

# AJMAL SUPER 40



ADMISSION CUM SCHOLARSHIP TEST (PHASE - III): 2025

**Class – XI :: (Based on Class X Course)**



Conducted by : **AJMAL FOUNDATION, Hojai**

**TEST BOOKLET SERIES**

**A**

## INSTRUCTIONS TO CANDIDATES

1. Candidates are to use the Answer Sheet provided.
2. It is the candidate's responsibility to write and fill in the **Application Number** (from Admit Card) and **Test Booklet Series** (from Question Paper) carefully and without any omission or discrepancy at the appropriate place in the **OMR Sheet**.
3. Candidates are required to mark the correct answer choice by **shading** the circle completely with **blue** or **black** ball point pen. (Pen of any other colour or pencil is not allowed). For example, if the correct answer to question no. 1 is 'B' then the marking should be:



4. Write your details on the OMR sheet which are asked for.
5. Only one circle, i.e. the correct one should be shaded. Shading more than one circle will render the answer invalid.
6. A candidate having completed his/her **ANSWER SHEET** must hand it over, even if blank, to the invigilator.
7. An examinee must not bring any loose paper, book, etc. to the Examination Hall. Any examinee found in possession of even loose papers will be **EXPELLED**.
8. An examinee must not talk to, disturb or seek help from a fellow examinee during the examination.
9. Any mechanical or digital calculating device (Smart Watch, Mobile, calculator etc.) shall not be used by the examinee during the examination.
10. No candidate will be allowed to leave the Examination Hall before completion of 3 hours.
11. For each correct answer 1 mark will be awarded and for each incorrect answer 0 mark will be deducted.
12. Duration of the exam is **03 hours from 11:00 AM to 02:00 PM.**

Subjects	Questions	Marks
English	1 to 20	20
Science	21 to 80	60
Mathematics	81 to 120	40
Reasoning	121 to 150	30
Total	150	150

13. Contravention of any of the instruction mentioned above shall render a candidate liable for disciplinary action as per rule.
14. **Date of Result Declaration : 10 - 04 - 2025 (After 6.00 PM on [www.ajmalsuper40.in](http://www.ajmalsuper40.in))**

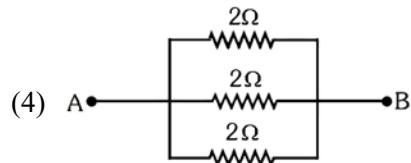
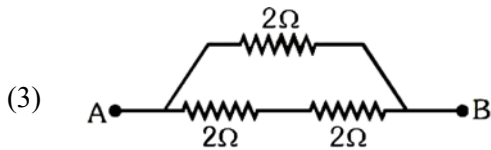
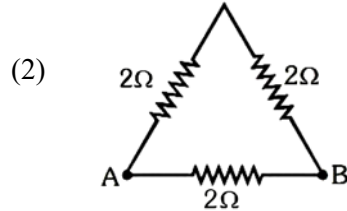
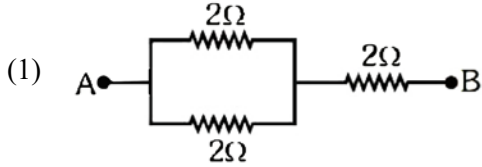
SPACE FOR ROUGH WORK

ENGLISH

1. An Alma Mater is an:  
(1) industrial area (2) educational institute  
(3) Arab land (4) aircraft
2. Which of the following is a conjunction?  
(1) on (2) only (3) other (4) otherwise
3. Rihan hardly does any work on time, \_\_\_\_\_?(Add appropriate Question Tag)  
(1) doesn't he? (2) do he? (3) does he? (4) does Rihan?
4. Carelessness causes accidents. (Change the Voice of the given sentence.)  
(1) Accident happens cause of carelessness. (2) Accidents are caused by carelessness.  
(3) Let carelessness cause accidents. (4) Carelessness leads to accidents.
5. By next June, we \_\_\_\_\_ here for five years. (Fill in with correct form of verb)  
(1) will live (2) will be living  
(3) shall live (4) shall have been living
6. The Director was welcomed by the people. (Change the Voice of the given sentence.)  
(1) The people are welcoming the Director.  
(2) The Director has been welcomed by the people.  
(3) Everyone welcomed the Director.  
(4) The people welcomed the Director.
7. Siya lives \_\_\_\_\_ 221b Baker Street. (Fill in with appropriate preposition)  
(1) by (2) on (3) at (4) in
8. Please keep the book on the table. (Change the Voice of the given sentence.)  
(1) Keep the book on the table  
(2) You are requested to keep the book on the table  
(3) Let the book be kept on the table.  
(4) On the table let the book be kept.
9. Correct the following sentence 'Please translate this passage from Assamese to English for your assignment.'  
(1) Please change this passage from Assamese to English for your assignment.  
(2) Please translate this passage from Assamese into English for you assignment.  
(3) Please translate this passage from Assamese to English from your assignment.  
(4) Please tranfer this passage from Assamese to English for your assignment.
10. Spot the error in the given sentence 'No sooner did the deer come out of the bush when the hunter killed it.'  
(1) No sooner did the deer (2) come out of the bush  
(3) when the hunter killed it. (4) No Error
11. I \_\_\_\_\_ home before you came.  
(1) have reached (2) reached (3) had reached (4) shall have reached
12. If you \_\_\_\_\_ all questions correctly, you will definitely qualify the entrance test.  
(1) answer (2) are answering (3) have answered (4) will answer
13. We were astonished \_\_\_\_\_ his conduct.  
(1) in (2) at (3) for (4) with
14. The noun form of 'satisfy' is:  
(1) satisfied (2) satisfaction (3) satisfactory (4) satisfactorily
15. A synonym of 'daybreak' is:  
(1) dawn (2) down (3) midday (4) sunset
16. The word 'assistance' means:  
(1) help (2) helper (3) charity (4) kindness
17. I am your best friend, \_\_\_\_\_?  
(1) am I (2) amn't I (3) aren't I (4) isn't it?
18. \_\_\_\_\_ more you study, the better will be your result.  
(1) The (2) Any (3) Many (4) Much
19. He certainly bears no malice against you. (Choose the word **opposite in meaning** to the underlined part)  
(1) Hostility (2) Good will (3) Grudge (4) Enmity
20. The summer sun was at its zenith in the cloudless sky. (Choose the word **opposite in meaning** to the underlined part)  
(1) Summit (2) Top (3) High point (4) Bottom

