

NEW STANDARD ACADEMY

Exam : MOCK- 12

NEET - JEE

Marks: 80

Date : 19-06-2023

CLASS : 9TH

Time: 2 HRS

PHYSICS

- Newton's first law of motion describes the following
 - Energy
 - Work
 - Inertia
 - Moment of inertia
- A particle is moving with a constant speed along a straight line path. A force is not required to
 - Increase its speed
 - Decrease the momentum
 - Change the direction
 - Keep it moving with uniform velocity
- If a bullet of mass 5 gm moving with velocity 100 m/sec , penetrates the wooden block upto 6 cm . Then the average force imposed by the bullet on the block is
 - 8300 N
 - 417 N
 - 830 N
 - Zero
- A force of 100 dynes acts on mass of 5 gm for 10 sec . The velocity produced is
 - 2 cm/sec
 - 20 cm/sec
 - 200 cm/sec
 - 2000 cm/sec
- A diwali rocket is ejecting 0.05 kg of gases per second at a velocity of 400 m/sec . The accelerating force on the rocket is
 - 20 dynes
 - 20 N
 - 22 dynes
 - 1000 N
- When 1 N force acts on 1 kg body that is able to move freely, the body receives
 - A speed of 1 m/sec
 - An acceleration of 1 m/sec^2
 - An acceleration of 980 cm/sec^2
 - An acceleration of 1 cm/sec^2
- An object with a mass 10 kg moves at a constant velocity of 10 m/sec . A constant force then acts for 4 second on the object and gives

it a speed of 2 m/sec in opposite direction. The acceleration produced in it, is

- 3 m/sec^2
 - -3 m/sec^2
 - 0.3 m/sec^2
 - -0.3 m/sec^2
- A particle of mass 0.3 kg is subjected to a force $F = -kx$ with $k = 15\text{ N/m}$. What will be its initial acceleration if it is released from a point 20 cm away from the origin
 - 5 m/s^2
 - 10 m/s^2
 - 3 m/s^2
 - 15 m/s^2
 - The average force necessary to stop a bullet of mass 20 g moving with a speed of 250 m/s , as it penetrates into the wood for a distance of 12 cm is
 - $2.2 \times 10^3\text{ N}$
 - $3.2 \times 10^3\text{ N}$
 - $4.2 \times 10^3\text{ N}$
 - $5.2 \times 10^3\text{ N}$
 - A force of 10 Newton acts on a body of mass 20 kg for 10 seconds . Change in its momentum is
 - 5 kg m/s
 - 100 kg m/s
 - 200 kg m/s
 - 1000 kg m/s

CHEMISTRY

- In which form, do the water molecules have less kinetic energy?
 - Ice
 - Water
 - Steam
 - All of them have equal kinetic energy
- The process of evaporation causes:
 - heating
 - cooling
 - increase in temperature
 - none of these
- Ice floats on the surface of water because:
 - It is heavier than water
 - The density of both water and ice is the same
 - ice is lighter than water
 - none of these
- Which of the following statements is not correct?
 - Matter is continuous in nature.
 - Inter-particle spaces are maximum in the gaseous state of a substance.
 - Particles which constitute the matter follow

a zigzag path.

(d) Solid state is the most compact state of a substance.

15. Which of the following has highest kinetic energy?
(a) Particles of ice at $0^{\circ}C$
(b) Particles of water at $0^{\circ}C$
(c) Particles of water at $100^{\circ}C$
(d) Particles of steam at $100^{\circ}C$
16. Kinetic energy of molecules is directly proportional to
(a) temperature (b) pressure
(c) both (a) and (b) (d) atmospheric pressure
17. The inter-particle force are the strongest in
(a) hydrogen (b) methyl alcohol
(c) water (d) sodium chloride

BIOLOGY

18. Parenchyma cells containing air cavities are called

(a) aerenchyma	(b) sclerenchyma
(c) chlorenchyma	(d) prosenchyma

19. Find the living cells that provides mechanical strength to the plant.
(a) Parenchyma (b) Collenchyma
(c) Sclerenchyma (d) Sclerotic cells
20. Which of these types of cells is most likely to divide?
(a) Epidermis (b) Parenchyma
(c) Meristem (d) Xylem
21. Which of the following meristems helps to increase girth of the stem?
(a) Apical meristem
(b) Lateral meristem
(c) Intercalary meristem
(d) Vertical meristem
22. Which of the following tissues provides flexibility and mechanical support to the plant organs?
(a) Collenchyma (b) Sclerenchyma
(c) Parenchyma (d) Chlorenchyma
23. Select the tissue which has a storage function.
(a) Sclerenchyma (b) Collenchyma
(c) Xylem (d) Parenchyma
24. The husk of coconut is made up of
(a) collenchyma tissue (b) parenchyma tissue
(c) aerenchyma tissue (d) sclerenchyma tissue
25. Which of the following is an example of photosynthetic type of tissue -
(A) Chlorenchyma (B) Sclerenchyma
(C) Collecchyma (D) Aerenchyma

