

NEW STANDARD ACADEMY

Marks: 30

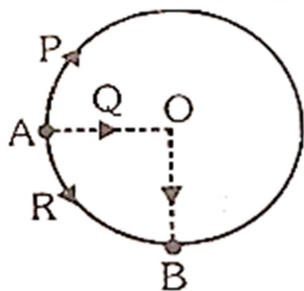
Date : 20-04-2026

CLASS : 11TH

Time: 2 hours

PHYSICS

- A man walks 30 m towards north, then 20 m towards east and in the last $30\sqrt{2}$ m towards south - west. The displacement from origin is :
(a) 10 m towards west
(b) 10 m towards east
(c) $60\sqrt{2}$ m towards north west
(d) $60\sqrt{2}$ m towards east north
- A body moves along the curved path of a quarter circle. Calculate the ratio of distance to displacement:
(a) 11 : 7
(b) 7 : 11
(c) $11 : \sqrt{2} \times 7$
(d) $7 : 11\sqrt{2}$
- Three particles P, Q and R are situated at point A on the circular path of radius 10 m. All three particles move along different paths and reach point B as shown in figure. Then the ratio of distance traversed by particles P and Q is



- (a) $\frac{3}{4}$
(b) $\frac{1}{3}$
(c) $\frac{3\pi}{4}$
(d) $\frac{\pi}{3}$
- If displacement of a particle is zero the distance covered:
(a) must be zero
(b) may or may not be zero
(c) cannot be zero
(d) depends upon the particle
- A drunkard is walking along a straight road. He takes 5 steps forward and 3 steps backward, followed steps forward and 3 steps backward and so on. Each step is one meter long and takes one second. There is a pit on the road 11 meters away from the starting point. The drunkard will fall into the pit after:
(a) 29s
(b) 21 s
(c) 37 s
(d) 31s

- The magnitude of average velocity is equal to the average speed when a particle moves:
(a) on a curved path
(b) in the same direction
(c) with constant acceleration
(d) with constant retardation
- A body covers one-third of the distance with a velocity v_1 the second one-third of the distance with a velocity v_2 and the last one-third of the distance with a velocity v_3 . The average velocity is:
(a) $\frac{v_1+v_2+v_3}{3}$
(b) $\frac{3v_1v_2v_3}{v_1v_2+v_2v_3+v_3v_1}$
(c) $\frac{v_1v_2+v_2v_3+v_3v_1}{3}$
(d) $\frac{v_1v_2v_3}{3}$
- A particle moves in the east direction with 15 m/sec for 2 sec then northwards with 5 m/s for 8 sec. Average speed of the particle is :-
(a) 1 m/s
(b) 5 m/s
(c) 7 m/s
(d) 10 m/s
- A car travels a distance d on a straight road in two hours and then returns to the starting point in next three hours. Its average speed is:
(a) $d/5$
(b) $2d/5$
(c) $d/2 + d/3$
(d) none of these
- Select the incorrect statements from the following.
S1: Average velocity is path length divided by time interval.
S2: In general, average speed is greater than the magnitude of the average velocity
S3. A particle moving in a given direction with a non-zero velocity can have zero speed.
S4. The magnitude of average velocity is the average speed.
(a) S2 and S3
(b) S1 and S4
(c) S1, S3 and S4
(d) All four statements

CHEMISTRY

11. On rounding off the values 2.645 and 2.643, values obtained respectively are:
(a) 2.64, 2.64 (b) 2.65, 2.64
(c) 2.66, 2.64 (d) 2.64, 2.63
12. Electrons present in 1.6 gram of methane :
(a) 6.02×10^{21} (b) 6.02×10^{22}
(c) 6.02×10^{23} (d) 6.02×10^{24}
13. 0.50 mole of BaCl_2 and 0.20 mole of Na_3PO_4 are made to react, moles of $\text{Ba}_3(\text{PO}_4)_2$ formed are:
(a) 0.10 (b) 0.70
(c) 0.20 (d) 0.50
14. What volume of CO_2 is obtained at STP on complete decomposition of 9.85 gram BaCO_3 , (Molar mass of $\text{BaCO}_3=197$)
(a) 0.84 L (b) 2.24 L
(c) 4.06 L (d) 1.12 L
15. For a solution, which does not depend upon temperature?
(a) Molarity (b) Normality
(c) Formality (d) Molality
16. Mole fraction of methanol (CH_3OH) in its 5.2 molal aqueous solution:
(a) 0.10 (b) 0.086
(c) 0.19 (d) 0.05
17. $\text{Fe}_2\text{O}_3 + 3\text{H}_2 \rightarrow 3\text{H}_2\text{O} + 2\text{Fe}$
Mass of iron obtained by the reduction of one kilogram of ferric oxide: ($\text{Fe}_2\text{O}_3 = 160$, $\text{Fe} = 56$)
(a) 0.7 kg (b) 0.07 kg
(c) 0.14 kg (d) 0.28 kg
18. $2\text{A} + 3\text{B} \rightarrow \text{A}_2\text{B}_3$
One mole of A and one mole of B are made to react according to the above chemical equation. Moles of A_2B_3 formed are:
(a) 0.5 (b) 0.33
(c) 1.5 (d) 1
19. Ratio of C, H and N in a compound is 9 : 1 : 3.5
Molar mass of compound is 108. Molecular formula of compound is:
(a) $\text{C}_2\text{H}_6\text{N}_2$ (b) $\text{C}_3\text{H}_4\text{N}$
(c) $\text{C}_6\text{H}_8\text{N}_2$ (d) $\text{C}_9\text{H}_{12}\text{N}_3$
20. CO_2 gas is passed in 500 mL of 0.5M $\text{Ca}(\text{OH})_2$. Mass of CaCO_3 formed is :
(a) 25 g (b) 50 g
(c) 20 g (d) 10 g

