

NEW STANDARD ACADEMY

Exam

NEET - JEE

Marks: 60

Date : 26-06-23

CLASS : 9TH

Time: 90:MIN

PHYSICS

1. Write SI unit of G .
2. Why is G called 'a universal gravitational constant'?
3. What is the relation between gravitational force of the Moon with the Earth.
4. Why value of "g" constant on or near the Earth?
5. Two objects of masses M_1 and M_2 are dropped in vacuum from a height above the surface of Earth (M_1 is greater than M_2). Which one will reach the ground first and why?
6. How does the force of gravitation between two objects change when the distance between them is reduced to half?
7. Why are objects in free fall Weightless?

CHEMISTRY

8. We can get the smell of perfume sitting several metres away, why?
9. When salt or sugar is poured into different kinds of vessels, why do they take the shape of vessel as they are solid?
10. Give the temperature at which water exists in two different phases/states.
11. Name the state of water at 100 degree Celsius, zero degree Celsius and 4 degree Celsius.
12. Why do we see water droplets on the outer surface of a glass containing ice-cold water?
13. Explain, why solids have fixed shape but liquids and gases do not have fixed shape?

BIOLOGY

14. What is the location of stratified squamous epithelium?. Also, mention its functions.
15. Give the types of meristematic tissues.
16. What are the four important types of tissues found in animal?.
17. What is the main function of vascular tissue in plants?.
18. Why do meristematic cells lack vacuoles?.
19. Name the following tissues.
 - (i) Which tissue covers the external surface in animals?.

- (ii) Which tissue divides and re-divides and responsible for growth in plants?
 - (iii) Which tissue help in photosynthesis.
 - (iv) Which tissue store food in plant.
20. What are the different types of meristematic tissue?. Also, mention their functions. Draw a diagram of the tissue to show its location.

MATHS

21. Find the solutions of the form $x = a$, $y = 0$ and $x = 0$, $y = b$ for the following equations :
 $2x + 5y = 10$ and $2x + 3y = 6$.
22. If $x = 2\alpha + 1$ and $y = \alpha - 1$ is a solution of the equation $2x - 3y + 5 = 0$, find the value of α .
23. Draw the graph of the following linear equations
(i) $x + y = 4$ (ii) $x - y = 2$ (iii) $y = 3x$
24. Draw the graphs of the equations $x - y = 1$ and $2x + y = 8$. Shade the area bounded by these two lines and y-axis. Also, determine this area.
25. The difference between two numbers is 26 and one number is three times the other. Find them.
26. Find two solutions of
(i) $3x - 7y = 21$
27. If $p = 3x + 1$, $q = \frac{1}{3}(9x + 13)$ and $p : q = 6 : 5$ then find x .
28. The base AB two equilateral triangles ABC and ABC' with side 2a, lies along the x-axis such that the mid point of AB is at origin. Find the coordinates of the vertices C and C' of the triangles.

29. Simplify and express the results in simplest

$$\text{form : } \frac{\sqrt{x^2 - y^2} + x}{\sqrt{x^2 + y^2} + y} \div \frac{\sqrt{x^2 + y^2} - y}{x - \sqrt{x^2 - y^2}}.$$

30. Prove that :

$$\frac{1}{3 - \sqrt{8}} - \frac{1}{\sqrt{8} - \sqrt{7}} + \frac{1}{\sqrt{7} - \sqrt{6}} - \frac{1}{\sqrt{6} - \sqrt{5}} + \frac{1}{\sqrt{5} - 2} = 5.$$

