WISDOM WORLD SCHOOL, KURUKSHETRA

Wisdom Scholarship-cum-Admission Test (WSAT)

for

Admission to Grade 11 (UDAAN Batch)

Date of Examination : **06 December 2026**

PATTERN OF EXAMINATION

- Multiple choice, single correct option type questions
- Negative Marking for Physics, Chemistry, Mathematics and Biology with each correct answer carrying four marks and each wrong answer carrying one negative mark to be deducted.
- No negative marking for Reasoning Test; each question carries one mark.

Sr. No.	Grade 11	Physics	Chemistry	Mathematics	Biology	Reasoning	Total Questions
1	Non-Medical	20	20	40	-	20	100
2.	Medical	20	20	10	30	20	100

SYLLABUS FOR WSAT

SUBJECT	SYLLABUS
PHYSICS	Light (reflection and Refraction), Human eye and colourful world and current electricity complete chapter and Magnetic Effect of Electric Current.
CHEMISTRY	Chemical reaction & Equations, Acid base & Salts, Metal and Non-Metal, Carbon and its compounds.
BIOLOGY	Life Processes, Control and Coordination, How do organisms reproduce and Heredity.
MATHEMATICS	Pair of linear equations in two variables, Quadratic Equation, Arithmetic Progression, Coordinate Geometry, Introduction to trigonometry, Application of Trigonometry, Triangles, Circles, Area related to Circle.
MENTAL ABILITY TEST	**Verbal:** Number Series, Alphabet Test, Coding-Decoding, Blood Relation, Inequalities, Reasoning Puzzle. **Non-Verbal:** Counting figures, Insert the Missing Character, Cube and Dice.

WISDOM SCHOLASTIC APTITUDE TEST (WSAT)

for

NEET ASPIRANTS

Sample Question Paper

PHYSICS

1. An object of height 2 cm is placed at a distance if 20 cm from a concave mirror of focal length 15 cm. Then the size of image will be

   (a) 4 cm (b) 6 cm (c) 5 cm (d) 1 cm

2. The distance by which an object place in front of concave mirror of focal length 30 cm should move so that its magnification changes from –2 to +2.

   (a) 30 cm toward the mirror (b) 15 cm toward the mirror

   (c) 30 cm away from the mirror (d) 15 cm away from the mirror

3. Image of an object is formed by two concave mirrors of equal focal length but of different aperture size. Then

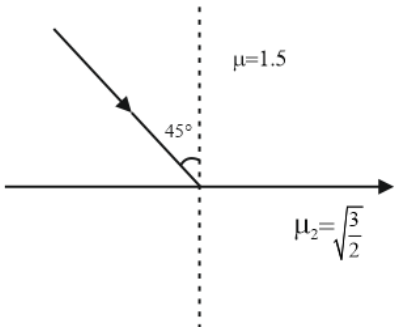
   (a) The size of image is larger in case of large aperture

   (b) The size of image is larger in case of smaller aperture

   (c) The size of image and brightness is same in both case

   (d) The size of image is same and brighter is more in case of larger aperture

4. The angle of refraction in following diagram is



   (a) 30° (b) 45° (c) 60° (d) None of these

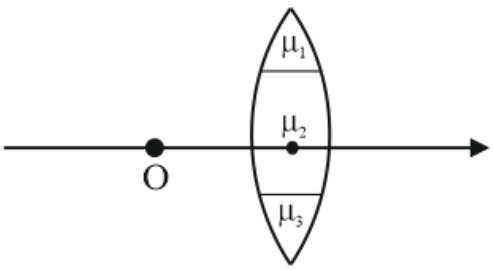
5. An object of height 6cm is placed in front of a cancave lens of focal length 20cm at a distance of 10 cm from it. Then the size of image is:

   (a) 4cm (b) 3 cm (c) 2 cm (d) 4.5 cm

6. The focal length of a convex lens of radius of curvature 20cm from both side and refractive index 1.5 is

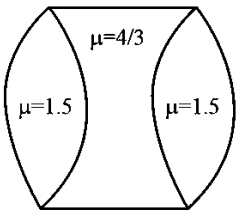
   (a) 30 cm (b) 20 cm (c) 40 cm (d) 50 cm

7. The number of images formed in below diagram is:



   (a) 1 (b) 2 (c) 3 (d) cann't say

8. The power of combination in below diagram is: (every curve has radius of curvature 40 cm)



(a) $-\frac{5}{3}D$ (b) $\frac{10}{3}D$ (c) $-\frac{10}{3}D$ (d) $+\frac{5}{3}D$

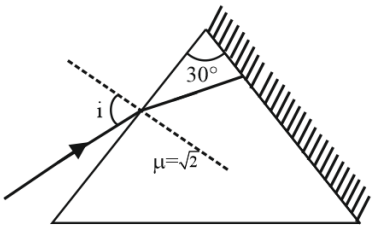
9. A person suffering from hypermetropia cannot see clearly the objects placed closer than 150 cm, from his eye. The required power of corrective lens is:

(a) +3.33 D (b) +2.67 D (c) –3.33 D (d) +2.5 D

10. When light falls on a prism at an angle of 45° to produce minimum deviation of 30°, then the refractive index of prism is:

(a) $\sqrt{2}$ (b) $\sqrt{3}$ (c) 1.5 (d) 2

11. The angle of incidence for which incident ray retraces its path is:



(a) 30° (b) 45° (c) 60° (d) 90°

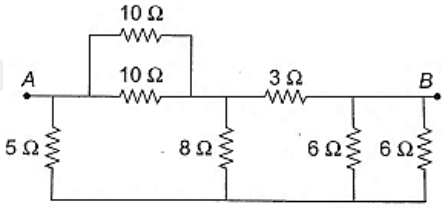
12. A myopic person having far point 80 cm uses spectacles of power –1 D. How far can he see clearly?

(a) 2m (b) 3m (c) 4m (d) None of these

13. In the formation of rainbow, the dispersive medium is

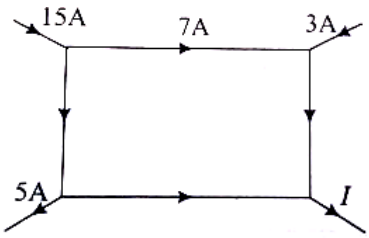
(a) water vapour (b) Air (c) Water droplets (d) Dust particles

14. Seven resistances are connected as shown in the figure. The equivalent resistance between A and B is:



(a) 3Ω (b) 4Ω (c) 4.5Ω (d) 5Ω

15. The value of current I in the given circuit is:



(a) 3 A (b) 13 A (c) 23 A (d) –3 A

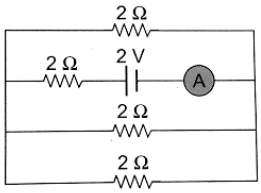
16. In the circuit element given here, if the potential at point B, $V_B = 0$, then the potentials of A and D are given as:



(a) $V_A = -1.5$ V, $V_D = +2$ V (b) $V_A = +1.5$ V, $V_D = +2$ V

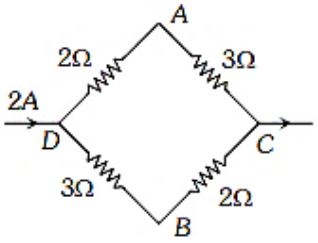
(c) $V_A = +1.5$ V, $V_D = 0.5$ V (d) $V_A = +1.5$ V, $V_D = -0.5$ V

17. The reading of the ammeter as per figure shown is:



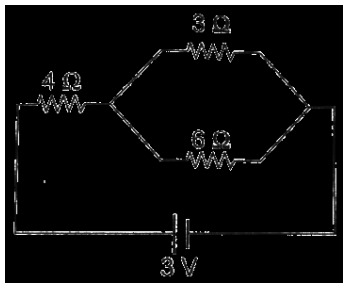
(a) $\frac{1}{8}A$ (b) $\frac{3}{4}A$ (c) $\frac{1}{2}A$ (d) $2A$