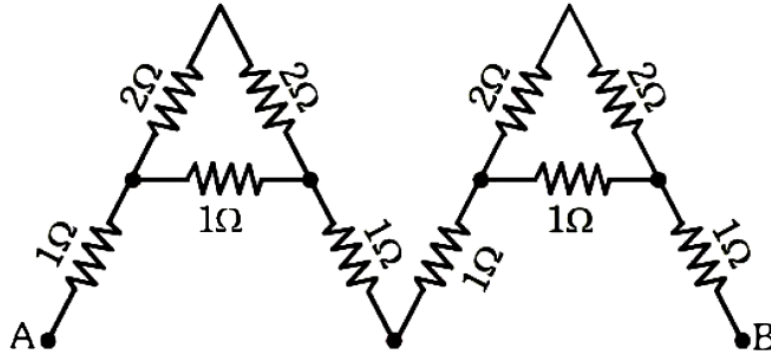
**GENERAL SCIENCE**

21. Magnetic field produced at the centre of a current-carrying circular loop of wire is  
 (1) Directly proportional to the square of the radius of the circular loop  
 (2) Directly proportional to the radius of the circular loop  
 (3) Inversely proportional to the square of the radius of the circular loop  
 (4) Inversely proportional to the radius of the
22. Which of the following networks yields maximum effective resistance between A and B?



23. The potential difference across a conductor is 14 V. It carries a current of 3.5 A. Calculate the conductance of the conductor  
 (1)  $0.25 \Omega^{-1}$  (2)  $0.5 \Omega^{-1}$  (3)  $0.75 \Omega^{-1}$  (4)  $1 \Omega^{-1}$
24. Choose the correct order of coloured bands to represent a resistance of  $3700 \Omega \pm 10\%$ .  
 (1) Yellow, violet, red and gold (2) Red, blue, brown, and silver  
 (3) Orange, violet, red and silver (4) Orange, blue, red and gold
25. A cylindrical copper rod has resistance R. It is reformed to twice its original length with no change of volume. Its new resistance is  
 (1) R (2) 2R (3) 4R (4) 8R
26. Anil is given three media A, B, C of refractive index 1.33, 1.65, 1.46. The medium in which light will travel fastest is  
 (1) A (2) B  
 (3) C (4) Equal in all three medium
27. A concave mirror of focal length f (in air) is immersed in water ( $\mu = \frac{4}{3}$ ). The focal length of the mirror in water will be-  
 (1) f (2)  $\frac{4}{3}f$  (3)  $\frac{3}{4}f$  (4)  $\frac{7}{3}f$
28. A convex lens is made up of three different materials. For a point object placed on its axis, the number of images formed are -  
 (1) 1 (2) 3 (3) 4 (4) 5
29. There are three metal wires of length and cross sectional area  $(L, A), (2L, \frac{1}{2}A), (\frac{L}{2}, 2A)$ . In which case is the resistance minimum?  
 (1) Wire of cross-sectional area A (2) Wire of cross-sectional area 2A  
 (3) It is same in all three cases (4) Wire of cross-sectional area  $\frac{1}{2}A$
30. Three resistances  $r_1, r_2, r_3$  are in parallel combination and  $r_1 > r_2 > r_3$ . Then which relation is correct for the equivalent resistance R?  
 (1)  $R > r_1$  (2)  $R > r_2$  (3)  $R > r_3$  (4)  $R < r_3$
31. The device that converts electric energy into mechanical energy is  
 (1) AC generator (2) DC generator (3) Electric motor (4) Transformer
32. Electric fuse is an application of  
 (1) electromagnetic induction (2) solenoid  
 (3) Joule's heating (4) electromagnetic force

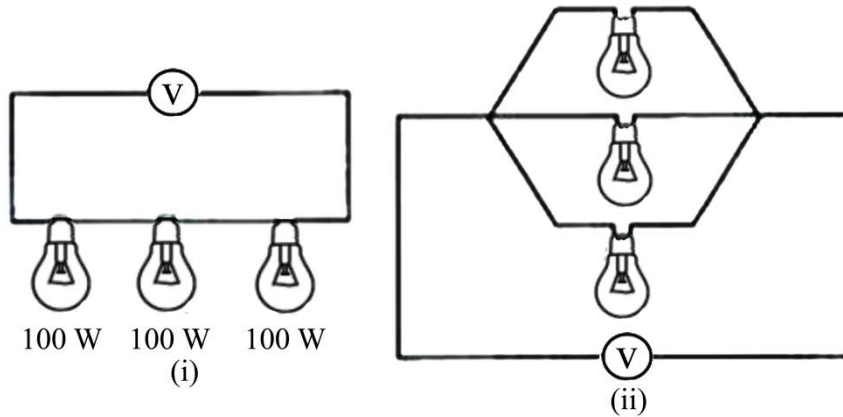
33. Calculate the effective resistance between A and B.



