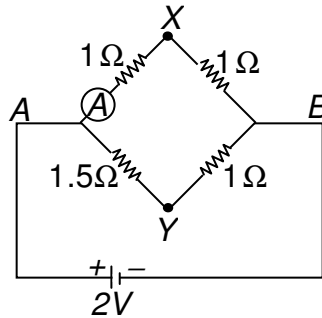


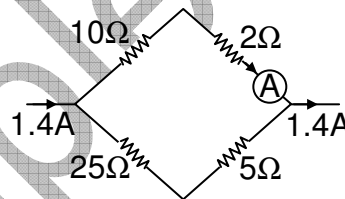
**PHYSICS**

**CHOOSE THE CORRECT OPTION:**

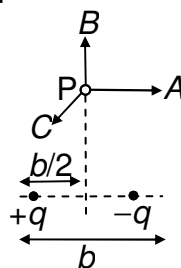
- Two copper wires, one of length 1 m and the other of length 9 m, are found to have the same resistance. Their diameters are in the ratio :  
(A) 3 : 1                      (B) 1 : 9                      (C) 9 : 1                      (D) 1 : 3
- Reading of ammeter in ampere for the following circuit is :



- (A) 0.8                      (B) 1                      (C) 0.4                      (D) 2
- An electric iron of heating element of resistance  $88\ \Omega$  is used at 220 volt for 2 hours. The electric energy spent, in unit, will be :  
(A) 0.8                      (B) 1.1                      (C) 2.2                      (D) 8.8
- You are given three bulbs 25 W, 40 W and 60 W. Which of them has the lowest resistance?  
(A) 25 watt bulb                      (B) 40 watt bulb                      (C) 60 watt bulb                      (D) insufficient data
- Reading of ammeter (A) in ampere .....



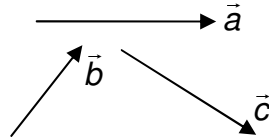
- (A) 0.4                      (B) 1                      (C) 0.6                      (D) 1.2
- The resistance of a wire of cross-section 'a' and length 'l' is R ohm. The resistance of another wire of the same material and of the same length but cross-section '4a' will be  
(A) 4R                      (B)  $\frac{R}{4}$                       (C)  $\frac{R}{16}$                       (D) 16R
- An electric current of 2.0 A passes through a wire of resistance  $25\ \Omega$ . How much heat (in joule) will be developed in 1 minute?  
(A) 6                      (B) 6000                      (C) 50                      (D) 10
- Two charges +q and -q are placed at a distance 'b' apart as shown in the figure below. The electric field at a point 'P' on the perpendicular bisector as shown as :



- (A) along vector  $\vec{A}$                       (B) along vector  $\vec{B}$   
(C) along vector  $\vec{C}$                       (D) Zero

9. The mass 'm' of the heaviest stone that can be moved by the water flowing in a river depends on 'v', the speed of water, density (d) of water and the acceleration due to gravity (g). Then 'm' is proportional to  
 (A)  $v^2$  (B)  $v^4$  (C)  $v^6$  (D)  $v^8$
10. For a body in a uniformly accelerated motion, the distance of the body from a reference point at time 't' is given by  $x = at + bt^2 + c$  where a, b and c are constants of motion. The dimensions of c are the same as those of  
 (A) x, at,  $bt^2$  (B)  $a/b$  (C) ab (D)  $b/a$

11. a, b and c are three vectors having magnitudes 8, 3 and 5 as shown in the figure. Then,



- (A)  $a = b + c$  (B)  $a > b + c$  (C)  $a < b + c$  (D) None of these
12. A vector  $A = a_x i + a_y j + a_z k$  has zero magnitude. Then,  
 (A)  $a_x + a_y = -a_z$  (B)  $a_x + a_z = 0, a_y = 0$   
 (C)  $a_x + a_y = 0, a_z = 0$  (D)  $a_x = a_y = a_z = 0$
13. Two particles having charges  $q_1$  and  $q_2$  when kept at a certain distance, exert force F on each other. If distance is reduced to half, force between them becomes :  
 (A)  $\frac{F}{2}$  (B)  $2F$  (C)  $4F$  (D)  $\frac{F}{4}$
14.  $\frac{4}{25}$  Coulomb of charge contains \_\_\_\_\_ electrons :  
 (A)  $10^{15}$  (B)  $10^{18}$  (C)  $10^{20}$  (D) None of these
15. There are three resistance  $5\Omega$ ,  $6\Omega$  and  $8\Omega$  connected in parallel to a battery of 15 V and of negligible resistance. The potential drop across  $6\Omega$  resistance is :  
 (A) 10 V (B) 15 V (C) 20 V (D) 8 V
16. A body goes from A to B with a velocity of  $40 \text{ kmh}^{-1}$  and returns from B to A with a velocity of  $60 \text{ kmh}^{-1}$ . What is the average velocity of the body during the whole journey ?  
 (A)  $50 \text{ kmh}^{-1}$  (B)  $45 \text{ kmh}^{-1}$  (C)  $55 \text{ kmh}^{-1}$  (D) zero
17. A stone is dropped from a height of 125 m. If  $g = 10 \text{ ms}^{-2}$ , what is the ratio of the distances travelled by it during the first and the last second of its motion ?  
 (A) 1 : 9 (B) 2 : 9 (C) 1 : 3 (D) 4 : 9
18. The angle between two vectors A and B is  $\theta$ . Vector R is the resultant of the two vectors. If R makes an angle  $\frac{\theta}{2}$  with A, then  
 (A)  $A = 2B$  (B)  $A = \frac{B}{2}$  (C)  $A = B$  (D)  $AB = 1$
19. A body moves from a position  $r_1 = (2\hat{i} - 3\hat{j} - 4\hat{k})$  metre to a position  $r_2 = (3\hat{i} - 4\hat{j} + 5\hat{k})$  metre under the influence of a constant force  $F = (4\hat{i} + \hat{j} + 6\hat{k})$  Newton. The work by the force is  
 (A) 60 J (B) 59 J (C) 58 J (D) 57 J

20. A stone is dropped from the top of a tower. The height through which it falls in the first 3 seconds of its motion equals the height through which it falls in the last second of its motion. If  $g = 10 \text{ ms}^{-2}$ , how long does the stone take to reach the ground?

- (A) 4 s                      (B) 5 s                      (C) 6 s                      (D) 7 s

21. In Q. 20, what is the height of the tower ?

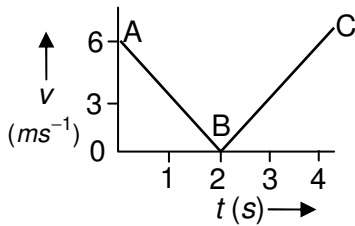
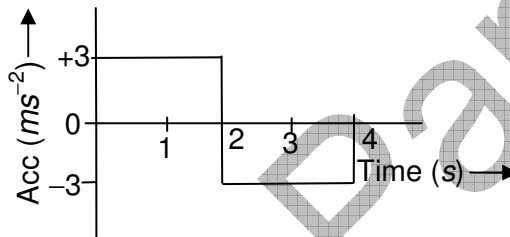
- (A) 75 m                      (B) 100 m                      (C) 125 m                      (D) 150 m

22. A ball is thrown vertically downward with a velocity ' $u$ ' from the top of a tower. It strikes the ground with a velocity  $3u$ . The time taken by the ball to reach the ground is given by

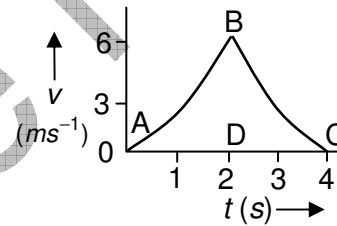
- (A)  $\frac{u}{g}$                       (B)  $\frac{2u}{g}$                       (C)  $\frac{3u}{g}$                       (D)  $\frac{4u}{g}$

23. A body starts from rest at time  $t = 0$  and undergoes an acceleration as shown in figure.

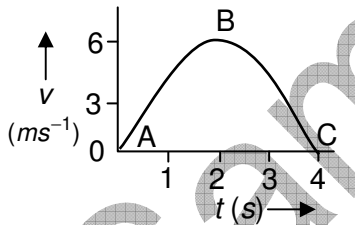
Which of the graph represents the velocity-time ( $v - t$ ) graph of the motion of the body from  $t = 0 \text{ s}$  to  $t = 4 \text{ s}$  ?



