10th Science Revision Test
Modl Question Paper 2022

Model Exam-Science

(1 Laws of motion, 2.Optics,7. Atoms and Molecules,12. Plant Anatomy and Plant Physiology)

Time 2:30 Hrs **Marks: 75**

Part-I

Chosse the most suitable answer: **12 X 1=12**

1. **Inertia of a body depends on**

   a) weight of the object b) acceleration due to gravity of the planet

   c) mass of the object d) Both a & b1

2. **Where should an object be placed so that a real and inverted image of same size is obtained by a convex lens of focal length 10 cm**

   (a) 10 cm (b) Infinity (c) 20 cm (d) 15 cm

3. **In the nucleus of $_{20}Ca^{40}$, there are**

   a. 20 protons and 40 neutrons b. 20 protons and 20 neutrons

   c. 20 protons and 40 electrons d. 40 protons and 20 electrons

4. **Which is formed during anaerobic respiration**

   a) Carbohydrate b) Ethyl alcohol

   b) Acetyl CoA d) Pyruvate

5. **Which of the following is a wrong statement**

   (a) change in momentum takes place in the direction of the force

   (b) In a uniform circular motion, even though the magnitude of velocity remains constant.

   (c) Forces acting on a weight balance is an example of balanced force.

   (d) When you make a sharp turn while driving a car, you tend to lean sideways, due to Inertia of direction.

6. **According to Newton's III law action and reaction are**

   (a) Acts on same object

   (b) Same magnitude and same direction

   (c) Always operate in opposite directions

   (d) Act on either body perpendicular to each other

7. **Ray of light enters from water to glass**

   (a) bent towards the normal drawn to the interface due to decrease in velocity

   (b) bent towards the normal drawn to the interface due to increase in velocity

   (c) bent away from the normal drawn to the interface due to increase in velocity

   (d) bent away from the normal drawn to the interface due to decrease in velocity

8. **Real images formed by a convex lenses are always**

(a) Inverted (b) Erect

(c) on the same side of the object (d) None of the above

9. **Which of the following pair is a Isotope?**

(a) ${}_{6}C^{13}, {}_{7}N^{14}$ (b) ${}_{18}Ar^{13}, {}_{20}Ca^{40}$ (c) ${}_{6}C^{12}, {}_{6}C^{14}$ (d) ${}_{5}B^{12}, {}_{6}C^{13}$

10. **Which of the following is a diatomic molecule?**

(a) CO (b) CO_2 (c) SO_3 (d) PO4

11. **Chloroplast is_____-coloured plastids**

(a) Green (b) White (c) yellow (d) Colourless

12. **The endarch condition is the characteristic feature of**

(a) root (b) stem (c) leaves (d) flower

Part-II

Answer any 7 of the following questions: (Q.No 22 is compulsory) **7 X 2 = 14**

13. Differentiate mass and weight.

14. If a 5 N and a 15 N forces are acting opposite to one another. Find the resultant force and the direction of action of the resultant force.

15. State Snell's law.

16. What causes Myopia?

17. Why are traffic signals red in colour?

18. Define: Relative atomic mass.

19. Give any two examples for heterodiatomic molecules.

20. Where does the carbon that is used in photosynthesis come from?

21. What is the common step in aerobic and anaerobic pathway?

22. An object is placed at a distance 15 cm from a convex lens of focal length 10cm. Find the image distance and nature of the image.

Part- III

Answer any 7 of the following questions: (Q.No 32 is compulsory) **7 X 4 = 28**

23. (i) State Newton's third law of motion.

(ii) Give any 2 examples for newton's third law of motion.

24. **(i) Fill in the blanks.**

In spectrum of visioble light the _____ color has a shorter wavelength and the _____ color has a longer wavelength.

(ii) What are the uses of conves lens?

25. (i) What is power of accommodation of eye?

(ii) How do rectify Presbyopia?

26. i) