on credit (C) Goods purchased on credit (D) Stationery purchased on credit	1
19	Depreciation charged on machinery' should be recorded in (A) cash book (B) purchase book (C) Sales Book (D) Journal proper	1
20	Accrued commission ₹ 5,000 and purchase ₹ 30,000 will be shown (A) in debit column and credit column respectively of trial balance (B) in credit column and debit column respectively of trial balance (C) in credit column of trial balance (D) in debit column of trial balance	1
21	Give three differences between accrual and cash basis of accounting? OR Vijay, a Chartered Accountant earned ₹ 12,00,000 during the financial year 2024-25, out of which he received ₹ 10,50,000. He incurred expenses of ₹ 5,10,000, out of which ₹ 1,20,000 are outstanding. He also received his fees relating to previous year ₹ 1,35,000 and also paid ₹ 60,000 due on expenses of last year. Find out Vijay's income for 2024-2025 following the cash basis and accrual basis of accounting.	3
22	On 1st April, 2024, Rahul started business with a capital of ₹ 4,00,000 and a loan of ₹ 4,00,000 borrowed from a friend. During the year, he earned a profit of ₹ 2,00,000 introduced additional capital of ₹ 2,00,000 and had withdrawn ₹ 1,20,000 for personal use. On 31st March, 2025, the total assets were ₹ 11,00,000. Calculate the external equity as on 31 st March, 2025. OR What is a compound voucher? What are its types?	3
23	Name the term associated with the following. (i) The articles in which a business deals. (ii) The amount invested by the owner in the business. (iii) The person who owes amount to the business on account of credit sales of goods or services. (iv) The person to whom amount is owed on account of credit purchases of goods or services. (v) The amount not being recoverable from debtor who declared insolvent. (vi) The articles which are held by an enterprise for the purpose of sale.	3
24	Explain any three advantages of sub-dividing the journal.	3

25

Complete the missing information.

3

JOURNAL

Date	Particulars	LF	Amt (Dr)	Amt (Cr)
2025 April 5	 Dr To To (Being goods of the list price of ₹ 4,000 purchased at 20% trade discount and 5% cash discount)			
April 8	 Dr To..... (Being goods costing ₹ 7,500 sold at profit of 1/3 rd on cost)			
April 10	 Dr To (Being plant purchased for ₹ 50,000 and installation charges paid ₹ 1,000)			

26	Classify these commonly used accounts into assets, liabilities, capital, revenue and expense. (i) Building (ii) Wages (iii) Sales (iv) Return outward (v) Outstanding electricity bills (vi) Prepaid rent	3																																
27	Prepare Aryan and Amrit Account from the following and balance : 2024 Apr 1 Bought goods from Amrit, Kanpur on credit 50,000 Apr 2 Sold goods to Aryan, Delhi on credit 40,000 Apr 10 Goods returned to Amrit 5,000 Apr 15 Paid to Amrit in cash on account 10,000 Apr 19 Paid to Amrit by cheque in full settlement 34,500 Apr 23 Aryan returned goods 4,000 Apr 27 Aryan paid in full settlement 35,000 Amount (₹)	4																																
28	From the following balances, prepare a trial balance. <table><tr><th>Name of Accounts</th><th>Amount (₹)</th></tr><tr><td>Furniture</td><td>1,50,000</td></tr><tr><td>Capital</td><td>1,40,000</td></tr><tr><td>Electricity Charges</td><td>9,000</td></tr><tr><td>Creditors</td><td>9,000</td></tr><tr><td>Inventory</td><td>9,000</td></tr><tr><td>Computer</td><td>90,000</td></tr><tr><td>Outstanding Interest</td><td>500</td></tr><tr><td>Stationery</td><td>800</td></tr><tr><td>Bad Debts</td><td>1,900</td></tr><tr><td>Bad Debts Recovered</td><td>700</td></tr><tr><td>Outstanding Wages</td><td>5,000</td></tr><tr><td>Rent Received in Advance</td><td>56,500</td></tr><tr><td>Loan</td><td>50,000</td></tr><tr><td>Telephone Expenses</td><td>500</td></tr><tr><td>Drawings</td><td>500</td></tr></table> OR Explain any four functions of a trial balance?	Name of Accounts	Amount (₹)	Furniture	1,50,000	Capital	1,40,000	Electricity Charges	9,000	Creditors	9,000	Inventory	9,000	Computer	90,000	Outstanding Interest	500	Stationery	800	Bad Debts	1,900	Bad Debts Recovered	700	Outstanding Wages	5,000	Rent Received in Advance	56,500	Loan	50,000	Telephone Expenses	500	Drawings	500	4
Name of Accounts	Amount (₹)																																	
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Capital	1,40,000																																	
Electricity Charges	9,000																																	
Creditors	9,000																																	
Inventory	9,000																																	
Computer	90,000																																	
Outstanding Interest	500																																	
Stationery	800																																	
Bad Debts	1,900																																	
Bad Debts Recovered	700																																	
Outstanding Wages	5,000																																	
Rent Received in Advance	56,500																																	
Loan	50,000																																	
Telephone Expenses	500																																	
Drawings	500																																	
29	Enter the following transactions in the purchase journal (book) of M/s Samar Stationery Traders of July, 2025. July 1 Bought from Rahul Traders as per Invoice no. 20041 40 registers @ ₹ 60 each 80 gel pens @ ₹ 15 each 50 note books @ ₹ 20 each Trade discount @ 10% July 15 Bought from Global Stationers as per Invoice no. 1132 40 ink pads @ ₹ 78 each 50 files @ ₹ 10 each 20 colour books @ ₹ 20 each Trade discount @ 5% July 23 Purchased from Lamba Furniture as per Invoice no.3201 2 chairs @ 7600 per chair 1 table @ 1,000 per table July 25 Bought from Mumbai Traders as per Invoice no. 1111 10 paper rim @ ₹ 100 each 400 drawing sheets @ ₹ 3 per sheet 20 packet water colour each packet 24 dozen @ ₹ 40 per dozen Trade discount 10%	4																																
30	Journalise the following transactions in the books of Pankaj. (i) Opened a current account with Punjab National Bank ₹ 1,00,000. (ii) Received a cheque of ₹ 12,900 from Samar and allowed discount ₹ 300 to him. (iii) Purchased machinery for ₹ 1,00,000, payment made by cheque. Installation charge of machinery ₹ 6,000 paid in cash. (iv) Purchased a horse for business for ₹ 20,000. (v) Sold goods to Gita at a list price of ₹ 4,000. Trade discount @ 10% and cash discount @ 5%. He paid the amount on the same day and availed the cash discount. (vi) Cash ₹ 10,000 and goods worth ₹ 40,000 were stolen.	6																																

31	"The purpose of this branch of accounting is the assist management for taking sound decisions for smooth operations of the business." (i) Discuss the branch of accounting reflected in above statement. (ii) Discuss any two other branches of accounting. OR Explain four main objectives of accounting?	6
32	Name the accounting concept or convention associated with the following (i) Assets are recorded at cost, irrespective of the market price. (ii) Life of a business should be divided into smaller periods. (iii) Accounting transactions should be free from bias of accountants and others. (iv) Quality of management is not recorded in books (v) Provision should be made for pending law suit against firm (vi) Change in method of valuation of stock is shown in footnotes	6
33	Prepare the accounting equation from the following transactions (i) Commenced business with cash ₹ 80,000. (ii) Opened a bank account with ₹ 30,000. (iii) Purchased goods for cash ₹ 30,000 and for ₹ 35,000 on credit. (iv) Paid to creditors by cheque ₹ 35,000. Bank granted overdraft. (v) Paid rent ₹ 500. (vi) Purchased furniture for office ₹ 8,000.	6
34	Enter the following transactions in two column cash book with cash and bank column. 2024 April 1 Cash in hand ₹ 70,000 April 1 Bank overdraft ₹ 15,000 April 2 Appointed a salesman for salary of ₹ 5,000 per month. Paid advance ₹ 2,000 April 3 Rent paid ₹ 10,000 out of which 75% relates to proprietor's residence April 5 Purchased goods from Aryan ₹ 18,000 April 7 Received a cheque from Anuj after banking hours ₹ 16,000 April 10 Sold goods to Rohan for ₹ 22,000. Only half amount received by cheque April 15 Paid rent in advance ₹ 6,000 April 18 Proprietor withdrew ₹ 3,000 for travelling expense (personal) from bank account April 20 Cheque received from Anuj deposited into bank account April 22 Paid fire insurance premium ₹ 6,000. Out of which ₹ 1,500 belongs to next year April 30 Deposited cash into bank in excess of ₹ 20,000 OR Record the following transactions in the 'journal proper' of Shree Daljeet Traders. (i) Interest accrued on investment ₹ 400. (ii) Atul who owed us ₹ 50,000 was declared insolvent and 40% is received as full and final payment. (iii) Goods worth ₹ 60,000 were destroyed by fire. (iv) A bill receivable for ₹ 20,000 was endorsed to Mr. Sharma. (v) Debtors include ₹ 5,000 due from Ajay, whereas creditors include ₹ 2,000 due to Ajay. (vi) Insurance is prepaid to the extent of ₹ 1,500.	6



DELHI PUBLIC SCHOOL, BHILAI

Date : 18.09.2025

MIDTERM EXAMINATION 2025

Time : 3 Hrs.

Class : XI

SUBJECT : ENGINEERING GRAPHICS

M.M. : 70

Name : _____

Roll No. : _____

GENERAL INSTRUCTIONS:

- i. Use both side of drawing sheet if necessary.
- ii. All dimensions are in mm.
- iii. Missing and mismatching dimension if any may be suitably assumed.
- iv. Follow the SP: 46-2003 revised codes with first angle method of projection.

1. Write the following sentence in single stroke capital letters in 10 mm letter height:
"I love my country" (05)
2. Construct a parallelogram ABCD with AB=50 mm, BC=60 mm and $\angle D = 85^\circ$. (05)
3. Draw a regular triangle of side = 55 mm. Inscribe a circle in it. (06)
4. Draw an external common tangent to two circles of equal radii of 20 mm each when their centres are 45 mm apart. (06)
5. Construct a regular Pentagon using general method, given the length of its side as 40 mm. (07)
6. Construct a quadrilateral with AB = 45 mm, BC = 55 mm, CD = 40 mm, AD = 60 mm,
AC = 70 mm. (07)
7. Draw the projections of a point 50 mm from both the reference planes, assuming it to be located in all four quadrants by turn. (08)
8. Draw the projection of a line PQ, 25 mm long, in the following positions.
(i) Perpendicular to the H.P., 20 mm in front of V.P. and its one end 15 mm above the H.P.
(ii) Perpendicular to the V.P., 25 mm above the H.P. and its end in the V.P. (08)
9. Draw the projection of a 30 mm long Straight line MN, in the following positions.
(i) Parallel to both H.P. and V.P. and 25 mm above H.P. and 20 mm in front of V.P.
(ii) Parallel to and 30 mm above H.P. and in the V.P. (08)
10. Draw projections of a line AB of length 100 mm if its one end is 15 mm above the H.P. and 20 mm in front of V.P. in the following positions
(i) it is parallel to V.P. and inclined at 30° to H.P.
(ii) it is parallel to H.P. and inclined at 45° to V.P. (10)

ॐॐॐ ॐॐॐ



DELHI PUBLIC SCHOOL, BHILAI

Date : 18.09.2025

MIDTERM EXAMINATION 2025

Time : 3 Hrs.

Class : XI

SUBJECT : COMPUTER SCIENCE

M.M. : 70

Name : _____

Roll No. : _____

General Instructions:

- This question paper contains **37 questions**.
- All questions are compulsory. However, internal choices have been provided in some questions. Attempt only one of the choices in such questions.
- The paper is divided into **5 Sections - A, B, C, D and E**.
- **Section A** consists of 21 questions (1 to 21). Each question carries **1 mark**.
- **Section B** consists of 7 questions (22 to 28). Each question carries **2 marks**.
- **Section C** consists of 3 questions (29 to 31). Each question carries **3 marks**.
- **Section D** consists of 4 questions (32 to 35). Each question carries **4 marks**.
- **Section E** consists of 2 questions (36 to 37). Each question carries **5 marks**.
- All programming questions are to be answered using Python language only.
- In case of MCQ, text of the correct answer should also be written.

Q. No	Section-A (21x1 = 21 marks)	Marks
1	The Arithmetic Logic Unit performs which arithmetical operation? (A) (+, -, *, /) (B) (True, False) (C) (<, >, =, >=, <=) (D) All of these	1
2	Arrange the following measurement units of memory in ascending order as per their storage capacity? (1.) BYTE, (2.) MB, (3.) GB, (4.) KB (A) 1,2,3,4 (B) 4,3,2,1 (C) 1,4,2,3 (D) 1,4,3,2	1
3	Software that can be freely accessed and modified is called? (A) Synchronous software (B) Package Software (C) Open Source Software (D) Middleware	1
4	Which of the following is not a language processor: (A) Assembler (B) Operating system (C) Compiler (D) Interpreter	1
5	Python use a/an _____ to convert source code to object code. (A) Interpreter (B) compiler (C) combination of interpreter and compiler (D) special virtual engine	1
6	ASCII code is a 7 bit code for _____. (A) letters (B) numbers (C) other symbols (D) all of these	1
7	Which is the correct sequence out of the following: (A) Program--> Flowcharts--> Algorithms--> Analysis (B) Analysis--> Flowcharts--> Algorithms--> Program (C) Analysis--> Algorithms--> Flowcharts--> Program (D) Analysis--> Program--> Flowchart--> Algorithm	1
8	Which of the following is not a valid identifier? (A) sum (B) 1sum (C) sum_marks (D) _sum	1
9	Function range(8,0,-2) will yield an iterable sequence like (A) [8,7,6,5,4,3,2,1,0] (B) [7,5,3,1] (C) [8,6,4,2,0] (D) [8,6,4,2]	1
10	What will be the output of "a"+"bc" ? (A) a+bc (B) abc (C) a bc (D) a	1
11	What will be the output for A[6,4], where A= [1,2,3,4,5,6,[1,2,3,4,5]] (A) 4 (B) 5 (C) 6 (D) Error	1
12	Which of the following function takes any iterable sequence like list or tuple but always returns a list irrespective of the type of sequence passed to it ? (A) append() (B) extend() (C) sort() (D) list()	1
13	Write an algorithm or flowchart, to find the greatest among two different numbers entered by the user.	1
14	Write the significance of break statement	1

Contd...2

15	Mention the data type of s, where s=(15,). (A) set (B) tuple (C) list (D) None of these	1
16	Identify which declaration of dictionary is correct? (A) D1= {1:'CS',2:'IP'} (B) D1= {1-'CS',2-'IP'} (C) D1= {A:'CS' and B:'IP'} (D) D1= [1:'CS', 2:'IP']	1
17	Add a pair of parentheses to each expression so that it evaluates to True. (A) 0==1==2 (B) 2+3== 4+5 ==7	1
18	State which of the following is logical statement: (A) Try to run faster (B) India is the world champion of world cup 1983 (C) Why did you come late? (D) None of these.	1
19	The base of Octal Number System: (A)16 (B) 2 (C) 4 (D) 8	1
20	In the following question, a statement of assertion (A) is followed by a statement of reason(R). Mark the correct choice as:- (A) Both A and R are true and R is the correct explanation of (A). (B) Both A and R are true but R is not the correct explanation of (A). (C) A is true but R is false. (D) A is false but R is true. Assertion: The for loop is a counting loop that works with sequences of values. Reason: The range() function generates a sequence of list type.	1
21	In the following question, a statement of assertion (A) is followed by a statement of reason(R). Mark the correct choice as:- (A) Both A and R are true and R is the correct explanation of (A). (B) Both A and R are true but R is not the correct explanation of (A). (C) A is true but R is false. (D) A is false but R is true. Assertion. List is a mutable data type. Reason. Mutable data types do not change their value in-place.	1
Section - B (7x2 = 14 marks)		
22	(a)What is the difference between RAM and ROM? OR (b) Name the input or output device to do the following- (i) To output audio (ii) To enter textual data (iii) To make hard copy of a text file (iv) To display the data or information	2
23	Convert the following: (675) ₁₀ - () ₈ (1110101) ₂ - () ₈ (100101.101) ₂ - () ₁₆ (2AF) ₁₆ - () ₁₀	2
24	Given below is a flowchart representation of the algorithm to categorize a person into "Child", "Teenager" and "Adult" based on his /her age, taking Child for anyone with age less than 13 , Teenager between 13 and 19 and Adult equal to or above 20 years. Write the statements 1 and 2 of the decision box. <pre>graph TD Start([Start]) --> EnterAge[/Enter Age/] EnterAge --> D1{1.} D1 -- Yes --> Child[/Child/] Child --> Stop1([Stop]) D1 -- No --> D2{2.} D2 -- Yes --> Teenager[/Teenager/] Teenager --> Stop2([Stop]) D2 -- No --> Adult[/Adult/] Adult --> Stop3([Stop])</pre> OR Draw a flowchart to find out the largest of three numbers A,B and C.	2

25	What is the output produced by the following code? x=1 if x>3: if x>4: print('A',end=' ') else: print('B',end=' ') elif x<2: if (x!=0): print('C',end=' ') print('D')	2
26	What are the difference between interactive mode and script mode? (at least 4 points)	2
27	(a)Write a program to input two numbers and swap them. 	