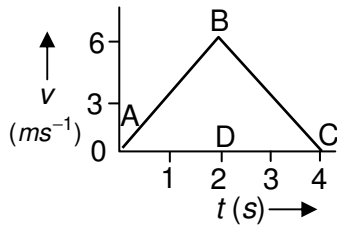
(A)



(B)



(C)



(D)

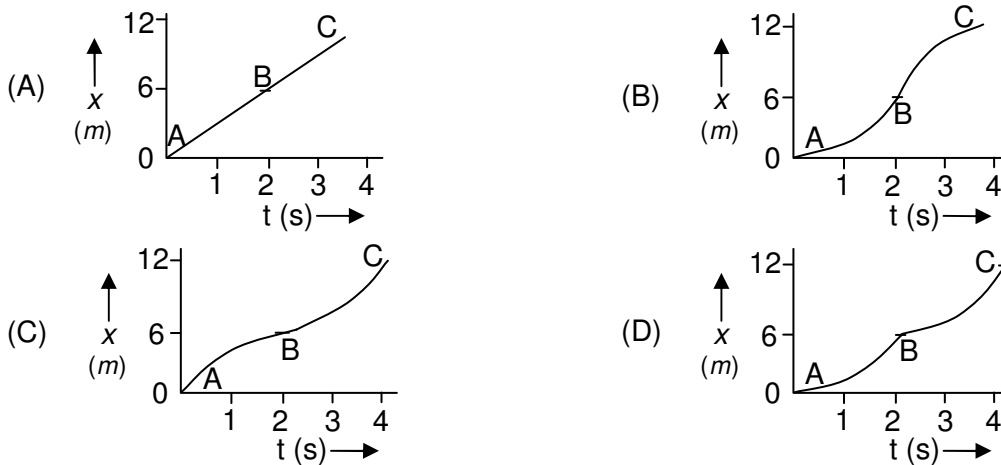
24. In Q. 23, what is the velocity of the body at time  $t = 2.5 \text{ s}$  ?

- (A)  $2.5 \text{ ms}^{-1}$                       (B)  $3.5 \text{ ms}^{-1}$                       (C)  $4.5 \text{ ms}^{-1}$                       (D)  $5.5 \text{ ms}^{-1}$

25. In Q. 23, how much distance does the body cover from  $t = 0$  to  $t = 4 \text{ s}$  ?

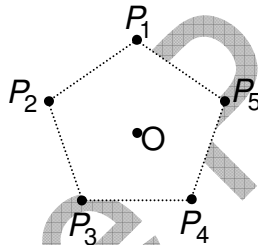
- (A) 6 m                      (B) 9 m                      (C) 12 m                      (D) 15 m

26. In Q. 23, which of the graph represents the displacement-time ( $x - t$ ) graph of the motion of the body from  $t = 0$  s to  $t = 4$  s ?



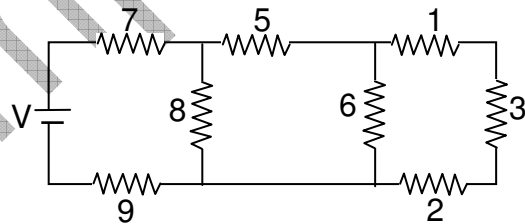
27. 5 charges each of magnitude  $10^{-5} C$  and mass  $1 kg$  are placed (fixed) symmetrically about a movable central charges of magnitude  $5 \times 10^{-5} C$  and mass  $0.5 kg$  as shown. The charges at  $P_1$  is removed. The acceleration of the central charge is :

[Given  $OP_1 = OP_2 = OP_3 = OP_4 = OP_5 = 1 m$ ;  $\frac{1}{4\pi\epsilon_0} = 9 \times 10^9$  in SI units]



- (A)  $9 ms^{-2}$  upwards                      (B)  $9 ms^{-2}$  downwards  
 (C)  $4.5 ms^{-2}$  upwards                (D)  $4.5 ms^{-2}$  downwards

28. In the ladder network shown, current through the resistor  $3\Omega$  is  $0.25 A$ . The input voltage 'V' is equal to



- (A) 10 V                      (B) 20 V                      (C) 5 V                      (D)  $\frac{15}{2}$  V

29. A uniform wire of resistance  $R$  is uniformly compressed along its length, until its radius becomes ' $n$ ' times the original radius. Now, the resistance of the wire becomes :

