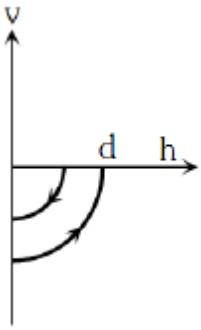
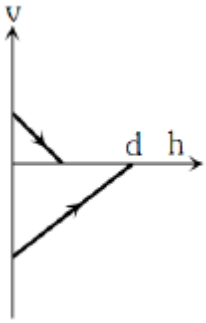
Sample Paper (Class – 12th Medical)

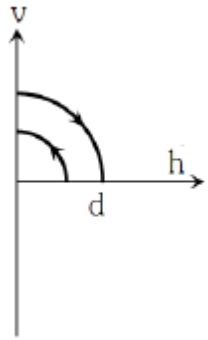
ISE Year - 2021

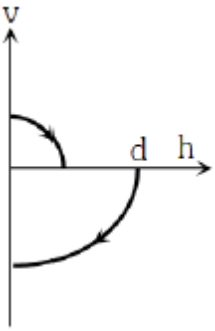
Physics

1. A ball is dropped vertically from a height d above the ground. It hits the ground and bounces up vertically to a height d/2. Neglecting subsequent motion and air resistance, its velocity v varies with the height h above the ground as

(1) 

(2) 

(3) 

(4) 

2. The gravitational force between two-point masses m_1 and m_2 at separation r is given by $F = k\frac{m_1 m_2}{r^2}$. The constant k

(1) depends on medium between masses only
(2) depends on system of units only
(3) depends on both (1) and (2)
(4) is independent of both (1) and (2)

3. The volume of a gas at 20°C is 200 ml. If the temperature is reduced to -20°C at constant pressure, its volume will be

(1)17.26 ml (2)19.27 ml
(3)172.6 ml (4)192.7 ml

4. Two bodies of mass 10 kg and 5 kg moving in concentric orbits of radii R and r such that their periods are the same. Then the ratio between their centripetal acceleration is

(1)r /R (2)R/r
(3) r^2/R^2 (4)R^2/r^2

5. If the angular momentum of a rotating body about a fixed axis is increased by 10%, its kinetic energy will be increased by

(1)5% (2)11%
(3)20% (4)21%

6. A small steel ball of radius r is allowed to fall under gravity through a column of a viscous liquid of coefficient of viscosity η. After some time, the velocity of the ball attains a constant value known as terminal velocity v_T. The terminal velocity depends on (i) the mass of the ball m, (ii) η, (iii) r and (iv) acceleration due to gravity g. Which of the following relations is dimensionally correct?

(1) $v_T \alpha \eta r m g$ (2) $\upsilon_T \propto \frac{mgr}{\eta}$

(3) $\upsilon_T \propto \frac{Mg}{\eta r}$ (4) $\upsilon_T \propto \frac{\eta r}{mg}$

7. If momentum is increased by 20%, then K.E. increases by

(1)77% (2)66%
(3)55% (4)44%

8. A wave represented by the given equation y = a cos(k x – ωt) is superposed with another wave to form a stationary wave such that the point x = 0 is a node. The equation for the other wave is

(1)y =–a sin(k x – ωt)
(2) y =–a cos(k x – ωt)
(3) y =–a cos(k x + ωt)
(4) y =–a sin(k x + ωt)

9. A particle experiences a constant acceleration for 20 seconds after starting from rest. If it travels a distance S_1 in the first 10 seconds and a distance S_2 in the next 10 seconds, then

(1) $S_1 = S_2$ (2) $S_1 = S_2 / 2$

(3) $S_1 = S_2 / 3$ (4) $S_1 = S_2 / 4$

10. The pressure on a square plate is measured by measuring the force on the plate and the length of the sides of the plate. If the maximum error in the measurement of force and length are respectively 4% and 2%, The maximum error in the measurement of pressure is

(1) 1% (2) 2%

(3) 4% (4) 8%

11. If the earth is treated as a sphere of radius R and mass M. Its angular momentum about the axis of rotation with period T is

(1) $\frac{4\pi MR^2}{5T}$ (2) $\frac{2\pi MR^2}{5T}$

(3) $\frac{MR^2\pi}{T}$ (4) $\frac{\pi MR^3}{T}$

12. The root mean square speed of hydrogen molecules at 300 K is 1930 m/s. Then the root mean square speed of oxygen molecules at 900 K will be

(1) 643m/s (2) 836m/s

(3) $1930\sqrt{3}\,m/s$ (4) $\frac{1930}{\sqrt{3}}\,m/s$

13. The mass and diameter of a planet have twice the value of the corresponding parameters of earth. Acceleration due to gravity on the surface of the planet is

(1) 4.9 m/s^2 (2) 9.8 m/s^2

(3) 19.6 m/s^2 (4) 490 m/s^2

14. A body of mass 40 kg having velocity 4 m/s collides with another body of mass 60 kg having velocity 2 m/s. If the collision is inelastic, then loss in kinetic energy will be

(1) 440 J (2) 392 J

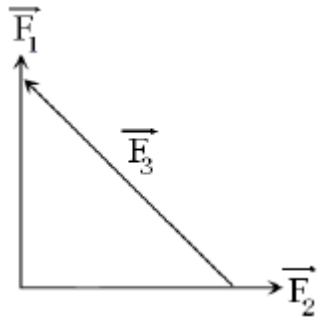
(3) 144 J (4) 48 J

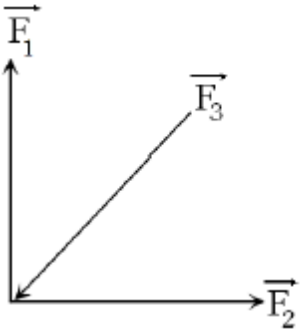
15. Radius of the curved road on national high way is R. Width of the road is b. The outer edge of the road is raised by h with respect to inner edge so that a car with velocity v can pass safe over it. The value of h is

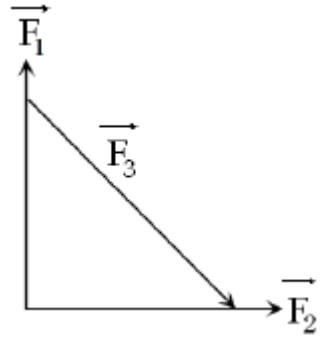
(1) $\frac{v}{Rgb}$ (2) $\frac{v^2b}{Rg}$

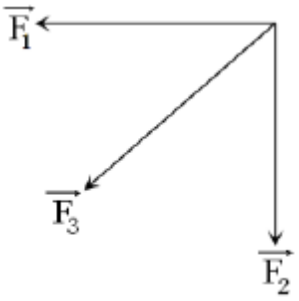
(3) $\frac{v^2b}{R}$ (4) $\frac{v^2R}{g}$

16. Which of the four arrangements in the figure correctly shows the vector addition of two forces $\vec{F}_1$ and $\vec{F}_2$ to yield the third force $\vec{F}_3$?

(1) 

(2) 

(3) 

(4) 

17. In C.G.S. system the magnitude of the force is 100 dynes. In another system where the fundamental physical quantities are kilogram, metre and minute, the magnitude of the force is

(1) 36 (2) 3.6

(3) 0.36 (4) 0.036

18. The kinetic energy of one mole gas at 300 K temperature, is E and at 400 K temperature kinetic energy is E' . The value of E'/E is

(1) 1.33 (2) 2

(3) $\sqrt{\left(\frac{4}{3}\right)}$ (4) $\frac{16}{9}$

19. The temperature of the hydrogen at which the average speed of its molecules is equal to that of oxygen molecules at a temperature of 31°C, is

(1) – 264°C
(2) – 254°C
(3) – 235°C
(4) – 216°C

20. One car moving on a straight road covers one third of the distance with 20 km/hr and the rest with 60 km/hr. The average speed is

(1) 36 km/hr
(2) 40 km/hr
(3) 60 km/hr
(4) 80 km/hr

21. A coin is dropped in a lift. It takes time t_1 to reach the floor when lift is stationary. It takes time t_2 when lift is moving up with constant acceleration. Then

(1) $t_1 = t_2$
(2) $t_1 > t_2$
(3) $t_2 > t_1$
(4) $t_1 >> t_2$

22. Two point objects of masses 1.5 g and 2.5 g respectively are at a distance of 16 cm apart, the centre of gravity is at a distance x from the object of mass 1.5 g where x is

(1) 3 cm
(2) 6 cm
(3) 10 cm
(4) 13 cm

23. A bullet is fired from a gun. The force on the bullet is given by $F = 600 - 2 \times 10^5 t$, where F is in Newton's and t in seconds. The force on the bullet becomes zero as soon as it leaves the barrel. What is the average impulse imparted to the bullet?