30	Write a python program to enter a string from the user and perform the following tasks and print the result after all operations: (a) Count the number of alphabets present in the string (b) Count the number of vowels present in the string (c) Count the number of spaces present in the string OR Give the output of the following string operations:- (a) "abc" + xyz (b) "xyz"*5 (c) "abc" != "Abc"	3
31	Write code in python to print the following pattern : C CO COM COMP COMPU COMPUT COMPUTE OR Convert the following as per the direction given (a) $(54.125)_{10} - ()_2$ (b) $(1010.1001)_2$ to octal and hexadecimal (c) $(145)_8 - ()_{10}$	3
Section - D (4x4 = 16 marks)		
32	Write following arithmetic expressions for a and b using operators in Python and evaluate (c) (a) $c = a^2 + b$ (b) $x = b^2 - 4ac$ (c) Evaluate: $x = 2 * 3 / 5 + 10 // 3 - 1$ (show process)	1+1+2
33	L = [11,34,56,23,67,78] is a list in python. Write a python statement to:- (a) to remove 78 from the list. (b) to insert 89 after 23 in the given list. (c) to clear the contents of the list (d) to sort the contents of the list in ascending order. OR Write the output of the following: <pre>L=[10, 20, 30] item = L.pop(1) print('ITEM:',item) print (L) list1=[3,2,1,0,1,2,3] list1.remove(3) list1.insert(6,4) print('UPDATED LIST1:',list1) newList=L[:3]+list1[3:] print('NEW LIST:',newList)</pre>	4
34	Given a string str="Python is Fun". Give the outputs of the following statements:- a. str.partition("Fun") b. str.split("n") c. len(str) d. str.lower()	4
35	Write a program that prompt the user to type some sentence(s) followed by "enter". It should then print the original sentence(s) and then following statistics relating to the sentence(s) (i) Number of word (ii) Number of characters(including white-space) (iii) Percentage of characters that are alphanumeric	4

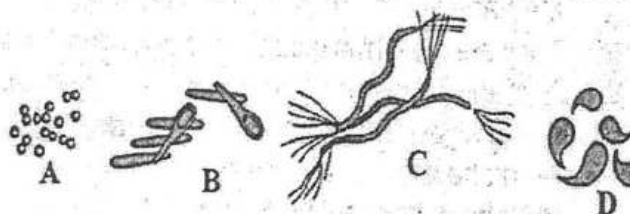


General Instructions:

1. This question paper contains 33 questions. All questions are compulsory.
2. Question paper is divided into five sections- A, B, C, D and E.
3. Section-A – Question 1-16 are multiple choice type questions. Each question carries 1 mark.
4. Section –B – Question 17-21 are very short answer type questions. Each question carries 2 marks.
5. Section-C-Question 22 -28 are short answer type questions. Each question carries 3 marks.
6. Section- D – Question 29-30 are case based question. The question carries 4 marks.
7. Section-E – Question 31-33 are long answer type questions. Each question carries 5 marks.
8. There is no overall choice, However internal choices have been given in some questions. Students have to attempt only one of the alternatives in such questions.
9. Diagrams drawn should be neat and labeled properly.

SECTION – A

1. Choose the correct names of the different bacteria given below according to their shapes 1



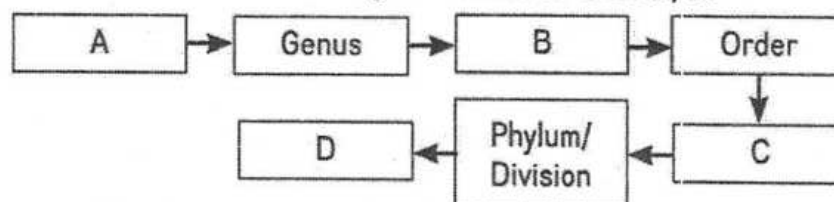
- (A) A-Cocci, B - Bacilli, C - Spirilla, D – Vibrio (B) A - Bacilli, B - Cocci, C - Spirilla, D - Vibrio
(C) A - Spirilla, B - Bacilli, C - Cocci, D – Vibrio (D) A - Spirilla, B - Vibrio, C - Cocci, D – Bacilli

2. Match column-I with column-II and select the option. 1

Column-I (Classes of fungi)		Column-II (Common name)	
A.	Phycomycetes	I.	Sac fungi
B.	Ascomycetes	II.	Algal fungi
C.	Basidiomycetes	III.	Fungi imperfecti
D.	Deuteromycetes	IV.	Club fungi

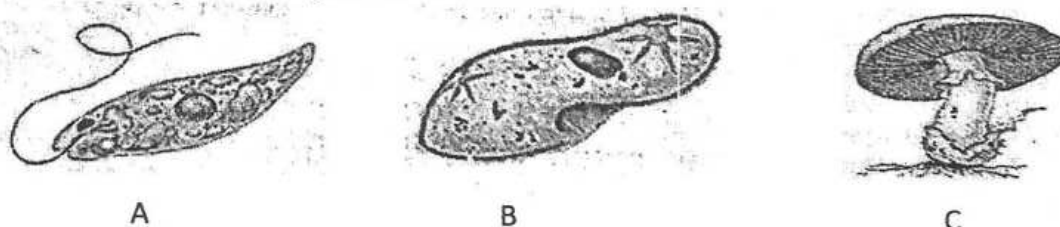
- (A) A – II; B – I; C – IV; D – III (B) A – II; B – IV; C – I; D – III
(C) A – IV; B – I; C – II; D – III (D) A-IV; B - III , C - II; D -I

3. Refer to the given figure showing hierarchical arrangement of taxonomic categories in the ascending order. In the figure some taxa are labeled as A, B, C and D. Which taxon will show maximum similar characters among its members? Identify it. 1



- (A) B (B) A (C) C (D) D

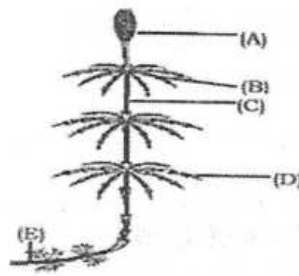
4. Identify the figures A, B and C given below. 1



- (A) A-Euglena, B-Paramecium, C-Agaricus (B) A-Euglena, B-Planaria, C-Agaricus
(C) A-Planaria, B-Paramecium, C-Agaricus (D) A-Euglena, B-Paramecium, C-Aspergillus

5. Label A, B, C, D, E in following diagram:

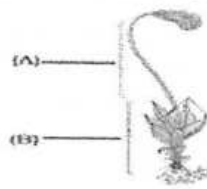
1



- (A) A = strobilus, B = rhizome, C=Root D=Cone
 (B) A = cone, C = Node, D = internode
 (C) A = strobilus, B = rhizome, C = node, D = internode, E = branch
 (D) None of these .

6. Identify given plant diagram and label its parts:

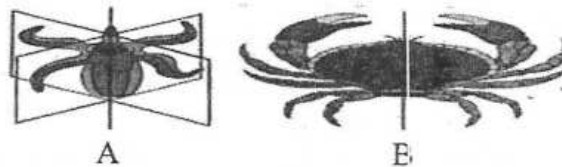
1



- (A) Funaria, A = gametophyte B = sporophyte
 (B) Sphagnum, A = gametophyte B = sporophyte
 (C) Funaria, A = sporophyte B = gametophyte
 (D) Sphagnum, A = sporophyte B = gametophyte

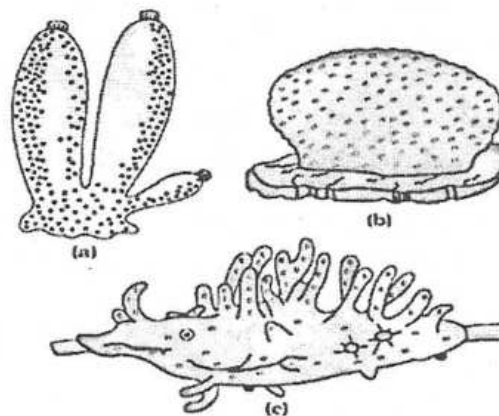
7. Choose the correct body symmetry shown in the diagram.

1



- (A) A – Radial, B – Bilateral
 (B) A – Bilateral, B – Pentamerous
 (C) A – Radial, B – Pentamerous
 (D) A – Bilateral, B – Radial

8. Examine the figures A, B, and C.



In which one of the four options all the animals (Poriferans) are correct?

1

- (A) A - Sycon, B - Euspongia, C – Spongilla
 (B) A - Euspongia, B - Spongilla, C - Sycon
 (C) A - Spongilla, B - Sycon, C – Euspongia
 (D) A - Euspongia, B - Sycon, C – Spongilla.

9. Which one of the following characteristic is not shared by birds and mammals?

1

- (A) Breathing using lungs
 (B) Viviparity
 (C) Warm-blooded nature
 (D) Ossified endoskeleton

10. Largest phylum among the animal kingdom is

1

- (A) Annelida
 (B) Arthropoda
 (C) Chordata
 (D) Mollusca

11. Water vascular system is the characteristic feature of

1

- (A) Arthropoda
 (B) Mollusca
 (C) Echinodermata
 (D) Porifera

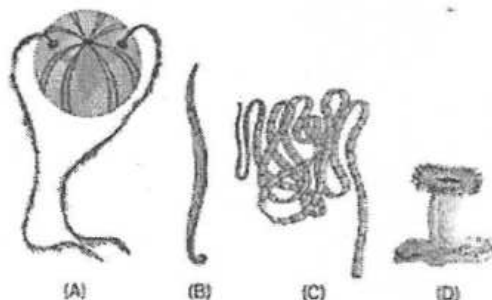
12. The body of Balanoglossus is divisible into 1
 (A) proboscis, tunic and trunk (B) collar, trunk and tunic
 (C) proboscis, collar and trunk (D) proboscis, stomochord and trunk

For questions 13 to 16 two statements are given- one labeled Assertion (A) and the other labeled Reason (R). Select the correct answer to these questions from the codes as given below.

- (A) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of assertion.
 (B) Both Assertion (A) and Reason (R) are true but Reason (R) is not the correct explanation of assertion.
 (C) Assertion (A) is true but Reason (R) is false.
 (D) Assertion (A) is false and Reason (R) is true.
13. **ASSERTION** : Viruses cause diseases and replicate when they are in the host. 1
REASON : Viruses do not replicate outside the host but they remain alive.
14. **ASSERTION** : Aschelminthes represent pseudocoelomate characteristic. 1
REASON : In Aschelminthes, mesoderm is present as scattered pouches in between ectoderm and endoderm
15. **ASSERTION**: In bryophytes the main body is sporophyte. 1
REASON : In bryophytes the main body produces gametes.
16. **ASSERTION** : The true nucleus is generally absent in *E. coli* and other prokaryotes. 1
REASON : An undifferentiated, unorganized fibrillar nucleus without any limiting membrane is observed in prokaryotic cells.

SECTION-B

17. Expand and give the significance of (i)ICBN (ii)ICZN. 2
18. What is "Taxonomic hierarchy"? Name the categories associated with it. 2
19. Arjun found an old permanent slide without a label. He observed the slide and found the following characteristics. 2
 (i) Unicellular
 (ii) Eukaryotic organism
 (iii) Biflagellated with one flagellum lying longitudinally and other transversely.
- Identify the organism and name the kingdom it belongs to. 2
20. Which division is known as the "Amphibian of plant kingdom"? Why are they called so? 2
21. Identify the following organisms and name the phylum they belong to. 2



OR

21. What is "Metagenesis"? Explain giving suitable example. 2

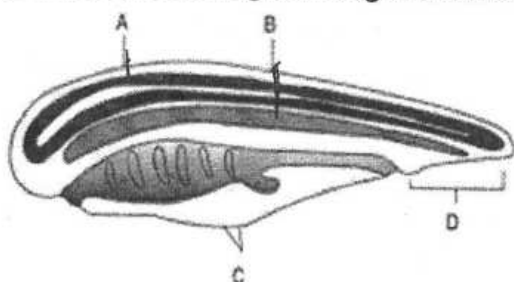
SECTION – C

22. Name the scientist who proposed "Binomial system of nomenclature". What are the rules of it? 3
23. Give the systematic position of wheat. 3

24. Name the scientist who proposed "Five kingdom system classification". What are the criteria used in this classification?

OR

24. What are the different types of archaeobacteria? Explain each one. 3
25. Give difference between the two classes of division Bryophyta. 3
26. What are the different types of sexual reproduction found in the algae based on the structure of gametes? Explain. 3
27. Which class is supposed to be the most advanced class in vertebrates? Justify your answer. 3
28. Identify A, B and D from the given diagram. What are the consequences of these parts? 3



SECTION - D

29. Read the following and answer the questions given below:

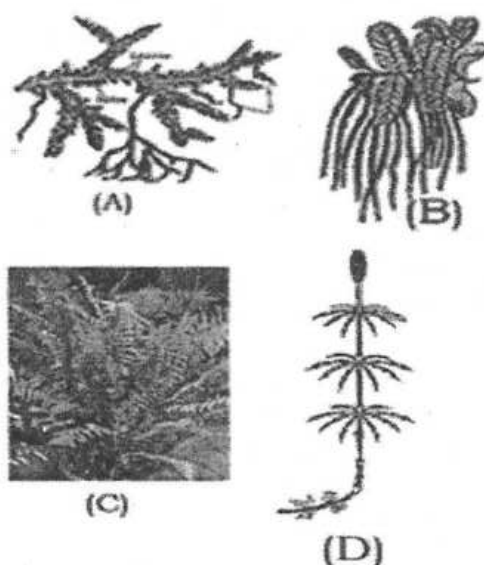
The term "Systematics" is of Greek lineage and means order or sequence. It deals with the study of identification, recognition, naming and arrangement of living forms both past and present, and the evolutionary relationship among the living things. It helps in assigning a species its correct hierarchial taxonomic status. 4

- (a) Which is the highest category of taxonomic hierarchy?
(b) Among Class and Order, which has more common characters?

OR

- (b) Among family and genus, which has more number of organisms?
(c) Name the scientist who is regarded as the father of "Taxonomy".
(d) What is the scientific name of housefly?

30. Observe the following diagram and answer the questions given below. 4



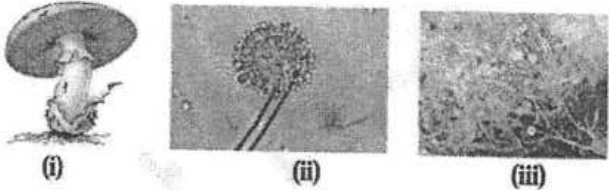
- (a) Identify the above plants.
(b) In which division of plant kingdom do the above plants come?
(c) The sporophytic phase of bryophyte is differentiated into three distinct parts. Name the parts.
(d) What is the difference between 'Protonema' and 'Prothallus'?

OR

- (d) What are the different classes of division Pteridophyta.

SECTION – E

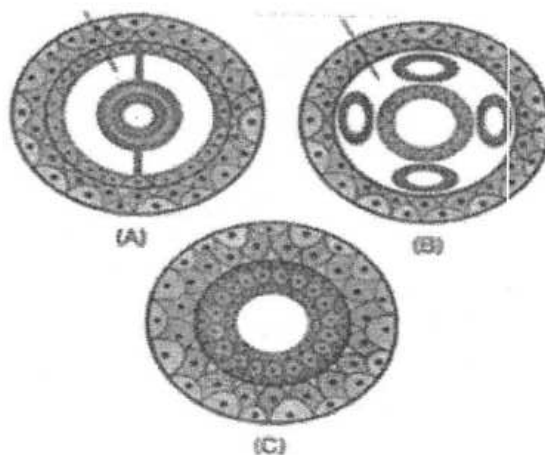
31. Give a comparative account of different classes of Algae. 5
- OR
31. Give outline classification of plant kingdom. What are the criteria based on which the classification has been done?

32.  5
- (i) (ii) (iii)

To which kingdom do the above organisms belong? Give the comparative account of the different classes of the kingdom.

OR

32. What are the different organisms coming under kingdom Protista ? Give a brief idea about the organisms. 5
33. (i) Give an outline classification of phylum "Chordata". 2
- (ii) How can you differentiate "Urochordata" from "Cephalochordata"? 1
- (iii) Give difference between Chondrichthyes and Osteichthyes. 2
- OR
33. (i) Identify and comment on the diagrams given below. 3



- (ii) "All vertebrates are chordates but all chordates are not vertebrates". Justify the statement. 2

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# DELHI PUBLIC SCHOOL, BHILAI

Date : 18.09.2025

MIDTERM EXAMINATION 2025

Time : 3 Hrs.

Class : XI

SUBJECT : ECONOMICS

M.M. : 80

Name : \_\_\_\_\_

Roll No. : \_\_\_\_\_

## General Instructions:

01. This question paper contains two sections:

Section – A : Statistics for Economic.

Section – B : Introductory Micro Economics.

02. This paper contains 20 Multiple Choice Questions of 1 mark each.

03. This paper contains 4 Short Answer Type Questions of 3 marks each, to be answered in 60–80 words.

04. This paper contains 6 Short Answer Type Questions of 4 marks each, to be answered in 80–100 words.

05. This paper contains 4 Long Answer Type Questions of 6 marks, to be answered in 150 words.

## SECTION – A (STATISTICS)

01. Which of the following survey method should be used to know the changing demand of the buyers?  
(A) census method (B) sample method (C) personal investigation (D) Either (A) and (B) (1)

02. **Statement I :** Wealth definition of Economics is biased towards money.

**Statement II :** Distributing books and other stationary items by a NGO is an economic activity. (1)

Alternatives:

(A) Statement I is true and Statement II is false.

(B) Statement II is true and Statement I is false.

(C) Both Statements are true.

(D) Both Statements are false.

03. Investigator choose wrong samples for conducting the survey to know the food habits of school students. This is referred to as \_\_\_\_\_. (Sampling / Non sampling error) (1)

04. **Assertion (A) :** Classification facilitates grouping of data based upon similarities and dissimilarities.  
**Reason (R) :** Classification enables a person to compare various forms of data. (1)

Alternatives:

(A) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).