- (A)  $R/n$                       (B)  $R/n^4$                       (C)  $R/n^2$                       (D)  $nR$

30. We are given ' $n$ ' resistors, each of resistance  $R$ . The ratio of the maximum to minimum resistance that can be obtained by combining them is

- (A)  $n^n$                       (B)  $n$                       (C)  $n^2$                       (D) None of these



## CHOOSE THE CORRECT OPTION:

31. The strongest hydrogen bond is present in  
 (A)  $H - F \cdots H - F$  (B)  $H - O \cdots H - O$   
 (C)  $H - Cl \cdots H - Cl$  (D)  $H - N \cdots H - N$
32. Hybridisation of I in  $I_3^-$  is same as in  
 (A) I in  $ICl_2^+$  (B) I in  $ICl_4^-$  (C) Xe in  $XeOF_4$  (D) Xe in  $XeO_2F_2$
33. Rate of diffusion of nitrogen gas is 9 ml/sec and for another gas 'X', the rate of diffusion is 6 ml/sec. Molecular weight of X is  
 (A) 63 (B) 126 (C) 31.5 (D) 56
34. At different pressures, the rate of diffusion of two gases is given by  
 (A)  $\frac{r_1}{r_2} = \frac{P_1}{P_2} \sqrt{\frac{M_1}{M_2}}$  (B)  $\frac{r_1}{r_2} = \frac{P_1}{P_2} \sqrt{\frac{M_2}{M_1}}$  (C)  $\frac{r_1}{r_2} = \sqrt{\frac{P_1 M_1}{P_2 M_2}}$  (D)  $\frac{r_1}{r_2} = \sqrt{\frac{P_1 M_2}{P_2 M_1}}$
35. A vessel is filled with a mixture of oxygen and nitrogen. At what ratio of the partial pressure will the masses of the gases be identical  
 (A)  $P_{O_2} = P_{N_2}$  (B)  $P_{O_2} = 0.5 P_{N_2}$  (C)  $P_{O_2} = 0.875 P_{N_2}$  (D)  $P_{O_2} = 1.14 P_{N_2}$
36. At what temperature, the average velocity of helium atoms has the same average velocity as that of  $H_2$  molecules at  $0^\circ C$   
 (A)  $273^\circ C$  (B)  $37^\circ C$  (C) 273K (D)  $546^\circ C$
37. Density of oxygen gas at 1 atm pressure is 0.01429 g/c.c at a given temperature. The r.m.s. Velocity of oxygen is  
 (A)  $4.612 \times 10^4$  cm/s (B)  $1.45 \times 10^4$  cm/s  
 (C)  $4.612 \times 10^3$  cm/s (D)  $1.45 \times 10^3$  cm/s
38. Which of the following contains the maximum number of atoms?  
 (A) 1g of hydrogen (B) 2g of nitrogen (C) 4g of oxygen (D) 11g of carbondioxide
39. The density of a gas at STP is 1.5g / L at STP. Its molecular weight is  
 (A) 22.4 (B) 34.6 (C) 33.6 (D) 44.8
40. The mass of  $5 \times 10^{19}$  molecules of a hydrocarbon is 2.5 mg. The hydrocarbon is  
 (A)  $C_3H_8$  (B)  $C_2H_2$  (C)  $C_2H_6$  (D)  $C_2H_4$
41. The oxidation number of 'N' in  $HN_3$  is  
 (A) +1/3 (B) 0 (C) -1/3 (D) 1
42. How many atoms of carbon has a young man given to his bride to be if the engagement ring contains 0.5 carat diamond? (1 carat = 200 mg)  
 (A)  $6.023 \times 10^{23}$  (B)  $5.02 \times 10^{21}$  (C)  $3 \times 10^{21}$  (D)  $6 \times 10^{21}$
43. Which of the following is a redox reaction?  
 (A)  $NaCl + KNO_3 \rightarrow NaNO_3 + KCl$  (B)  $CaC_2O_4 + 2HCl \rightarrow CaCl_2 + H_2C_2O_4$   
 (C)  $Mg(OH)_2 + 2NH_4Cl \rightarrow MgCl_2 + 2NH_4OH$  (D)  $Zn + 2AgCN \rightarrow 2Ag + Zn(CN)_2$