18. A current of 2A flows in a system of conductors as shown. The potential difference $(V_A - V_B)$ will be:



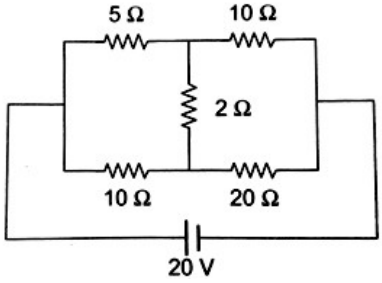
(a) +2 V (b) +1 V (c) –1 V (d) –2 V

19. The potential drop across the 3Ω resistor is:



(a) 1V (b) 1.5V (c) 2V (d) 3V

20. In the given circuit diagram, potential difference across 2Ω resistance is:



(a) 4 V (b) 6 V (c) 20 V (d) zero

CHEMISTRY

21. A student mixes 50 mL of strong acidic solution with PH=1 and 50 mL of strong mono basic solution with PH = 10, then the nature of solution after mixing is

(a) Acidic (b) Basic (c) Neutral (d) Can't predict

22. Which of the following is correct ions

(a) The basicity of HPO_4^{2-}, H_2SO_4 and H_3BO_3 is 2

(b) The basicity of $H_2PO_4^-$, H_2SO_4 and H_3PO_3 is 2

(c) The acidity of $Ca(OH)_2$, H_3BO_3 and $Al(OH)_3$ is 3

(d) None of these

23. Aqueous solution of which of the following salts would be acidic.

(a) KCl (b) Na_2CO_3 (c) NH_4Cl (d) CH_3COONa

24. The following reaction is used for the preparation of oxygen gas in the laboratory. Which of the following statements is/are correct about the reaction?

$$2KClO_3(s) \xrightarrow[Catalyst]{Heat} 2KCl(s) + 3O_2(g)$$

(I) It is a decomposition reaction and endothermic in nature
(II) It is opposite of synthesis reaction
(III) It is a decomposition reaction and accompanied by release of heat
(IV) It is a photochemical decomposition reaction and exothermic in nature
(a) I, II, IV only (b) II, III, IV only (c) II, III only (d) I, II only

25. A dilute ferrous sulphate solution was gradually added to the beaker containing acidified permanganate solution. The light purple colour of the solution fades and finally disappears. Which of the following is the correct explanation for the observation?
(a) $FeSO_4$ acts as an oxidising agent and oxidised $KMnO_4$
(b) The colour disappears due to dilution; no reaction is involved
(c) $KMnO_4$ is an unstable compound and decomposes in presence of $FeSO_4$ to a colourless compound
(d) $KMnO_4$ is an oxidising agent. It oxidises $FeSO_4$.

26. A solution of a salt gives pH > 7 that salt must be formed from
(a) HCl + CH_3COOH (b) NaOH + HCl (c) NaOH + CH_3COOH (d) HCl + NH_4OH

27. Which of the following is not a property of Acid.
(a) Turn blue litmus red (b) React with metal to produce Hydrogen
(c) React with base to form salt and water (d) Feel slippery

28. Which of the following Acid is diprotic
(a) HCl (b) H_3PO_4 (c) H_3PO_3 (d) HCOOH

29. If you dilute a solution of base what happens to $[OH^-]$ and pH
(a) $[OH^-]$ increases, pH increases (b) $[OH^-]$ increases, pH decreases
(c) $[OH^-]$ decreases, pH decreases (d) $[OH^-]$ decreases, pH increases

30. When lead nitrate heated to produce
(a) O_2, NO_2 (b) NO_2, N_2 (c) N_2O, N_2 (d) NO, O_2

31. Which of the following reaction is an example of a double displacement reaction that also produces a precipitates.
(a) $C_6H_{12}O_6(s) + 6O_2(g) \longrightarrow 6CO_2(g) + 6H_2O(l)$
(b) $Fe(s) + CuSO_4(aq) \longrightarrow FeSO_4(aq) + Cu(s)$
(c) $Na_2SO_4(aq) + BaCl_2(aq) \longrightarrow BaSO_4(s) + 2NaCl(aq)$
(d) $CaO(s) + H_2O(l) \longrightarrow Ca(OH)_2(aq)$

32. When dilute hydrochloric acid is added to zinc pieces taken in a test tube. Which of the following is an observation that confirms a chemical reaction has occurred?
(a) The solution turns yellow (b) A pungent-smelling gas in liberated
(c) Small bubbles of gas appear on the surface of the zinc pieces
(d) The test tube becomes cold to the touch

33. Find P, Q, R & S using the following statements:

(I) Chips manufactures usually flush bags of chips with gas such as Gas **P** to prevent the chips from getting oxidised

(II) When barium hydroxide and ammonium chloride react with each other. Heat is **Q**

(III) During the reaction of MnO_2 & HCl as shown. MnO_2 acts as **R**

$$MnO_2 + 4HCl \rightarrow MnCl_2 + 2H_2O + Cl_2$$

(IV) Precipitation reactions produce salt **S**

(a) P=Helium, Q= Released, R-Oxidant, S=Soluble

(b) P=Nitrogen, Q= Released, R-Reductant, S=Soluble

(c) P=Helium, Q= Absorbed, R-Reductant, S=Insoluble

(d) P=Nitrogen, Q= Absorbed, R-Oxidant, S=Insoluble

34. What is the stochiometric coefficient for O_2 when the following equations balanced with the smallest whole numbers?

$C_4H_{10}(g) + O_2(g) \longrightarrow CO_2(g) + H_2O(l)$

(a) 10 (b) 13 (c) 2 (d) 8

35. What happens when iron (III) oxide reacts with aluminium:

$Fe_2O_3(s) + 2Al(s) \longrightarrow Al_2O_3(s) + 2Fe(l)$

(a) It is a double displacement reaction (b) Aluminium is reduced and iron is oxidised

(c) Iron is the reducing agent (d) Iron is oxidising agent

36. Which metal will react with acid (HCl) to produce hydrogen gas but does not react with water at 310 K.

(a) Na (b) Ca (c) Fe (d) Cu

37. Find **X, Y, Z** using the following statements:

(I) A shiny brown coloured element on heating in air form a black colour compound **'X'**.

(II) A solution of a substance **'Y'** formed by the reaction of lime with water and it is used for whitewashing.

(III) Iron articles are shiny when new, but get coated with a reddish-brown powder **'Z'** when left for some time

(a) Cupric oxide, Quick lime, Ferric oxide

(b) Cupric oxide, Slaked lime, Hydrated Ferric Oxide

(c) Cuprous oxide, Slaked lime, Ferric Oxide

(d) Cuprous oxide, Quick lime, Hydrated Ferrous Oxide

38. Identify the correct chemical equation

(I) $3Fe(s) + 4H_2O(\ell \qquad 'e_3O_4(s) + 4H_2(g)$

(II) $CO(g) + 2H_2O(g) \xrightarrow{340\,atm} CH_3OH(l)$

(III) $6CO_2(aq) + 12H_2O(l) \xrightarrow[Chlorophyll]{Sunlight} C_6H_{12}O_6(aq) + 6O_2(aq) + 6H_2O(l)$

(IV) $Pb(s) + CuCl_2(aq) \longrightarrow PbCl_2(aq) + Cu(s)$

(a) I, II, III, IV (b) I, II, III (c) II, III, IV (d) I, II, IV

39. Identify the correct statements:
(I) Any reaction that produces a precipitate can be called a precipitation reaction
(II) Calcium oxide is called lime
(III) When lead nitrate is heated, a gas with brown fumes is evolved which is neutral oxide
(IV) During electrolysis of pure water volume of gas collected at cathode is double the volume of gas collected at anodes.
(a) I, II, III, IV (b) I, II, IV only (c) I, II only (d) Only (I)