- (1)  $5.6\Omega$  (2)  $6.5\Omega$  (3)  $12\Omega$  (4)  $14\Omega$

Read the following passage to answer question number 34 and 35:

Three incandescent bulbs of 100 W each are connected in series in an electric circuit. In another circuit another set of three bulbs of same wattage are connected in parallel to the same source.

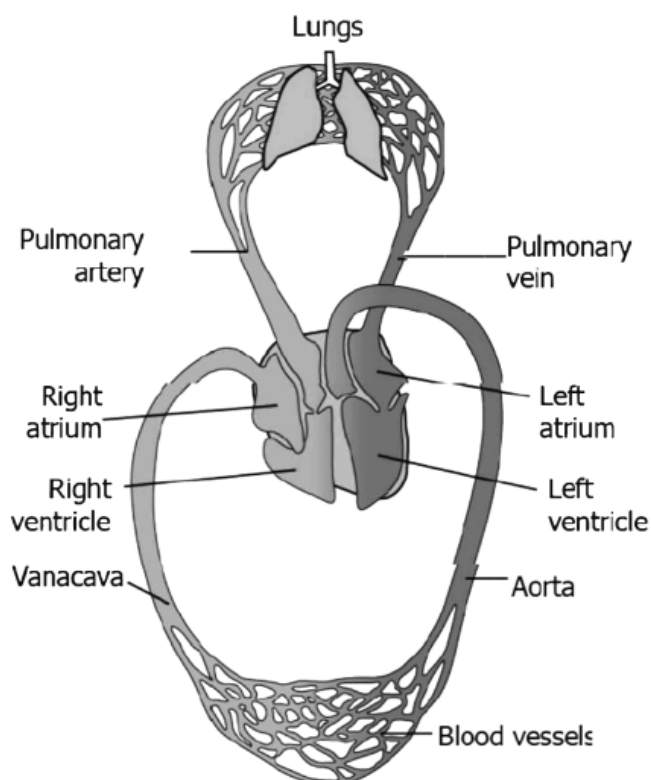


34. Which of the following statement is true for the bulbs in two circuits?  
 (1) bulbs in both circuits glow with same brightness  
 (2) brightness of the bulb in both circuits cannot be compared  
 (3) bulbs in series combination will glow more brightly  
 (4) bulbs in parallel combination will glow more brightly
35. If one bulb in both the circuit gets fused then  
 (1) the rest of the bulbs in circuits (i) and circuit (ii) will stop working  
 (2) the rest of the bulbs in circuits (i) and (ii) will continue to glow.  
 (3) the rest of the bulbs in circuit (i) will continue to glow and in circuit (ii) will stop working  
 (4) the rest of the bulbs in circuit (ii) will continue to glow and in circuit (i) will stop working
36. Current flows through a conductor connected across a voltage source. Now the resistance of the conductor is reduced to one fourth to its initial value and connected across the same voltage source. The heating effect in the conductor will become  
 (1) half (2) double (3) four times (4) one fourth
37. **Assertion (A):** Electrons move always from a region of higher potential to a region of lower potential.  
**Reason (R):** Electron has a negative charge.  
 (1) Both Assertion and Reason are correct and the Reason is a correct explanation of the Assertion.  
 (2) Both Assertion and Reason are correct but Reason is not a correct explanation of the Assertion.  
 (3) Assertion is correct, Reason is incorrect.  
 (4) Assertion is incorrect, Reason is correct.
38. A room has two tube lights, a fan and a T.V. Each tube light draws 40 W, the fan draws 80 W, and the TV draws 60W on the average, the tube lights are kept on for five hours, the fan for twelve hours and TV for eight hours per day. The rate for electrical energy is 3 Rs/kWh. Find cost of electricity in this room for 30-day month.  
 (1) 165.6 Rs (2) 174.1 Rs (3) 170.12 Rs (4) 180.1 Rs
39. The least distance of distinct vision of a person is 75 cm. The focal length of the reading spectacles for such person should be  
 (1) 37.5 cm (2) 40 cm (3) 25 cm (4) 50 cm
40. Different objects at different distances are seen by the eye. The parameter that remains constant is  
 (1) the focal length of the eye lens (2) the object distance from the eye lens  
 (3) the radii of curvature of the eye lens (4) the image distance from the eye lens