44. Which one of the following can act as both an oxidizing and a reducing agent?  
 (A)  $\text{H}_2\text{S}$  (B)  $\text{H}_2\text{SO}_4$  (C)  $\text{HNO}_2$  (D)  $\text{HNO}_3$
45. According to Bohr's theory the radius of electron in an orbit described by principal quantum number  $n$  and atomic number  $Z$  is proportional to :  
 (A)  $Z^2n^2$  (B)  $\frac{Z^2}{n^2}$  (C)  $\frac{Z^2}{n}$  (D)  $\frac{n^2}{Z}$
46.  $\text{H}_3\text{PO}_4 + 2\text{KOH} \rightarrow \text{K}_2\text{HPO}_4 + 2\text{H}_2\text{O}$ , Based on this reaction equivalent weight of  $\text{H}_3\text{PO}_4$  is  
 (A) 196 (B) 98 (C) 49 (D) 32.67
47. The equivalent weight of  $\text{MnSO}_4$  is half of its molecular weight when it is converted to  
 (A)  $\text{Mn}_2\text{O}_3$  (B)  $\text{MnO}_2$  (C)  $\text{MnO}_4^-$  (D)  $\text{MnO}_4^{2-}$
48. 5 lit of  $\text{N}_2$  and 2 lit of  $\text{H}_2$  are reacted. The volume of ammonia formed (all volumes are measured under similar conditions)  
 (A) 2 lit (B) 3 lit (C) 1.33 lit (D) 5 lit
49. A compound contains 3% of carbon. The minimum molecular weight of the compound is  
 (A) 600 (B) 800 (C) 1000 (D) 300
50. The molecular weight of an organic compound is 180. Its empirical formula is  $\text{CH}_2\text{O}$ . The molecular formula is  
 (A)  $\text{C}_6\text{H}_{12}\text{O}_6$  (B)  $\text{C}_7\text{H}_{16}\text{O}_5$  (C)  $\text{C}_8\text{H}_4\text{O}_5$  (D)  $\text{C}_5\text{H}_8\text{O}_7$
51. The number of protons, electrons and neutrons in  $\text{SCN}^-$  radical are  
 (A) 30, 29, 29 (B) 29, 30, 29 (C) 29, 28, 31 (D) 30, 31, 29
52. The difference in angular momentum associated with the electron in two successive orbits of hydrogen atom is  
 (A)  $\frac{h}{2\pi}$  (B)  $\frac{h}{\pi}$  (C) zero (D) 1
53. The radii ratio of first orbits of  $\text{H}$ ,  $\text{He}^+$  and  $\text{Li}^{2+}$  is  
 (A) 1 : 2 : 3 (B) 6 : 3 : 2 (C) 1 : 1 : 1 (D) 1 : 4 : 9
54. Four particles A, B, C, D have masses 1 gm, 2 gm, 3 gm, 4 gm respectively. The ratio of their wave lengths; if they have equal momentum is  
 (A) 1 : 1 : 1 : 1 (B) 1 : 2 : 3 : 4 (C) 4 : 3 : 2 : 1 (D) 1 : 4 : 9 : 16
55. Which one of the following constitutes a group of the isoelectronic species?  
 (A)  $\text{C}_2^{2-}$ ,  $\text{O}_2^-$ ,  $\text{CO}$ ,  $\text{NO}$  (B)  $\text{NO}^+$ ,  $\text{C}_2^{2-}$ ,  $\text{CN}^-$ ,  $\text{N}_2$   
 (C)  $\text{CN}^-$ ,  $\text{N}_2$ ,  $\text{O}_2^{2-}$ ,  $\text{C}_2^{2-}$  (D)  $\text{N}_2$ ,  $\text{O}_2^-$ ,  $\text{NO}^+$ ,  $\text{CO}$
56. The electronic configurations for four elements A, B, C, D are  $1s^2; 1s^22s^22p^2$ ,  $1s^22s^22p^5$  and  $1s^22s^22p^6$  respectively. The tendency to form ionic bond is largest in  
 (A) A (B) B (C) C (D) D
57. Electronegativities of four elements A, B, C & D respectively 2.1, 3.0, 3.5, 4.0. Which one of the following bonds is more polar.  
 (A) A – B (B) A – C (C) A – D (D) B – C