40. During the preparation of hydrogen chloride gas on a humid day, the gas is usually passed through the guard tube.
(I) It absorbs moisture from the gas
(II) It absorbs Cl^- ions from the evolved gas
(III) It contains calcium chloride which is a good dehydrating agent
(IV) It absorbs the hydrogen chloride gas
(a) I, III, IV only (b) I, II, IV only (c) II, III, IV only (d) I, III only

MATHEMATICS

41. If the LCM of the polynomials $(y-3)^a(2y+1)^b(y+13)^7$ and $(y-3)^4(2y+1)^9(y+13)^c$ is $(y-3)^6(2y+1)^{10}(y+13)^7$, then the least value of $a+b+c$ is:
(a) 16 (b) 18 (c) 20 (d) None of these

42. If product of the roots of the quadratic equation $mx^2-2x+(2m-1)=0$ is 3, then the value of m is
(a) 1 (b) 2 (c) –1 (d) 3

43. If the equation $(k-2)x^2-(k-4)x-2=0$ has difference of roots as 3, then the value of k is
(a) 1, 3 (b) $3,\frac{3}{2}$ (c) $2,\frac{3}{2}$ (d) $\frac{3}{2}$

44. If the zeros of the polynomial $3x^2-5x+2$ are $a + b$ and $a – b$, then the value of a and b are:
(a) $\frac{1}{2},\frac{3}{4}$ (b) 5, 6 (c) $\frac{5}{6},\frac{3}{2}$ (d) $\frac{5}{6},\frac{1}{6}$

45. The sum of all three digit even numbers divisible by 17 is
(a) 18846 (b) 18684 (c) 14688 (d) 16848

46. If $131x+217y=827$ and $217x+131y=913$, then what are values of x and y respectively?
(a) 2 and 5 (b) 5 and 7 (c) 3 and 2 (d) None of the above

47. If $\cot\theta=\frac{15}{8}$, then $\frac{(2+2\sin\theta)(1-\sin\theta)}{(1+\cos\theta)(2-2\cos\theta)}=$
(a) $\frac{64}{225}$ (b) $\frac{225}{64}$ (c) $\frac{64}{289}$ (d) $\frac{289}{64}$

48. The value of x and y if $x+3, y+7, x+y+8, x+3y+20$ are in A.P. respectively are
(a) $\frac{-5}{3},\frac{-19}{3}$ (b) $\frac{5}{3},\frac{19}{3}$ (c) $\frac{5}{3},\frac{-19}{3}$ (d) $-\frac{5}{3},\frac{19}{3}$

49. If $x<1, y<-1$, then $(x-1, y-3)$ lies in

(a) Q_3 (b) Q_4 (c) Q_2 (d) Q_1

50. The value of $\sqrt{6+\sqrt{6+\sqrt{6+.....\infty}}}$ is

(a) 4 (b) 3 (c) –2 (d) 3.5

BIOLOGY

51. The proteolytic enzymes amongst the following are:

(a) amylase, lipase, zymase (b) trypsin, pepsin, rennin

(c) urease, dehydrogenase, zymase (d) amylase, nucleosidase, ptyalin

52. Which of the following digestive juice have the minimum pH?

(a) Gastric juice (b) Bile (c) Pancreatic juice (d) Saliva

53. The number of salivary glands present in human beings is/are:

(a) 5 pairs (b) 4 pairs (c) 3 pairs (d) 2 pairs

54. Match the following:-

(1) Bilirubin	(i) Parotid
(2) Hydrolysis of starch	(ii) Bile
(3) Digestion of fat	(iii) Lipases
(4) Salivary gland	(iv) Amylases

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

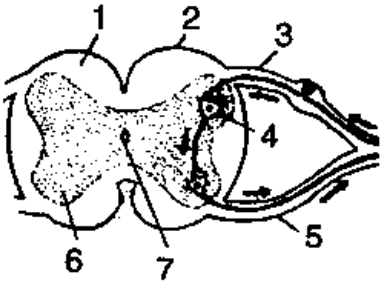
(c) 1-(ii), 2-(iv), 3-(iii), 4-(i) (d) 1-(ii), 2-(iii), 3-(iv), 4-(i)

55. Which one of the following has the smallest diameter?

(a) Trachea (b) Secondary bronchi

(c) Respiratory bronchiole (d) Left primary bronchus

56. Given alongside is partial diagrammatic representation of a certain phenomenon pertaining to the nervous system.



Answer the following in the same context:

(a) 1 - Gray matter, 2 - White matter

(b) 7 - Central canal, 1 - Gray matter

(c) 1 - White matter, 4 - Sensory neuron

(d) 7 - Central canal, 4 - Relay neuron.

57. Partial pressure of O_2 in alveolar air is:-

(a) 104 mmHg (b) 159 mmHg (c) 95 mmHg (d) 40 mmHg

58. Which of the following is incorrect regarding respiration?

(a) No organism can live without respiration (b) It takes place at every time day and night

(c) It involves production of CO_2 and water (d) It is a physical process.

59. How much percentage of blood is constituted by a straw-coloured, viscous fluid i.e. plasma?

(a) 55% (b) 45% (c) 90-92% (d) 65%

60. Consider the following statements: -

1. In human body, exchange of nutrients, gases, etc., between the blood and cells always occurs through interstitial fluid.
2. Blood is the only fluid vascular tissue.
3. Lymph is an important carrier for nutrients and hormones
4. Milky white, fat rich lymph in the lacteal is called chyme.

Choose the correct statement/s among these: -

(a) 1, 2 and 3 only (b) 1, 3 and 4 only (c) 1 and 3 only (d) 1, 2, 3 and 4

61. The breakdown of pyruvate to give CO_2, water and energy takes place in.

(a) Cytoplasm (b) Mitochondria (c) Chloroplast (d) Nucleus

62. The opening and closing of the stomata pore depends upon.

(a) Oxygen (b) Temperature

(c) Water in guard cell (d) Concentration of CO_2 in stomata

63. The opening between the right atrium and the right ventricle is guarded by a valve called: -

(a) Bicuspid valve (b) Mitral valve (c) Tricuspid valve (d) Thebesian valve

64. The auto trophic mode of nutrition requires.

(a) CO_2 and water (b) Chlorophyll (c) Sunlight (d) All of the above

65. Bowman's capsule is formed in

(a) Small Intestine (b) Kidneys (c) Heart (d) Brain

66. Excretion involves the process in which

(a) Harmful substances in the body are chemically changed

(b) Substances of no further use or those present in excessive quantity are thrown out of body.

(c) Harmful substances are stored in cells before being eliminated

(d) Expulsion of undigested food

67. Blood vessel leading to glomerulus is called:-

(a) Renal artery (b) Renal vein (c) Efferent arteriole (d) Afferent arteriole

68. Dialysing fluid has the same composition as that of plasma of blood except

(a) Useful compound (b) NaCl (c) Nitrogenous waste (d) Glucose

69. ADH responsible for reabsorption of water and reduction of urine secretion, is synthesized by

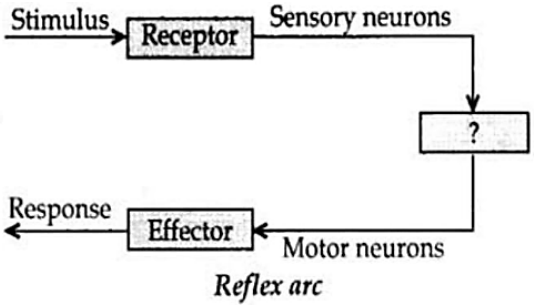
(a) Hypothalamus (b) anterior pituitary gland

(c) Posterior pituitary gland (d) juxta - glomerular apparatus

70. The nervous sheath which connects the two cerebral hemispheres is

(a) corpus albicans (b) corpus callosum (c) corpus striatum (d) corpora quadrigemina

71. Give the missing term.



Reflex arc

(a) Spinal cord (b) Spinal nerves (c) Cranial nerves (d) Relay nerves

72. The substance not essential for photosynthesis is:
(a) Sunlight (b) Chlorophyll (c) Nitrogen (d) CO_2

73. Pulmonary vein carries:
(a) Deoxygenated blood (b) Oxygenated
(c) Mixed blood (d) None of these

74. The organ that controls reflex actions is
(a) Spinal cord (b) Heart (c) Liver (d) Kidney

75. An endocrine gland with lobular structure & located on the dorsal side of the heart and aorta and gets degenerated in old individuals is:-
(a) Thyroid (b) Pineal (c) Thymus (d) Parathyroid

76. Hormone of pineal gland influences
(a) sleep-wake cycle (b) menstrual cycle & defense capability
(c) formation of milk (d) both (a) & (b)

77. In females, which hormone stimulates a vigorous contraction of uterus at the time of child birth & milk ejection from the mammary glands?
(a) oxytocin (b) Vasopressin (c) LH (d) FSH

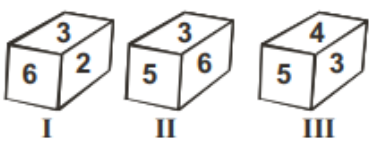
78. Which of the following phytohormone helps in fruit ripening?
(a) Auxin (b) Ethylene (c) Liver (d) Kidney thermodynamics

79. Cell division in plants is promoted by:
(a) Abscisic acid (b) Gibberellin (c) Ethylene (d) Cytokinin

80. In human body, the digestion of protein begins in which of the following organs?
(a) Liver (b) Mouth (c) Small intestine (d) Stomach

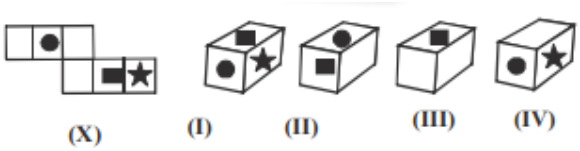
REASONING

81. What will be the digit opposite to 2 in the given three dices?



(a) 1 (b) 4 (c) 5 (d) Cannot be determined

82. Study the figure and identify the correct dice formed by that figure.



(a) I and II only (b) II, III and IV only (c) IV only (d) III and IV only

Direction Questions (83 to 84): A, B, C, D and E are members of the same family. There are two fathers, two sons, two wives three males and two females. The teacher was the wife of a lawyer who was the son of a doctor. E is not a male, neither also a wife of a professional. C is the youngest person in the family and D is the eldest. B is a male.

83. How is D related to E?
(a) Husband (b) Son (c) Father (d) Wife

84. Who are the females in the group?
(a) C and D (b) C and E (c) E and A (d) D and E

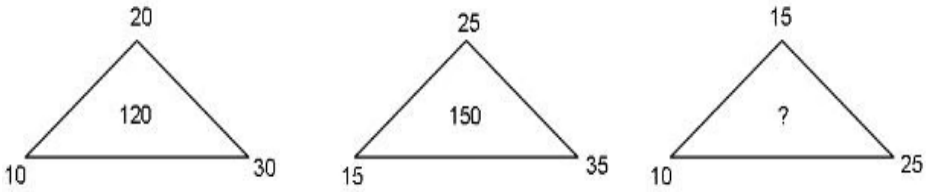
85. **Statements:** L = P ≤ M ≤ V ≤ A, Q ≥ R = N > P
Conclusions: I. Q > L II. N ≤ A
(a) Only Conclusion I follow
(b) Either Conclusion I or Conclusion II follows
(c) Only Conclusion II follow
(d) Both Conclusion I and Conclusion II follow

86. Which of the following will replace the Question mark (?) in the problem given below?



(a) 500 (b) 625 (c) 529 (d) 400

87. Insert the missing number in the given figure.



(a) 50 (b) 40 (c) 60 (d) 100

88. If LSJXVC is the code for MUMBAI, the code for DELHI is _____.
(a) CCIDD (b) CDKGH (c) CCJFG (d) CCIFE

89. If 'ZERO' is written as 'CHUR', then how is 'PLAYER' written?
(a) SOCAGT (b) SODBGT (c) SODBHT (d) SODBHU

90. What will come on the place of Question mark (?)
10, 14, 26, 42, 70, ?
(a) 100 (b) 102 (c) 106 (d) 114

91. The letters of the word "COMPREHENSION" are arranged alphabetically in reverse order. How many positions of the letter/letters will remain unchanged?
(a) None (b) One (c) Two (d) Three

92. If in a certain code, 'POT' is written as ATOP and 'TRAP' is written as APART, then how is 'ARENA' written in that code?
(a) AARENA (b) AANREA (c) AANEAR (d) AANERA

93. Which letter will come 4th to the left of 12th from left ?
(a) J (b) L (c) H (d) F

94. Find the wrong term : 1236, 2346, 3456, 4566, 5686
(a) 1236 (b) 3456 (c) 4566 (d) 5686

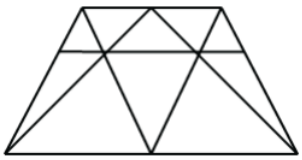
95. If A interchanges position with B, similarly C and D interchange positions and so as E and F and so on upto Y and Z, then which of the following will be seventh from the left?
(a) A (b) F (c) I (d) None of these

Direction Questions (96 & 97): Seven boys A, D, Y, U, P, Q and J live in three different buildings – Ashiana, Top-view and Ridge. Each of them is flying kites of different colours i.e. red, green, blue white, black, yellow and pink, not necessarily in that order. Not more than three or less than two stay in any of the buildings. Q is flying a pink and does not live in Ridge building. U does not live in the same building as A or P and is flying a yellow coloured kite. D lives in Ridge building with only one more person and is flying a green kite. None in the Top-view building flies a white kite. P does not fly a blue kite.

96. Who is flying the blue kite?
(a) A (b) J (c) P (d) Data inadequate

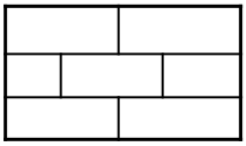
97. Who stay in Top-view building?
(a) Y, J, P (b) A, P (c) A, P, D (d) Y, U, J

98. How many triangles are there in the given figure?



(a) 18 (b) 19 (c) 20 (d) none of these

99. How many Rectangles are there in the given figure?



(a)13 (b) 14 (c) 15 (d)None of these

100. Which of the following set of letters when placed from left to right in the given blanks make the conclusion 'K ≤ N' definitely false?

K ≤ __ = __ < __ ≥ __ > P

(a) N, M, L, O (b) O, N, M, L (c) L, M, N, O (d) L, M, O, N

❐❐❐

WISDOM SCHOLASTIC APTITUDE TEST (WSAT)

for

IIT-JEE ASPIRANTS

Sample Question Paper

PHYSICS

1. An object of height 2 cm is placed at a distance if 20 cm from a concave mirror of focal length 15 cm. Then the size of image will be

   (a) 4 cm (b) 6 cm (c) 5 cm (d) 1 cm

2. The distance by which an object place in front of concave mirror of focal length 30 cm should move so that its magnification changes from –2 to +2.