MATHS

26. If $A(x, y)$ is equidistant from $P(-3, 2)$ and $Q(2, -3)$, then

(a) $2x = y$

(b) $x = -y$

(c) $x = 2y$

(d) $x = y$

27. The nearest point from the origin is
(a) $(2, -3)$
(b) $(6, 0)$
(c) $(-2, -1)$
(d) $(3, 5)$
28. The vertices of a triangle are $A(3, -2)$, $B(-2, 1)$ and $C(5, 2)$. Then the length of the median through B is
(a) $\sqrt{67}$ units (b) $\sqrt{37}$ units
(c) $\sqrt{35}$ units (d) 6 units
29. The co-ordinates of the vertices of a side of square are $(4, -3)$ and $(-1, -5)$. Its area is
(a) $2\sqrt{29}$ sq. units
(b) $\frac{\sqrt{89}}{2}$ sq. units
(c) 89 sq. units
(d) 29 sq. units
30. The quadrilateral $P(-3, 2)$, $Q(-5, -5)$, $R(2, -3)$ and $S(4, 4)$ is a
(a) rectangle (b) square (c) rhombus (d) kite
31. The value of p for which the points $(-1, 3)$, $(2, p)$ and $(5, -1)$ are collinear is
(a) -1 (b) 2 (c) $\frac{1}{3}$ (d) 1
32. The co-ordinates of one end-point of a circle are $(-3, 1)$ and the co-ordinates of the centre of the circle are $(2, -4)$. The co-ordinates of the other end-point of the diameter are
(a) $(\frac{-1}{2}, \frac{-3}{2})$ (b) $(-7, 9)$
(c) $(7, -9)$ (d) $(\frac{1}{2}, \frac{3}{2})$
33. The centre of the circle is at the origin and its radius is 10. Which of the following points lies inside the circle?
(a) $(6, 8)$ (b) $(0, 11)$

(c) $(-10, 0)$

(d)

$(7, 7)$

34. The abscissa of a point is distance of the point from :

(A) X-axis

(B) Y-axis

(C) Origin

(D) None of these

35. The distance of the point $(3, 5)$ from X-axis is :

(A) $\sqrt{34}$

(B) 3

(C) 5

(D) None of these

36. The factors of $9a^2 - 6\sqrt{5}a + 5$ are

(a) $(3a + \sqrt{5})(3a - \sqrt{5})$

(b)

$(3a - 5)(3a - 5)$

(c) $(3a - \sqrt{5})(3a - \sqrt{5})$

(d)

$(3a + \sqrt{5})(3a - 5)$

37. The factors of $x^8 - x^4 - 30$ are:

(a) $(x^4 - 6)$ and $(x^4 - 5)$

(b) $(x^4 - 6)$

and $(x^4 + 5)$

(c) $(x^4 + 6)$ and $(x^4 - 5)$

(d) $(x^4 + 6)$

and $(x^4 + 5)$

38. Factorise : $27 + 125a^3 + 135a + 225a^2$

(a) $(3 + 5a)(3 + 5a)(3 - 5a)$

(b)

$(3 - 5a)(3 - 5a)(3 + 5a)$

(c) $(3 + 5a)(3 + 5a)(3 + 5a)$

(d)

$(3 - 5a)(3 - 5a)(3 - 5a)$

39. Factorise : $(5x - 3)^2 - (5x - 3) - 20$

(a) $(5x + 8)(5x - 1)$

(b)

$(5x - 8)(5x + 1)$

(c) $(5x - 8)(5x - 1)$

(d)

$(5x + 8)(5x + 1)$

40. The factors of $625a^{12} - 81b^{12}$ are :

(a) $(25a^6 + 9b^6)(5a^3 - 3b^3)(5a^3 + 3b^3)$

(b) $(5a^3 + 3b^3)^2 (5a^3 - 3b^3)^2$

(c) $(5a^3 - 3b^3)^4$ (d) $(25a^6 - 9b^6)^2$