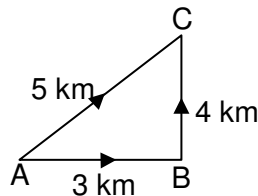


PHYSICS

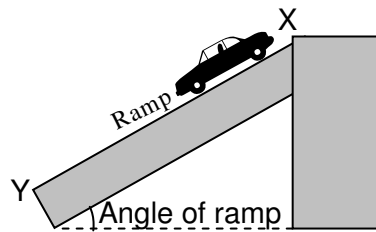
CHOOSE THE CORRECT OPTION:

01. Consider a person moving 3 km east of A. He then turns north and moves 4 km in total time 2 hours. (as shown in figure). Find his average speed



- (a) 3.5 km h^{-1} (b) 2.5 km h^{-1} (c) 1.5 km h^{-1} (d) 0.5 km h^{-1}
02. The ratio of SI units to CGS units of retardation is
(a) 10^{-2} (b) 10^2 (c) 10 (d) 10^{-1}
03. The second's hands of a watch is 2 cm long. The speed of the tip of this hand is
(a) 0.21 cm/s (b) 2.1 cm/s (c) 21.0 cm/s (d) None of these
04. A point object transverses half the distance with velocity v_0 . The remaining part of the distance was covered with velocity v_1 for the half the time and with velocity v_2 for the rest half. The average velocity of the object for the whole journey is
(a) $2v_1(v_0 + v_2) / (v_0 + 2v_1 + 2v_2)$ (b) $2v_0(v_0 + v_1) / (v_0 + v_1 + v_2)$
(c) $2v_0(v_1 + v_2) / (v_1 + v_2 + 2v_0)$ (d) $2v_2(v_0 + v_1) / (v_1 + 2v_2 + v_2)$
05. A person moves a certain distance in a certain time. If $1/3$ of the distance is covered in $2/3$ of the time with speed V_1 , and the rest of the $2/3$ distance in $1/3$ of the time with speed V_2 , then V_1/V_2 is
(a) $\frac{1}{2}$ (b) $\frac{1}{4}$ (c) $\frac{1}{9}$ (d) $\frac{2}{9}$
06. The ratio of distance travelled to the displacement covered by a body along circumference of a semicircle of radius r is
(a) $2 : \pi$ (b) $\pi : 2$ (c) $\pi : 3$ (d) $3 : \pi$
07. A body is in the state of rest on the surface of earth. Which of the following is a correct statements?
(a) Frictional force acts on the body
(b) Only the weight of body acts on it
(c) Only the reaction of the earth acts on it
(d) The weight of body acting downward is equal and opposite to the reaction of the earth.

08. A toy car is released from point X of the ramp and travels towards point Y. What is/are the forces responsible for pulling the car towards point Y?



- (i) Weight of the car
 - (ii) Earth's magnetic field
 - (iii) Frictional force between the wheels and the ramp
- (a) (i) only (b) (i) & (ii) only (c) (ii) & (iii) only (d) All of these

□□□

CHEMISTRY

CHOOSE THE CORRECT OPTION:

09. An atom is
- (a) the smallest particle of matter known
 - (b) the smallest particle of a gas
 - (c) the smallest indivisible particle of an element that can take part in a chemical change
 - (d) radioactive emission
10. An example of a liquid metal is _____ and that of a liquid non-metal is _____
- (a) gallium, mercury
 - (b) mercury, chlorine
 - (c) mercury, bromine
 - (d) bromine, sulphur
11. An atom which has a mass number of 14 and has 8 neutrons is an
- (a) isotope of oxygen
 - (b) isobar of oxygen
 - (c) isotope of carbon
 - (d) isobar of carbon
12. In the following equations $\text{Na}_2\text{CO}_3 + x\text{HCl} \rightarrow \text{NaCl} + \text{CO}_2 + \text{H}_2\text{O}$ the value of x is
- (a) 1
 - (b) 2
 - (c) 3
 - (d) 4
13. Destructive distillation of coal leads to the formation of
- (a) wood
 - (b) kerosene
 - (c) ammoniacal liquor
 - (d) charcoal
14. The zone which gives maximum heat in a candle flame is
- (a) luminous zone
 - (b) non-luminous zone
 - (c) dark zone
 - (d) blue zone
15. The decreasing order of inter particle forces of attraction in oxygen, gold, water is
- (a) oxygen > gold > water
 - (b) oxygen < gold < water
 - (c) gold > water > oxygen
 - (d) oxygen < water < gold
16. In gases, volume can change significantly by changing _____
- (a) pressure only
 - (b) temperature only
 - (c) either (a) or (b) or both
 - (d) none of these

□□□

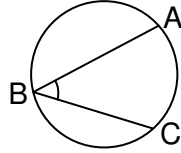
MATHEMATICS

CHOOSE THE CORRECT OPTION:

17. $(1.6)^2 + (0.4 \times 0.4) + 1.28 = \dots\dots$

- (a) 3 (b) 4 (c) 5 (d) 6

18. If $m\angle ABC = 50^\circ$, then find the measure of arc ABC.



- (a) 50° (b) 100° (c) 130° (d) 260°

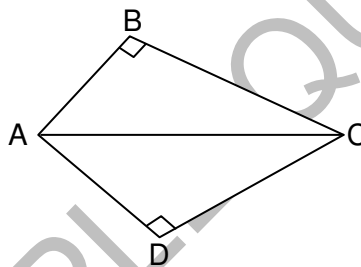
19. Average of runs, in a cricket match by Saurabh and Ajay is 48. If Saurabh would have made 20 runs more, then their average of runs would be:

- (a) 57 (b) 58 (c) 59 (d) 60

20. Deepti has Rs. 60 more than Manoj. If both are given Rs. 15 more, then the ratio of the amounts with them would be 7 : 19, then what was the amount with Manoj ?

- (a) Rs.20 (b) Rs.25 (c) Rs.10 (d) Rs.40

21. In $\square ABCD$; $l(AD) = 15$ cm, $l(BC) = 24$ cm, $l(DC) = 20$ cm, then $A(\square ABCD) = \dots$ sq. cm.

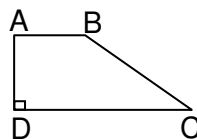


- (a) 432 (b) 342 (c) 324 (d) 234

22. The cost price of an article is Rs. X. If it is sold with a loss of 25%, its selling price is Rs. 4,500. Hence find the value of 'x'.

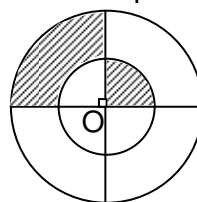
- (a) Rs.5,000 (b) Rs.5,500 (c) Rs.6,000 (d) Rs.7,000

23. In the following figure, $\square ABCD$ is a trapezium and side $AD \perp$ side DC . If $l(AD) = l(AB) = 12$ units, $l(BC) = 20$ units, then find $l(DC)$.



- (a) 28 units (b) 32 units (c) 64 units (d) 16 units

24. In the following figure, two concentric circles with radius 10 cm and 5 cm respectively are given. The area of the shaded portion is sq.cm.



- (a) $\frac{25}{4}\pi$ (b) 25π (c) $\frac{25}{2}\pi$ (d) 50π

□□□

Answer Key

	Physics		Chemistry		Mathematics
1	a	9	c	17	b
2	b	10	c	18	d
3	a	11	c	19	b
4	c	12	b	20	a
5	b	13	c	21	d
6	b	14	b	22	c
7	d	15	c	23	a
8	a	16	c	24	b

□□□