(B) Both Assertion (A) and Reason (R) are true and Reason (R) is not the correct explanation of Assertion (A).

(C) Assertion (A) is true, but Reason (R) is false.

(D) Assertion (A) is false, but Reason (R) is true.

05. Choose the incorrect pair –

|     | Column I                        |       | Column II             |
|-----|---------------------------------|-------|-----------------------|
| (a) | Cumulative Frequency Curve      | (i)   | Ogive                 |
| (b) | Time Series Graphs              | (ii)  | Arithmetic Line Graph |
| (c) | Smoothed Frequency Curve        | (iii) | Frequency Curve       |
| (d) | Used in determination of Median | (iv)  | Frequency Polygon     |

Codes :

(A) a – i (B) b – ii (C) c – iii (D) d – iv (1)

**Direction : Observe the data and answer the questions 6 to 9 on the basis of the same:**

| Sections     | No. of Students |           | Total      |
|--------------|-----------------|-----------|------------|
|              | Boys            | Girls     |            |
| XI – A       | 20              | 15        | 35         |
| XI – B       | 15              | 25        | 40         |
| XI – C       | 25              | 10        | 35         |
| <b>Total</b> | <b>60</b>       | <b>50</b> | <b>110</b> |

06. Which of the following is not a part of Table ?  
(A) Stubs (B) Caption (C) Base Line (D) Source (1)

07. Which type of diagrammatic presentation is most suitable in the above case ?  
(A) Simple bar graph (B) Sub-divided bar graph  
(C) Multiple Bar graph (D) Both (B) and (C) (1)

08. Histogram can be constructed in the above case. (True / False) (1)

09. Which of the following is the stub of the given Table ?  
(A) Sections (B) No. of Students (C) Total (D) Both (A) and (C) (1)

10. The mean 10 numbers is 25. If 10 is added to each number of the series, the new mean will be –  
(A) 25 (B) 35 (C) 48 (D) can not be determined (1)

11. Which method of collecting primary data is the best? State with reason. (3)

OR

Define the terms –

- (a) Enumerator (b) Investigator (c) Respondent

12. Do you agree classified data is better than raw data? Why? (3)

13. What is the difference between random sampling and non-random sampling? Explain systematic sampling with a suitable example. (4)

14. Draw a histogram from the following data: (4)

|                 |         |         |         |         |         |          |
|-----------------|---------|---------|---------|---------|---------|----------|
| Marks           | 10 – 20 | 20 – 30 | 30 – 40 | 40 – 60 | 60 – 80 | 80 – 110 |
| No. of Students | 5       | 10      | 12      | 28      | 20      | 24       |

15. “Diagrams are less accurate but more effective than tables in Presenting the data.” Comment. (4)

OR

What is the other name of sub-divided bar diagram? What kind of diagrams are more effective in representing the following? (1+3)

- (a) Components at cost in factory.  
(b) Composition of the population of Bhilai by religion.  
(c) Agriculture production of five states of India.

16. The Indian Sugar Mills association reported that Sugar Production during the year 2001 was about 3,80,000 tons, as against 3,70,000 tons during the year 2000. The off-take of sugars from factories during 2001 was 2,80,000 tons for internal consumption, 40,000 tons for exports and 60,000 tons was stock. As against 1,50,000 tons for internal consumption, nil for exports and the remaining was stock for the year 2001.

- (i) Present the data in a tabular form.  
(ii) Suppose you were to present the data in diagrammatic form which of the diagrams would you use and why?  
(iii) Present these data diagrammatically. (6)

17. State any four characteristics of good average. Find out Arithmetic Mean from the following data by using step-deviation method: (2+4=6)

|                     |    |    |    |    |    |
|---------------------|----|----|----|----|----|
| Marks (Less than) – | 10 | 20 | 30 | 40 | 50 |
| No. of Students –   | 4  | 10 | 20 | 40 | 50 |

OR

The sum of the deviations of the items from the arithmetic mean is always equal to zero. Explain with example.

Calculate the Average Marks of students from the following information using short-cut method. (2+4=6)

|                   |    |    |    |    |    |
|-------------------|----|----|----|----|----|
| Marks –           | 10 | 20 | 30 | 40 | 50 |
| No. of Students – | 5  | 10 | 40 | 20 | 25 |

### SECTION – B (MICRO)

18. Which of the following questions is/are the part of normative economics?  
(A) What are the causes of unemployment? (B) Why prices are rising?  
(C) Was demonetisation justified? (D) All of the above (1)
19. What will be the impact of the corona virus pandemic on the transformation curve of a given country?  
(A) Downward movement (B) Leftward shift (C) No change (D) Rightward shift (1)
20. The shape of AFC curve resembles the shape of demand curve, when elasticity of demand is:  
(A) >1 (B) <1 (C) = 1 (D) ∞ (1)
21. If a firm's production department data say that the total variable cost for producing 8 units and 10 units of output is ₹ 2,500 and ₹ 3,000 respectively, marginal cost of 10<sup>th</sup> unit will be:  
(A) ₹ 100 (B) ₹ 150 (C) ₹ 250 (D) ₹ 500 (1)

22. **Assertion (A) :** Insurance premium on factory building paid to Insurance Company is a fixed cost.  
**Reason (R) :** Insurance premium has to be paid irrespective of the level of output. (1)
- Alternatives:**  
 (A) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).  
 (B) Both Assertion (A) and Reason (R) are true and Reason (R) is not the correct explanation of Assertion (A).  
 (C) Assertion (A) is true, but Reason (R) is false.  
 (D) Assertion (A) is false, but Reason (R) is true.
23. Which of the following is not a valid assumption of the law of variable proportion?  
 (A) All units of variable factors are equally efficient. (B) Technology is given.  
 (C) Units of output are measurable. (D) It represents in the long run. (1)
24. **Assertion (A) :** PPC is convex to origin means we need to sacrifice less and less for production of more unit of other good.  
**Reason (R) :** MOC increases when resources are not equally efficient in production of all goods. (1)
- Alternatives:**  
 (A) Both Assertion (A) and Reason (R) are true and Reason (R) is the correct explanation of Assertion (A).  
 (B) Both Assertion (A) and Reason (R) are true and Reason (R) is not the correct explanation of Assertion (A).  
 (C) Assertion (A) is true, but Reason (R) is false.  
 (D) Assertion (A) is false, but Reason (R) is true.
25. What do you mean by monotonic preference ? (1)
26. What happens to budget line if both the prices as well as the income double?  
 (A) Shifts right (B) Shifts left (C) No change (D) Rotates rightward (1)
27. Complementary goods are those goods which are used \_\_\_\_\_. If the price of one good increases, demand for its complementaries will \_\_\_\_\_.  
 (A) Together, increase (B) Together, decrease  
 (C) Separately, increase (D) Separately, decrease (1)
28. A 5% rise in price of a good leads to 5% fall in its demand. A consumer buys 100 units of a good when price is ₹ 5 per unit. At what price will he buy 120 units. Calculate. (3)
29. What happens to AC:  
 (A) when  $MC > AC$  (B)  $MC < AC$  (C)  $MC = AC$  (3)
- OR**
- Direction : Read the case study paragraph and answer the questions on the basis of the same.**
- Hemant contributed ₹ 5 Lakh while Krishna decided to give managerial service. They also hired 2 Labours, with monthly salary of ₹ 10,000 each. After three months, they received a revenue of ₹ 2 Lakh.
- (i) Which of the following is fixed cost in the above case:  
 (A) Rent of building (B) Cost of Raw material  
 (C) Capital contribution of Hemant (D) All of the above (1)
- (ii) Krishna's managerial service is an example of \_\_\_\_\_ cost.  
 (A) Fixed cost (B) Variable cost (C) Implicit cost (D) Explicit cost (1)
- (iii) Which of the following is an explicit cost?  
 (A) ₹ 12,000 p.a., interest paid to banks. (B) ₹ 20,000 paid to labour.  
 (C) Rent of building (D) All of the above (1)
30. Briefly explain the properties of production possibility frontier. (4)
31. How a consumer will reach to the equilibrium point, if the market rate of exchange is less than marginal rate of substitution? (4)
32. Distinguish between movement along the demand curve and shift in demand curve. (4)
- OR**
- Explain any two properties of indifference curve with the help of diagram.
33. How does the following affect the demand of a commodity? Use diagram.  
 (i) A favourable change in taste of the consumer.  
 (ii) A fall in income of the buyer in case of inferior good. (3+3)
34. Explain the law of variable proportion with the help of TP and MP curve. (6)
- OR**
- Distinguish between: (Use example)  
 (a) Elastic and Inelastic demand.  
 (b) Income effect and substitution effect.



# DELHI PUBLIC SCHOOL, BHILAI

DATE : 22.09.2025

MID TERM EXAMINATION 2025

Time : 3 Hrs.

CLASS : XI

SUBJECT – APPLIED MATHEMATICS

Max. Marks : 80

Name : \_\_\_\_\_

Roll No. : \_\_\_\_\_

## GENERAL INSTRUCTIONS

1. This Question paper contains - five sections A, B, C, D and E. Each section is compulsory. However, there is some internal choice in some questions.
2. Section A has 18 MCQ's and 02 Assertion Reason based questions of 1 mark each.
3. Section B has 5 Very Short Answer (VSA) questions of 2 marks each.
4. Section C has 6 Short Answer (SA) questions of 3 marks each.
5. Section D has 4 Long Answer (LA) questions of 5 marks each.
6. Section E has 3 source based/case based/passage based/integrated units of assessment (04 marks each) with sub parts.
7. Internal Choice is provided in 2 questions in Section -B, 2 questions in Section-C, 2 Questions in Section-D. You have to attempt only one alternatives in all such questions.

## SECTION – A

(All questions are compulsory no internal choice is provided in this section)

1. The symmetric difference of  $A = \{1,2,3\}$  and  $B = \{3,4,5\}$  is  
(A)  $\{1,2\}$  (B)  $\{1,2,4,5\}$  (C)  $\{4,5\}$  (D)  $\{2,3,4,5\}$
2. For two sets A and B, which of the following statements is false?  
(A)  $A - B = A \cap B'$  (B)  $A - B = A - (A \cap B)$   
(C)  $A - B = A - B'$  (D)  $A - B = (A \cup B) - B$
3. Two finite sets A and B have m and n elements, if the number of elements in P(A) is 48 more than the number of elements in P(B), then the values of m and n are,  
(A) 7,6 (B) 6,3 (C) 6,4 (D) 7,4
4. Let  $\{(x, y) : x, y \in Z, y = 2x - 4\}$ . If  $(a, -2)$  and  $(4, b^2) \in R$  then the values of a and b are  
(A)  $a = \pm 1, b = \pm 2$  (B)  $a = -1, b = -2$   
(C)  $a = 1, b = \pm 2$  (D) values do not exist
5. A relation on the set  $A = \{x : |x| < 3, x \in Z\}$  is defined by  $R = \{(x, y) : y = |x|, x \neq -1\}$ , then the number of elements in the power set of R is  
(A) 32 (B) 16 (C) 8 (D) 64
6. If  $x \neq 1$  and  $f(x) = \frac{x+1}{x-1}$  is a real function then  $f(f(f(2)))$  is  
(A) 1 (B) 2 (C) 4 (D) 3
7. If a, b, c, d are four positive numbers in G.P. then which of the following is incorrect  
(A)  $a + d > b + c$  (B)  $c^3 = ad^2$  (C)  $ad = bc$  (D)  $b^2c = ad$
8. The value of  $2 \times 2^{1/2} \times 2^{1/4} \times 2^{1/8} \dots \dots \dots \infty$ , is  
(A) 4 (B)  $\sqrt{2}$  (C)  $2\sqrt{2}$  (D) 8
9. The binary value of  $(10111)_2 \times (1101)_2$  is  
(A)  $(100101011)_2$  (B)  $(110101011)_2$   
(C)  $(101101011)_2$  (D)  $(111011011)_2$
10. The decimal equivalent to  $(110101)_2$ , is  
(A) 50 (B) 52 (C) 51 (D) 53
11. If  $9^{x+2} = 720 + 9^x$ , then the value of x  
(A) 2 (B) 3 (C) 1 (D) none of these
12. The value of  $2 + \log_{10}(0.01)$ , is  
(A) 4 (B) 3 (C) 1 (D) 0
13. The value of  $(a + b)^{-1}(a^{-1} + b^{-1})$   
(A)  $a^{-1}b^{-1}$  (B)  $\frac{ab}{a+b}$  (C)  $\frac{a+b}{ab}$  (D)  $a^2 + b^2$

14. Walking  $\frac{6}{7}$  of his usual speed, a man is 12 minutes late. The usual time to cover the distance is  
 (A) 1 hr 12 min. (B) 1 hr 20 min. (C) 48 min. (D) 1 hr
15. If  $f(x) = \begin{cases} \frac{\sqrt{4+x}-2}{x} & x \neq 0 \\ k, & x = 0 \end{cases}$  is continuous at  $x = 0$ , then the value of  $k$ , is  
 (A) 1 (B) 4 (C)  $\frac{1}{4}$  (D) 0
16. If  $x > 0$ , then the derivative of  $\log_{10} x$ , is  
 (A)  $\log_e 10 \cdot \frac{1}{x}$  (B)  $\frac{1}{x \log_e 10}$  (C)  $\frac{1}{\log_{10} x}$  (D)  $\frac{1}{x}$
17.  $\lim_{x \rightarrow 0} \frac{(1+x)^{10}-1}{x}$  is equal to  
 (A) 9 (B) 10 (C)  $\frac{1}{10}$  (D) does not exist
18.  $\lim_{x \rightarrow -\frac{3}{2}} [x]$  is equal to  
 (A) -1 (B) 1 (C) 2 (D) -2

**Q. NO. 19 and 20 are ASSERTION (A) AND REASON (R) type with the following options:**

- (A) A and R both are correct and R is the correct explanation of A.  
 (B) A and R both are correct and R is the not correct explanation of A.  
 (C) A is correct and R is false.  
 (D) A is false and R is correct

19. **Assertion (A) :** If  $A = \{i, j, k\}, B = \{c, d, e\}$  then number of functions from A to B is 27  
**Reason (R) :** If  $n(A) = m, n(B) = n$ , then number of functions from A to B is  $2^{mn}$
20. **Assertion (A) :** Let A be a finite set containing 5 elements then the number of relations defined on A is  $2^{25}$   
**Reason (R) :** A relation on set A is a subset of set A.

#### SECTION - B

(All questions are compulsory.)

**In case of internal choice attempt any one question only, also write steps in support of your answers)**

21. Let U be the universal set and  $n(U) = 40, n(A) = 25$  and  $n(B) = 20$ , then find  
 (i) The greatest value of  $n(A \cup B)$   
 (ii) The least value of  $n(A \cap B)$

22. If  $abc = 1$ , then show that  $\frac{1}{1+a+b^{-1}} + \frac{1}{1+b+c^{-1}} + \frac{1}{1+c+a^{-1}} = 1$

**OR**

Solve for  $x$ :  $\log_2 x + \log_4 x + \log_{16} x = \frac{21}{4}$

23. If  $f(x) = x + \frac{1}{x}$  then prove that  $[f(x)]^3 = f(x^3) + 3f(\frac{1}{x})$

**OR**

Let R be a relation defined on N by  $R = \{(a, b) : 2a + 3b = 30\}$ , then write R in roster form

24. Differentiate  $f(x) = \frac{x-4}{2\sqrt{x}}$ , hence find  $f'(1)$
25. Divide  $(1001011)_2$  by  $(1111)_2$  and verify it by converting them to decimal form.

14. Walking  $\frac{6}{7}$  of his usual speed, a man is 12 minutes late. The usual time to cover the distance is  
 (A) 1 hr 12 min. (B) 1 hr 20 min. (C) 48 min. (D) 1hr
15. If  $f(x) = \begin{cases} \frac{\sqrt{4+x}-2}{x} & x \neq 0 \\ k, & x = 0 \end{cases}$  is continuous at  $x = 0$ , then the value of k, is  
 (A) 1 (B) 4 (C)  $\frac{1}{4}$  (D) 0
16. If  $x > 0$ , then the derivative of  $\log_{10} x$ , is  
 (A)  $\log_e 10 \cdot \frac{1}{x}$  (B)  $\frac{1}{x \log_e 10}$  (C)  $\frac{1}{\log_{10} x}$  (D)  $\frac{1}{x}$
17.  $\lim_{x \rightarrow 0} \frac{(1+x)^{10}-1}{x}$  is equal to  
 (A) 9 (B) 10 (C)  $\frac{1}{10}$  (D) does not exist
18.  $\lim_{x \rightarrow -\frac{3}{2}} [x]$  is equal to  
 (A) -1 (B) 1 (C) 2 (D) -2

**Q. NO. 19 and 20 are ASSERTION (A) AND REASON (R) type with the following options:**

- (A) A and R both are correct and R is the correct explanation of A.  
 (B) A and R both are correct and R is the not correct explanation of A.  
 (C) A is correct and R is false.  
 (D) A is false and R is correct

19. **Assertion (A) :** If  $A = \{i, j, k\}, B = \{c, d, e\}$  then number of functions from A to B is 27  
**Reason (R) :** If  $n(A) = m, n(B) = n$ , then number of functions from A to B is  $2^{mn}$
20. **Assertion (A) :** Let A be a finite set containing 5 elements then the number of relations defined on A is  $2^{25}$   
**Reason (R) :** A relation on set A is a subset of set A.

### SECTION – B

(All questions are compulsory.