(1) 0.9 Ns
(2) 1.8 Ns
(3) 9 Ns
(4) Zero

24. A stone of mass m is tied to a string and is moved in a vertical circle of radius r making n revolutions per minute. The total tension in the string when the stone is at its lowest point is

(1) $m(g + \pi n r^2)$
(2) $m(g + \pi n r)$
(3) 1 mg
(4) $m\{g+(\pi^2 n^2 r) /900\}$

25. Two forces with equal magnitudes F act on a body and the magnitude of the resultant force is F/3. The angle between the two forces is

(1) $\cos^{-1}\left(\frac{8}{9}\right)$ (2) $\cos^{-1}\left(\frac{2}{3}\right)$

(3) $\cos^{-1}\left(-\frac{1}{3}\right)$ (4) $\cos^{-1}\left(-\frac{17}{18}\right)$

Chemistry

26. The amount of water that should be added to 500 ml of 0.5 N solution of NaOH to give a concentration of 10 mg per ml is

(1)500 (2)250

(3)200 (4)100

27. In an equilibrium reaction for which $\Delta G^0 = 0$, the equilibrium constant K =

(1)10 (2)2

(3)1 (4)0

28. The entropy change involved in the conversion of 1 mole of liquid water at 373 K to vapour at the same temperature will be [ΔH_{vap}= 2.257kJ/gm]

(1)0.129 kJ (2)0.120 kJ

(3)0.119 kJ (4)0.109 kJ

29. Which of the following glass is used in making wind screen of automobiles?

(1) Pyrex (2) Safety

(3) Jena (4) Crook's

30. The reaction of $Na_2S_2O_3$ with iodine gives

(1) sodium sulphate (2) sodium tetrathionate

(3) sodium sulphite (4) sodium sulphide

31. When the principal quantum number (n = 3), the possible values of azimuthal quantum number (l) is

(1)1, 2, 3 (2)- 2, - 1, 0, 1, 2

(3)0, 1, 2 (4)0, 1, 2, 3

32. In the ground state of cobalt atom (Z = 27), there are ___ unpaired electrons and thus the atom is_____.

(1)2, paramagnetic (2)2, diamagnetic
(3)3, paramagnetic (4)3, diamagnetic

33. In the equation PV = nRT, which one cannot be the numerical value of R?

(1)8.31atm.K^{-1} mol^{-1} (2)8.31 JK^{-1} mol^{-1}
(3)8.31 $\times$ 10^7 dyne cm $K^{-1}mol^{-1}$ (4)8.31 $\times$ 10^7 erg $K^{-1}mol^{-1}$

34. In P_4O_{10}, the number of oxygen atoms attached to each phosphorus atom is

(1) 4 (2) 3
(3) 2.5 (4) 2

35. 1.0 g of an oxide of A contained 0.5 g of A. 4.0 g of another oxide of A contained 1.6 g of A. Find the law indicated by the data

(1) Multiple proportions (2) Conservation of energy
(3) Constant proportions (4) Reciprocal proportions

36. Electronic configuration of ferric ion is

(1) [Ar] $3d^8$ (2) [Ar] $3d^3$
(3) [Ar] $3d^7$ (4) [Ar] $3d^5$

37. For the reaction, $CO_{(g)} + Cl_{2(g)} \rightleftharpoons COCl_{2(g)}$ the K_p/K_c is equal to

(1) $\sqrt{RT}$ (2) 1.0
(3) RT (4) 1/RT

38. The heat of reaction does not depend upon

(1) The method by which the final products are obtained from the reactants
(2) Whether the reaction is carried out at constant pressure or at constant volume
(3) Physical state of reactants and products
(4) Temperature of the reaction

39. Which of the following property displays progressive increase down a group in the modern periodic table?

(1) Electronegativity (2) Size of the atom
(3) Electron affinity (4) Ionization potential

40. The lattice energy of the lithium halides is in the following order

(1) LiI > LiBr > LiCl > LiF (2) LiBr > LiCl > LiF > LiI
(3) LiCl > LiF > LiBr > LiI (4) LiF > LiCl > LiBr > LiI

41. Oxidation state of oxygen in hydrogen peroxide is

(1) –2 (2) –1
(3) 0 (4) +1

42. Dimensions of pressure and _____ are same.

(1) force (2) force per unit volume
(3) energy (4) energy per unit volume

43. The number of electrons in the valence shell of calcium is

(1) 2 (2) 4
(3) 6 (4) 8

44. The characteristic oxidation number of atoms in free metals is

(1) zero. (2) minus one.
(3) one. (4) any number.