   (a) 30 cm toward the mirror (b) 15 cm toward the mirror

   (c) 30 cm away from the mirror (d) 15 cm away from the mirror

3. Image of an object is formed by two concave mirrors of equal focal length but of different aperture size. Then

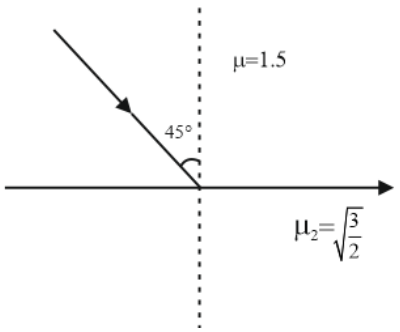
   (a) The size of image is larger in case of large aperture

   (b) The size of image is larger in case of smaller aperture

   (c) The size of image and brightness is same in both case

   (d) The size of image is same and brighter is more in case of larger aperture

4. The angle of refraction in following diagram is



   (a) 30° (b) 45° (c) 60° (d) None of these

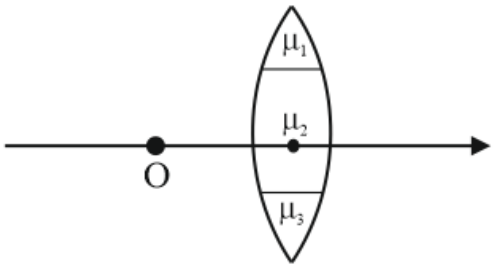
5. An object of height 6cm is placed in front of a cancave lens of focal length 20cm at a distance of 10 cm from it. Then the size of image is:

   (a) 4cm (b) 3 cm (c) 2 cm (d) 4.5 cm

6. The focal length of a convex lens of radius of curvature 20cm from both side and refractive index 1.5 is

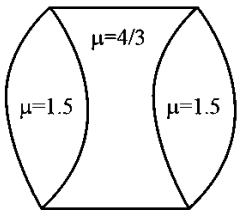
   (a) 30 cm (b) 20 cm (c) 40 cm (d) 50 cm

7. The number of images formed in below diagram is:



   (a) 1 (b) 2 (c) 3 (d) cann't say

8. The power of combination in below diagram is: (every curve has radius of curvature 40 cm)

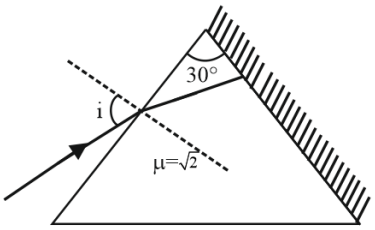


(a) $-\frac{5}{3}D$ (b) $\frac{10}{3}D$ (c) $-\frac{10}{3}D$ (d) $+\frac{5}{3}D$

9. A person suffering from hypermetropia cannot see clearly the objects placed closer than 150 cm, from his eye. The required power of corrective lens is:
(a) +3.33 D (b) +2.67 D (c) –3.33 D (d) +2.5 D

10. When light falls on a prism at an angle of 45° to produce minimum deviation of 30°, then the refractive index of prism is:
(a) $\sqrt{2}$ (b) $\sqrt{3}$ (c) 1.5 (d) 2

11. The angle of incidence for which incident ray retraces its path is:

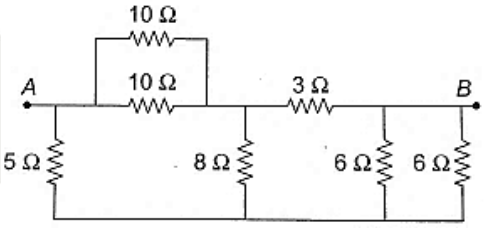


(a) 30° (b) 45° (c) 60° (d) 90°

12. A myopic person having far point 80 cm uses spectacles of power –1 D. How far can he see clearly?
(a) 2m (b) 3m (c) 4m (d) None of these

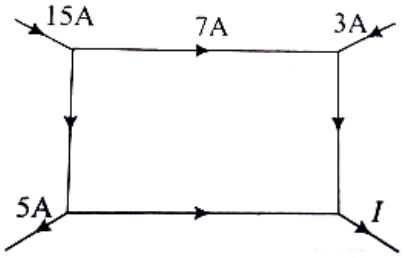
13. In the formation of rainbow, the dispersive medium is
(a) water vapour (b) Air (c) Water droplets (d) Dust particles

14. Seven resistances are connected as shown in the figure. The equivalent resistance between A and B is:



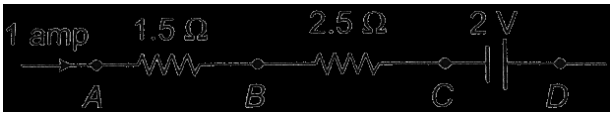
(a) 3Ω (b) 4Ω (c) 4.5Ω (d) 5Ω

15. The value of current I in the given circuit is:



(a) 3 A (b) 13 A (c) 23 A (d) –3 A

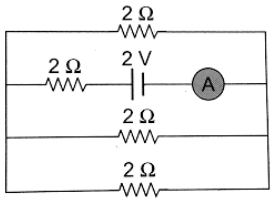
16. In the circuit element given here, if the potential at point B, $V_B = 0$, then the potentials of A and D are given as:



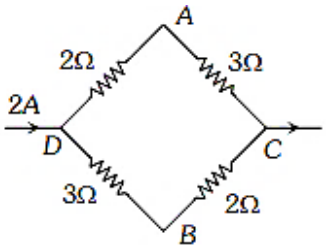
(a) $V_A = -1.5$ V, $V_D = +2$ V (b) $V_A = +1.5$ V, $V_D = +2$ V
(c) $V_A = +1.5$ V, $V_D = 0.5$ V (d) $V_A = +1.5$ V, $V_D = -0.5$ V

17. The reading of the ammeter as per figure shown is:

(a) $\frac{1}{8}A$ (b) $\frac{3}{4}A$ (c) $\frac{1}{2}A$ (d) $2A$

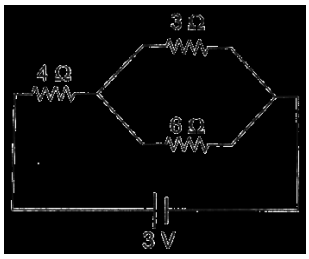


18. A current of 2A flows in a system of conductors as shown. The potential difference $(V_A - V_B)$ will be:



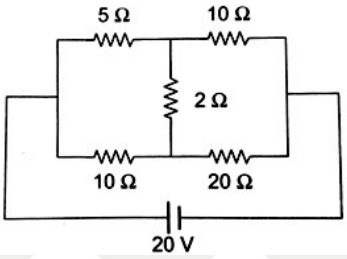
(a) +2 V (b) +1 V (c) –1 V (d) –2 V

19. The potential drop across the 3Ω resistor is:



(a) 1V (b) 1.5V (c) 2V (d) 3V

20. In the given circuit diagram, potential difference across 2Ω resistance is:



(a) 4 V (b) 6 V (c) 20 V (d) zero

CHEMISTRY

21. A student mixes 50 mL of strong acidic solution with PH=1 and 50 mL of strong mono basic solution with PH = 10, then the nature of solution after mixing is

(a) Acidic (b) Basic (c) Neutral (d) Can't predict

22. Which of the following is correct ions

(a) The basicity of HPO_4^{2-}, H_2SO_4 and H_3BO_3 is 2

(b) The basicity of $H_2PO_4^-$, H_2SO_4 and H_3PO_3 is 2

(c) The acidity of $Ca(OH)_2$, H_3BO_3 and $Al(OH)_3$ is 3

(d) None of these

23. Aqueous solution of which of the following salts would be acidic.

(a) KCl (b) Na_2CO_3 (c) NH_4Cl (d) CH_3COONa

24. The following reaction is used for the preparation of oxygen gas in the laboratory. Which of the following statements is/are correct about the reaction?

$$2KClO_3(s) \xrightarrow[Catalyst]{Heat} 2KCl(s) + 3O_2(g)$$

(I) It is a decomposition reaction and endothermic in nature
(II) It is opposite of synthesis reaction
(III) It is a decomposition reaction and accompanied by release of heat
(IV) It is a photochemical decomposition reaction and exothermic in nature
(a) I, II, IV only (b) II, III, IV only (c) II, III only (d) I, II only

25. A dilute ferrous sulphate solution was gradually added to the beaker containing acidified permanganate solution. The light purple colour of the solution fades and finally disappears. Which of the following is the correct explanation for the observation?
(a) $FeSO_4$ acts as an oxidising agent and oxidised $KMnO_4$
(b) The colour disappears due to dilution; no reaction is involved
(c) $KMnO_4$ is an unstable compound and decomposes in presence of $FeSO_4$ to a colourless compound
(d) $KMnO_4$ is an oxidising agent. It oxidises $FeSO_4$.