In case of internal choice attempt any one question only, also write steps in support of your answers)

21. Let U be the universal set and  $n(U) = 40, n(A) = 25$  and  $n(B) = 20$ , then find  
 (i) The greatest value of  $n(A \cup B)$   
 (ii) The least value of  $n(A \cap B)$
22. If  $abc = 1$ , then show that  $\frac{1}{1+a+b^{-1}} + \frac{1}{1+b+c^{-1}} + \frac{1}{1+c+a^{-1}} = 1$

**OR**

Solve for x:  $\log_2 x + \log_4 x + \log_{16} x = \frac{21}{4}$

23. If  $f(x) = x + \frac{1}{x}$  then prove that  $[f(x)]^3 = f(x^3) + 3f\left(\frac{1}{x}\right)$

**OR**

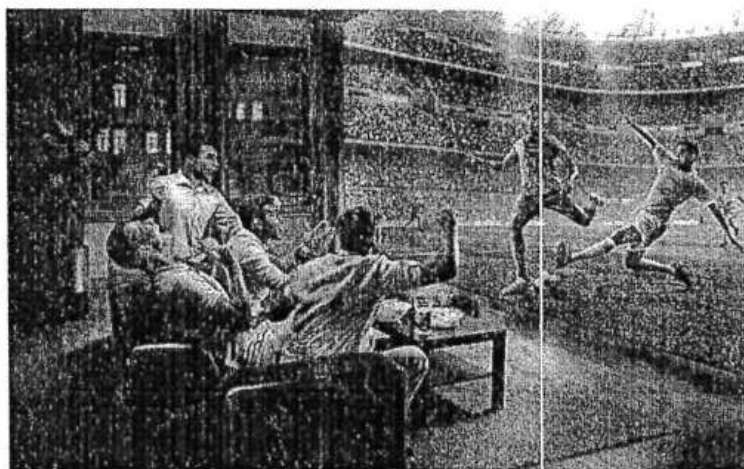
Let R be a relation defined on N by  $R = \{(a, b) : 2a + 3b = 30\}$ , then write R in roster form

24. Differentiate  $f(x) = \frac{x-4}{2\sqrt{x}}$ , hence find  $f'(1)$
25. Divide  $(1001011)_2$  by  $(1111)_2$  and verify it by converting them to decimal form.

**SECTION E-CASE BASED**  
(All questions are compulsory.)

(In case of internal choice attempt any one question only, also write steps in support of your answers)

36. A survey of 500 television viewers produced the following information; 285 watch football, 195 watch hockey, 115 watch basketball, 45 watch football and basketball, 70 watch football and hockey, 50 watch hockey and basketball, 50 do not watch any of the three games.



Based on the above information answer the following questions

- How many watch all the three games?
- How many watch exactly one of the three games?
- How many of them watch only football

OR

How many of them watch only hockey?

37. A function from a set A to set B is a rule associating elements of set A to the elements of set B such that every element in set A is associated to a unique element of set B. The set A is called domain of the function and set B is called its co-domain of the function

Let  $f$  and  $g$  are two real functions defined by  $f(x) = \sqrt{x-2}$  and  $g(x) = 5-2x$

Based on the above information answer the following questions

- What is the domain of  $\frac{f}{g}$ ?

- What is the domain of  $\frac{g}{f}$ ?

- Write  $g \circ f(x)$

OR

Write the domain of  $f \circ g(x)$

38. Two trains are running in the same direction at 48 km/hr. and 54 km/hr. in the same direction. The length of the second train is 120 m and the time taken by them to cross each other is 150 seconds from the time they meet,



Based on the above information answer the following questions:

- Find the length of the first train
- What will be the distance between the two trains after 15 minutes of crossing each other?



# DELHI PUBLIC SCHOOL, BHILAI

Date : 22.09.2025

MIDTERM EXAMINATION 2025

Time : 3 Hrs.

Class : XI

SUBJECT : MATHEMATICS

M.M. : 80

Name : \_\_\_\_\_

Roll No. : \_\_\_\_\_

**General Instructions: Read the following instructions carefully and follow them:**

- This question paper contains 5 sections – A, B, C, D and E. Each section is compulsory. However, there are internal choices in some questions.
- Section A has 18 MCQs and 2 Assertion – Reason based questions of 1 mark each.
- Section B has 5 very short answer type questions of 2 marks each.
- Section C has 6 short answer type questions of 3 marks each.
- Section D has 3 long answer type questions of 5 marks each.
- Section E has 3 source/case base/passage based/integrated units of assessment of 4 marks each with sub-parts.

## SECTION – A (Each question carries 1 Mark)

01. Number of ways the letters of the word PENCIL be arranged so that N is always next to E. (1)  
(A) 120 (B) 24 (C) 32 (D) None
02. Let  $A = \{ \{1, 2, 3\}, \{4, 5\}, \{6, 7, 8\} \}$ , which of the following options is true? (1)  
(A)  $1 \in A$  (B)  $\{1, 2, 3\} \subset A$  (C)  $\emptyset \in A$  (D)  $\{6, 7, 8\} \in A$
03. The value of  $\cos\left(\frac{-8\pi}{3}\right)$  is (1)  
(A)  $\frac{-1}{2}$  (B)  $\frac{1}{2}$  (C)  $\frac{\sqrt{3}}{2}$  (D)  $\frac{-\sqrt{3}}{2}$
04. If  $A = \{x: x \text{ is a multiple of } 3\}$  and  $B = \{x: x \text{ is a multiple of } 5\}$  then  $A - B$  is (1)  
(A)  $A \cap B$  (B)  $A \cap B'$  (C)  $A \cup B'$  (D)  $(A \cap B)'$
05. The solution set of the inequation  $\frac{x^2}{x-2} > 0$  is (1)  
(A)  $(2, \infty)$  (B)  $[2, \infty)$  (C)  $(0, 2)$  (D)  $[0, 2]$
06. The range of the real valued function  $f(x) = \sqrt{x-1}$  is (1)  
(A)  $[1, \infty)$  (B)  $(1, 2)$  (C)  $[0, \infty)$  (D)  $[0, 1]$
07. The total number of ways in which  $n$  distinct objects can be put into two different boxes is (1)  
(A)  $2^n$  (B)  $n!$  (C)  $2n$  (D) none
08. The number of non-zero integral solutions of  $|1 - i|^x = 2^x$  is (1)  
(A) 1 (B) infinite (C) no solution (D) None
09.  $\tan 20^\circ + \tan 40^\circ + \sqrt{3} \tan 20^\circ \tan 40^\circ$  is equal to (1)  
(A)  $\frac{\sqrt{3}}{4}$  (B)  $\frac{\sqrt{3}}{2}$  (C)  $\sqrt{3}$  (D) 1
10. The solution of the inequation  $5x - 3 < 3x + 1$  if  $x \in \mathbb{N}$  is (1)  
(A)  $(-\infty, 2)$  (B)  $\{\dots, -2, -1, 0, 1\}$  (C)  $\{1\}$  (D) None
11. Range of  $f(x) = \sin[x]$  where  $\frac{-\pi}{4} < x < \frac{\pi}{4}$  where  $[x]$  is the greatest integer function is (1)  
(A)  $\{-\sin 1, 0\}$  (B)  $\{1, 0\}$  (C)  $\left\{1, \frac{1}{\sqrt{2}}\right\}$  (D) None
12. If  $a, b$  and  $c$  are real numbers such that,  $b > 0, a > b, c < 0$ , then which of the following is false? (1)  
(A)  $ac > bc$  (B)  $ac < -bc$  (C)  $a + c > b + c$  (D)  $\frac{a}{c} < \frac{b}{c}$
13. If  $(1+i)(1+2i)(1+3i) \dots (1+ni) = a + ib$ , then  $2.5.10.17 \dots (1+n^2)$  is equal to (1)  
(A)  $a - ib$  (B)  $a^2 - b^2$  (C)  $a^2 + b^2$  (D) None

Contd...2

:: 2 ::

14. If  $A = \{x: x \in \mathbb{R}, x > 4\}$  and  $B = \{x: x \in \mathbb{R}, x < 5\}$ , then  $A \cap B$  is  
 (A)  $(4, 5]$  (B)  $(4, 5)$  (C)  $[4, 5)$  (D)  $[4, 5]$  (1)
15. If  $\frac{z-1}{z+1}$  is purely imaginary ( $z \neq -1$ ), then the value of  $|z|$  is  
 (A)  $i$  (B)  $0$  (C)  $1$  (D)  $-i$  (1)
16. Number of terms in the expansion of  $\{(2x + y^3)^4\}^7$  is  
 (A)  $11$  (B)  $108$  (C)  $28$  (D)  $29$  (1)
17. If  $\frac{\pi}{2} < x < \frac{3\pi}{2}$ , then the value of  $\sqrt{\frac{1+\cos 2x}{2}}$  is  
 (A)  $\cos x$  (B)  $-\cos x$  (C)  $\sin x$  (D)  $-\sin x$  (1)
18. The positive value of  $m$  for which the coefficient of  $x^2$  in the expansion of  $(1+x)^m$  is 6 is  
 (A)  $6$  (B)  $7$  (C)  $8$  (D) None (1)

Question No. 19 and 20 are Assertion (A) and Reason (R) type questions. Two statements are given – one labelled (A) and other labelled (R). Select the correct answer from the codes (A), (B), (C) and (D) as given below:

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

19. **Assertion (A)** : If  $n(A - B) = 30 + x$ ,  $n(B - A) = 20 + 2x$ ,  $n(A \cup B) = 100$  and  $m(A \cap B) = 15 + 2x$ , then  $x = 7$ .  
**Reason (R)** :  $n(A \cup B) = n(A - B) + n(B - A) + n(A \cap B)$  (1)
20. **Assertion (A)** : The number of signals that can be generated by using 6 differently coloured flags when any number of them may be hoisted at a time is 1956.  
**Reason (R)** : The number of signals that can be generated by using 6 differently coloured flags when  $r$  flags are hoisted at a time is  ${}^6C_r \times r!$  (1)

### SECTION - B

(This section comprises very short answer type question of 2 marks each)

21. Let  $A$ ,  $B$  and  $C$  be any three non empty sets.  
 Using properties of sets, prove that  
 $A - (B \cup C) = (A - B) \cap (A - C)$  (2)
22. Let  $R$  be a relation on  $Q$  defined by  $R = \{(a, b) : a, b \in Q \text{ and } a - b \in \mathbb{Z}\}$   
 Show that  
 (a)  $(a, a) \in R$  for all  $a \in Q$   
 (b)  $(a, b) \in R$  implies  $(b, a) \in R$  (2)
23. Solve :  
 $\frac{2x-3}{4} + 9 \geq 3 + \frac{4x}{3}$  (2)  
**OR**  
 A man wants to cut 3 lengths from a single piece of board of length 91 cm. The second length is to be 3 cm longer than the shortest and third length is to be twice as long as the shortest. What are the possible lengths for the shortest board if third piece is to be at least 5 cm longer than the second? (2)
24. Prove that  $x^4 + 4 = (x + 1 + i)(x + 1 - i)(x - 1 + i)(x - 1 - i)$  (2)  
**OR**  
 If  $a + ib = \frac{(x+i)^2}{2x^2+1}$ , prove that  $a^2 + b^2 = \frac{(x^2+1)^2}{(2x^2+1)^2}$
25. Prove the  $\cos 20^\circ \cos 40^\circ \cos 60^\circ \cos 80^\circ = \frac{1}{16}$  (2)

**SECTION – C**

(This section comprises short answer type question of 3 marks each)

26. How many different words can be formed with the letters of the word EQUATION, so that  
 (a) The words begin with E.  
 (b) The words begin with E and end with N.  
 (c) The words begin and end with a consonant. (3)

27. Let A, B and C be the sets such that  $A \cup B = A \cup C$  and  $A \cap B = A \cap C$ .  
 Show that  $B=C$ . (3)

28. Find the domain and range of the function

$$f = \left\{ \left( x, \frac{1}{1-x^2} \right) : x \in \mathbb{R}, x \neq \pm 1 \right\}$$

**OR**

Find the domain of the function given by

$$f(x) = \frac{1}{\sqrt{x-|x|}}, \quad x \in \mathbb{R} \quad (3)$$

29. A relation R is defined on the set Z of integers as follows  $(x, y) \in R \Rightarrow x^2 + y^2 = 25$ .  
 Express R as the set of ordered pairs and hence find their respective domain.

**OR**

Let R be the relation on the set N of natural numbers defined by

$$R = \{(a, b) : a + 3b = 12, a, b \in \mathbb{N}\}. \text{ Find}$$

- (i) R                      (ii) Domain of R                      (iii) Range of R

30. If  $A = \{1, 2, 3, 4, 5\}$ ,  $B = \{4, 5, 6, 7, 8\}$ ,  $C = \{7, 8, 9, 10, 11\}$ ,  $D = \{10, 11, 12, 13, 14\}$   
 Find  
 (a)  $A \cup B \cup C$                       (b)  $A \cap (B \cup C)$                       (c)  $(A \cup D) \cap (B \cup C)$  (3)

31. Using Binomial theorem prove that  
 $3^{2n+2} - 8n - 9$  is divisible by 64 whether  $n \in \mathbb{N}$  (3)

**OR**

By using binomial theorem, expand  $(1 + x + x^2)^3$

**SECTION – D**

(This section comprises long answer type question of 5 marks each.)

32. Prove that  
 $4 \sin x \sin \left( \frac{\pi}{3} + x \right) \sin \left( \frac{2\pi}{3} + x \right) = \sin 3x$  (5)

**OR**

Prove that

$$\left( 1 + \cos \frac{\pi}{8} \right) \left( 1 + \cos \frac{3\pi}{8} \right) \left( 1 + \cos \frac{5\pi}{8} \right) \left( 1 + \cos \frac{7\pi}{8} \right) = \frac{1}{8}$$

33. If  $\left( \frac{1+i}{1-i} \right)^3 - \left( \frac{1-i}{1+i} \right)^3 = x + iy$ , then find  $x$  and  $y$ . (5)

**OR**

What is the smallest positive integer n for which  $(1 + i)^{2n} = (1 - i)^{2n}$ ?

34. From a class of 25 students 10 are to be chosen for an excursion party. There are three students who decide that either all of them will join or none of them will join. In how many ways can they be chosen? (5)

35. Evaluate  $(x + 1)^6 + (x - 1)^6$ . Hence find the value of  
 $(\sqrt{2} + 1)^6 + (\sqrt{2} - 1)^6$  using the above result. (5)

**SECTION – E**

(This section comprised 3 case study/passage based questions of 4 marks each with sub-parts. The first two case study questions have three sub parts of 1, 1 and 2 marks respectively. The third case study question 2 sub parts of 2 marks each)

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

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

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

**OR**

Find the number of proper subsets of set A.

37. Let  $f$  and  $g$  be two real functions defined by  $f(x) = \sqrt{x-1}$  and  $g(x) = 3 - 2x$

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

- (i) Find the domain of  $g/f$
- (ii) Find the domain of  $f/g$
- (iii) Find the domain of  $1/g$

**OR**

Find the domain of  $f$ .

38. A manufacturer has 1125 litres of 45% acid solutions. He wants to dilute it by adding water.

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

- (i) How much water should be added so that resulting mixture will contain more than 25% but less than 30% acid content?
- (ii) How many litres of 35% acid solution should be added so that resulting mixture will contain 42.5% acid content?

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General Instructions :

1. All questions are compulsory.
2. There are total 35 questions.
3. Question paper is divided into three sections-A, B and C.
4. Section A has question no.1 to 18 (objective type questions) and are of 1 mark each in which Q.no-15 to 18 are of case based question type.
5. Section B has question no. 19 to 24 of 2 marks each, question no.25 to 29 of 3 marks each.
6. Section C has question no. 30 to 33 of 4 marks each and question no.34 and 35 of 5 marks each.
7. Internal choices are given in some questions.
8. Support your answers with suitable examples wherever required.

SECTION A (OBJECTIVE TYPE QUESTIONS)

1. Which of the following is NOT related to personal identity?
(A) The unique attributes that distinguish you from other.
(B) Characteristics linking you to a cultural group.
(C) Attributes making you different from others.
(D) Personal traits that make you distinct from others. (1)
 2. Which of the following is also known as man-made fibre?
(A) Vegetable fibres (B) Animal fibres
(C) Protein fibres (D) Manufactured fibres (1)
- OR**
- Which process is used for removing paleness or the pre-existing colour of the fibre and making it pure white?
3. Find the incorrect statement from the following:
(A) Carbohydrates, proteins and fats are macro-nutrients.
(B) Micro-nutrients are required in small amounts by the body.
(C) Nutrients like iodine, iron and calcium are required in very large amounts by the body.
(D) Fibre or roughage is also a kind of nutrient. (1)
 4. Planning is the first step in any management process which helps us to visualize the path to reach our goals.
Identify the basic steps in planning among the following:
I. Identifying different alternatives.
II. Collecting and arranging appropriate resources.
III. Identify the problem.
IV. Action to carry out the plan.