BIOLOGY

21. The interphase lasts more than what percent of the duration of cell cycle?
(a) 95% (b) 85%
(c) 70% (d) 60%
22. The sequence of cell cycle is
(a) S, M, G_1 and G_2 (b) G_1 , G_2 , S, and M
(c) M, G_1 , G_2 and S (d) G_1 , S, G_2 and M
23. In which phase of interphase centriole duplicates in the cytoplasm?

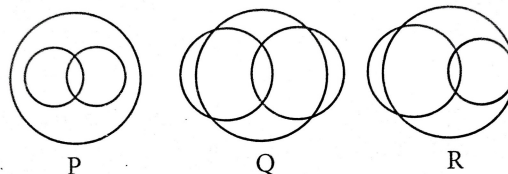
- (a) G_1 phase (b) S phase
(c) G_2 phase (d) M phase
24. Division of cytoplasm is known as
(a) Karyokinesis (b) Cytokinesis
(c) Polyembryony (d) Amphimixis
25. The longest phase of mitosis is
(a) Prophase (b) Metaphase
(c) Anaphase (d) Telophase
26. The anaphase stage of karyokinesis is characterised by
(a) Movement of chromatids towards opposite poles
(b) Reformation of nucleolus, Golgi complex and ER
(c) Movement of centrosome towards opposite poles
(d) All of the above
27. At what stage, does the number of chromosomes become half?
(a) Prophase I (b) Metaphase I
(c) Anaphase I (d) Telophase I
28. Which of the two events restore the normal number of chromosomes in life cycle?
(a) Mitosis and meiosis
(b) Meiosis and fertilisation
(c) Fertilisation and mitosis
(d) Only meiosis
29. Stages in the proper sequence of prophase I are
(a) Zygotene, leptotene, pachytene, diakinesis, and diplotene.
(b) Leptotene, zygotene, pachytene, diplotene, and diakinesis.
(c) Leptotene, zygotene, pachytene, diakinesis, and diplotene.
(d) Leptotene, pachytene, zygotene, diakinesis, and diplotene.
30. Crossing over occurs during
(a) Pachytene (b) Diplotene
(c) Diakinesis (d) Zygotene

MATH'S

21. Which of the following is a null set?
(a) $\{x:x \in N, 2x - 1 = 3\}$
(b) $\{x:x \in N, x^2 < 20\}$
(c) $\{x:x \text{ is an even prime greater than } 2\}$
(d) $\{x:x \in I, 3x + 7 = 1\}$
22. Given sets $A = \{1, 3, 5, 7, 9\}$, $B = \{0, 2, 4, 6\}$ and $C = \{7, 8, 9\}$ Which of the following may be taken as universal set for all the three sets A, B and C?
(a) $\{0, 1, 2, 3, 4, 5, 6, 7, 8\}$

- (b) $\{1, 2, 3, 4, 5, 6, 7, 8, 9\}$
 (c) $\{1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$
 (d) $\{0, 1, 2, 3, 4, 5, 6, 7, 8, 9, 10\}$
23. If $n(A - B) = 10$, $n(B - A) = 23$, $n(A \cup B) = 50$, then is $n(A \cap B)$
- (a) 7 (b) 17
 (c) 27 (d) 33
24. Two finite sets have m and n elements respectively. The total number of subsets of the first set is 192 more than the total number of subsets of the second set. The values of m and n respectively are
- (a) 7,6 (b) 8,6
 (c) 8,5 (d) 9,7
25. In a town of 840 persons, 450 persons read Hindi, 300 read English and 200 read both. The number of persons who read neither is
- (a) 210 (b) 290
 (c) 180 (d) 260
26. A T.V. survey gives the following data for T.V. watching 59% of the people watch program A, 67% of the people watch program B and $x\%$ of the people watch both the program, then
- (a) $x = 26$ (b) $x = 59$
 (c) $26 \leq x \leq 59$ (d) $x \geq 59$
27. Let $\xi = \{1, 2, 3, \dots, 40\}$, $A = \{x : x \text{ is divisible by 2 and 3}\}$ and $B = \{x = n^2, n \in \mathbb{N}\}$ then $n(A) - n(B)$ is
- (a) 0 (b) 1
 (c) 2 (d) 3
28. In a class of 140 students numbered 1 to 140, all even numbered students opted for Mathematics course, those whose number is divisible by 3 opted for Physics course and those whose number is divisible by 5 opted for Chemistry course. Then the number of students who did not opt for any of the three courses is
- (a) 102 (b) 42
 (c) 1 (d) 38
29. A survey shows that 63% of the people in a city read newspaper A whereas 76% read newspaper B. If $x\%$ of the people read both the newspapers, then a possible value of x can be
- (a) 65 (b) 37
 (c) 29 (d) 55
30. In a school, there are three types of games to be played. Some of the students play two types of games, but none play all the three games. Which Venn diagrams, can justify the

above statement?



- (a) P and Q (b) P and R
 (c) None of these (d) Q and R