45. The correct value of the gas constant R is closed to

(1) 0.082 litre^{-1} atmosphere^{-1} K mol
(2) 0.082 litre^{-1} atmosphere^{-1} K mol^{-1}
(3) 0.082 litre atmosphere K^{-1} mol^{-1}
(4) 0.082 litre–atmosphere K

46. 32.2 gm $Na_2SO_4.10H_2O$ contains _____ gm of oxygen.

(1) 2.08 (2) 2.24
(3) 20.8 (4) 22.4

47. The number of electrons in $\left[{}^{40}_{19}\mathrm{K}\right]^{-1}$ is

(1) 40 (2) 20
(3) 19 (4) 18

48. The bond order in N_2^- ion is

(1) 3 (2) 2.5
(3) 2 (4) 1

49. On going left to right in a period, in transition metals, their atomic volumes

(1) increase (2) decrease
(3) remain same (4) none of these of correct

50. When a sulphur atom becomes a sulphide ion

(1) it gains two electrons
(2) there is no change in the composition of atom
(3) the mass number changes
(4) none of these

Biology

51. The wood of pinus is

(1)Pycnoxylic and heteroxylous
(2)Pycnoxylic and monoxylic
(3)Manoxylic and homoxylous
(4)Manoxylic and heteroxylous

52. In which animals a uricotelic mode of excreting nitrogenous wastes is found?

(1) Reptiles and birds
(2) Birds and annelids
(3) Insects and amphibians
(4) Amphibians and reptiles

53. Which enzyme is not present in succus entericus?

(1) Lipase (2) Nucleosidase
(3) Maltase (4) Nuclease

54. Which can function as carrier in active ion absorption?

(1) Ferredoxin
(2) Cytochrome
(3) Lecithin
(4) Plastoquinone

55. The volume of air left in the lungs after forceful expiration and after normal expiration is respectively known as

(1) residual volume and expiratory capacity
(2) vital capacity and functional residual capacity
(3) residual volume and functional residual capacity
(4) tidal volume and expiratory capacity

56. Aerenchyma is formed in the tissue of

(1) Phloem
(2) Parenchyma
(3) Sclerenchyma
(4) None of the above

57. Statement 1 : Otheca is formed in female Cockroach by the group of fertile eggs.
Statement 2 : Nymph of Cockroach grows with adult by undergoing moulting process several times.

(1) Both the statement 1 and the statement 2 are true and the statement 2 is a correct explanation of the statement 1
(2) Both the statement 1 and the statement 2 are true but the statement 2 is not a correct explanation of the statement 1
(3) The statement 1 is true but the statement 2 is false
(4) Both the statement 1 and statement 2 are false

58. Arrangement of petals in a flower during bud condition is

(1) Vernation
(2) Prefoliation
(3) Ptyxis
(4) Aestivation

59. Among the energy values of nutrients, 9.3 calories is that of

(1) Proteins
(2) Fats
(3) Carbohydrates
(4) Vitamins

60. Which is the central, structural atom in the primary photosynthetic pigments?

(1) Fe
(2) Mg
(3) Zn
(4) Cu

61. Which one of the following can photosynthesis its food?

(1) Euglena
(2) Monocystis
(3) Paramoecium
(4) Hydra

62. Grave's disease is characterized by the following except which one of the following?

(1) Enlargement of thyroid gland
(2) Deposition of fats in eye sockets
(3) Weight loss
(4) Weight gain