26. A solution of a salt gives pH > 7 that salt must be formed from
(a) HCl + CH_3COOH (b) NaOH + HCl (c) NaOH + CH_3COOH (d) HCl + NH_4OH

27. Which of the following is not a property of Acid.
(a) Turn blue litmus red (b) React with metal to produce Hydrogen
(c) React with base to form salt and water (d) Feel slippery

28. Which of the following Acid is diprotic
(a) HCl (b) H_3PO_4 (c) H_3PO_3 (d) HCOOH

29. If you dilute a solution of base what happens to $[OH^-]$ and pH
(a) $[OH^-]$ increases, pH increases (b) $[OH^-]$ increases, pH decreases
(c) $[OH^-]$ decreases, pH decreases (d) $[OH^-]$ decreases, pH increases

30. When lead nitrate heated to produce
(a) O_2, NO_2 (b) NO_2, N_2 (c) N_2O, N_2 (d) NO, O_2

31. Which of the following reaction is an example of a double displacement reaction that also produces a precipitates.
(a) $C_6H_{12}O_6(s) + 6O_2(g) \longrightarrow 6CO_2(g) + 6H_2O(l)$
(b) $Fe(s) + CuSO_4(aq) \longrightarrow FeSO_4(aq) + Cu(s)$
(c) $Na_2SO_4(aq) + BaCl_2(aq) \longrightarrow BaSO_4(s) + 2NaCl(aq)$
(d) $CaO(s) + H_2O(l) \longrightarrow Ca(OH)_2(aq)$

32. When dilute hydrochloric acid is added to zinc pieces taken in a test tube. Which of the following is an observation that confirms a chemical reaction has occurred?
(a) The solution turns yellow
(b) A pungent-smelling gas in liberated
(c) Small bubbles of gas appear on the surface of the zinc pieces
(d) The test tube becomes cold to the touch

33. Find P, Q, R & S using the following statements:

(I) Chips manufactures usually flush bags of chips with gas such as Gas **P** to prevent the chips from getting oxidised

(II) When barium hydroxide and ammonium chloride react with each other. Heat is **Q**

(III) During the reaction of MnO_2 & HCl as shown. MnO_2 acts as **R**

$$MnO_2 + 4HCl \rightarrow MnCl_2 + 2H_2O + Cl_2$$

(IV) Precipitation reactions produce salt **S**

(a) P=Helium, Q= Released, R-Oxidant, S=Soluble

(b) P=Nitrogen, Q= Released, R-Reductant, S=Soluble

(c) P=Helium, Q= Absorbed, R-Reductant, S=Insoluble

(d) P=Nitrogen, Q= Absorbed, R-Oxidant, S=Insoluble

34. What is the stochiometric coefficient for O_2 when the following equations balanced with the smallest whole numbers?

$C_4H_{10}(g) + O_2(g) \longrightarrow CO_2(g) + H_2O(l)$

(a) 10 (b) 13 (c) 2 (d) 8

35. What happens when iron (III) oxide reacts with aluminium:

$Fe_2O_3(s) + 2Al(s) \longrightarrow Al_2O_3(s) + 2Fe(l)$

(a) It is a double displacement reaction (b) Aluminium is reduced and iron is oxidised

(c) Iron is the reducing agent (d) Iron is oxidising agent

36. Which metal will react with acid (HCl) to produce hydrogen gas but does not react with water at 310 K.

(a) Na (b) Ca (c) Fe (d) Cu

37. Find **X, Y, Z** using the following statements:

(I) A shiny brown coloured element on heating in air form a black colour compound **'X'**.

(II) A solution of a substance **'Y'** formed by the reaction of lime with water and it is used for whitewashing.

(III) Iron articles are shiny when new, but get coated with a reddish-brown powder **'Z'** when left for some time

(a) Cupric oxide, Quick lime, Ferric oxide

(b) Cupric oxide, Slaked lime, Hydrated Ferric Oxide

(c) Cuprous oxide, Slaked lime, Ferric Oxide

(d) Cuprous oxide, Quick lime, Hydrated Ferrous Oxide

38. Identify the correct chemical equation

(I) $3Fe(s) + 4H_2O(\ell \qquad 'e_3O_4(s) + 4H_2(g)$

(II) $CO(g) + 2H_2O(g) \xrightarrow{340\,atm} CH_3OH(l)$

(III) $6CO_2(aq) + 12H_2O(l) \xrightarrow[Chlorophyll]{Sunlight} C_6H_{12}O_6(aq) + 6O_2(aq) + 6H_2O(l)$

(IV) $Pb(s) + CuCl_2(aq) \longrightarrow PbCl_2(aq) + Cu(s)$

(a) I, II, III, IV (b) I, II, III (c) II, III, IV (d) I, II, IV

39. Identify the correct statements:
(I) Any reaction that produces a precipitate can be called a precipitation reaction
(II) Calcium oxide is called lime
(III) When lead nitrate is heated, a gas with brown fumes is evolved which is neutral oxide
(IV) During electrolysis of pure water volume of gas collected at cathode is double the volume of gas collected at anodes.
(a) I, II, III, IV (b) I, II, IV only (c) I, II only (d) Only (I)

40. During the preparation of hydrogen chloride gas on a humid day, the gas is usually passed through the guard tube.
(I) It absorbs moisture from the gas
(II) It absorbs Cl^- ions from the evolved gas
(III) It contains calcium chloride which is a good dehydrating agent
(IV) It absorbs the hydrogen chloride gas
(a) I, III, IV only (b) I, II, IV only (c) II, III, IV only (d) I, III only

MATHEMATICS

41. How many kilograms of tea at `50 per kg should be mixed with 65 kg of tea costing `70 per kg so as to sell the mixture at `63 per kg without gaining or losing anything in the transaction?
(a) 35 kg (b) 37 kg (c) 15 kg (d) 20 kg

42. The ratio of monthly incomes of Mr. X and Mr. Y is 3:4 and the ratio of their monthly expenditures is 5:7. If the ratio of their monthly savings is 3:2 and Mr. X saves Rs. 500 more than Mr. Y per month, then the monthly income of Mr. Y is
(a) `30000 (b) `35000 (c) `26000 (d) `22000

43. The number of integral solutions of the equation $7\left(y+\frac{1}{y}\right)-2\left(y^2+\frac{1}{y^2}\right)=9$ is/are
(a) 0 (b) 1 (c) 2 (d) 3

44. If the ratio of the sum of n terms of two A.P.'s is $\frac{3n-1}{3n+1}$, then the ratio of their fifth terms is
(a) $\frac{14}{15}$ (b) $\frac{13}{14}$ (c) $\frac{16}{17}$ (d) $\frac{18}{19}$

45. A thief runs away from a police station with a uniform speed of 100 m/minute. After one minute a policeman runs behind the thief to catch him. He goes at speed of 100 m/minute in first minute and increases his speed 10m each succeeding minute. After how many minutes, the policeman will catch the thief?
(a) 2 mins (b) 3 mins (c) 4 mins (d) 5 mins

46. Determine the values of *m* and *n* so that the following system of linear equations have infinite number of solutions: $(2m-1)x+3y-5=0$; $3x+(n-1)y-2=0$
(a) $m=\frac{11}{2}$ and $n=\frac{17}{2}$ (b) $m=\frac{13}{4}$ and $n=\frac{13}{2}$ (c) $m=\frac{17}{4}$ and $n=\frac{11}{5}$ (d) $m=\frac{5}{2}$ and $n=\frac{7}{2}$

