

VGR COACHING CENTER

Std : 10th

Marks : 75

Sub : Science

PART-A

(12marks)

CHOOSE THE CORRECT ANSWER

1. In which of the following sport the turning of effect of force used
a) swimming b) tennis c) cycling d) hockey
2. One kilogram force equals to
a) 9.8 dyne b) $9.8 \times 10^4 \text{N}$ c) $98 \times 10^4 \text{ dyne}$ d) 980 dyne
3. Magnification of a convex lens is
a) Positive b) negative c) either positive or negative d) zero
4. Power of a lens is -4D , then its focal length is
a) 4m b) -40m c) -0.25 m d) -2.5 m
5. The eye defect 'presbyopia' can be corrected by
a) convex lens b) concave lens c) convex mirror d) Bi focal lenses
6. The gram molecular mass of oxygen molecule is
a. 16 g b. 18 g c. 32 g d. 17 g
7. Mass of 1 mole of Nitrogen atom is
a) 28 amu b. 14 amu c. 28 g d. 14 g
8. The endarch condition is the characteristic feature of
a) root b) stem c) leaves d) flower
9. The xylem and phloem arranged side by side on same radius is called _____
a) aradial b) amphivasal c) conjoint d) None of these
10. The brain of leech lies above the
a) Mouth b) Buccal Cavity c) Pharynx d) Crop
11. The body of leech has
a) 23 segments b) 33 segments c) 38 segments d) 30 segments
12. If the Earth shrinks to 50% of its real radius its mass remaining the same, the weight of a body on the Earth will
a) decrease by 50% b) increase by 50% c) decrease by 25% d) increase by 300%

PART-B (14marks)

WRITE ANY 7 QUESTIONS (Q.NO 22 IS COMPULSORY)

13. Match the following

Column

I Column II

a. Newton's I law -

propulsion of a rocket

b. Newton's II law -

Stable equilibrium of a body

c. Newton's III law -

Law of force

d. Law of conservation of Linear momentum - Flying nature of bird

14. Why a spanner with a long handle is preferred to tighten screws in heavy vehicles

15. Differentiate convex lens and concave lens.

16. Why are traffic signals red in colour?

17. Calculate the number of water molecule present in one drop of water which weighs 0.18 g.

18. Write the dental formula of rabbit

19. Draw and label the structure of oxysomes

20. State avogadro law

21. Write a short note on mesophyll

22. An object is placed at a distance 20cm from a convex lens of focal length 10cm. Find the image distance and nature of the image.

PART-C (28marks)

WRITE ANY SEVEN QUESTIONS (Q.NO 32 IS COMPULSORY)

23. Describe rocket propulsion

24. What are the types of inertia? Give an example for each type.

25. List any five properties of light

26. Explain the rules for obtaining images formed by a convex lens with the help of ray diagram.

27. Give the salient features of "Modern atomic theory".

28. Differentiate Monocot root and Dicot root.

29. List out the parasitic adaptations in leech

30. How many grams are there in the following?

- i. 2 moles of hydrogen molecule, H_2
- ii. 3 moles of chlorine molecule, Cl_2
- iii. 5 moles of sulphur molecule, S_8
- iv. 4 moles of phosphorous molecule, P_4

31. a. What is photosynthesis and where in a cell does it occur?

b. What is respiratory quotient?

32. a. The ratio of masses of two planets is 2:3 and the ratio of their radii is 4:7 Find the

ratio of their accelerations due to gravity.

b. Match the following

8 g of O_2 - 4 moles

4 g of H_2 - 0.25 moles

52 g of He - 2 moles

112 g of N_2 - 0.5 moles

35.5 g of Cl_2 - 13 moles

PART-D

(21 marks)

WRITE ALL QUESTIONS

1. State and prove the law of conservation of linear momentum (5)

Differentiate mass and weight (2)

OR

Differentiate the eye defects: Myopia and Hypermetropia (3)

What is power of accommodation of eye? (2)

How does an astronaut float in a space shuttle? (2)

2. Derive the relationship between Relative molecular mass and Vapour density (6)

Define: Atomicity (1)

OR

Calculate the number of moles in 27g of Al ii) 1.51×10^{23} molecules of NH_4Cl (2)

Application of avogadro law (2)

Differentiate atom and molecules (3)

3. Aerobic and Anaerobic respiration (2)

Describe and name three stages of cellular respiration that aerobic organisms use to obtain energy from glucose. (5)

OR

How does the light dependent reaction differ from the light independent reaction?

What are the end product and reactants in each? Where does each reaction occur within the chloroplast? (3)

Explain male reproductive system of rabbit (4)

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