63. _____ phytohormones promotes male flowering and parthenocarpy

(1) Auxin
(2) Gibberellin
(3) Abscisic acid
(4) Cytokinin

64. The function of nervous tissue is

(1) Irritability
(2) Sensibility
(3) Contraction
(4) Responsiveness

65. In _____ myoglobin is present

(1) kidney
(2) heart
(3) muscles
(4) nerve cells

66. Identify the correct match between types of chromosomes and their descriptions

Chromosomes		Position of centromere	
A	Metacentric	1	At the tip
B	Submetacentric	2	Almost near the tip
C	Acrocentric	3	At the middle
D	Telocentric	4	Slightly away from the middle

(1)A-3, B-4, C-2, D-1
(2)A-1, B-2, C-3, D-4
(3)A-4, B-3, C-2, D-1
(4)A-1, B-3, C-2, D-4

67. In _____ cycles, O_2 is directly used.

(1) Oxidative decarboxylation
(2) Fermentation
(3) Electron transport chain
(4) Glycolysis

68. The transformation experiments on *Pneumococcus* showed that

(1) DNA is the genetic material
(2) RNA is the genetic material
(3) DNA can duplicate itself
(4) None of these

69. "Triploblastic, unsegmented, acoelomate exhibiting bilateral symmetry and reproducing both asexually and sexually with parasitic forms." The above description is characteristic of phylum

(1) Cnidaria
(2) Ctenophora
(3) Annelida
(4) Platyhelminthes

70. Which one of the following is a matching pair?

(1) Initiation of the heart beat Purkinje fibres
(2) Pulsation of the radial artery-valves in the blood vessels
(3) Lubb - sharp closure of AV valves at the beginning of ventricular systole
(4) Dupp - sudden opening of semi lunar valves at the beginning of ventricular diastole

71. If a highly purified of rat liver DNA is dissolved in pure water, what will be the pH of the resulting solution?

(1) Basic
(2) Acidic
(3) Neutral
(4) Highly basic

72. _____ is/are removed during hemodialysis

(1) Glucose
(2) Urea
(3) Amino acids
(4) All the above

73. Vascular bundles are derived from (originate from)

(1) Dermatogen
(2) Cortex
(3) Periderm
(4) Endogenous tissue the pro cambial strand or plerome

74. Which of the following pairs, is correctly matched?

(1) Fibrous joint - Between phalanges
(2) Gliding joint - Between zygapophyses of the successive vertebrae
(3) Cartilaginous joint - Skull bones
(4) Hinge joint - Between vertebrae

75. _____ elements is not remobilized in leaf.

(1) Phosphorus
(2) Nitrogen
(3) Potassium
(4) Calcium

76. Bryophytes differ from pteridophytes in

(1) Lack of vascular tissue
(2) Archegonia
(3) An independent gametophyte
(4) Swimming antherozoids

77. Match the name of scientist with his work

a	PPP(Pentose phosphate pathway)	i	Kuhne pathway
b	Demonstration of fermentation	ii	Kreb's
c	TCA cycle	iii	Warburg-Dickens pathway
d	Glycolysis	iv	Embden Mayerhof Parnas

(1) A-(i) B-(ii) C-(iv) D-(iii)
(2) A-(ii) B-(iv) C-(iii) D-(i)
(3) A-(i) B-(ii) C-(iii) D-(iv)
(4) A-(iii) B-(i) C-(ii) D-(iv)

78. "Plasma gel'' is the name of

(1) Endoplasm
(2) Ectoplasm
(3) Protoplasm
(4) None of these

79. _____ is not the function of insulin

(1) Initiates the formation of hepatic glycogen from excess of glucose
(2) Increases the oxidation of glucose in the cells
(3) Initiates the conversion of glycogen to glucose
(4) Increases the permeability of cell membrane to glucose

80. The homologous chromosomes follow the process of synapsis in the stage or Pairing of homologous chromosome takes place in

(1) Zygotene (2) Leptotene
(3) Diplotene (4) Pachytene

81. Levitt performed experiments. He observed that auxin treated cells were able to absorb water even when kept in hypertonic solution. Which explains this observation best?

