

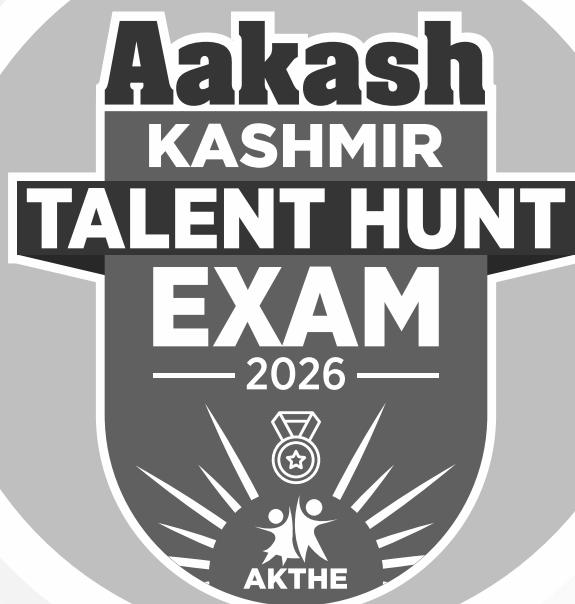
Sample Paper

FOUNDATIONS



Aakash

Medical | IIT-JEE | Foundations



(Class IX Studying Moving to Class X)

Science, Mathematics & Mental Ability

INSTRUCTIONS FOR CANDIDATE

1. Duration of Test is 1 hr.
2. The Test Booklet consists of **40** questions. The maximum marks are **90**. There is **no negative marking** for wrong answer.
3. Pattern of the questions are as under:
 - (i) The question paper consists of three parts *i.e.*, **Science, Mathematics and Mental Ability**. Each part has **two sections**.
 - (ii) **Section-I**: This section contains **35** multiple choice questions, which have **only one** correct answer. Each question carries **+2 marks** for correct answer.
 - (iii) **Section-II**: This section contains **5** multiple choice questions, in which **one or more than one** choice(s) is(are) correct. Each question carries **+4 marks** for correct answer.

Aakash Kashmir Talent Hunt Exam 2026

Sample Paper

(Class IX Studying Moving to Class X)

(The questions given in sample paper are indicative of the level and pattern of questions that will be asked in AKTHE-2026)

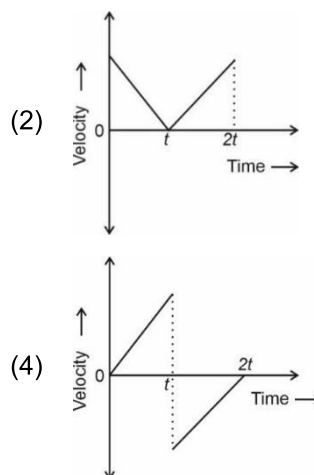
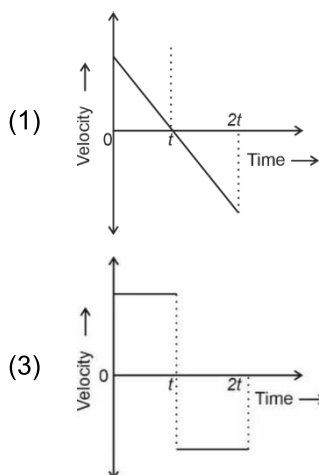
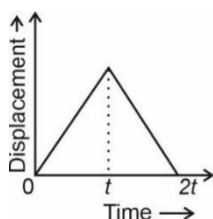
Time : 1 Hour

MM : 90

SCIENCE
SECTION-I : SINGLE CORRECT ANSWER TYPE

This section contains 18 multiple choice questions. Each question has 4 choices (1), (2), (3) and (4) out of which **ONLY ONE** choice is correct.

- A car accelerates uniformly from 18 km h^{-1} to 54 km h^{-1} in 10 s. The distance covered by the car in this time interval is
 (1) 25 m (2) 50 m (3) 75 m (4) 100 m
- For the given displacement-time graph, the most appropriate velocity-time graph is



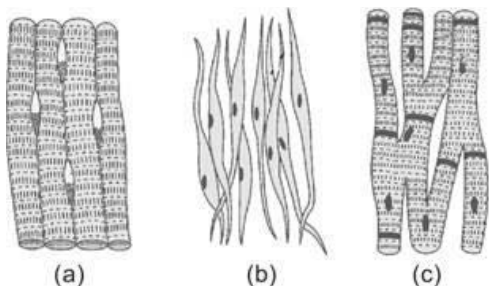
- A constant force is applied on a mass m_1 produces an acceleration 6 m/s^2 . Another mass m_2 is tied together with m_1 and same force is applied, produces an acceleration 4 m/s^2 in it. If same force is applied on mass m_2 only, then the acceleration produced is
 (1) 8 m/s^2 (2) 10 m/s^2 (3) 12 m/s^2 (4) 14 m/s^2
- SI unit of power is
 (1) Horsepower (hp) (2) Megawatt (MW) (3) Kilowatt (kW) (4) Watt (W)

5. A ball is allowed to fall from a height of 10 m. There is 60% loss of energy every time it hits the ground. After second impact with the ground, the ball will rise up to
 (1) 10 m (2) 1.6 m (3) 2.4 m (4) 6 m
6. It is advised to tie our luggage kept on the roof of bus. Because when the bus accelerates, it may fall
 (1) Backward (2) Forward
 (3) To the right of the bus (4) To the left of the bus
7. The process of conversion of dry ice into carbon dioxide gas is an example of
 (1) Dissociation (2) Sublimation (3) Vaporisation (4) Fusion
8. Solution 'A' is prepared by dissolving 10 g of sugar in 50 g of water. Further 5 g more sugar is added to 'A' and obtained solution is evaporated to make the final mass of solution 50 g. This solution is marked as 'B'. Then 50 g of another, aqueous sugar solution with concentration 20%(w/w) is added to 'B' to obtain solution 'C'. The concentration (w/w) of the final solution 'C' is
 (1) 15% (2) 20% (3) 25% (4) 30%
9. Number of neutrons in protium and tritium respectively is
 (1) 1 and 2 (2) 0 and 2 (3) 0 and 1 (4) 1 and 3
10. In the following table, some elements are given and their symbols are replaced by 'A', 'B', 'C' and 'D'. Identify 'A', 'B', 'C' and 'D' and choose the correct option.

Element	Symbol
Silver	A
Iron	B
Lead	C
Gold	D

- (1) A = S, B = Fe, C = Le, D = Go (2) A = Si, B = Ir, C = Le, D = Ag
 (3) A = Ag, B = Fe, C = Pb, D = Au (4) A = Au, B = Fe, C = P, D = Ag
11. The percentage abundance of two isotopes $^{18}_8\text{Y}$ and $^{16}_8\text{Y}$ of an element 'Y' is 10% and 90% respectively. The average atomic mass of element 'Y' is
 (1) 16.8 u (2) 16.2 u (3) 17.3 u (4) 17.6 u
12. The solubility of sodium chloride at 50°C and 30°C is 54 g and 36 g respectively. Sarita is advised to prepare a saturated solution of sodium chloride containing 50 g of water at 50°C and then allow it to cool till 30°C. The amount of salt precipitated (recrystallised) out will be
 (1) 27 g (2) 18 g (3) 9 g (4) 15 g
13. The solution which has higher solute concentration than the cell is called
 (1) Safranin solution (2) Isotonic solution
 (3) Hypotonic solution (4) Hypertonic solution
14. Which of the following is a living plant cell?
 (1) Tracheid (2) Vessel (3) Xylem fibre (4) Companion cell
15. Which of the following processes would be affected, if ribosomes are removed from a eukaryotic cell?
 (1) Lipid synthesis (2) Protein synthesis (3) ATP generation (4) Detoxification of cell

16. Ligaments connect
- | | |
|--------------------------|----------------------|
| (1) Bone to another bone | (2) Muscle to muscle |
| (3) Bone to muscle | (4) Tendon to bone |
17. Apical meristem is present at
- (a) The growing tips of stems and roots.
- (b) The girth of the stem or root.
- Select the correct option.
- | | |
|-------------------------------|--------------------------------|
| (1) Both (a) and (b) are true | (2) Only (a) is true |
| (3) Only (b) is true | (4) Both (a) and (b) are false |
18. Which of the following muscle fibre(s) is/are multinucleated?

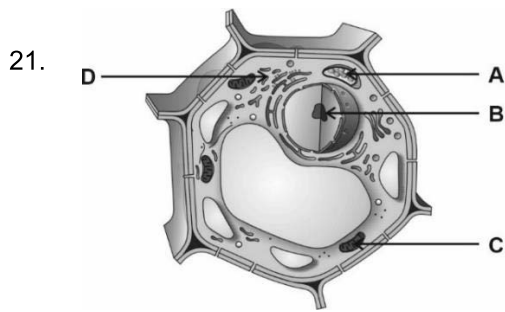


- | | | | |
|--------------|--------------|--------------|----------------------|
| (1) Only (a) | (2) Only (b) | (3) Only (c) | (4) Both (a) and (c) |
|--------------|--------------|--------------|----------------------|

SECTION-II : ONE OR MORE THAN ONE CORRECT ANSWER TYPE

This section contains 3 multiple choice questions. Each question has 4 choices (1), (2), (3) and (4) out of which **ONE OR MORE THAN ONE** choice(s) is/are correct.

19. The speed of a car increases at a constant rate x from zero to v , and then moves with constant speed for an interval of time and finally decreases to zero at a constant rate y . If L be the total distance travelled, then
- | |
|---|
| (1) Total time taken is $\frac{L}{v} + \frac{v}{2} \left(\frac{1}{x} + \frac{1}{y} \right)$ |
| (2) Total time taken is $\frac{L}{v} + v \left(\frac{1}{x} + \frac{1}{y} \right)$ |
| (3) Distance travelled during constant velocity is $L - v^2 \left(\frac{1}{x} + \frac{1}{y} \right)$ |
| (4) Distance travelled during constant velocity is $L - \frac{v^2}{2} \left(\frac{1}{x} + \frac{1}{y} \right)$ |
20. In a mixture the components retain their individual identities. So, it is possible to separate them by employing various methods. Which of the following statements is/are correct about separation techniques?
- | |
|--|
| (1) Chromatography is used for the separation of those solutes that dissolve in the same solvent but to different extent |
| (2) Separation of plasma, platelets, white and red blood cells from blood is done by centrifugation |
| (3) Fractional distillation is used to separate a mixture of two or more immiscible liquids for which the difference in boiling points is more than 25 K |
| (4) Alum is act as a coagulant in coagulation process |



Select the correct option(s) for the labelled parts (A-D) in the given figure of plant cell depicted above.

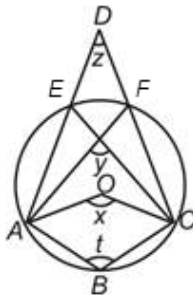
- (1) **A**-Chloroplast (2) **D**-Golgi apparatus (3) **C**-Mitochondrion (4) **B**-Plasma membrane

MATHEMATICS

SECTION-I : SINGLE CORRECT ANSWER TYPE

This section contains 10 multiple choice questions. Each question has 4 choices (1), (2), (3) and (4) out of which **ONLY ONE** choice is correct.

22. The value of $3.\overline{42} + 8.\overline{053}$ is equal to
- (1) $\frac{1733}{150}$ (2) $\frac{5231}{450}$ (3) $\frac{5143}{495}$ (4) $\frac{3787}{330}$
23. Degree of zero polynomial is
- (1) 0 (2) 1 (3) 100 (4) Not defined
24. The distance between the points (0, 4) and (-4, 0) is
- (1) $4\sqrt{2}$ units (2) 16 units (3) 8 units (4) 4 units
25. 5th term of the geometric progression 6, 18, 54, is
- (1) 364 (2) 486 (3) 572 (4) 384
26. Which of the following rational numbers does not lie between $\frac{7}{11}$ and $\frac{11}{13}$?
- (1) $0.\overline{851}$ (2) $0.\overline{637}$ (3) $0.\overline{732}$ (4) $0.\overline{64}$
27. In the given figure, 'O' is the centre of the circle. The value of $2t$ is equal to

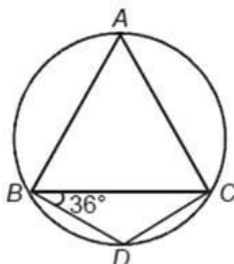


- (1) $180^\circ - x + y$ (2) $360^\circ - y - z$ (3) $360^\circ + y + z$ (4) $y + z - 360^\circ$
28. Area of cyclic quadrilateral with sides 21 cm, 20 cm, 20 cm and 25 cm is
- (1) $138\sqrt{473}$ cm² (2) $276\sqrt{11}$ cm² (3) $138\sqrt{11}$ cm² (4) $69\sqrt{11}$ cm²

29. A bag contains 11 white, 15 pink and 10 black marbles. A marble is drawn at random. What is the probability, that the marble drawn is not pink?

(1) $\frac{11}{12}$ (2) $\frac{5}{12}$ (3) $\frac{15}{31}$ (4) $\frac{7}{12}$

30. In the given figure, $BD = DC$ and $\angle DBC = 36^\circ$, the measure of $\angle BAC$ equals



(1) 36° (2) 108° (3) 48° (4) 72°

31. If the perimeter and the area of a sector of a circle are 25 cm and 38.5 cm^2 respectively, then the central angle can be equal to

(1) 30° (2) 45° (3) 60° (4) 90°

SECTION-II : ONE OR MORE THAN ONE CORRECT ANSWER TYPE

This section contains 1 multiple choice question, which has 4 choices (1), (2), (3) and (4) out of which **ONE OR MORE THAN ONE** choice(s) is(are) correct.

32. If $x^{\frac{3}{2}} + x^{-\frac{3}{2}} = 3$ ($x \neq 0$) such that $ax^6 + \frac{b}{x^6} + c = d$, where $a = b$, c is an even prime and a, b, d are natural numbers, then which of the following option(s) is/are correct?

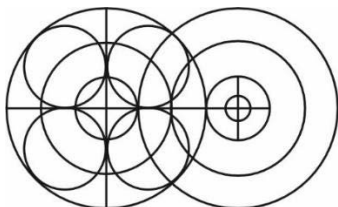
(1) $\sqrt{a+b+c} = 2$ (2) $\sqrt{d} = 7$ (3) $\frac{1}{7}\sqrt{2abcd} = 2$ (4) $\sqrt{d-4b-a-4c} = 6$

MENTAL ABILITY

SECTION-I : SINGLE CORRECT ANSWER TYPE

This section contains 7 multiple choice questions. Each question has 4 choices (1), (2), (3) and (4) out of which **ONLY ONE** choice is correct.

33. Count the number of circles in the given figure.



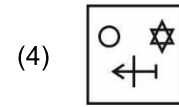
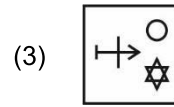
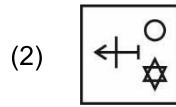
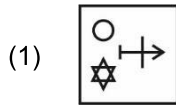
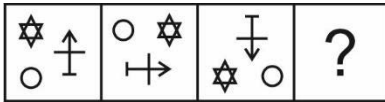
(1) 13 (2) 10 (3) 11 (4) 12

34. Mohan and Seema are son and daughter of Manish respectively. Reena is wife of Manish and daughter-in-law of Ramlal. Seema is granddaughter of Sita, who is mother of Manish.

How is Sita related to Mohan?

(1) Grandmother (2) Granddaughter (3) Mother (4) Aunt

35. Complete the given series.



36. A man is facing towards North. He turned by 225° in the clockwise direction and 540° in the anticlockwise direction. In which direction is he facing now?