58. In the dative bond formation between  $\text{NH}_3$  &  $\text{BF}_3$
- (A)  $\text{NH}_3$  is lewis acid  
 (B) Hybridisation of N changes from  $sp^2$  to  $sp^3$   
 (C) Hybridisation of B changes from  $sp^2$  to  $sp^3$   
 (D) Bond angle at N remains  $107^\circ.28'$
59. The formal charges on the three oxygen atoms in  $\text{O}_3$  molecule are
- (A) 0, 0, 0                      (B) 0, 0, -1                      (C) 0, 0, +1                      (D) 0, +1, -1
60. If Z - axis is the molecular axis, then  $\pi$  - molecular orbitals are formed by the overlap of
- (A)  $s + P_z$                       (B)  $P_x + P_y$                       (C)  $P_z + P_z$                       (D)  $P_x + P_x$

□□□

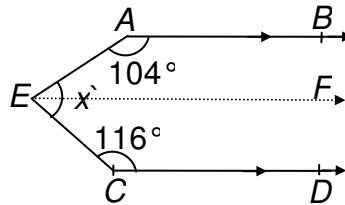
## MATHEMATICS

**CHOOSE THE CORRECT OPTION:**

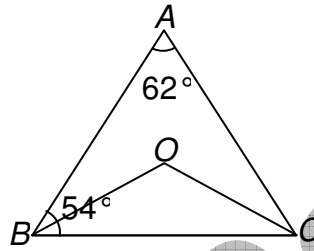
61. Simplify :  $\frac{x^a}{x^b} \cdot \frac{x^b}{x^c} \cdot \frac{x^c}{x^a}$
- (A) 2                      (B) 1                      (C) 5                      (D) 3
62. Given  $a^{\frac{1}{3}} + b^{\frac{1}{3}} + c^{\frac{1}{3}} = 0$ , then  $(a + b + c)^3 =$
- (A)  $27 abc$                       (B)  $64 abc$                       (C)  $36 abc$                       (D)  $9 abc$
63. Given that  $a^x(bc)^{-1} = a$ ,  $b^y(ca)^{-1} = b$  and  $c^z(ab)^{-1} = c$  then  $xyz - xy - yz - zx =$
- (A) 1                      (B) -1                      (C) 0                      (D) 2
64. If  $x = \sqrt{6 + \sqrt{6 + \sqrt{6 + \dots \infty}}}$ , then the root of this equation is :
- (A) 6                      (B) -6                      (C) 3                      (D) -2
65. The highest power of 7 in  $70!$  is :
- (A) 10                      (B) 11                      (C) 12                      (D) 13
66. Find the number of zeros in  $4^8 \cdot 5^{10}$ .
- (A) 10                      (B) 12                      (C) 11                      (D) 9
67. Find  $\angle ABC$ , if  $AB \parallel CD$  and  $BC \parallel ED$ , given  $\angle CDE = 160^\circ$
- (A)  $30^\circ$                       (B)  $15^\circ$                       (C)  $20^\circ$                       (D)  $10^\circ$
68. Given  $AB \parallel CD$  and  $EF$  is the transversal. If  $\triangle AEF$  is equilateral, find  $\angle DFG?$
- (A)  $130^\circ$                       (B)  $125^\circ$                       (C)  $110^\circ$                       (D)  $120^\circ$



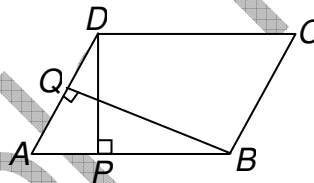
69. Find the value of  $x$  from figure in which  $AB \parallel CD$ .



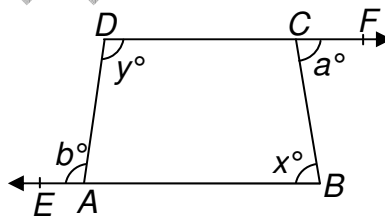
- (A)  $110^\circ$                       (B)  $140^\circ$                       (C)  $130^\circ$                       (D)  $120^\circ$
70. Two angles of a triangle are equal and the third angle is greater than each of these by  $30^\circ$ . Find the angles of the triangle.
- (A)  $50^\circ, 50^\circ, 80^\circ$                       (B)  $60^\circ, 30^\circ, 90^\circ$                       (C)  $45^\circ, 45^\circ, 90^\circ$                       (D) None of these
71. In the given figure,  $\angle A = 62^\circ$ ,  $\angle ABC = 54^\circ$ . If  $BO$  and  $CO$  are the bisectors of  $\angle B$  and  $\angle C$ , find  $\angle BOC$ .