41. Chemically rust is:  
 (1) Hydrated ferrous oxide (2) only ferric oxide (3) hydrated ferric oxide (4) none of these
42. A piece of granulated zinc was dropped into copper sulphate solution. After sometime, the colour of the solution changed from:  
 (1) Light green to blue (2) blue to colourless  
 (3) light green to colourless (4) Blue to yellow
43. Which one of the following processes involve chemical reactions  
 (1) Storing of oxygen gas under pressure in a gas cylinder  
 (2) Liquefaction of air  
 (3) Keeping petrol in a china dish in the open  
 (4) Heating copper wire in presence of air at high temperature
44. When  $CO_2$  is passed through lime water, the solution becomes milky due to formation of:  
 (1)  $CaCO_3$  (2)  $Ca(OH)_2$  (3)  $Ca(HCO_3)_2$  (4)  $CaO$
45. The indicator used to find the pH of a given solution is known as universal indicator because:  
 (1) it is universally available  
 (2) it has a universal appearance  
 (3) it can be used for entire pH range  
 (4) none of these
46. Which of the following statements is true for acids?  
 (1) Bitter and change red litmus to blue (2) Sour and change red litmus to blue  
 (3) Sour and change blue litmus to red (4) Bitter and change blue litmus to red
47. Which of the following is not a mineral acid?  
 (1) Hydrochloric acid (2) Citric acid (3) Sulphuric acid (4) Nitric acid
48. Which of the following is used for dissolution of gold?  
 (1) Hydrochloric acid (2) sulphuric acid (3) Nitric acid (4) Aqua regia
49. Which among the following alloys contain mercury as one or its constituents?  
 (1) Stainless steel (2) Alnico (3) Solder (4) zinc amalgam
50. Generally, non-metals are not conductors of electricity. Which of the following is a good conductor of electricity?  
 (1) Diamond (2) Graphite (3) Sulphur (4) Fullerene
51. Which of the following oxide(s) of iron would be obtained on prolonged reaction of iron with steam?  
 (1)  $FeO$  (2)  $Fe_2O_3$  (3)  $Fe_3O_4$  (4)  $Fe_2O_3$  and  $Fe_3O_4$
52. Which of the following compounds give brisk effervescence with an aqueous solution of sodium bicarbonate?  
 (1) Acetic acid (2) Ethyl alcohol (3) Acetone (4) Acetaldehyde
53. The soap molecule has a:  
 (1) hydrophilic head and a hydrophobic tail (2) hydrophobic head and a hydrophilic tail  
 (3) hydrophobic head and a hydrophobic tail (4) hydrophilic head and a hydrophilic tail
54. Ethanol reacts with sodium and forms two products. These are:  
 (1) Sodium ethanoate and hydrogen (2) sodium ethanoate and oxygen  
 (3) Sodium ethoxide and hydrogen (4) sodium ethoxide and oxygen
55. Which of the following reaction occur in black and white photography?  
 (1) Decomposition of ferrous sulphate and silver bromide  
 (2) Decomposition of silver chloride and silver bromide  
 (3) Decomposition of lead nitrate and calcium carbonate  
 (4) Decomposition of silver chloride and lead nitrate
56. Heat a china dish containing about 1g copper powder what do you observe?  
 (1) The surface of copper powder becomes coated (2) Black colour copper (II) oxide formed  
 (3) Copper react with oxygen (4) All of these
57. Which of following not a exothermic process?  
 (1) Burning of natural gas (2) Respiration  
 (3) Decomposition of vegetable matter into compost (4) Decomposition of  $CaCO_3$  into  $CO_2$
58. Bleaching powder is used –  
 (1) For bleaching cotton and linen in the textile industry  
 (2) As an oxidizing agent in many chemical industry  
 (3) To make drinking water free from germs  
 (4) All of these
59. A solution turn red litmus blue, its pH is likely to be  
 (1) 1 (2) 4 (3) 5 (4) 10
60. Boiling point of water at atmospheric pressure is –  
 (1)  $100^\circ C$  (2)  $373K$  (3) None of these (4) Both (1) & (2)



61. Fruits are formed from the  
 (1) Stamen (2) Stigma (3) ovary (4) Ovule
62. Which of the following diseases is transmitted sexually?  
 (1) Kala Azar (2) Jaundice (3) Cholera (4) Syphilis
63. Which among the following is not the function of the testes at puberty?  
 (i) Formation of germ cells (ii) Secretion of testosterone  
 (iii) Development of placenta (iv) Secretion of estrogen  
 (1) (i) and(ii) (2) (ii) and(iii) (3) (iii) and(iv) (4) (i) and(iv)
64. The ratio of the number of chromosomes in a human zygote and a human sperm is  
 (1) 2 : 1 (2) 3 : 1 (3) 1 : 2 (4) 1 : 3
65. How Rhizopus reproduces?  
 (1) Spores divide and grow into a new individual (2) by budding  
 (3) by fragmentation (4) by regeneration
66. Posture and balance of the body is controlled by  
 (1) Pons (2) Medulla oblongata (3) Cerebellum (4) Cerebrum
67. Identify which of the following statements about thyroxin is incorrect?  
 (1) Thyroid gland requires iodine to synthesize thyroxin.  
 (2) Thyroxin is also called thyroid hormone.  
 (3) It regulates protein, carbohydrates and fat metabolism in the body  
 (4) Iron is essential for the synthesis of thyroxin.
68. With whom you can associate theory of evolution?  
 (1) Charles Darwin (2) Mendel (3) Stanley miller (4) Harold Urey
69. The procedure used for cleaning the blood of a person by separating urea from it is called:  
 (1) osmosis (2) filtration (3) dialysis (4) double circulation
70. The image shows the transport of gases in the body through the heart and lungs.