47. If $x_1, x_2, x_3 ...,$ are in A.P. and if $x_1+x_7+x_{10}=-6$ and $x_3+x_8+x_{12}=-11$, then the value of $x_3+x_8+x_{22}$ is
(a) –21 (b) –15 (c) –18 (d) –31

48. If one root of the polynomial $p(x) = 5y^2 + 13y + m$ is reciprocal of other, then the value of m is

(a) 6 (b) 0 (c) 5 (d) $\frac{1}{5}$

49. If $\operatorname{cosec}\theta = x + \frac{1}{4x}$, $x \neq 0$ then the value of $\operatorname{cosec}\theta + \cot\theta$

(a) $2x$ (b) $-2x$ (c) $\frac{2}{x}$ (d) $-\frac{1}{2x}$

50. If $\frac{x}{3} = \frac{y}{4} = \frac{z}{7}$, then the value of $\frac{x+y+z}{x}$ is

(a) $\frac{14}{5}$ (b) $\frac{14}{3}$ (c) $\frac{13}{3}$ (d) $\frac{12}{7}$

51. If $x_1, x_2, x_3 \ldots x_n$ are in A.P., then the value of $\frac{1}{x_1x_2} + \frac{1}{x_2x_3} + \frac{1}{x_3x_4} + \ldots + \frac{1}{x_{n-1}x_n}$ is

(a) $\frac{n-1}{x_1x_n}$ (b) $\frac{n-1}{x_2x_{n-1}}$ (c) $\frac{n}{x_1x_n}$ (d) $\frac{n+1}{x_1x_n}$

52. If $\tan\theta = \frac{x\sin\phi}{1 - x\cos\phi}$ and $\tan\phi = \frac{y\sin\theta}{1 - y\cos\theta}$, then $\frac{x}{y} =$

(a) $\frac{\sin\phi}{\sin\theta}$ (b) $\frac{\sin\theta}{\sin\phi}$ (c) $\frac{\sin\theta}{1-\cos\theta}$ (d) $\frac{\sin\theta}{1-\cos\phi}$

53. If the point P(2, 1) lies on the line joining points A(4, 2) and B(8, 4), then

(a) $AP = \frac{1}{3}AB$ (b) $AP = AB$ (c) $PB = \frac{1}{3}AB$ (d) $AP = \frac{1}{2}AB$

54. If $a\cos\theta + b\sin\theta = m$ and $a\sin\theta - b\cos\theta = n$, then $a^2 + b^2 =$

(a) $m^2 - n^2$ (b) m^2n^2 (c) $n^2 - m^2$ (d) $m^2 + n^2$

55. The two opposite vertices of a square are (–1, 2) and (3, 2). Let the coordinates of other two vertices are (a, b) and (c, d). Then $\max\{a, b, c, d\}$ is

(a) 1 (b) 4 (c) 7 (d) 8

56. If α and β are the zeroes of the quadratic polynomial $f(x) = kx^2 + 4x + 4$ such that $\alpha^2 + \beta^2 = 24$, then

(a) $k = 1$ (b) $k = -1$ (c) $k = \frac{2}{3}$ (d) Both (b) and (c)

57. If $u_n = \cos^n\theta + \sin^n\theta, 2u_6 - ku_4 + 1 = 0$, then numerical quantity k must be equal to

(a) 0 (b) 1 (c) 2 (d) 3

58. If $\frac{1}{(x-1)(x-2)} + \frac{1}{(x-2)(x-3)} + \frac{1}{(x-3)(x-4)} = \frac{1}{6}$, then the absolute (numerical) value of the product of all integral solution is

(a) 72 (b) 14 (c) 94 (d) 26

59. The value of x and y if $x+3, y+7, x+y+8, x+3y+20$ are in A.P. respectively are

(a) $\frac{-5}{3}, \frac{-19}{3}$ (b) $\frac{5}{3}, \frac{19}{3}$ (c) $\frac{5}{3}, \frac{-19}{3}$ (d) $-\frac{5}{3}, \frac{19}{3}$

60. The centroid of a triangle, mid points of whose sides are (4, 4), (7, 5) and (5, 6) is:

(a) $G\left(\frac{16}{3},5\right)$ (b) $G\left(5,\frac{16}{3}\right)$ (c) $G\left(\frac{16}{3},6\right)$ (d) None of these

61. If S_n denotes the sum of first n terms of an A.P., then $S_{n+3}-3S_{n+2}+3S_{n+1}-S_n =$

(a) 0 (b) 1 (c) $\frac{1}{2}$ (d) 2

62. In the system of equations $x(y+z)=14$, $y(z+x)=18$ and $z(x+y)=20$, the values of x, y and z will be

(a) ±2, ±3 and ±4 (b) ±3, ±4 and ±2 (c) ±2, ±4 and ±3 (d) ±4, ±2 and ±3

63. If product of the roots of the quadratic equation $mx^2-2x+(2m-1)=0$ is 3, then the value of m is

(a) 1 (b) 2 (c) –1 (d) 3

64. If $a_1,a_2,a_3,.....,a_n$ are in A.P., where $a_i>0$ for all $i\in N$, then

$$\frac{1}{\sqrt{a_1}+\sqrt{a_2}}+\frac{1}{\sqrt{a_2}+\sqrt{a_3}}+....+\frac{1}{\sqrt{a_{n-1}}+\sqrt{a_n}}=$$

(a) $\sqrt{a_1}-\sqrt{a_n}$ (b) $\frac{\sqrt{a_1}-\sqrt{a_n}}{n-1}$ (c) $\frac{n-1}{\sqrt{a_1}+\sqrt{a_n}}$ (d) All of these

65. The ratio in which the point $C\left(\frac{3}{5},\frac{11}{5}\right)$ divides the line segment joining the points $A(3,5)$ *and* $B(-3,-2)$ is

(a) 2 : 3 (b) 3 : 4 (c) 3 : 5 (d) 4 : 5

66. $\sqrt{\frac{1-\sin\theta\left(\sin\theta+\cos^2\theta\right)}{1+\sin\theta}}+\sqrt{\frac{1-\sin\theta\left(\sin\theta-\cos^2\theta\right)}{1-\sin\theta}},(0°<\theta<90°)$, is equals to:

(a) 0 (b) 1 (c) 2 (d) 3

67. If $x<1, y<-1$, then $(x-1, y-3)$ lies in

(a) Q_3 (b) Q_4 (c) Q_2 (d) Q_1

68. If A and B are acute angles such that $\sin(A-B)=0$ and $2\cos(A+B)-1=0$ then A=

(a) 2 (b) 0 (c) 3 (d) 5

69. The value of $\sqrt{6+\sqrt{6+\sqrt{6+.....\infty}}}$ is

(a) 4 (b) 3 (c) –2 (d) 3.5

70. If $\cot\theta=\frac{15}{8}$, then $\frac{(2+2\sin\theta)(1-\sin\theta)}{(1+\cos\theta)(2-2\cos\theta)}=$

(a) $\frac{64}{225}$ (b) $\frac{225}{64}$ (c) $\frac{64}{289}$ (d) $\frac{289}{64}$

71. If the equation $x^2+4x+k=0$ has real and distinct roots, then

(a) $k<4$ (b) $k>4$ (c) $k\geq 4$ (d) $k\leq 4$

72. If $\sqrt{\frac{x}{1-x}}+\sqrt{\frac{1-x}{x}}=\frac{13}{6}$, then x is

(a) $\frac{13}{4},5$ (b) $\frac{4}{13},\frac{9}{13}$ (c) $\frac{4}{13},6$ (d) None of these

73. If A and B are acute angles such that $\sin(A-B)=0$ and $2\cos(A+B)-1=0$ then $A=$

(a) 30° (b) 15° (c) 45° (d) 60°

74. If $\sin x+\cos ecx=2$, then $\sin^8 x+co\sec^8 x=$

(a) 0 (b) 1 (c) –1 (d) 2

75. Let α and β are roots of $\frac{a}{ax-1}+\frac{b}{bx-1}=a+b$, then the value of $\alpha+\beta-\frac{a^2+b^2+4ab}{ab(a+b)}$ is

(a) $\frac{a-b}{ab}$ (b) 0 (c) $\frac{a+b}{a-b}$ (d) $\frac{a+b}{ab}$

76. A fraction is such that if the numerator is multiplied by 3 and the denominator is reduced by 3, we get $\frac{18}{11}$, but if the numerator is increased by 8 and the denominator is doubled, we get $\frac{2}{5}$. Then the fraction is.