Choose among the correct options given below:
(A) I and II (B) II and IV
(C) II and III (D) II, III and IV (1)
 5. These types of fibres are measured in inches as they are short in length. Which type of fibres are being referred to in the statement?
(A) Filament (B) Staple (C) Natural (D) Manufactured (1)
 6. Catherine, who lives in America, goes to her friend's place at midnight while Tanya, who lives in India is not allowed to stay out after 8 pm. Why is it so?
(A) Difference in culture. (B) Catherine is intelligent.
(C) Tanya is not old enough. (D) Tanya likes to stay at home. (1)
 7. Which of the following pair is not correctly matched:
(A) Physical fitness- Regular exercise
(B) Specific fitness - Task oriented
(C) Mental fitness - Ability to handle difficult situations with calmness
(D) Limiting television - Helps in concentration (1)

8. What kind of communication medium should be used to spread the methods of prevention of dengue to as many people as possible?
 (A) Group Communication (B) Mass Communication
 (C) Interpersonal Communication (D) Intrapersonal Communication (1)
- OR**
- The teacher told Satyam to go to the staffroom and ask Raghav Sir for the cupboard keys. What is Satyam in this process of communication?
 (A) Source (B) Channel (C) Receiver (D) Feedback
9. Cow dung is considered waste. However, it can be used to prepare humus (manure). Which characteristic of resources does this symbolise?
 (A) Accessibility (B) Interchangeability (C) Manageable (D) Utility (1)
10. Which of the following is not a reason for higher malnutrition rates in rural adolescents?
 (A) High activity levels leading to increased energy needs.
 (B) Sedentary lifestyle with low physical activity.
 (C) Higher protein requirements due to growth.
 (D) Limited access to iron rich foods leading to anaemia. (1)
11. Which of the following characterise self during middle childhood?
 I. Absolute self-descriptions
 II. Identity development
 III. Social descriptions
 IV. Social comparisons
 Choose among the correct options given below:
 (A) I and II (B) II and III (C) III and IV (D) I and IV (1)
12. Match the List I with List II.
- | LIST I | LIST II |
|-------------|------------------|
| I. Nautanki | 1. Bengal |
| II. Tamasha | 2. Gujarat |
| III. Jatra | 3. Uttar Pradesh |
| IV. Bhavai | 4. Maharashtra |
- (A) I-1, II-2, III-3, IV-4 (B) I-2, II-3, III-4, IV-1
 (C) I-3, II-4, III-1, IV-2 (D) I-4, II-1, III-2, IV-3 (1)

Given below are the two statements labelled as Assertion (A) and Reason (R). Read the statement and choose the correct option:

- (A) Both A and R are true and R is the correct explanation of A.
 (B) Both A and R are true, but R is not the correct explanation of A.
 (C) A is true, but R is false.
 (D) A is false, but R is true.
13. **ASSERTION (A)** : Inter-personal communication is the most effective type of communication.
REASON (R) : There is always proximity and direct contact between the sender and receiver of the communication. (1)
14. **ASSERTION (A)**: Rejection of healthy home food and eating outside, in order to conform to peer pressure, is common during adolescence.
REASON (R) : It is necessary to eat food only at home to stay healthy. (1)

CASE BASED QUESTIONS:

Read the passage carefully and answer the questions given below from Q.no. 15 –18.

The time when sexual maturity is reached is called Puberty. Menarche (first menstruation) is usually considered the point of sexual maturity in girls. There is no corresponding definite event marking puberty for boys, although a criterion is sometimes used in the production of spermatozoa. Puberty occurs at a different average age in different cultures. A criterion of puberty that has been found useful for boys and girls is that of maximum yearly increase in height. The age of most rapid growth comes just before menarche for girls and before certain adult characteristics in boys. This period during which physical and biological changes occur, leading to puberty is called pubescence. For most girls this period ranges from 11 years to 13 years and for boys it is 13 years to 15 years.

15. Which of the following is not a criterion used to mark puberty in boys?
 (A) Production of spermatozoa (B) Menarche
 (C) Peak height velocity (D) Development of adult secondary sexual characteristics (1)

16. During this period, physical and biological changes occur which leads to puberty.
(A) Pubescence (B) Infancy (C) Middle childhood (D) Early childhood (1)
17. "Boys who do not have adequate growth as compared to other boys, often feel peculiar". What kind of changes are being referred in the statement?
(A) Cognitive changes (B) Physical changes
(C) Emotional changes (D) Biological changes (1)
18. **ASSERTION (A) :** There is no common marker between boys and girls to ascertain the start of puberty.
REASON (R) : The period during which physical and biological changes occur rapidly, leading to puberty is called pubescence. (1)
(A) Both A and R are true and R is the correct explanation of A.
(B) Both A and R are true, but R is not the correct explanation of A.
(C) A is true, but R is false.
(D) A is false, but R is true.

SECTION B (SHORT ANSWER QUESTION)

19. During an exam, Ravi mentally rehearses his answer. Which type of communication is this? Briefly explain. (2)
20. How is self-esteem defined? In what ways is it connected to self-concept? (2)
21. Differentiate between community resources and shared resources. (2)
22. Imagine Rahul, a college student who frequently eats fast food due to his busy schedule. What are four major nutritional limitations of relying heavily on fast food that he should be aware of? (2)
23. Give classification of textile fibres on the basis of their origin. (2)
24. What are the factors that influences the identity formation in adolescents? (2)
25. Why evaluation is considered as an important step of the management process? (2)
26. What do you mean by interpersonal communication? Why is it considered to be one of the most effective type of communication? (3)
27. Describe in brief the stages through which finishing with colour is possible. (3)
28. Why snacking is considered important for the adolescents?
OR
What do you mean by RDA? Mention the properties of balanced diet. (3)
29. Aman wants to start a new hobby, painting.
(i) Which human resources does Aman need to develop to excel in painting, and how can he acquire them?
(ii) What non-human resources does Aman require to start painting and why are they essential?
(iii) How can Aman ensure his painting hobby aligns with his overall goals and priorities? (3)

SECTION C (LONG ANSWER QUESTION)

30. Write about the functions of media. (4)
31. Which fibre is known as Terylene? Write about its properties.
OR
Write about the four methods of fabric production. (4)
32. Explain the two eating disorders that may arise at adolescence. What would be the best way to prevent their occurrence? (4)
33. What are the characteristics of resources? (4)
34. Write about the characteristics of self during middle childhood. (5)
35. Describe the SMCRE model of communication by drawing a diagram of the entire process. (5)



General Instructions:

- All questions are compulsory.
- Question paper consists of **five sections : A, B, C, D and E.**
- **Section A** has 16 questions of 1 mark each.
- **Section B** has 5 questions of 2 marks each.
- **Section C** has 7 questions of 3 marks each.
- **Section D** has 2 Case-based questions of 4 marks each.
- **Section E** has 3 questions of 5 marks each.

SECTION – A

01. Deficiency of Vit B6 causes
(A) Weak eye sight (B) Bone deformities
(C) Mood Swing (D) Nervous tissue problem (1)
02. Macrophages present in tissues are called –
(A) Alveolar cell (B) Histiocytes (C) Kupffer cells (D) Peritoneal cells (1)
03. Glucose is a
(A) Reducing sugar (B) Non reducing sugar (C) Disaccharide (D) Polysaccharide (1)
04. Fehling test is used in the detection of
(A) Reducing sugar (B) Non reducing sugar (C) Proteins (D) Lipids (1)
05. The microbial cell that is used to produce Hepatitis B Vaccine
(A) Lacto bacillus (B) E. Coli (C) Sacchromyces (D) Streptococcus (1)
06. The chromosomes become visible clearly and can be used for karyotyping during
(A) Prophase (B) Metaphase (C) Anaphase (D) Telophase (1)
07. The chemical substance that stimulate immune response is known as
(A) Antigen (B) Antibody (C) Epitope (D) None of the above (1)
08. Ribosomes are made up of
(A) Equal amount of RNA and Protein (B) More protein than RNA
(C) More RNA than protein (D) None of the above (1)
09. Louis Pasteur published lactic acid formation through fermentation in the year
(A) 1857 (B) 1890 (C) 1876 (D) 1875 (1)
10. Ribosomal RNA is synthesized in
(A) Nucleus (B) Lysosome (C) Golgi Apparatus (D) Endoplasmic Reticulum (1)
11. Eicosanoids are signalling molecule made up of
(A) Carbohydrate (B) Proteins (C) Lipids (D) None of the above (1)
12. Synaptonemal complex is formed in cell division
(A) Anaphase I of meiosis (B) Anaphase II of meiosis
(C) Prophase I of meiosis (D) Metaphase I of meiosis (1)

For Question number 13 to 16 Assertion and Reason Questions given:

Options :

- (A) Both Assertion (A) and Reason (R) is correct and Reason (R) is the correct explanation of Assertion (A).
(B) Both Assertion (A) and Reason (R) is correct but Reason (R) is not the correct explanation of Assertion (A).
(C) Assertion (A) is true but Reason (R) is false.
(D) Assertion (A) is false but Reason (R) is true.

13. **Assertion (A) :** Lactose is a reducing sugar.
Reason (R) : Lactose consist of galactose and glucose. (1)

14. **Assertion (A) :** Growth medium should be sterilized before culturing cells.
Reason (R) : Sterilization of medium prevents contamination. (1)
15. **Assertion (A) :** During transduction DNA is transferred from donor to recipient by bacteriophage.
Reason (R) : Transduction is a type of sexual reproduction. (1)
16. **Assertion (A) :** Meiosis involves two successive nuclear division.
Reason (R) : At the end of meiosis two haploid cells are formed. (1)

SECTION – B

17. State any four functions of membrane proteins. (2)
18. With the help of diagram explain cell signalling process. (2)
19. What is cell culture? State the importance of plant and animal cell culture. (2)
20. Explain the role of bacteria in human gut and rumens of cattle. Write the structure of α D Glucose and β D Glucose. (2)

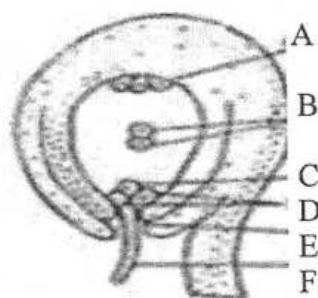
OR

What is bioremediation? Name the technology used in it.

21. Who proposed fluid mosaic theory? What does it state? (2)

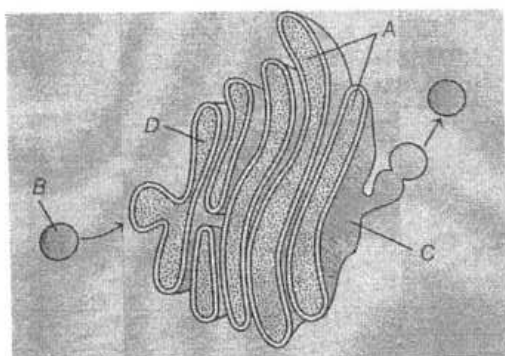
SECTION – C

22. What is genetic recombination? How do genetic recombination take place in bacteria? (3)
23. State the structure and function of the following organelle:
 (a) Peroxisomes (b) Lysosome (3)
24. Draw a well labelled diagram of immunoglobulin molecule. (3)
25. What is immune response? Explain immune response in human through flow sheet diagram. (3)
26. Write the structure of the following with linkages.
 (a) Sucrose (b) Lactose (3)
27. Interphase is of great importance, why? Explain the different phases of it. (3)
28. (3)



- (a) What does the above figure depict? Label A, B, C, D, E and F.
 (b) Explain the above process.

OR



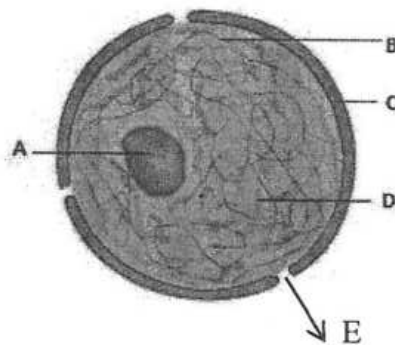
- (a) Identify the above organelle. Label A, B, C and D. Explain the structure of the above organelle,
 (b) State any two functions of the above organelle.

SECTION – D

Case Based Study:

29.

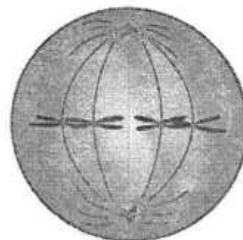
(4)



- (a) Name the above organelle. Label A, B, C, D and E.
 - (b) State the function of A.
 - (c) What is B made up of?
- OR**
- (c) State the function of E.

30.

(4)



- (a) Identity the stage of mitosis given in the above figure.
 - (b) Explain the events taking place in the above stage.
 - (c) State the function of kinetochore.
- OR**
- (c) State the difference between karyokinesis and cytokinesis.

SECTION – E

31. Explain programmed cell death with the help of diagram. How is apoptosis different from necrosis?

(5)

OR

Plants are exposed to pest and pathogen. Explain defense mechanism in plants.

32. Name the organelle where krebs cycle take place. Draw a well labelled diagram of it. Write the structure of it.

(5)

OR

Name the organelle that is found only in plant cell. Explain the structure and function of the different types of each.

33. State the application of Biotechnology in the following:

- | | |
|-----------------------|--------------------------|
| (a) Health Industry | (b) Paper Industry |
| (c) Chemical Industry | (d) Agriculture Industry |

OR

Write short note on the given:

- (a) Biosensors
- (b) Cloning technology and SCNT
- (c) Protein Engineering



General Instructions: Read the following instructions and follow them:

- (i) This question paper contains 33 questions. All questions are compulsory.
- (ii) This question paper is divided into five sections – Sections A, B, C, D and E.
- (iii) **Section A** – Question number 1 to 16 are multiple choice questions. Each question carries 1 mark each.
- (iv) **Section B** – Question number 17 to 21 are very short answer type questions. Each question carries 2 marks.
- (v) **Section C** – Questions number 22 to 28 are short answer type questions. Each question carries 3 marks.
- (vi) **Section D** – Question number 29 and 30 are case based questions. Each question carries 4 marks.
- (vii) **Section E** – Question number 31 to 33 are long answer type questions. Each question carries 5 marks.
- (viii) There is no overall choice given in the question paper. However, an internal choice has been provided in few questions in all the sections except Section A.
- (ix) Use of calculator is not allowed.

SECTION – A

01. One mole of oxygen gas at STP is equal to
 (A) 6.022×10^{22} molecules of oxygen
 (C) 16 g of oxygen
 (b) 6.022×10^{23} atoms of oxygen
 (D) 32 g of oxygen (1)
02. Electronic configuration of five elements I, II, III, IV, V is mentioned below:
 $I - 1s^2 2s^2 2p^2$ $II - 1s^2 2s^2 2p^3$ $III - 1s^2 2s^2 2p^6$
 $IV - 1s^2 2s^2 2p^5$ $V - 1s^2 2s^2 2p^4$
 In the above configuration element I, II, III, IV and V represent as
 (A) C, N, O, F, Ne (B) O, C, F, Ne, N (C) C, N, Ne, F, O (D) C, F, Ne, N, O (1)
03. In the redox reaction,
 $MnO_4^- + 8H^+ + 5Br^- \rightarrow Mn^{+2} + 4H_2O + \frac{5}{2}Br_2$, which one is the reducing agent ?
 (A) H^+ (B) Br^- (C) MnO_4^- (D) Mn^{+2} (1)
04. Oxidation number of P in PO_4^{3-} , of S in SO_4^{2-} and that of Cr in $Cr_2O_7^{2-}$ are respectively
 (A) +5, +6 and +3 (B) +3, +6 and +6
 (C) +3, +5 and +6 (D) +5, +6 and +6 (1)
05. The molecule in which the central atom is having one lone pair of electrons
 (A) H_2O (B) CH_4 (C) NH_3 (D) BF_3 (1)
06. The decreasing order of the repulsive interaction of electron pair is (here lp = lone pair, bp = bond pair)
 (A) $lp - bp > lp - lp > bp - bp$ (B) $lp - lp > lp - bp > bp - bp$
 (C) $lp - lp > bp - bp > lp - bp$ (D) $bp - bp > lp - lp > lp - bp$ (1)
07. An element in the third row of the period table has atomic number 11. It is _____.
 (A) a metal with oxidation number +2 (B) a metal with oxidation number +1
 (C) a non metal with oxidation number - 1 (D) a non metal with oxidation number - 2 (1)
08. Which law states that if two elements can combine to form more than one compound, the mass one element that combines with a fixed mass of other element, are in the ratio of simple whole numbers ?
 (A) Avogadro's Law (B) Law of definite proportion
 (C) Law of multiple proportion (D) Gay Lussac's law of gaseous volume (1)
09. Which one of the following sets of quantum numbers represents the highest energy level in an atom?
 (A) $n = 3, l = 2, m = -2, s = +1/2$ (B) $n = 4, l = 0, m = 0, s = +1/2$
 (C) $n = 3, l = 1, m = 1, s = +1/2$ (D) $n = 3, l = 0, m = 0, s = +1/2$ (1)
10. Which is the best description of behaviour of bromine in the given equation ?
 $H_2O + Br_2 \rightarrow HBr + HOBr$
 (A) only oxidised (B) only reduced
 (C) both oxidised and reduced (D) neither oxidised nor reduced (1)
11. Which of the following molecules has a see-saw shape according to VSEPR theory?
 (A) CH_4 (B) XeF_4 (C) SF_6 (D) SF_4 (1)
12. The oxidation number of an element in a compound is evaluated on the basis of certain rules. Which of the following rules is **not** correct in this respect?
 (A) The algebraic sum of all the oxidation numbers in a neutral compound is zero.
 (B) The oxidation number of hydrogen is always +1.
 (C) An element in the free or the uncombined state bears an oxidation number zero.
 (D) The oxidation number of halogens is always -1 in metal halides. (1)

For Questions number 13 to 16, two statements are given one labelled as Assertion (A) and the other labelled as Reason (R). Select the correct answer to these questions from the codes (A), (B), (C) and (D) as given below:

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

13. **Assertion (A)** : The ionic size of O^{2-} is bigger than that of F^- ion.
Reason (R) : O^{2-} and F^- are isoelectronic ions. (1)
14. **Assertion (A)** : One mole of SO_2 contains double the number of molecules than one mole of O_2 under same conditions of temperature and pressure.
Reason (R) : Molecular mass of SO_2 (64) is double than molecular mass of O_2 (32). (1)
15. **Assertion (A)** : When zinc rod is dipped in copper sulphate solution, blue colour of solution starts fading.
Reason (R) : In this reaction, zinc gets reduced and Cu^{+2} ions gets oxidised. (1)
16. **Assertion (A)** : Ionic bonds are generally formed between the atoms of elements placed on the left and on the right side of the periodic table.
Reason (R) : The higher the value of lattice enthalpy of the resulting ionic compound, the greater will be the stability of the compound. (1)

Section – B

17. Calculate the mass of sodium acetate (CH_3COONa) required to make 500 mL of 0.375 molar aqueous solution. Molar mass of sodium acetate is $82.024 \text{ g mol}^{-1}$. (2)
18. (a) How many orbitals and sub-shells are associated with $n = 4$?
 (b) How many electrons will be present in the subshells having ms value of $\frac{-1}{2}$ for $n = 4$? (2)
19. On the basis of quantum numbers, justify that the sixth period of the periodic table should have 32 elements. (2)
- OR**
- (a) State modern periodic law.
 (b) Would you expect the second electron gain enthalpy of oxygen as positive, more negative or less negative than the first? Justify your answer. (2)
20. Although geometries of NH_3 and H_2O molecules are distorted tetrahedral, bond angle in water is less than that of ammonia. Discuss. (2)
21. (a) Justify that the reaction:
 $2Cu_2O + Cu_2S \rightarrow 6Cu + SO_2$ is a redox reaction.
 (b) What are the oxidation number of the underlined elements in the following compounds.
 $H_4 \underline{P}_2 O_7$ and $\underline{Cr}O_5$ (2)

Section – C

22. Dinitrogen and dihydrogen react with each other to produce ammonia according to the chemical equation:
 $N_2 + 3H_2 \rightarrow 2NH_3$
 (i) Calculate the mass of ammonia produced if $2.00 \times 10^3 \text{ g}$ of dinitrogen reacts with $1.00 \times 10^3 \text{ g}$ of dihydrogen.
 (ii) Calculate the mass of the reactant that remain unreacted. (3)
23. What is the energy in joules required to shift the electron of the hydrogen atom from the first Bohr orbit to the fifth Bohr orbit and what is the wavelength of the light emitted when the electron returns to the ground state? (Given $h = 6.626 \times 10^{-34} \text{ J sec}$) (3)
- OR**
- A golf ball has a mass of 0.04 Kg and a speed of 45 m/s. If the speed can be measured with accuracy of 2%, calculate the uncertainty in position. (3)
24. Balance the given redox reaction by ion–electron method in acidic medium:
 $MnO_4^{-(aq)} + SO_2(g) \rightarrow Mn^{2+}_{(aq)} + HSO_4^-$ (3)
25. (a) Account for the following:
 (i) First ionization enthalpy of Beryllium is higher than Boron.
 (ii) Chlorine can be converted to chloride ion more easily as compared to fluoride ion from fluorine. (3)
 (b) Which is smallest in size Cu^+ , Cu^{+2} or Cu and why?

26. Calculate the amount of carbon dioxide that could be produced when
- 1 mole of carbon is burnt in air
 - 1 mole of carbon is burnt in 16 g of dioxygen
 - 2 moles of carbon are burnt in 16 g of dioxygen

(3)

27. (a) Are all decomposition reaction redox reaction? Justify.
 (b) Which of the following species, do not show disproportionation reaction and why ?
 ClO_4^- , ClO_3^- , ClO^-

(3)

28. On the basis of given information answer the given questions.

Molecule	Bond pair electrons	Lone pair electrons
A	4	2
B	5	0
C	3	2
D	2	2
E	5	1

- Which molecule has a square pyramidal geometry? Predict its formula.
- Draw the structure of molecule C.
- Which among these molecules will have a regular geometry and why?

(3)

Section – D

Read case given below and answer the question that follow:

29. Bohr's model explains the line spectrum of hydrogen. According to Bohr's theory, an e^- can neither emit nor absorbs energy as long as it stays in a particular orbit. However, by absorbing energy, electron undergoes transition between energy levels and while returning to ground state, energy is emitted in the form of a photon of light of definite wavelength. The developments which gave a serious blow to Bohr's model was de-Broglie's concept of dual nature of matter and Heisenberg uncertainty principle.
- What is the maximum number of emission lines when the electron of a H atom in $n=6$ drops to the ground state?
 - Which series of hydrogen spectrum lies in the visible region?
 - Two Particles A and B are in motion. If the wavelength associated with particle A is $5 \times 10^{-8} \text{ m}$, calculate the wavelength associated with particle B if its momentum is half of A.

OR

Write two differences between an orbit and an orbital.

(1+1+2)

30. The long form of periodic table consists of eighteen vertical columns and seven horizontal rows. Elements in the long form of periodic table has been divided into four block i.e. s, p, d and f. This division is based upon the name of the orbital which receives the last electron. The elements show a regular gradation in the periodic properties on moving from left to right in period or from top to bottom in a group.

- Assign the group number and period of an element having outer electronic configuration $(n-1)d^2ns^2$ for $n=4$
- Write the general electronic configuration of p – block elements.
- Write two general characteristics of d – block elements.

OR

Why the first member of each group of representative elements shows anomalous behaviour?

(1+1+2)

Section – E

31. (A) The density of 3 M solution of NaCl is 1.25 g mL^{-1} . Calculate the molality of the solution.
 (Molar mass of NaCl = 58.5)

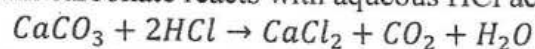
- (B) Calculate the number of atoms in

(i) 52 u of He (ii) 52 g of He (At mass of He = 4)

(3+2)

OR

- (A) Calcium carbonate reacts with aqueous HCl according to the reaction"



What mass of CaCO_3 is required to react completely with 25 ml of 0.75 M HCl ?

(Atomic mass of Ca = 40, Cl=35.5)

- (B) In three moles of ethane (C_2H_6) calculate

- number of molecules of ethane.
- number of moles of hydrogen atoms.

(3+2)

32. (A) State the principle that suggests the presence of only two electrons in an orbital.
 (B) How many electrons in chlorine ($_{17}\text{Cl}$) can have $n + l = 3$?
 (C) Indicate the number of unpaired electrons in Co^{+3} . (Atomic number of Cobalt = 27)
 (D) Calculate the radius of Bohr's fifth orbit for hydrogen atom. (1+1+1+2)

OR

- (A) Which among these has maximum number of unpaired electrons : Cr^{+3} OR Cu^{+2} .
 (Atomic number of Cr = 24, Cu = 29)
 (B) The unpaired electrons in Aluminium and Silicon are present in 3p orbital. Which electrons will experience more effective charge from the nucleus?
 (C) State Aufbau Principle.
 (D) Electrons are emitted with zero velocity from a metal surface when it is exposed to radiation of wavelength $6800 \text{ \AA}$. Calculate threshold frequency. (1+1+1+2)
33. (A) Electronic configuration of some elements is given in Column I and their electron gain enthalpies are given in Column II. Match the electronic configuration with electron gain enthalpy.

Column I	Column II
A - $1s^2 2s^2 2p^6$	-53
B - $1s^2 2s^2 2p^6 3s^1$	-328
A - $1s^2 2s^2 2p^5$	-141
A - $1s^2 2s^2 2p^4$	+48

- (B) Arrange the elements N, C, O, F in order of their increasing first ionization enthalpy.
 (C) Explain why cations are smaller and anions are larger in radii than their parents atoms?
 (D) Why elements present in the same group of periodic table have similar properties. (1+1+2+1)

OR

- (A) Considering the atomic number and position in the periodic table, arrange the following elements in the increasing order of metallic character:
 Si, Be, Mg, Na, P
 (B) Match the correct atomic radius with the element

Element	Atomic radius (pm)
N	77
B	66
C	88
O	74

- (C) Define electronegativity. How would you react to the statement that the electronegativity of nitrogen on Pauling Scale is 3.0 in all the nitrogen compounds.
 (D) Write the atomic number of the element in the third period and seventeenth group of the periodic table. (1+1+2+1)

❧❧❧ ❧❧❧



DELHI PUBLIC SCHOOL, BHILAI

Date : 15.09.2025

MIDTERM EXAMINATION 2025

Time : 3 Hrs.

Class : XI

SUBJECT : BUSINESS STUDIES

M.M. : 80

Name : _____

Roll No. : _____

General Instructions:

1. This question paper contains 34 questions.
2. Marks are indicated against each question.
3. Answer should be brief and to the point.
4. Answers to the questions carrying 3 marks may be from 50 to 75 words.
5. Answers to the questions carrying 4 marks may be about 150 words.
6. Answers to the questions carrying 6 marks may be about 200 words.
7. Attempt all parts of the questions together.

1. Which document is an invitation to the general public to subscribe shares? (1)
(A) Memorandum of Association (B) Articles of Association
(C) Prospectus (D) Certificate of incorporation
2. _____ risk means chance of loss without any possibility of gain. (1)
(A) Perfect risk (B) Zero risk (C) Pure risk (D) Speculative risk
3. Which of the following enterprise is formed as a part of government and does not have separate legal entity? (1)
(A) Public Corporation (B) Government Company
(C) Departmental Undertaking (D) Public Company
4. Which of the following is known as contract of Assurance? (1)
(A) Marine insurance (B) Life insurance (C) Health insurance (D) Fire insurance
5. Application for approval of name of a company is to be made to (1)
(A) SEBI (B) Registrar of Companies
(C) Government of India (D) Government of the state in which company is to be registered
6. Planting saplings and plants is related to which type of industry? (1)
(A) Manufacturing (B) Construction (C) Genetic (D) Extractive
7. Which of the following is not a merit of e-Business? (1)
(A) Ease of formation (B) Global reach
(C) More opportunity for inter-personal touch (D) Movement towards a paperless society
8. Banker's cheque is also known as _____ (1)
(A) Bank draft (B) Demand Draft (C) Pay order (D) Bearer cheque
9. Assertion (A) : Departmental undertakings are unable to take benefit of business opportunities. (1)
Reason(R) : Departmental undertakings do not undertake risky ventures due to bureaucrat's overcautious and conservative approach.
(A) Both Assertion (A) and Reason (R) are correct and Reason (R) is the correct explanation of Assertion(A).
(B) Both Assertion (A) and Reason (R) are correct but Reason (R) is not the correct explanation of Assertion (A).
(C) Assertion (A) is correct but Reason (R) is incorrect.
(D) Assertion (A) is incorrect but Reason (R) is correct.
10. Identify the type of cooperative society in the given picture. (1)



- (A) Cooperative Credit Society
- (B) Farmer's Cooperative Society
- (C) Producer's Cooperative Society
- (D) Consumer's Cooperative Society

Contd...2

11. When two business enterprises agree to join together for a common objective and mutual gain, it gives rise to _____ (1)
(A) Partnership (B) Joint Venture (C) Joint stock company (D) MNC
12. Which of the following statements is incorrect with respect to fire insurance? (1)
(A) Principle of indemnity is applied.
(B) It has element of protection only.
(C) It is not the actual loss but insured value is payable by the insurance company.
(D) Insured must have insurable interest in the subject matter of insurance.
13. **Statement I** : Risk can be minimized but cannot be eliminated.
Statement II : Greater the risk involved in a business, higher is the chance of profit. (1)
(A) Both the Statement I and Statement II are true.
(B) Both the Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.
14. Match the forms of business organisation with their merits: (1)

a. Cooperative Society	(i) Confidentiality of information
b. Sole proprietorship	(ii) Increased loyalty and cooperation
c. Joint Hindu Family Business	(iii) Balanced decision making
d. Partnership	(iv) Service motive

(A) (a – iii), (b – iv), (c – i), (d – ii)	(B) (a – iv), (b – iii), (c – i), (d – ii)
(C) (a – iii), (b – i), (c – iv), (d – ii)	(D) (a – iv), (b – i), (c – ii), (d – iii)
15. Mr. Harsh Gupta wanted to start a business of supplying readymade garments. But he was wondering about how much profit or return on investment he would be able to earn. This situation reflects which characteristic of business? (1)
(A) Procurement of goods (B) Creation of utilities
(C) Uncertainty of Return (D) Element of risk
16. What is the minimum amount for an electronic transfer of funds in case of RTGS? (1)
(A) Rs. 1,00,000 (B) Rs. 2,00,000 (C) Rs. 20,000 (D) No minimum limit
17. Choose an incorrect statement related to e-business. (1)
(A) It involves low cost of setting.
(B) It has increased the dependence on paperwork.
(C) The operating cost is low.
(D) There is no requirement of location.
18. **Assertion (A)** : Cooperative societies truly symbolize the democratic and secular practices.
Reason (R) : Cooperative societies follow the principle of 'One Man One Vote'. (1)
(A) Both Assertion (A) and Reason (R) are correct and Reason (R) is the correct explanation of Assertion(A).
(B) Both Assertion (A) and Reason (R) are correct but Reason (R) is not the correct explanation of Assertion (A).
(C) Assertion (A) is correct but Reason (R) is incorrect.
(D) Assertion (A) is incorrect but Reason (R) is correct.
19. "Every partner is both an agent and a principal." Identify the feature of partnership being referred here. (1)
(A) Risk bearing (B) Membership (C) Mutual Agency (D) Formation
20. **Statement I** : MNCs concentrate more on selling consumer goods which are always desirable for developing countries.
Statement II : MNCs undertake aggressive marketing strategies in order to increase the sales in a short period of time. (1)
(A) Both the Statement I and Statement II are true.
(B) Both the Statement I and Statement II are false.
(C) Statement I is true but Statement II is false.
(D) Statement I is false but Statement II is true.

21. Gas Authority of India Ltd. (GAIL) is carrying on various projects of energy and power. Majority of its shares are held by the Government of India. It was registered under the previous Companies Act. It enjoys all the characteristics of a company. The board of directors are appointed by the government. The Board and shareholders are responsible for the efficient working of the company. The company prepares its annual report and submit it to the appropriate authorities. (3)
 (A) Name the type of public sector enterprise referred to in the above para.
 (B) In whose name does the government buy shares?
 (C) State any one feature of the type of public sector enterprise identified in part (A) other than those discussed in the above para.
22. Ms. Shweta Mishra runs a departmental store in Indore. She procures different kinds of products from all over India through railways, roadways and airways. She has taken a loan of Rs. 5,00,000 from State Bank of India in order to meet short-term financial needs of her business. She has placed information about her store on the hoardings, bill boards, etc. in order to popularise them. Identify the auxiliaries to trade that are being used by Ms. Shweta Mishra in her business by quoting the lines. (3)
23. State any three benefits of e-banking to customers.
 OR
 State any three types of digital payments. (3)
24. State any three consequences of non-registration of a partnership firm.
 OR
 State any three privileges of a private company over a public company. (3)
25. Identify the scope of e-Business highlighted in the following cases: (4)
 (a) Mr. Akash, the CEO of a Multinational company informed all employees for an upcoming training programme through e-mail.
 (b) Anuj, bought the washing machine from a reputed company which stopped working after a few days. He filed the case on the toll free number of customer care, but did not receive any good feedback. He decided to write an email to the quality control manager of the company.
 (c) The head of the marketing department conducted a video conferencing informing the production and finance manager about the customer's requirements and expectations.
 (d) Sanya bought a new LED TV and decided to sell her old LED TV through OLX.com.
26. Vikas and Mahesh are partners selling electronic products across India. They import the components from their friend Atulya who does his business in Japan and then assemble them in their factory established in a rural area in Bihar. Most of the workers in the factory are children and women. They are paid very less salaries. They store their stocks in a warehouse but do not take proper safety measures against fire, burglary etc. There was a short circuit in the factory and as a result, most of the stock was damaged. (4)
 (a) Identify and explain the type of industry in which Vikas and Mahesh are engaged.
 (b) Explain the type of business activity performed by Atulya.
 (c) Specify the auxiliary to trade used by Vikas and Mahesh by quoting the lines from the above para.
 (d) State the objective of business which has been violated by Vikas and Mahesh.
27. 'North-Ex Bank' is a popular private sector bank offering varied services to its customers. It offers many types of bank account options to its customers. Harshad being a businessman has chosen the type of account in which deposits are the most liquid and there are no limits to the number of transactions or the amount of transactions in a day. On the other hand, his mother has opened a type of account where she can conveniently deposit the money she saves. These accounts provide cheque facility and offer lot of flexibility for deposits and withdrawal of funds from the account. Harshad's younger brother Mohit has opened a special kind of account wherein he will deposit Rs.2000 every month for the next two years. (4)
 (a) By quoting the lines from the above paragraph, identify the various types of bank accounts being used by Harshad and his family members.
 (b) Explain briefly any one other type of account that is also offered by a bank but have not been mentioned in the above paragraph.