- Which of the following option shows the transport of oxygen to the cell correctly?  
 (1) Lungs →pulmonary vein →left atrium →left ventricle →aorta →body cells  
 (2) Lungs →pulmonary vein →right atrium →right ventricle → aorta →body cells  
 (3) Lungs →pulmonary artery →left atrium →left ventricle →vena cava →body cells  
 (4) Lungs →pulmonary artery →right atrium →right ventricle →vena cava →body cells
71. Growing foetus derive nutrition from Mother's blood through  
 (1) Uterus (2) Fallopian tube (3) placenta (4) cervix
72. Which of the following is an example of genetic variation?  
 (1) One person has a scar, but his friend doesn't (2) One person is older than the other  
 (3) Reeta eats meat, but her sister Geeta is a vegetarian (4) Two children have different eye colour
73. Which is the portion on which grafting is done it provides the roots?  
 (1) Stock (2) Scion (3) Both 1 and 2 (4) None of these





89. If  $\tan \theta + \sec \theta = l$ , then  $\sec \theta = ?$

- (1)  $\frac{2l}{l^2 - 1}$  (2)  $\frac{l^2 + 1}{2l}$  (3)  $\frac{l^2 - 1}{2l}$  (4)  $\frac{2l}{l^2 + 1}$

90. If  $\sin \theta + \operatorname{cosec} \theta = 2$ , then the value of  $\sin^{2016} \theta + \operatorname{cosec}^{2016} \theta$  is –

- (1) 1 (2) 2016 (3) 2 (4) 4032

91. If  $(x^2 + x + 1)$  is divided by  $(x - 5)$ , then remainder is –

- (1) 0 (2) 31 (3) -31 (4) 33

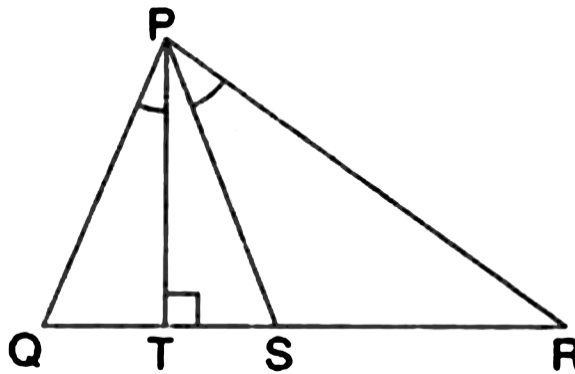
92. If one root of quadratic equation  $2x^2 - px + q = 0$  is  $2 + \sqrt{3}$  (p, q is rational numbers), then  $\frac{p}{q}$  is –

- (1) 2 (2) 3 (3) 4 (4) 8

93. If  $\frac{x}{y+z} = a, \frac{y}{z+x} = b, \frac{z}{x+y} = c$ , then  $\frac{1}{1+a} + \frac{1}{1+b} + \frac{1}{1+c}$  is equal to –

- (1)  $a + b + c$  (2) 3 (3) 2 (4) 1

94. In fig. PS is the bisector of  $\angle QPR$  & PT is perpendicular to QR. Here  $\angle PQR = 70^\circ$  &  $\angle PRQ = 20^\circ$ . Then  $\angle TPS = ?$



- (1)  $20^\circ$  (2)  $25^\circ$  (3)  $15^\circ$  (4)  $30^\circ$

95. The equation  $\frac{24x^2 + 25x - 47}{ax - 2} = -8x - 3 - \frac{53}{ax - 2}$  is true for all value of  $x \neq \frac{2}{a}$  where a is a constant. What is the value of a?

- (1) -16 (2) -3 (3) 3 (4) 16

96. Suppose the graphs of  $15x + 20y = -2$  &  $x - y = -2$  intersect at a point P. If the graph of  $2x + 3y = k^2$  passes through P, then K is

- (1) an integer (2) a positive integer  
(3) a negative integer (4) not an integer but rational

97. If  $\alpha$  and  $\beta$  are the roots of the quadratic equation  $2x^2 - 5x - 6 = 0$  and  $P_{n+1} = a^n - \beta^n$ , then the value of  $(P_9 - 3P_7)(4P_8)$  is -

- (1)  $\frac{3}{8}$  (2)  $\frac{5}{8}$  (3)  $\frac{7}{8}$  (4)  $\frac{9}{8}$

98. If  $x = \frac{\sqrt{5} - \sqrt{2}}{2\sqrt{3} + \sqrt{5} - \sqrt{32}}$  then the value of  $\frac{x\sqrt{10} + \sqrt{2}}{x\sqrt{10} + 2\sqrt{5}} = ?$

- (1)  $(15 + \sqrt{10}) / 41$  (2)  $(15 - \sqrt{10}) / 41$  (3)  $(15 + \sqrt{10}) / 43$  (4)  $(15 - \sqrt{10}) / 47$

99. The ratio of the volumes of two cubes is 1 : 27, the ratio of total surface areas of two cubes is –

- (1) 1 : 6 (2) 1 : 8 (3) 1 : 9 (4) 1 : 18

100. In  $\triangle ABC$  &  $\triangle PQR$ , if  $\angle A = \angle Q = 50^\circ$ ,  $AB : QP = AC : QR$  &  $\angle R = 60^\circ$ , then  $\angle B =$

- (1)  $50^\circ$  (2)  $60^\circ$  (3)  $70^\circ$  (4)  $80^\circ$

101. If  $\sin \theta - \cos \theta = 0, 0^\circ \leq \theta \leq 90^\circ$  &  $\operatorname{Sec} \theta + \cos \theta = x$ , then x will be –

