VGR COACHING CENTER

CLASS X SCIENCE MARK-75

1. **Newton's III law is applicable**
   a) **for a body is at rest b) for a body in motion c) both a & b d) only for bodies with equal masses**
2. **Plotting a graph for momentum on the Y-axis and time on X-axis. slope of momentum-time graph gives**
   a) **Impulsive force b) Acceleration c) Force d) Rate of force**
3. **In which of the following sport the turning of effect of force used**
   a) **swimming b) tennis c) cycling d) hockey**
4. **Which of the following is a triatomic molecule?**
   a. **Glucose b. Helium c. Carbon dioxide d. Hydrogen**
5. **Mass of 1 mole of Nitrogen atom is**
   a. **28 amu b. 14 amu c. 28 g d. 14 g**
6. **The gram molecular mass of oxygen molecule is**
   a. **16 g b. 18 g c. 32 g d. 17 g**
7. **The xylem and phloem arranged side by side on same radius is called _____**
   a) **radial b) amphivasal c) conjoint d) None of these**
8. **Which is formed during anaerobic respiration**
   a) **Carbohydrate b) Ethyl alcohol b) Acetyl CoA d) Pyruvate**
9. **Kreb's cycle takes place in**
   a) **chloroplast b) mitochondrial matrix c) stomata d) inner mitochondrial membrane**
10. **Power of a lens is –4D, then its focal length is**
    a) **4m b) –40m c) –0.25 m d) –2.5 m**
11. **The eye defect 'presbyopia' can be corrected by**
    a) **convex lens b) concave lens c) convex mirror d) Bi focal lenses**
12. **Magnification of a convex lens is**
    a) **Positive b) negative c) either positive or negative d) zero**

PART -B WRITE ANY SEVEN QUESTION Q.NO 17 IS COMPULSORY

13. **How does an astronaut float in a space shuttle?**
14. **State Snell's law.**
15. **Why are traffic signals red in colour?**
16. **Define: Relative atomic mass.**
17. **Draw and label the structure of oxysomes 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**
18. **Match the following**

    8 g of O2 - 4 moles

    4 g of H2 - 0.25 moles

    52 g of He - 2 moles

    112 g of N2 - 0.5 moles

    35.5 g of Cl2 - 13 moles
19. **What is respiratory quotient?**
20. **Differentiate the following Aerobic and Anaerobic respiration**
21. **Why does the sky appear in blue colour?**

PART-C WRITE ANY SEVEN QUESTIONS Q.NO 26 IS COMPULSORY

22. **Differentiate mass and weight.**
23. **List any five properties of light**
24. **Explain the rules for obtaining images formed by a convex lens with the help of ray diagram.**
25. **Give the salient features of "Modern atomic theory".**
26. **How many grams are there in the following?**
    i. **2 moles of hydrogen molecule, H2**
    ii. **3 moles of chlorine molecule, Cl2**
    iii. **5 moles of sulphur molecule, S8**
    iv. **4 moles of phosphorous molecule, P4**
27. **A) Difference between atoms and molecules (3)**

    B) Define: Atomicity(1)
28. **What are the types of inertia? Give an example for each type.**
29. **Describe rocket propulsion.**

30. State the universal law of gravitation and derive its mathematical expression(2)

Give the applications of universal law gravitation(2)

7 MARK QUESTIONS

31. A) State and prove the law of conservation of linear momentum

B)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.

OR

A)Differentiate convex lens and concave lens. (3)

B)Differentiate the eye defects: Myopia and Hypermetropia (3)

C)What is power of accommodation of eye? (1)

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

B)Give any two examples for hetero diatomic molecules. (1)

OR

A)What is Molar volume of a gas? (2)

B)Find the percentage of nitrogen in ammonia. (2)

C)Calculate the % of each element in calcium carbonate. (Atomic mass: C-12, O-16, Ca -40) (3)

33. A)Describe and name three stages of cellular respiration that aerobic organisms use to obtain energy from glucose (6)

B)Write the reaction for photosynthesis? (1)

OR

A)Name the three basic tissues system in flowering plants. (2)

B)Differentiate the following Monocot root and Dicot root (4)

C)What is collateral vascular bundle? (1)