(1) Auxin increases the solute potential of cells
(2) Auxin treated cells lose selective permeability
(3) Auxin lowers the water potential of cells
(4) ATP production increases and therefore much energy is available for active absorption

82. Match items in column I with those give in column II

Column I		Column II	
A	Limbless reptile	i	Lamprey
B	Jawless vertebrate	ii	Salamander
C	Amphibian	iii	Snake
D	Cartilaginous fish	iv	Shark
E	Flightless bird	v	Ostrich

(1) (A) - (ii), (B) - (i), (C) - (iii), (D) - (iv), (E) - (v)
(2) (A) - (i), (B) - (ii), (C) - (iii), (D) - (iv), (E) - (v)
(3) (A) - (iii), (B) - (i), (C) - (ii), (D) - (iv), (E) - (v)
(4) (A) - (v), (B) - (ii), (C) - (iii), (D) - (iv), (E) - (i)

83. Mark the true statement about RBCs in humans.

(1) They carry about 20-25 per cent of CO_2
(2) They transport 99.5 per cent of O_2
(3) They do not carry CO_2 at all
(4) They transport about 80 per cent oxygen only and the rest 20 per cent of it is transported in dissolved state in blood plasma.

84. In Albugo, the food reserve is mostly

(1) Volutin granules (2) Glycogen
(3) Protein granules (4) Fat

85. _____ vitamins is not fat soluble

(1) A (2) B
(3) E (4) D

86. In monoadelphous condition, stamens have

(1) Filaments of all united in one group but anthers are free
(2) Filaments united in groups but all anthers are free
(3) Both anthers and filaments are fused
(4) Anthers are fused but filaments are free

87. The blood cells that can engulf bacteria by phagocytosis are

(1) Neutrophils and Lymphocytes
(2) Basophils and Lymphocytes
(3) Neutrophils and Monocytes
(4) Eosinophils and Basophils

88. Maltose, lactose and sucrose are

(1) Monosaccharides (2) Polysaccharides
(3) Disaccharides (4) Trisaccharides

89. Active absorption is affected by

(1) Osmotic concentration
(2) Associate tissue structures
(3) Sucking capacity of root hair
(4) Transpiration

90. Blackman demonstrated that increasing illumination increased the photosynthetic rate up to a point when CO_2 becomes limiting. If light was not limiting, temperature becomes limiting. Emerson found that maximum CO_2 fixation could be achieved with brief flashes of light. Mark the correct statement in the following.

(1) Only one factor can be limited in photosynthesis
(2) Photosynthesis consists of a light and dark reaction

(3) The trapping of light by chloroplast can occur only if CO_2 is present
(4) The trapping of light by chloroplast is temperature dependent

91. Which type of muscle fibre present in the wall of alimentary canal?

(1) Striped muscle fibre
(2) Smooth muscle fibre
(3) Cardiac muscle fibre
(4) Both (a)and (b)

92. Ciliated epithelium in vertebrates is present in

(1) Kidney and stomach
(2) Lymph vessels
(3) Buccal cavity and oviduct of frog
(4) Stomach and urinary tubules

93. Who proposed the "Cell theory''?

(1) Watson and Crick
(2) Schleiden and Schwann
(3) Mendel and Morgan
(4) Robert Hooke

94. Mosses and ferns are found in moist and shady places because both

(1) Do not need sunlight for photosynthesis
(2) Require presence of water for fertilization
(3) Depend for their nutrition on micro-organisms which cane survive only at low temperature
(4) Can not compete with sun-loving plants

95. Titin filament connects

(1) Actin filaments to Z-line
(2) Myosin filaments to Z-line
(3) Myosin filaments to M-line
(4) Actin filaments to myosin filaments

96. Main function of dictyosomes is

(1) Breakdown of fats
(2) Secretion
(3) Storage
(4) Respiration

97. Regions of root from base to root tip are

(1) Cell division zone - Elongation zone – Maturation zone
(2) Maturation zone - Elongation zone - Cell division zone
(3) Maturation zone - Cell division zone – Elongation zone
(4) Elongation zone - Cell division zone - Maturation zone

98. Statement 1: On stimulation, a muscle cell releases calcium ions (Ca^{2+}) from sarcoplasmic reticulum.
Statement 2: By reacting with a protein complex, calcium ions (Ca^{2+}) uncover active sites on the actin filaments.

(1) Both statement 1 and statement 2 are true and statement 2 is the correct explanation of statement 1.
(2) Both statement 1 and statement 2 are true but statement 2 is not the correct explanation of statement 1.
(3) Both statement 1 and statement 2 are false.
(4) Statement 1is true but statement 2 is false.