- (1) 1 (2) 2 (3)  $2\sqrt{2}$  (4)  $\sqrt{2}$

102. If 32 is removed from the data 32, 25, 23, 21, 17, 15, 13, 12, 10 then median will be –

- (1) Increased by 1.5 (2) decreased by 1 (3) increased by 1 (4) none of the above

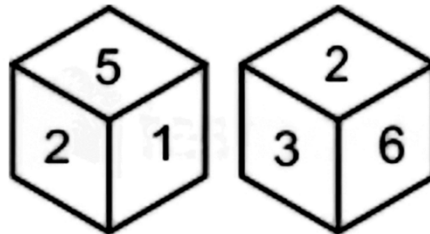
103. The mean of prime numbers between 20 and 30 is –

- (1) 21 (2) 26 (3) 25 (4) 27

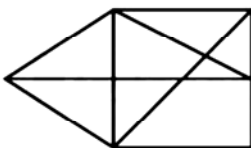
104. How many terms of the A.P. 9, 17, 25, .... Must be taken to give a sum of 636?  
 (1) 13 (2) 11 (3) 14 (4) 12
105. If the points A (6, 1), B (8, 2), C (9, 4) and D (P, 3) are the vertices of a parallelogram taken in order, then the value of p –  
 (1) 6 (2) 9 (3) 8 (4) 7
106. A boat covers 32 km upstream and 36 km downstream in 7 hours. Also, it covers 40 km upstream and 48 km downstream in 9 hours. Find the speed of boat in still water.  
 (1) 10 km/h (2) 8 km/h (3) 5 km/h (4) 2 km/h
107. If  $\sqrt{14+6\sqrt{5}} = a + \sqrt{b}$ , then  $a + b =$   
 (1)  $3 + \sqrt{5}$  (2)  $3\sqrt{5}$  (3) 8 (4)  $5\sqrt{5}$
108. The solution of the equation  $7^{1+x} + 7^{1-x} = 50$  is –  
 (1) 0 (2) 2 (3) 1 (4) None
109. The distance between two poles of height 16 m and 9 m is x metres. If angles of elevation of their tops from the bottom of the other are  $30^\circ$  and  $60^\circ$ , then the value of x in metres is  
 (1) 9 (2) 12 (3) 16 (4) 15
110.  $\frac{\sin \theta - 2 \sin^3 \theta}{(2 \cos^2 \theta - 1) \cos \theta}$  equals  
 (1)  $\sin \theta$  (2)  $\frac{\sin \theta}{\cos \theta}$  (3)  $\frac{\sec \theta}{\cos \theta}$  (4)  $\cot \theta$
111. The distance between the points P(-1, -1) and Q(-4, 4) is  
 (1)  $2\sqrt{17}$  units (2)  $\sqrt{34}$  units (3)  $\sqrt{78}$  units (4)  $\sqrt{17}$  units
112. If in  $\triangle XYZ$  and  $\triangle PQR$ ,  $\frac{XY}{PQ} = \frac{XZ}{PR}$ , then they will always be similar, when  
 (1)  $\angle X = \angle P$  (2)  $\angle X = \angle Z$  (3)  $\angle Y = \angle R$  (4)  $\angle Z = \angle Q$
113. How many terms of the A.P. : 44, 41, 38, ..... must be taken so that their sum is 338?  
 (1) 15 (2) 13 (3) 12 (4) 14
114. A train and a car, travelling at a uniform speed for 340 km, would have taken 15 minutes less and 18.75 minutes less respectively if their respective speeds were 5 km/hr more and 4 km/hr more. The average of their original speeds is  
 (1) 65 km/hr (2) 72 km/hr (3) 70 km/hr (4) 80 km/hr
115. Discriminant of the quadratic equation  $3x^2 + 4x + 5 = 0$  is  
 (1) -44 (2) -46 (3) -22 (4) 44
116. If  $2x + 3y = 8$  and  $4x + 6y = 7$ , then the pair of equations has  
 (1) No solution (2) Infinitely many solutions (3) Unique solution (4) Two solutions
117. Zeroes of polynomial  $p(x) = 3(2ax^2 - b)$ , where  $a \neq 0$ , is  
 (1)  $\pm \sqrt{\frac{b}{2a}}$  (2)  $\pm \frac{2b}{a}$  (3)  $\pm \frac{b}{6a}$  (4)  $\pm \sqrt{\frac{b}{a}}$
118. If the HCF (546, 963) is 3, then the LCM (546, 963) is  
 (1) 75114 (2) 175266 (3) 40446 (4) 262899
119. If quadratic equation  $x^2 + ax + \frac{b}{4} = 0$  has rational roots such that  $a$  and  $b$  are positive integers less than 6, then number of possible pairs of  $(a, b)$  is  
 (1) 4 (2) 5 (3) 6 (4) 7
120. In an A.P., if  $S_n = n(5n + 2)$ , then its 5<sup>th</sup> term is -  
 (1) 47 (2) 33 (3) -47 (4) -33