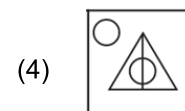
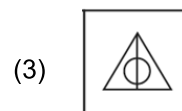
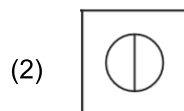
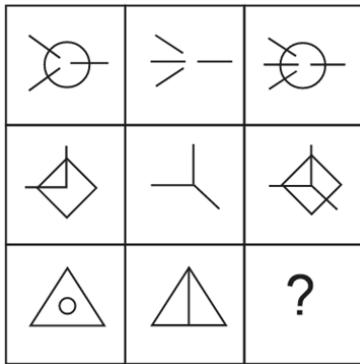
- (1) North-West (2) North-East (3) South-East (4) South-West

37. What is next term in the following series?

1.5, 3, 9, 36, 72, 216, 864, 1728, ?

- (1) 5080 (2) 4083 (3) 4184 (4) 5184

38. Complete the figure matrix.



39. In a queue, Madan and Sankar are ranked 18^{th} and 23^{rd} respectively from the top in 55 people. What will be their respective ranks from the bottom in the queue?

- (1) 39, 34 (2) 38, 34 (3) 37, 33 (4) 38, 33

SECTION-II : ONE OR MORE THAN ONE CORRECT ANSWER TYPE

This section contains 1 multiple choice question, which has 4 choices (1), (2), (3) and (4) out of which **ONE OR MORE THAN ONE** choice(s) is(are) correct.

40. If $6\#7@8 = 203$, $5\#9@4 = 90$ and $7\#6@9 = 262$. Then, which of the following option(s) follow(s) the same operation?

- (1) $7\#9@6 = 178$ (2) $6\#5@6 = 150$ (3) $4\#8@9 = 177$ (4) $8\#4@3 = 125$

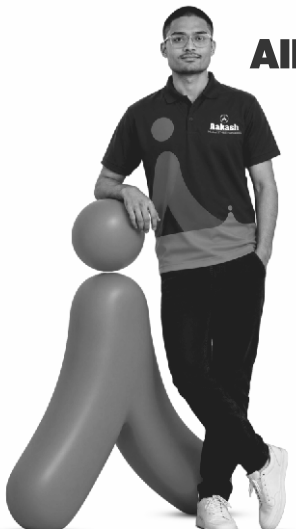


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 675 720 AIR 10 AARAV AGRAWAL 1 YEAR CLASSROOM	 680 720 AIR 5 AVIKA AGGARWAL 3 YEAR CLASSROOM	 682 720 AIR 2 UTKARSH AWADHIYA MADHYA PRADESH TOPPER 3 YEAR CLASSROOM	 681 720 AIR 3 KRISHANG JOSHI MAHARASHTRA TOPPER 3 YEAR CLASSROOM	 675 720 AIR 9 HARSH KEDAWAT 1 YEAR CLASSROOM
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OUR TOP PERFORMERS IN JEE (Advanced) 2026

 AIR 4 Mohit Shekher Shukla JEE CoE Classroom Program**	 AIR 17 Aarav Gupta 1 Year Classroom Program	 AIR 35 Utkarsh Khokhar 1 Year Classroom Program	 AIR 41 Snehal Roy Choudhury FTS Program	 AIR 42 Ekagrah Agarwal 5 Year Classroom Program
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Results that speak for themselves

5 Students in Top 50 AIR	11 Students in Top 100 AIR	26 Students in Top 200 AIR	56 Students in Top 500 AIR
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Olympiads Results

777 Classroom Students
Aakashians Qualified
in IOQM
2025

134 Classroom Students
Aakashians Qualified
in RMO
2025-26

378 Classroom Students
Aakashians Qualified
in NSEs
2025-26

26 Classroom Students
Aakashians Qualified
for OCSCs/IMOTC
/APMO 2025-26

2072 Classroom Students
Aakashians Qualified
in NSO & IMO (Level-1)
2025-26