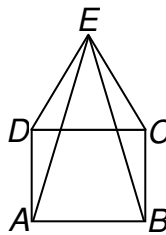
- (A)  $121^\circ$                       (B)  $120^\circ$                       (C)  $123^\circ$                       (D)  $125^\circ$
72. In the given figure,  $ABCD$  is a parallelogram  $DP \perp AB, BQ \perp AD$ . If  $DC = 14$  cm,  $DP = 9$  cm and  $BQ = 12$  cm. Find  $AD$ .



- (A) 10.6                      (B) 10.4                      (C) 10.7                      (D) 10.5
73. The sides  $BA$  and  $DC$  of quadrilateral  $ABCD$  are produced as shown in the figure below. Then  $x + y =$



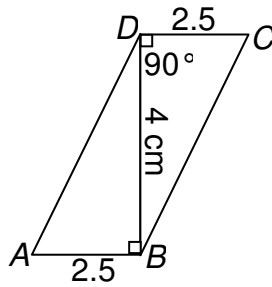
- (A)  $a - b$                       (B)  $b - a$                       (C)  $a + b$                       (D)  $a / b$
74.  $ABCD$  is a square and  $\triangle EDC$  is an equilateral triangle. Then  $\angle DAE$  is



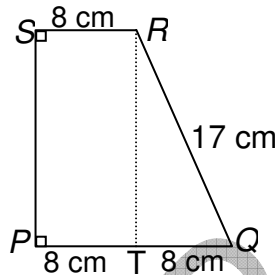
- (A)  $15^\circ$                       (B)  $14^\circ$                       (C)  $16^\circ$                       (D)  $13^\circ$



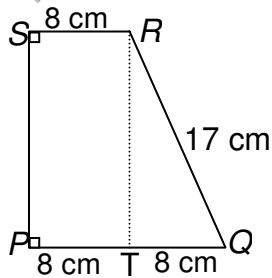
75.  $ABCD$  is a quadrilateral and  $BD$  is one of its diagonals; as shown in the figure quadrilateral  $ABCD$  is a parallelogram then find its area.



- (A) 10 sq. units      (B) 9 sq. units      (C) 11 sq. units      (D) None of these
76. The area of a rhombus is  $20 \text{ cm}^2$ . If one of its diagonals is 5 cm, the other diagonal is
- (A) 5 cm      (B) 6 cm      (C) 8 cm      (D) 10 cm
77. The area of trapezium  $PQRS$  in the adjoining figure is

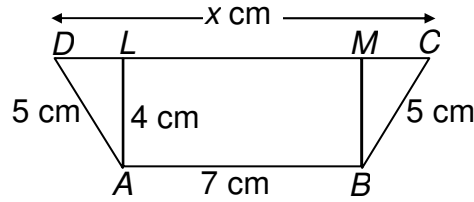


- (A)  $112 \text{ cm}^2$       (B)  $120 \text{ cm}^2$       (C)  $160 \text{ cm}^2$       (D)  $180 \text{ cm}^2$
78. The area of a trapezium whose parallel sides are 9 cm and 16 cm and the distance between these sides is 8 cm, is
- (A)  $60 \text{ cm}^2$       (B)  $72 \text{ cm}^2$       (C)  $56 \text{ cm}^2$       (D)  $100 \text{ cm}^2$
79. In  $\triangle ABC$ ,  $D$  is the midpoint of  $AB$ .  $P$  is any point of  $BC$ .  $CQ \parallel PD$  meets  $AB$  in  $Q$ . then  $ar(\triangle BPQ)$  is equal to
- (A)  $\frac{1}{3} ar(\triangle ABC)$       (B)  $\frac{1}{2} ar(\triangle ABC)$       (C)  $ar(\triangle ABC)$       (D)  $2ar(\triangle ABC)$
80. The area of trapezium  $PQRS$  is  $k \text{ sq. cm}$ . Then value of  $(k / 18) - 2$  is