**REASONING**

121. In a certain code language, 'CONSUME' is written as 'CEMNOSU' and 'COMPEL' is written as 'CELMOP'. How will 'ENGLISH' be written in that language?  
 (1) EGHILNS (2) EHGLNSI (3) EHGILNS (4) EGHNLSI
122. Read the given statements and conclusions carefully. Assuming that the information given in the statements is true, even if it appears to be at variance with commonly known facts, decide which of the given conclusions logically follows(s) from the statements.  
**Statements:**  
 (i) All the case are four-wheelers.  
 (ii) All the four-wheelers are vehicles.  
**Conclusions:**  
 (i) All the vehicle are four-wheelers  
 (ii) All the case are vehicles.  
 (1) Only ii (2) Either i or ii (3) Only i (4) Both i and ii
123. Select the number which is different from the other numbers given below:  
 157, 571, 599, 387  
 (1) 571 (2) 157 (3) 599 (4) 387
124. Point R is 10 metres north of point A. Point K is exactly in the middle of the points R and A. Point N is 7 metres east of point A. Point M is 7 metres east of point K. Point S is 6 metres north of point M. What is the distance between point S and N?  
 (1) 13 metres (2) 16 metres (3) 11 metres (4) 12 metres
125. In a certain code 'WAVE' is written as '5 % 3 ★' and 'WINS' is written as '59 @ ©'. How is 'SANE' written in that code?  
 (1) © % @ ★ (2) ★ % © @ (3) © @ % ★ (4) © 9 @ ★
126. In a family, Ustad is the father of Hussain who is the son of Devi. Devi is the daughter of Milind and Vishwa. Vishwa is the grandfather of Hussain. How is Ustad related to Milind?  
 (1) Son-in-law (2) Grand Daughter (3) Father (4) Mother-in-law
127. Four number - pairs have been given, out of which three are alike in some manner and one is different. Select the one that is different.  
 (1) 30 - 14 (2) 74 - 38 (3) 54 - 26 (4) 86 - 42
128. Two different positions of the same dice are shown, select the number that will be on the face opposite to the one having 2 as per the options.

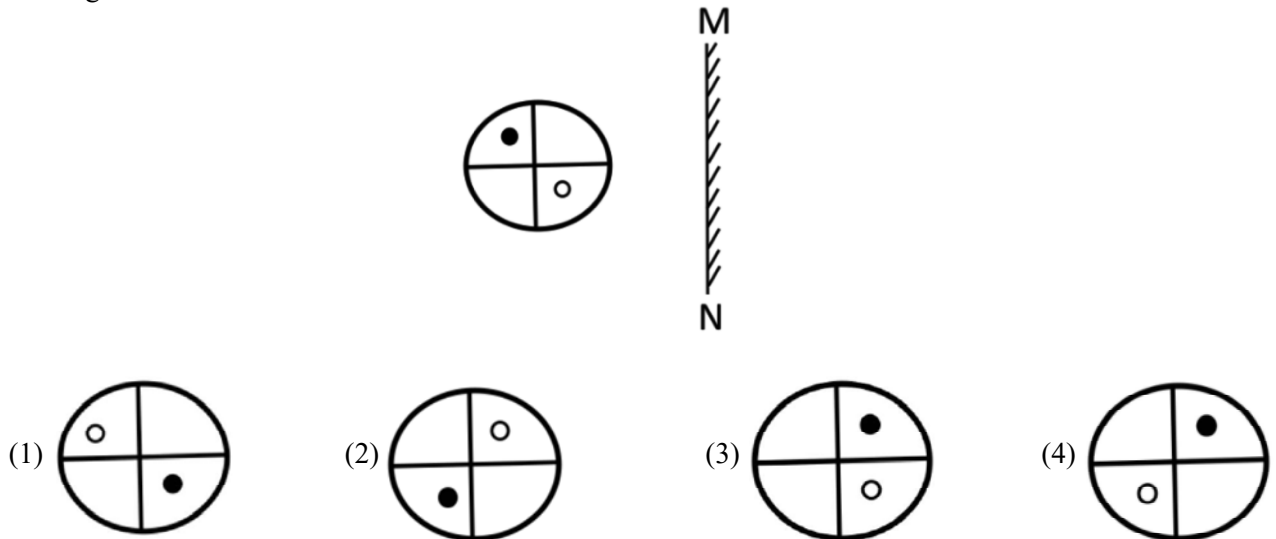


- (1) 5 (2) 6 (3) 4 (4) 3
129. In a certain code language '436' means 'colour is fun', '24' means 'blue colour' and '526' means 'sky is blue'. Which digit in that language means 'fun'?  
 (1) 2 (2) 3 (3) 4 (4) 5
130. Select the option that is related to the third term in the same way as the second term is related to the first term.  
 IVORY : ZWSPJ :: CREAM : ?  
 (1) NFDQB (2) SNFDB (3) DSFCN (4) BQDZL
131. Which of the following numbers will replace the question mark (?) in the given series?  
 13, 14, 23, 48, 97, 178, ?  
 (1) 259 (2) 278 (3) 269 (4) 299



132. (1) 14 (2) 15 (3) 16 (4) 17
133. If P denotes +, Q denotes -, R denotes '÷', and S denotes '×', then:  
 18S64R16Q6P9 = ?  
 (1) 115 (2) 75 (3) 55 (4) 25

134. If a mirror is placed on the MN line, then which of the given answer figures will be the correct image of the question figure?



135. Find the length of one side of a rhombus whose area is  $24 \text{ cm}^2$  and the sum of the lengths of its diagonals is 14 cm.  
 (1) 4 cm (2) 6 cm (3) 5 cm (4) 3 cm

136. The diameter of a copper sphere is 12 cm. The sphere is melted and is drawn into a long wire of uniform circular cross-section. If the length of wire is 48 cm, find its diameter.