(a) $\frac{11}{3}$ (b) $\frac{12}{25}$ (c) $\frac{11}{17}$ (d) $\frac{11}{19}$

77. The angle of elevation of the top of a tower from the top and bottom of a building of height 'a' are 30° and 45° respectively. If the tower and the building stand at the same level, the height of the tower is

(a) $a\sqrt{3}$ (b) $a(\sqrt{3}-1)$ (c) $\frac{a(3+\sqrt{3})}{2}$ (d) $a(\sqrt{3}+1)$

78. If α, β are the zeroes of polynomial $f(x)=x^2-p(x+1)-c$, then $(\alpha+1)\beta+\alpha=$

(a) $c-1$ (b) $-c$ (c) c (d) $1+c$

79. If $\sin\theta-\cos\theta=0$, then the value of $\sin^4\theta+\cos^4\theta$ is:

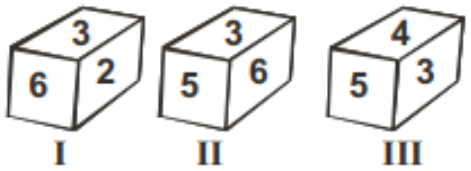
(a) 1 (b) $\frac{1}{2}$ (c) $\frac{1}{4}$ (d) $\frac{3}{4}$

80. If $(x-1)$ is a factor of polynomial $f(x)$ but not of $g(x)$, then it must be a factor of

(a) $f(x)g(x)$ (b) $-f(x)+g(x)$ (c) $f(x)-g(x)$ (d) $[f(x)-g(x)]g(x)$

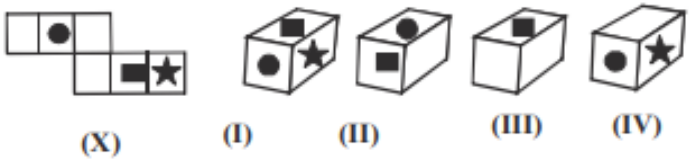
REASONING

81. What will be the digit opposite to 2 in the given three dices?



(a) 1 (b) 4 (c) 5 (d) Cannot be determined

82. Study the figure and identify the correct dice formed by that figure.



(a) I and II only (b) II, III and IV only (c) IV only (d) III and IV only

Direction Questions (83 to 84): A, B, C, D and E are members of the same family. There are two fathers, two sons, two wives three males and two females. The teacher was the wife of a lawyer who was the son of a doctor. E is not a male, neither also a wife of a professional. C is the youngest person in the family and D is the eldest. B is a male.

83. How is D related to E?

(a) Husband (b) Son (c) Father (d) Wife

84. Who are the females in the group?

(a) C and D (b) C and E (c) E and A (d) D and E

85. **Statements:** $L = P \leq M \leq V \leq A$, $Q \geq R = N > P$

Conclusions: I. $Q > L$ II. $N \leq A$

(a) Only Conclusion I follow

(b) Either Conclusion I or Conclusion II follows

(c) Only Conclusion II follow

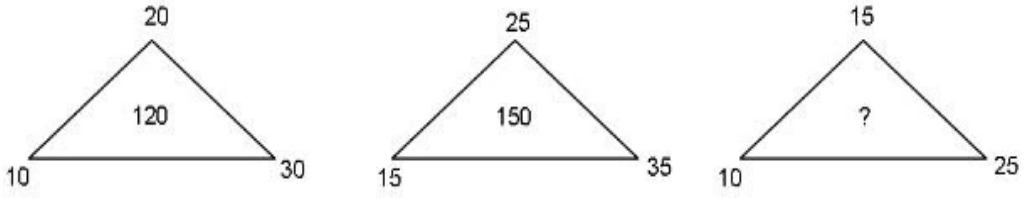
(d) Both Conclusion I and Conclusion II follow

86. Which of the following will replace the Question mark (?) in the problem given below?



(a) 500 (b) 625 (c) 529 (d) 400

87. Insert the missing number in the given figure.



(a) 50 (b) 40 (c) 60 (d) 100

88. If LSJXVC is the code for MUMBAI, the code for DELHI is _____.

(a) CCIDD (b) CDKGH (c) CCJFG (d) CCIFE

89. If 'ZERO' is written as 'CHUR', then how is 'PLAYER' written?

(a) SOCAGT (b) SODBGT (c) SODBHT (d) SODBHU

90. What will come on the place of Question mark (?)

10, 14, 26, 42, 70, ?

(a) 100 (b) 102 (c) 106 (d) 114

91. The letters of the word "COMPREHENSION" are arranged alphabetically in reverse order. How many positions of the letter/letters will remain unchanged?

(a) None (b) One (c) Two (d) Three

92. If in a certain code, 'POT' is written as ATOP and 'TRAP' is written as APART, then how is 'ARENA' written in that code?

(a) AARENA (b) AANREA (c) AANEAR (d) AANERA

93. Which letter will come 4th to the left of 12th from left ?

(a) J (b) L (c) H (d) F

94. Find the wrong term.

1236, 2346, 3456, 4566, 5686

(a) 1236 (b) 3456 (c) 4566 (d) 5686

95. If A interchanges position with B, similarly C and D interchange positions and so as E and F and so on upto Y and Z, then which of the following will be seventh from the left?

(a) A (b) F (c) I (d) None of these

Direction Questions (96 & 97): Seven boys A, D, Y, U, P, Q and J live in three different buildings – Ashiana, Top-view and Ridge. Each of them is flying kites of different colours i.e. red, green, blue white, black, yellow and pink, not necessarily in that order. Not more than three or less than two stay in any of the buildings. Q is flying a pink and does not live in Ridge building. U does not live in the same building as A or P and is flying a yellow coloured kite. D lives in Ridge building with only one more person and is flying a green kite. None in the Top-view building flies a white kite. P does not fly a blue kite.

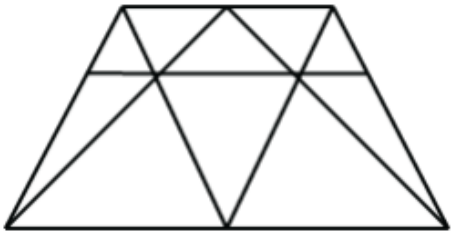
96. Who is flying the blue kite?

(a) A (b) J (c) P (d) Data inadequate

97. Who stay in Top-view building?

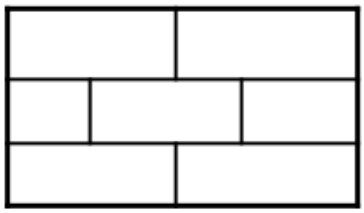
(a) Y, J, P (b) A, P (c) A, P, D (d) Y, U, J

98. How many triangles are there in the given figure?



(a) 18 (b) 19 (c) 20 (d) none of these

99. How many Rectangles are there in the given figure?



(a)13 (b) 14 (c) 15 (d)None of these

100. Which of the following set of letters when placed from left to right in the given blanks make the conclusion 'K ≤ N' definitely false?

K ≤ __ = __ < __ ≥ __ > P

(a) N, M, L, O (b) O, N, M, L (c) L, M, N, O (d) L, M, O, N

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