- (A) 10      (B) 8      (C) 6      (D) 12
81.  $D$  is the mid-point of side  $BC$  of  $\triangle ABC$  and  $E$  is the mid-point of  $BD$ . If  $O$  is the mid-point of  $AE$ , then  $ar(\triangle BOE) = \frac{1}{k} ar(\triangle ABC)$ . Then  $k$  equals
- (A) 9      (B) 7      (C) 10      (D) 8

82. In the given figure,  $ABCD$  is a trapezium in which  $AB = 7$  cm,  $AD = BC = 5$  cm,  $DC = x$  cm, and distance between  $AB$  and  $DC$  is 4 cm. The area of trapezium  $ABCD$  is  $l$  sq. cm. The value of  $l/8$  is



- (A) 5 (B) 6 (C) 4 (D) 3
83.  $\sin^2 \frac{\pi}{18} + \sin^2 \frac{\pi}{9} + \sin^2 \frac{7\pi}{18} + \sin^2 \frac{4\pi}{9} =$   
 (A) 2 (B) 1 (C) 0 (D)  $1/2$
84.  $\tan 225^\circ \cdot \cot 405^\circ + \tan 765^\circ \cdot \cot 675^\circ =$   
 (A)  $1/\sqrt{2}$  (B)  $-1$  (C) 0 (D) None of these
85. If  $A, B, C, D$  be the angles of a cyclic quadrilateral, taken in order, then  $\cos(180^\circ - A) + \cos(180^\circ + B) + \cos(180^\circ + C) - \sin(90^\circ + D) =$   
 (A) 0 (B) 1 (C)  $1/2$  (D) None of these
86. If  $\cos \theta = -\frac{1}{2}$  and  $\pi < \theta < \frac{3\pi}{2}$ , find the value of  $4 \tan^2 \theta - 3 \operatorname{cosec}^2 \theta$   
 (A) 8 (B) 10 (C) 12 (D) 16
87. If  $\sec \theta = \sqrt{2}$  and  $\frac{3\pi}{2} < \theta < 2\pi$ , find the value of  $\frac{1 + \tan \theta + \operatorname{cosec} \theta}{1 + \cot \theta - \operatorname{cosec} \theta}$ .  
 (A) 1 (B) 0 (C)  $-1$  (D) None of these
88.  $\frac{1 - \sin A \cos A}{\cos A (\sec A - \operatorname{cosec} A)} \cdot \frac{\sin^2 A - \cos^2 A}{\sin^3 A + \cos^3 A} =$   
 (A)  $\sin A$  (B)  $\sin A \cos A$  (C)  $\frac{1}{\sin A \cos A}$  (D)  $\cos A$
89.  $3(\sin \theta - \cos \theta)^4 + 6(\sin \theta + \cos \theta)^2 + 4(\sin^6 \theta + \cos^6 \theta) - 13 =$   
 (A) 0 (B) 1 (C)  $-1$  (D) None of these
90. In  $\triangle ABC$ ,  $3\angle A = 2\angle B$  and  $2\angle A = \angle C$ . Find the angles of the triangle.  
 (A)  $30^\circ, 60^\circ, 90^\circ$  (B)  $40^\circ, 60^\circ, 80^\circ$  (C)  $45^\circ, 45^\circ, 90^\circ$  (D) None of these

□□□

## Answer Key

1. D	2. B	3. B	4. C	5. B	6. B	7. B	8. A	9. C	10. A
11. B	12. D	13. C	14. B	15. B	16. D	17. A	18. C	19. D	20. B
21. C	22. B	23. D	24. C	25. C	26. B	27. A	28. A	29. B	30. C
31. A	32. D	33. A	34. B	35. D	36. A	37. B	38. B	39. C	40. C
41. C	42. B	43. D	44. C	45. D	46. C	47. B	48. C	49. B	50. A
51. B	52. A	53. B	54. A	55. B	56. C	57. C	58. C	59. D	60. D
61. B	62. A	63. C	64. C	65. B	66. A	67. C	68. D	69. B	70. A
71. A	72. D	73. C	74. A	75. A	76. C	77. D	78. D	79. B	80. B
81. D	82. A	83. A	84. C	85. A	86. A	87. C	88. A	89. A	90. B

□□□