- (1)  $3\sqrt{6}$  cm (2)  $2\sqrt{6}$  cm (3)  $\sqrt{6}$  cm (4) 6 cm

137. If  $2^x = 4^y = 8^z$  and  $1/2x + 1/4y + 1/6z = 24/7$ , then the value of  $z$  is –

- (1)  $7/16$  (2)  $7/32$  (3)  $7/48$  (4)  $7/64$

138. In the following question, select the related word pair from the given alternatives:

Tuberculosis : Lungs :: Typhoid : ?

- (1) Liver (2) Intestine (3) Lungs (4) Brain

139. In a code language, if PEN is written as 17717, then how will CAP be written in the same language?

- (1) 2319 (2) 4319 (3) 4219 (4) 2320

140. Select the correct option that indicates the arrangement of the given words in the order in which they appear in an English dictionary.

- (i) Malice (ii) Malignant (iii) Mallows (iv) Malfunction

(v) Malware

- (1) iv, i, ii, v, iii (2) iv, i, ii, iii, v (3) i, iv, iii, ii, v (4) iv, ii, i, iii, v

141. Select the letter-cluster from among the given options that can replace the question mark (?) in the following series.

HDMS, OVVI, VNEY, CFNO, ?

- (1) JXXF (2) JXWE (3) JYWF (4) KXWE

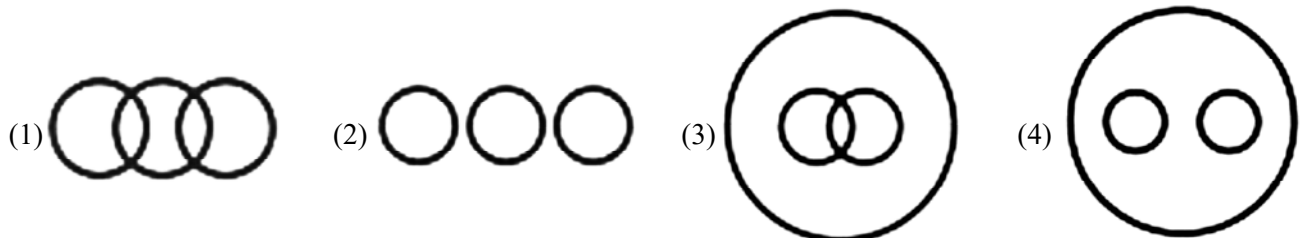
142. Select the combination of letters that when sequentially placed in the blanks of the given series will complete the series.

C \_ B N \_ \_ V \_ \_ H C \_ B \_ H

- (1) VHCBNVN (2) HVCNBVN (3) VCBHNVN (4) VHBNCHV

143. Select the Venn diagram that best illustrates the relationship between the following classes.

Planets, Mars, Venus



144. Study the given matrix carefully and select the number from among the given options that can replace the question mark (?) in it.

7      13      174

9      25      104

11      30      ?

- (1) 335 (2) 129 (3) 431 (4) 100

145. 40 workers can complete a 100 m long road-repairing job in 50 days. In order to complete the same task in 40 days, how many additional workers are required?  
(1) 12 (2) 15 (3) 18 (4) 10
146. If mirror image shows 10:15 in a 12 hrs clock, then what will be the actual timing?  
(1) 1:40 (2) 1:45 (3) 11:45 (4) 2:30
147. In a group of people, 40% are male, and the rest are female. Among the females, 40% are graduates, and the remaining are postgraduates. If the total number of female postgraduates is 360, what is the number of males in the group?  
(1) 200 (2) 300 (3) 400 (4) 500
148. If the 5-digit number  $676xy$  is divisible by 3, 7 and 11, then what is the value of  $(3x - 5y)$ ?  
(1) 9 (2) 11 (3) 10 (4) 7
149. In a group of bulls and hens, the number of legs is 48 more than twice the number of heads. The number of bulls is \_\_\_\_\_.  
(1) 50 (2) 48 (3) 26 (4) 24
150. By interchanging the two numbers 20 and 36, which of the following equations will be correct?  
i.  $55 + 42 - 36 \times 20 \div 9 = 17$   
ii.  $20 \div 2 \times 36 + 81 - 41 = 400$   
(1) Only i (2) Only ii (3) Both i and ii (4) Neither i nor ii

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 <b>96.05</b> Percentile KALLASH POUDEL	 <b>95.97</b> Percentile IBADUR RAHMAN	 <b>95.92</b> Percentile ASIFA NAZNEEN	 <b>95.83</b> Percentile FIRIJUR RAHMAN B.
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 <b>92.90</b> Percentile A. RAJJAK MUSTAFA	 <b>92.70</b> Percentile SALMAN AHMED KHAN	 <b>92.62</b> Percentile RUPANTAR GOGOI	 <b>92.58</b> Percentile RAHAT HASSAN MAZ
 <b>92.08</b> Percentile S. BIN ABU TALIB	 <b>91.97</b> Percentile NACHIM A. LASKAR	 <b>91.96</b> Percentile AMIRUL TALUKDAR	 <b>91.80</b> Percentile RAJIBUL HOQUE
 <b>90.88</b> Percentile GOWSUL AZAM	 <b>90.88</b> Percentile KOUSIK DAS	 <b>90.80</b> Percentile SAJID AHMED	 <b>90.70</b> Percentile FAHMIN AHMED CHY
 <b>90.50</b> Percentile SK. RASEL	 <b>90.50</b> Percentile GANGA UPADHYAY	 <b>90.15</b> Percentile MASUD RANA RABBANI	 <b>90.00</b> Percentile AHSAN AHMED

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