28. Anay operates a textile business. His family is joint and has a lot of ancestral property. All the 15 members are a part of this business. He is the eldest male member in the family, so he heads the business. He is liable to all the creditors of the business as he is the decision maker. Anay's grandson has just born a few days ago and he is also the member of the business. (4)
- (a) Which form of business is being undertaken by Anay?
(b) Identify the features of this form of business by quoting the lines from the above para.
29. Explain the following principles of insurance with the help of an example:
(a) Principle of Subrogation (b) Principle of indemnity
OR (4)
Explain briefly any four services offered by the postal department.
30. Explain any four clauses of Memorandum of Association.
OR (4)
Discuss the legal position of promoters with respect to company promoted by them.
31. Sanjeev Kumar sent the consignment of the sacks of rice to his importer in Germany in the vessel of Goodluck Shipping and Logistics Company. Sanjeev Kumar got his consignment insured against the sea perils. There were few rodents on the ship which damaged Sanjeev Kumar's goods. (6)
- (a) Identify the type of insurance policy Sanjeev Kumar has taken for protection of his consignment.
(b) What are the three main types of insurance policy identified in part(A)? Explain them.
(c) Is the insurance company liable to pay the compensation? Why or why not? Explain the relevant principle of insurance applicable.
32. Alisha has set up a cement company on 14th September 2024. She has got her company registered under Companies Act, 2013. From the day of its incorporation, it acquires an identity separate from its members. Like natural persons, it can own property, incur debts, borrow money and enter into contracts. The Board of Directors of the company will appoint top officials for running the business. Identify and explain the four features of company form of organisation highlighted above by quoting the lines. (6)
33. What do you mean by Business risk? Explain the nature of business risk.
OR (6)
Explain briefly the Organisational and Human or individual objectives of business.
34. What is a Statutory Corporation? Explain the features of a Statutory Corporation.
OR (6)
What is a Global enterprise? Explain the features of a Global enterprise.

**DELHI PUBLIC SCHOOL, BHILAI**

Date : 12.09.2025

MIDTERM EXAMINATION 2025

Time : 3 Hrs.

Class : XI

SUBJECT : PHYSICAL EDUCATION

M.M. : 70

Name : _____

Roll No. : _____

GENERAL INSTRUCTIONS:

1. The question paper consists of 5 sections and 37 Questions.
2. Section A consists of question 1-18 carrying 1 mark each and is multiple choice questions. All questions are compulsory
3. Sections B consist of questions 19-24 carrying 2 marks each and are very short answer types and should not exceed 60-90 words. Attempt any 5.
4. Sections C consist of Question 25-30 carrying 3 marks each and are short answer types and should not exceed 100-150 words. Attempt any 5.
5. Sections D consist of Question 31-33 carrying 4 marks each and are case studies.
6. Section E consists of Question 34-37 carrying 5 marks each and are long answer types and should not exceed 200-300 words. Attempt any 3.

Q No.		Marks
SECTION – A		
Q1.	What is the full form of AIFF ? (A) All India Football Federation (B) All India Fitness Foundation (C) All India Federation of Fitness (D) Association of Indian Football Federation	[1]
Q2.	The term “Paralympics” is related to: (A) Professional sports (B) Games for physically challenged athletes (C) Games for senior citizens (D) Indoor sports only	[1]
Q.3.	There is a picture given below. This is the logo of  (A) Khelo-India program. (B) Fit-India Program (C) Khel-India Program (D) Fitness India Program.	[1]
Q.4.	Where Laxmibai National Institute of Physical Education (LNIPE) is situated? (A) New Delhi (B) Patiala (C) Bhubneshwar (D) Gwalior	[1]
Q.5.	The motto of the Olympic Games is: (A) “Faster, Higher, Stronger” (B) “Sports for Peace” (C) “Friendship, Unity, Progress” (D) “Games for All”	[1]
Q.6.	The headquarters of the International Olympic Committee (IOC) is located in: (A) Athens, Greece (B) Lausanne, Switzerland (C) Paris, France (D) London, UK	[1]
Q.7.	The Olympic Torch is lit in: (A) Rome (B) Athens (C) Olympia (D) Paris	[1]
Q.8.	The IOA was established in (A) 1926 (B) 1927 (C) 1928 (D) 1930	[1]
Q.9.	The Olympic flag was used for the first time (A) 1896, Athens, Greece (B) 1920, Antwerp, Belgium (C) 1924, Paris, France (D) 1928, Amsterdam, Netherlands	[1]
Q.10.	Ancient olympic Games were organised in the honour of <u>god</u> (A) Hercules (B) Theondosis (C) Posedon (D) Zues	[1]
Q.11.	Which of the following is not a meditative asana? (A) Vajrasana (B) Padmasana (C) Shavasana (D) Gomukhasana	[1]
Q.12.	This is the highest limb in Ashtanga Yoga—in which a person experiences oneness with the universe. (A) Pratyahara (B) Samadhi (C) Dharana (D) Dhyana	[1]
Q.13.	This kriya helps in nasal cleansing. (A) Vasti (B) Neti (C) Nauli (D) Dhauti	[1]

Contd...2

Q.14.	Match the following: Match list – I with list – II and select the correct answer from the code given below: List I – Limb of Yoga (i) Pranayama (ii) Pratyahara (iii) Dhyana (iv) Samadhi List II – Meaning (1) Union with the Divine (2) Meditation on the Divine Will (3) Control of the senses (4) Breathing exercise correct Set of options: (A) (i)–(4), (ii)–(1), (iii)–(3), (iv)–(2) (B) (i)–(2), (ii)–(4), (iii)–(3), (iv)–(1) (C) (i)–(3), (ii)–(2), (iii)–(4), (iv)–(1) (D) (i)–(4), (ii)–(3), (iii)–(2), (iv)–(1)	[1]
Q.15.	The figure shows  (A) Suryabhedhi pranayama (B) Sheetkari pranayama (C) Bhramari pranayama (D) Sheetli pranayama	[1]
Q.16.	How can physical disabilities be diagnosed? (A) Through observation of child's development (B) Behaviour and physical performance (C) Understanding of the mental state (D) Only through ((A) and ((B)	[1]
Q.17.	Picture-Based Questions: CBQ Identify the following occupations:  1. _____  2. _____  3. _____  4. _____	[1]
Q.18.	Assertion-Reason Type Questions: Given below are the two statements labelled Assertion ((A) and Reason (R). A: Physical education is recognised as an indispensable portion of the school curriculum because of its many faceted benefits. R: It helps students attain physical, emotional, mental and social prowess. In the context of the two statements given above, which one of the following is correct? (A) Both ((A) and (R) are true and (R) is the correct explanation of ((A). (B) Both ((A) and (R) are true but (R) is not the correct explanation of ((A). (C) (A) is true, but (R) is false. (D) (A) is false, but (R) is true.	[1]

SECTION – B		
Q.19.	What was the objective of the Rural Sports tournament scheme?	[2]
Q.20.	Give a list of career options in physical education.	[2]
Q.21.	How can sports help in promoting acceptance and respect for diversity?	[2]
Q.22.	What do you understand by Citius, Altius, Fortius?	[2]
Q.23.	Differentiate between yama and niyama.	[2]
Q.24.	How many types of disorder are there?	[2]

SECTION – C		
Q.25.	What are the causes of physical disability?	[3]
Q.26.	What is Pranayama? Explain any two types of Pranayama.	[3]
Q.27.	Mention any three yogic practices that help in stress management.	[3]
Q.28.	Write any three functions of the IOC.	[3]
Q.29.	What are the duties involved in teaching physical education in schools? Explain any three duties.	[3]
Q.30.	What are the causes of physical disability?	[3]

SECTION – D		
Q.31.	Write notes on how the following can help students with special needs: Any four (a) Special Education Counsellor (b) Occupational Therapist (c) Special Educator (d) Physical Education Teacher (e) Physiotherapist (f) Speech Therapist	[4]
Q.32.	What are the different yogic kriyas? Explain any three in detail.	[4]
Q.33.	What is the goal of yoga? Explain any four.	[4]

SECTION – E		
Q.34.	Describe the aims and objectives of adaptive physical education.	[5]
Q.35.	Write a brief note on the eight limbs of yoga	[5]
Q.36.	What role do the Olympic Values Education play in the holistic development of individuals?	[5]
Q.37.	What are the features of Khelo- India Program? Write about any five.	[5]





DELHI PUBLIC SCHOOL, BHILAI

Date : 10.09.2025

MIDTERM EXAMINATION 2025

Time : 3 Hrs.

Class : XI

SUBJECT : ENGLISH (CORE)

M.M. : 80

Name : _____

Roll No. : _____

General Instructions:

1. The paper is divided into 3 sections: A, B and C. All the sections are compulsory.
2. Specific instructions, wherever necessary, are given along with the questions. Follow them strictly.

Section A: Reading Skills (26 Marks)

Q1. Read the following passage carefully:

(10)

- I. It is a curious fact that people who are habitually late often imagine themselves to be admired for their unpunctuality. They enter a room twenty minutes after the appointed hour, with an air of triumph, as though keeping others waiting were a heroic accomplishment. My friend, Mr. Dobson, is a champion in this regard. He possesses a watch, but I have long suspected it is more ornamental than functional, for it rarely agrees with the rest of the civilized world.
- II. Once, invited to dinner at half-past seven, Dobson arrived at a quarter past eight, entirely composed, and even expressed mild astonishment that we had already begun. "Why, my dear fellows," he declared, "a dinner table is no railway platform! One does not expect it to leave without its passengers." His analogy was ingenious, though it did little to appease the half-starved guests who had been gazing longingly at the soup for fifteen minutes.
- III. I recall another incident with equal vividness. Dobson had promised to accompany me to a lecture on "The History of Umbrellas," a subject I confess sounded more useful in theory than in practice. He was, of course, late, and entered halfway through the speaker's solemn discourse on the superiority of the gingham canopy. Dobson's entrance, however, was so full of cheer that he seemed like a welcome diversion rather than an intrusion. "My apologies," he whispered loudly enough for three rows to hear, "I was detained by a most obstinate bootlace." The audience, grateful for relief from the droning lecturer, tittered in appreciation.
- IV. There is, I believe, an artistry in Dobson's tardiness. He is never breathless, never hurried; he strolls into every situation as if time itself were his obedient servant. One cannot help admiring his composure, though one may simultaneously resent the empty minutes he so generously bestows upon others. Perhaps the world requires such people—those who provide us opportunities to practise patience, however unwillingly. And though I grumble, I must concede: society without its Dobsons would be punctual, yes, but infinitely dull.

Based on your understanding of the passage, answer the questions given below: (10x1=10)

- i. What attitude does Dobson display when arriving late?
a) Apologetic b) Triumphant c) Nervous d) Humble
- ii. Pick out the word from Paragraph III which means 'dull, monotonous tone'.
- iii. Complete the sentence with reference to the passage:
Dobson compared the dinner table to a railway platform because he believed _____.
- iv. What does the narrator imply about Dobson when he says that his watch is "more ornamental than functional"?
- v. Why did the audience titter when Dobson entered the lecture?
a) They disliked him b) He whispered too loudly
c) They were bored by the lecture d) Both b and c
- vi. List two social consequences of Dobson's unpunctuality, as highlighted in the passage.
- vii. Which of the following word most nearly means "calmness" as used in the passage?
a) Anxiety b) Composure c) Panic d) Unease
- viii. The writer would agree with all of the following statements about Dobson EXCEPT:
a) He is never hurried. b) He makes witty excuses for his lateness.
c) He respects the time of others. d) He adds amusement to dull situations.
- ix. Do you think the narrator admires Dobson or criticizes him more? Support your answer with a suitable line from the passage.
- x. According to the narrator, why would a society without people like Dobson be dull even though it would be punctual?

Contd...2

Q2. Read the following passage carefully:

(8)

- I. Introduction:** As India emerges as one of the world's largest digital consumer markets, cyber security has assumed paramount significance. With the accelerated adoption of smartphones, online banking, and digital payments, individuals find themselves increasingly exposed to threats such as phishing, identity theft, and data breaches. To gauge how prepared citizens are to counter these challenges, a nationwide survey was conducted across diverse age groups.
- II. Methodology:** The survey encompassed 1,200 respondents from both urban and semi-urban regions. Participants were questioned on their daily screen exposure, online security practices (use of strong passwords, two-factor authentication, and awareness of scams), and their experiences of cyber fraud. The collected data was then converted into percentages and analysed according to age categories.

III. Results:

Age group	Avg. daily screen time	% Using strong passwords	% Using two-factor authentication	% Reported cyber fraud
Teenagers	6 hrs	42%	28%	18%
Young adults	8 hrs	55%	47%	26%
Middle-aged	7 hrs	63%	58%	21%
Working seniors	5 hrs	70%	61%	15%
Retired seniors	3 hrs	49%	32%	9%

- IV. Analysis:** The survey uncovered striking contrasts. While young adults recorded the longest online hours, they also reported the highest exposure to cyber fraud, owing to their active engagement in multiple financial and social platforms. Middle-aged adults and working seniors demonstrated stronger digital discipline, with significantly higher adoption of strong passwords and two-factor authentication. Teenagers, despite being considered digital natives, exhibited the weakest awareness of cyber safety, rendering them the most susceptible.
- V. Implications:** The findings underscore the urgent need for targeted digital literacy programmes, particularly among teenagers and retired seniors. Educational institutions could integrate cyber hygiene modules into their curricula, while banks and government agencies may launch large-scale awareness drives on safe online practices. Moreover, robust cyber laws and efficient grievance redressal mechanisms are vital to building user confidence in the digital ecosystem.
- VI. Conclusion:** Cyber security is no longer confined to technical domains—it has become a societal imperative. Promoting responsible digital behaviour across all age groups is essential to ensure that India's digital empowerment does not translate into digital vulnerability.

Answer the following questions, based on the above passage:

- i. Complete the sentence suitably : (1)
In the introduction, the researcher links digital growth with cyber risks to highlight _____.
- ii. What is the classification of the following? (1)
"To assess the preparedness of individuals across age groups in handling cyber risks."
a. Primary objective b. Secondary inference
c. Method of analysis d. Research outcome
- iii. Why are teenagers, despite being digital natives, considered more vulnerable to cyber fraud? (1)
Give two reasons.
- iv. Classify the following as 'influence' or 'practice': (1)
1. Peer-driven engagement in multiple online platforms among young adults
2. Adoption of strong passwords and two-factor authentication by middle-aged adults.
- v. Why are young adults exposed to the highest cyber fraud? (1)
- vi. Analyze how targeted interventions can reduce risks for the most vulnerable groups. (Refer to Para 5) (2)
- vii. What is the goal for stakeholders, as highlighted in the conclusion? (1)
a. Expanding digital services
b. Building user confidence in technology
c. Promoting responsible digital behavior across age groups
d. Increasing profitability of cyber firms

Q3. Read the following passage carefully:

(8 marks)

In today's fast-paced world, students spend several hours each day on mobile phones, laptops, and television. While digital devices have become necessary for education, entertainment, and social connection, their overuse can lead to physical and mental health issues. A digital detox, which means taking a break from electronic devices, is now considered important for a balanced lifestyle.

The most common reasons for digital detox are to reduce stress, improve focus, and find time for healthier activities. Constant notifications and social media updates distract students from studies and reduce concentration. Too much screen time also affects eyesight, posture, and sleep quality.

A digital detox can be done in simple ways. Students can set aside "no-screen hours" during the day, especially before bedtime. Engaging in hobbies such as reading, drawing, gardening, or sports helps to replace screen time with more meaningful activities. Spending time with family and friends face-to-face also improves communication skills and strengthens relationships.

Many schools now promote digital detox by organising outdoor activities, library hours, and awareness campaigns. Teachers encourage students to switch off phones during study hours and use digital devices only when necessary. In conclusion, digital detox does not mean rejecting technology completely. It means using it wisely and ensuring that screens do not control our lives. By practising small changes, students can enjoy the benefits of technology while maintaining good health, focus, and emotional well-being.

- (a) On the basis of your understanding of the above passage, make notes on it using headings and sub-headings. Use recognizable abbreviations (wherever necessary- minimum 4) and a format you consider suitable. Also supply an appropriate title to it. (5)
- (b) Write a summary of the passage in about 50 words. (3)

Section B : Grammar and Creative Writing Skills (23 Marks)

Q4. Attempt all the questions as per the instructions given:

(7marks)

- i. Even in the face of adversity, she _____ to her faith in justice and truth.
(Use the correct form of the verb 'cling')
- ii. If he _____ the truth earlier, he would not have signed the document.
(Use the correct form of the verb 'know')
- iii. Rearrange the words to form a meaningful sentence:
century / literature / profound / the / underwent / transformations / twentieth / several / during
- iv. Choose the correct clause to fill in the blank:
The speaker lost credibility because the audience realized _____.
a) what he said was not supported by facts
b) which he said was not supported by facts
c) that what he said not supported by facts
d) whether what he said was not supported by facts
- v. Reorder the following sentences, then choose the correct option:
P: Striking an iceberg without warning in the fog, she sank quickly.
Q: The Titanic was the largest ship in the world at that time.
R: She was sailing on her maiden voyage from Southampton to New York with more than two thousand passengers and crew.
S: The biggest disaster of a ship sinking at sea was that of the Titanic on 14 April 1912.
(a) PQRS (b) SQRQ (c) QRPS (d) QSPR
- vi. The tourist asked the guide, "Where will you take us tomorrow?" (Change into reported speech)
- vii. The librarian said to me, "Please remind your friends to return the books before Friday." (Change into reported speech)

Q5. Attempt any one of the following :

(3)

- A. You are *Rajesh/Radhika Sharma*, a 21-year-old graduate in English Literature with excellent communication skills. You are looking for a suitable job as a content writer in a reputed organization in Delhi. Draft an advertisement to be published in the *classified* columns of a national daily. Write the advertisement in not more than 50 words, giving relevant details.
- B. You are *Rohan/Rohini Mehta*, a college student who has recently moved to Bengaluru for higher studies. You are looking for suitable accommodation on rent near MG Road, Bengaluru. Draft a classified advertisement in not more than 50 words to be published in a local daily. Give all the relevant details.