99. 'Pinetum' is _____

(1) garden with collection of conifers
(2) collection of seeds of conifers
(3) collection of books on conifers
(4) all of these

100. Reindeer moss is

(1) *Cladonia rangifera*
(2) *Sphagnum*
(3) *Marchantia*
(4) *None of these*

Mental Ability

101. 'A' introduces 'B' as the 'daughter of the only sister of his mother's husband'. How is B related to A?

(1) Daughter
(2) Sister
(3) Cousin
(4) Mother

102. Sailesh introduces Mahipal as the son of the only brother of his father's wife. How is Mahipal related to Sailesh.

(1) Cousin
(2) Son
(3) Maternal uncle
(4) Son in law

103. The respective ratio of the present age of *x* and *y* is 7:1. Four years ago the respective ratio of their age was 19:1. What will be *x's* age four years from now?

(1) 42 years (2) 38 years
(3) 46 years (4) 36 years

104. Father is five year older than mother and mother's age now is thrice the age of the daughter. The daughter is now 10 years old. What was father's age when the daughter is born?

(1) 20 years (2) 15 years
(3) 25 years (4) 30 years

105. When seen through a mirror, a clock shows 8:30. The correct time is

(1) 2:30 (2) 3:30
(3) 5:30 (4) 8:30

106. Arun facing East, he turns 90^{o} clockwise then again turns 45^{o} clockwise. Now 'Arun' is facing which direction.

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

107. Average marks of a candidate in 6 subjects is 52. His marks in 5 subjects are 60, 48, 36, 55 and 51. Find his marks in his 6^{th} subject.

(1) 48 (2) 62
(3) 58 (4) 52

108. The average marks obtained by Raghu in Hindi and science were 30 less than his marks in Hindi. He got 62 marks in science. Find his marks in Hindi.

(1) 120 (2) 122
(3) 124 (4) 118

109. The respective ratio of the present age of *x* and *y* is 7:1. Four years ago the respective ratio of their age was 19:1. *x* what will be *x* age four years from now?

(1) 42 years (2) 38 years
(3) 46 years (4) 36 years

110. When seen through a mirror, a clock shows 8:30. The correct time is

(1) 2:30 (2) 3:30
(3) 5:30 (4) 8:30

111. By looking in a mirror, it appears that it is 6:30 in the clock. What is the real time?

(1) 6:30 (2) 5:30
(3) 6:00 (4) 5:30

112. Curd : Milk :: Table: ?

(1) Wood (2) Chair
(3) Coat (4) Tree

113. In a group of 7 people, the average age is found to be 17 years. Two more people joined with an average age 19 years. One person left the group whose age was 25 years. What is the new average age of the group?

(1) 17.5 years (2) 16.5 years
(3) 18 years (4) 16 years

114. A large cube is formed from the material obtained by melting three smaller cubes of sides 3 cm, 4 cm and 5 cm. What is the ratio of the total surface area of the smaller cubes to the large cube?

(1) 2 : 1 (2) 3 : 2
(3) 25 : 18 (4) 27 : 20

115. How many such pairs of digits are there in the number 421579368 each of which has as many digits between them in the number as when they are arranged in ascending order?

(1) None (2) One
(3) Two (4) Three

116. Line AB is 24 metres in length and is tangent to the inner one of the two concentric circles at point C. Points A and B lie on the circumference of the outer circle. It is known that the radii of the two circles are integers. The radius of the outer circle is

(1) 13 metres (2) 5 metres
(3) 7 metres (4) 4 metres

117. One-fifth of the boys and one-fourth of the girls in a class exclusively joined a swimming camp. Two-thirds of boys and three-fifths of girls exclusively joined a sports camp. If the total number of boys and girls in the class is 65, how many girls joined the sports camp?

(1) 12
(2) 4
(3) 16
(4) Can't be determined

118. The ratio of the ages of Anjali and Smita is 2:3. After 6 years the ratio of their ages becomes 5:7. What is the present age of Smita?

(1) 24 years
(2) 30 years
(3) 36 years
(4) 18 years

119. The profit percentage earned by selling a watch for Rs. 820 is as much as the loss percentage incurred when it is sold for Rs. 650. What is the cost price of the watch?

(1) Rs. 750
(2) Rs. 690
(3) Rs. 735
(4) Rs. 710

120. If you write down all the numbers from 1 to 100, then how many times do you write 3?

(1) 11
(2) 18
(3) 20
(4) 21

❑ ❑ ❑