Q6. Attempt any one of the following:

(3)

- A.** You are Ananya / Anany Sharma, the Library Captain of Doon Public School, Solon. Your school library is starting a Digital Reading Hub to promote e-books, audiobooks, online resources, and interactive reading corners. The hub will provide free access to a wide range of titles and subject-wise digital materials.
Prepare an attractive poster for the school notice board announcing its launch. Design it in about 50 words.
- B.** You are Rahul/Rani Verma, a student of St. Xavier's Sr. Sec. School, Indore. The Cyber Safety Cell of your city is launching a campaign called "Beware of Digital Traps" to warn teenagers about online fraud, identity theft, and cyberbullying.
As a member of your school's Cyber Awareness Club, prepare an awareness poster to spread this message among students. Design it in about 50 words.

Q7. Attempt any one of the following :

(5)

- A.** You are Arjun/Anu Malhotra, a student of Class XI of Green Valley School, Dehradun. You have to deliver a speech in the morning assembly of your school on the topic "The Lost Art of Letter Writing in the Age of Instant Messaging." Write a speech in about 120–150 words expressing your views on the topic. You may include the following points:

(letters as carriers of emotions and memories, instant messages vs. handwritten words, why letters are vanishing, whether they should be preserved as a tradition, relevance for today's generation)

- B.** You are Pranav/Priyal Sharma, a student of Class XI of Green Valley School, Dehradun. You have to deliver a speech in the morning assembly of your school on the topic "Podcasts – The New Classroom for Today's Generation". Write a speech in about 120–150 words expressing your views on the topic. You may include the following points:

Anytime, anywhere learning
Access to experts worldwide
Variety of subjects and ideas
Replay and learn at your own pace
Free and inclusive resource
Builds curiosity and critical thinking

Q8. Attempt any one of the following :

(5)

- A.** You are Kavi/Kavya Menon, a student of Class XI of Crescent Public School, Kochi. You are going to represent your school in an Interschool Debate. The motion of the debate is "Mental health support should be made compulsory in all schools." Write the debate FOR or AGAINST in about 120 -150 words. You may include the following points:

FOR the Motion

early help prevents serious problems, improves focus and learning, builds resilience and coping skills, removes stigma around mental health

AGAINST the Motion

schools lack resources and trained staff, may invade student privacy, mental health is parents' role, one-size programs may not suit all students

- B.** You are Ritik/Ritika Sharma, a student of Class XI of Kendriya Vidyalaya, Nagpur. You are to speak in an Interschool Debate. The motion of the debate is "Compulsory 75% attendance rule in classes XI and XII is justified." Write the debate FOR or AGAINST in about 120 -150 words. You may include the following points:

FOR the Motion

regular attendance builds discipline, classroom learning is better than self-study, ensures participation in discussions and activities, prevents misuse of freedom, keeps students connected with teachers and peers

AGAINST the Motion

students may have genuine reasons like health or exams, quality of learning matters more than physical presence, creates pressure and stress, self-study and coaching also play a role, unfair to bright students who can perform without high attendance

Section C – Literature (31 marks)

Q9. Attempt any one of the following extracts :

(3marks)

**A. 'Then sleek as a lizard, and alert and abrupt,
She enters the thickness,
And a machine starts up
Of chitterings, and a tremor of wings, and trillings —
The whole tree trembles and thrills.'**

- i. What does the simile "*sleek as a lizard*" suggest about the goldfinch's movement?
 - a. It is lazy and slow
 - b. It is smooth, cautious, and quick
 - c. It is strong and powerful
 - d. It is awkward and clumsy
- ii. The goldfinch's movements are alert and abrupt because _____.
- iii. What effect does the goldfinch's arrival have on the laburnum tree?

**B. "And of this circumstance
There is nothing to say at all.
Its silence silences."**

- i. Which poetic device is used in the expression "Its silence silences"?
 - a. Simile
 - b. Metaphor
 - c. Alliteration
 - d. Irony
- ii. 'This circumstance' in the above lines refers to _____.
- iii. What does the poet mean by 'There is nothing to say at all'?

Q10. Attempt any one of the following extracts:

(3marks)

A. And then a very young Tutankhaten took the throne, King Tut as he is widely known today. The boy-king soon changed his name to Tutankhamun, a living image of Amun', and oversaw a restoration of the old ways. He reigned for about nine years and then died unexpectedly.

- i. Why did the boy king change his name from Tutankhaten to Tutankhamun?
 - a) To honour his father's legacy
 - b) To symbolise a return to the worship of Amun
 - c) To establish himself as a military ruler
 - d) To show allegiance to foreign rulers
- ii. The phrase "*restoration of the old ways*" most likely refers to:
 - a) Reviving traditional religious practices abandoned by Akhenaten
 - b) Restoring ancient monuments destroyed by invaders
 - c) Returning to Egypt's ancient system of agriculture
 - d) Rebuilding the political alliances with neighbouring empires
- iii. Who was Tutankhamun's predecessor, and what major religious changes had he introduced in Egypt?

B. "When I went in to comfort the children, Jon asked, 'Daddy, are we going to die?' I tried to assure him that we could make it. 'But, Daddy,' he went on, 'we aren't afraid of dying if we can all be together.'"

- i. What does the phrase "we aren't afraid of dying if we can all be together" reveal about Jon's attitude?
 - a) He is indifferent to danger.
 - b) He is brave and values family unity over fear of death.
 - c) He is unaware of the seriousness of the situation.
 - d) He believes that staying together guarantees survival.
- ii. Jon's question "Daddy, are we going to die?" primarily reflects:
 - a) Panic and helplessness of a child.
 - b) His curiosity about life and death.
 - c) Awareness of the danger and concern for family.
 - d) A lack of understanding about storms.
- iii. What qualities of little Jonathan are revealed through this extract?

Q11. Attempt any one of the following extracts:

(4marks)

**A. "He got up and stalked out of the house, slamming the screen door.
My mother explained.
He has a gentle heart, she said. It is simply that he is homesick and such a large man.
The farmer went away, and I ran over to my cousin Mourad's house."**

- i. Who does 'he' in the above line refer to?
 - a. The narrator
 - b. John Byro
 - c. The narrator's uncle Khosrove
 - d. The narrator's father

Contd...6

- ii. The word "stalked (out)" means:
 - a) left quietly
 - b) left in an angry, stiff manner
 - c) ran away in fear
 - d) walked proudly
- iii. The farmer came to the narrator's house because _____.
- iv. Why does the narrator run to Mourad's house immediately after the incident?

B. "As if that's necessary," my mother cried. "It would simply be an insult to talk like that. And think about the risk she's been running, each time she goes out of our door with the full suitcase or bag."

My mother seemed to notice that I was not entirely convinced. She looked at me reprovingly and after that we spoke no more about it."

- i. 'She' in the above lines refers to :
 - a) The narrator's aunt
 - b) Mrs. Dorling
 - c) The narrator's grandmother
 - d) A neighbour
- ii. What does looked 'reprovingly' mean?
 - a) With kindness
 - b) With disapproval
 - c) With fear
 - d) With excitement
- iii. The narrator says, "*I was not entirely convinced.*" She was not convinced about her mother's decision to _____.
- iv. What risk did 'she' face each time she stepped out with a suitcase or bag?

Q12. Answer the following questions, in about 40 -50 words. (2x3=6 marks)

(A) Answer any one of the following questions:

- i. What do the pinpricks in the vast ocean refer to? Why have they been called so? [We Are Not Afraid to Die... if We Can All Be Together]
- ii. Mention two aspects of the ancient Egyptian life as portrayed in the lesson "Discovering Tut : the Saga Continues".

(B) Answer any one of the following questions:

- i. The poet's mother laughed at the snapshot. What does this laugh indicate? [A Photograph]
- ii. How has the poet described the laburnum tree and the day before the arrival of the bird? [The Laburnum Top]

Q13. Answer any one of the following questions in about 40-50 words. (3marks)

- i. How did Mrs. Dorling react when the narrator went to her house for the first time? What does it tell you about Mrs. Dorling? [The Address]
- ii. Aram mentions a 'crazy streak' in the family. Describe two instances when the members of the family exhibit their 'crazy streak'.? [The Summer of the Beautiful White Horse]

Q14. Answer any one of the following questions in about 120-150 words. (6marks)

- i. The story "We're Not Afraid to Die... if We Can All Be Together" describes how a family's courage and teamwork help them survive against fears, waves, and storms. Referring to key events in the voyage, evaluate the role of determination and collective spirit in overcoming life-threatening challenges. What lesson does this incident highlight?
- ii. Khushwant Singh describes his grandmother as deeply spiritual, detached from material life, and full of silent strength. Referring to incidents from the text *The Portrait of a Lady*, explain how her character reflects the values of faith, resilience, and dignity.

Q15. Answer any one of the following questions in about 120-150 words. (6marks)

- i. The Garoghlanian family was famous for their honesty and trust. Yet, Aram and Mourad secretly kept the white horse they had taken from John Byro. Do you think they remained true to their family values? Discuss how they treated the horse, why they finally returned it, and what this shows about their respect for family traditions.
- ii. In the end, the narrator decides never to go back to Mrs. Dorling's house. Explain why she takes this decision. Mention her feelings when she sees her mother's things in strange surroundings, her disappointment at the loss of their value, and how this helps her accept the past.



DELHI PUBLIC SCHOOL, BHILAI

Date : 01.09.2025

MIDTERM EXAMINATION 2025

Time : 50 Minutes

Class : XI

SUBJECT : GENERAL KNOWLEDGE

Max. Marks : 50

Name of the Student: _____ Class/Sec. _____ Roll No. _____
 Invigilator's Signature _____ Marks Obtained : ____/50

General Instructions:

- All questions are compulsory.
- Answer all the questions by writing the correct option number in the space provided in the capital letter only.
- Each question carries 1 mark.

Sl.No.	Questions	Marks
1.	Who is the author of the widely acclaimed novel "To Kill a Mockingbird"? (A) Harper Lee (B) F. Scott Fitzgerald (C) Jane Austen (D) George Orwell	
2.	Which famous scientist developed the theory of relativity? (A) Isaac Newton (B) Albert Einstein (C) Stephen Hawking (D) Marie Curie	
3.	In which district of Chhattisgarh is Kendai waterfall located? (A) Korba (B) Bilaspur (C) Kawardha (D) Surajpur	
4.	Which Indian state is known as the "Land of Five Rivers"? (A) Rajasthan (B) Punjab (C) Uttar Pradesh (D) Gujarat	
5.	Which sport is associated with the "Davis Cup"? (A) Football (B) Basketball (C) Tennis (D) Cricket	
6.	"The Diary of a Young Girl" is the autobiography of which historical figure? (A) Helen Keller (B) Anne Frank (C) Malala Yousafzai (D) Maya Angelou	
7.	Which fundamental right in the Indian Constitution guarantees the protection of life and personal liberty? (A) Right to Equality (B) Right to Freedom (C) Right against Exploitation (D) Right to Constitutional Remedies	
8.	What is the primary function of the Reserve Bank of India (RBI)? (A) To regulate stock markets (B) To issue currency and control monetary policy (C) To manage public debt (D) To provide agricultural loans	
9.	The classical dance form "Kathakali" originated in which Indian state? (A) Tamil Nadu (B) Kerala (C) Andhra Pradesh (D) Karnataka	
10.	Who was the first Indian to win an individual Olympic gold medal? (A) Leander Paes (B) Abhinav Bindra (C) Milkha Singh (D) Sachin Tendulkar	
11.	Which country is set to host the 2028 Summer Olympics? (A) Paris, France (B) Los Angeles, USA (C) Brisbane, Australia (D) Rome, Italy	
12.	What is the chemical symbol for gold? (A) Ag (B) Fe (C) Au (D) Hg	
13.	The "Quit India Movement" was launched in which year? (A) 1930 (B) 1942 (C) 1947 (D) 1920	
14.	Which desert is the largest hot desert in the world? (A) Gobi Desert (B) Arabian Desert (C) Sahara Desert (D) Atacama Desert	
15.	What is the full form of "URL" in the context of the internet? (A) Uniform Resource Locator (B) Universal Remote Link (C) United Resource Language (D) Uniform Register Login	
16.	Who is known as the "Father of the Indian Constitution"? (A) Mahatma Gandhi (B) Jawaharlal Nehru (C) Sardar Vallabhbhai Patel (D) Dr. B.R. Ambedkar	
17.	Which economic term refers to a sustained increase in the general price level of goods and services? (A) Deflation (B) Recession (C) Inflation (D) Depression	
18.	"Ghoomar" is a traditional folk dance from which Indian state? (A) Gujarat (B) Rajasthan (C) Punjab (D) Maharashtra	
19.	Which international organization is responsible for maintaining international peace and security? (A) World Health Organization (WHO) (B) United Nations (UN) (C) International Monetary Fund (IMF) (D) World Trade Organization (WTO)	
20.	What is the capital city of Japan? (A) Seoul (B) Beijing (C) Tokyo (D) Bangkok	
21.	Which planet is known as the "Morning Star" or "Evening Star"? (A) Mars (B) Jupiter (C) Venus (D) Saturn	
22.	The historic "Dandi March" was led by which prominent leader? (A) Subhas Chandra Bose (B) Bhagat Singh (C) Mahatma Gandhi (D) Sardar Vallabhbhai Patel	

23.	Which mountain range separates Europe and Asia? (A) Andes (B) Alps (C) Ural Mountains (D) Rockies	
24.	Which is the fastest land animal? (A) Lion (B) Cheetah (C) Gazelle (D) Leopard	
25.	Which social media platform was originally known as "The facebook"? (A) Twitter (B) Instagram (C) Facebook (D) LinkedIn	
26.	The term "Parliament" in India refers to which of the following? (A) Lok Sabha only (B) President, Lok Sabha, and Rajya (C) Rajya Sabha (D) Prime Minister and Council of Ministers	
27.	Which sector contributes the most to India's GDP? (A) Agriculture (B) Industry (C) Services (D) Manufacturing	
28.	"Madhubani" painting is a folk art form from which Indian state? (A) West Bengal (B) Bihar (C) Odisha (D) Assam	
29.	Who is the current Secretary-General of the United Nations (as of August 2025)? (A) Ban Ki-moon (B) António Guterres (C) Kofi Annan (D) Boutros Boutros-Ghali	
30.	Which country is known as the "Land of the Midnight Sun"? (A) Sweden (B) Finland (C) Norway (D) Iceland	
31.	What is the process by which plants convert light energy into chemical energy? (A) Respiration (B) Transpiration (C) Photosynthesis (D) Germination	
32.	The Battle of Plassey, a significant event in Indian history, took place in which year? (A) 1757 (B) 1764 (C) 1857 (D) 1919	
33.	Which river is often referred to as the "Ganga of the South"? (A) Krishna (B) Godavari (C) Cauvery (D) Narmada	
34.	Which of the following is an example of an input device for a computer? (A) Monitor (B) Printer (C) Keyboard (D) Speaker	
35.	What is the minimum age to become a member of the Lok Sabha in India? (A) 18 years (B) 21 years (C) 25 years (D) 30 years	
36.	Which of the following is a direct tax in India? (A) Goods and Services Tax (GST) (B) Sales Tax (C) Income Tax (D) Excise Duty	
37.	"Odissi" is a classical dance form that originated in which Indian state? (A) West Bengal (B) Odisha (C) Assam (D) Tripura	
38.	Which major river of Chhattisgarh originates from the highlands in Raipur district? (A) Shivnath River (B) Indravati River (C) Mahanadi River (D) Hasdeo River	
39.	Which country is the largest producer of coffee in the world? (A) Colombia (B) Vietnam (C) Brazil (D) Ethiopia	
40.	What is the largest organ in the human body? (A) Heart (B) Brain (C) Skin (D) Liver	
41.	Who wrote the epic poem "Ramayana"? (A) Valmiki (B) Vyasa (C) Tulsidas (D) Kalidasa	
42.	The historical Silk Route primarily connected which two regions? (A) Europe and Africa (B) Asia and Africa (C) Europe and Asia (D) North America and South America	
43.	Which of the following is a prominent folk dance of the Satnami community of Chhattisgarh? (A) Raut Nacha (B) Karma (C) Panthi (D) Pandavani	
44.	Which of the following is a programming language? (A) HTML (B) CSS (C) Python (D) JPEG	
45.	The "Preamble" to the Indian Constitution begins with the words: (A) "We, the people of India..." (B) "India, that is Bharat..." (C) "To secure to all its citizens..." (D) "Justice, Liberty, Equality, Fraternity..."	
46.	What is the primary purpose of a budget in an economy? (A) To control inflation (B) To allocate resources and plan government spending (C) To determine interest rates (D) To regulate international trade	
47.	"Bhangra" is a lively folk dance originating from which Indian state? (A) Haryana (B) Himachal Pradesh (C) Punjab (D) Uttarakhand	
48.	Where is the first International Astroturf Hockey Stadium of Chhattisgarh located? (A) Rajnandgaon (B) Raipur (C) Bilaspur (D) Korba	
49.	Which rocks are of significant economic importance in Chhattisgarh primarily due to their coal resources, found extensively in the northern and southeastern parts of the state? (A) Deccan Traps (B) Aravalli Rocks (C) Gondwana Rocks (D) Vindhyan Rocks	
50.	Who was the first woman from Chhattisgarh to qualify for the Olympics (Rio 2016) in Hockey? (A) Saba Anjum (B) Renuka Yadav (C) Neha Bajaj (D) Nita Dumare	

① Phy
 ② Accounty
 ③ Eng. Mg
 ④ C. Sci
 ⑤ Bio
 ⑥ ECO
 ⑦ A. Math
 ⑧ Maths
 ⑨ H. Sci
 ⑩ Biotech
 ⑪ Chem
 ⑫ B. Std
 ⑬ P. Edu
 ⑭ Eng
 ⑮ W. K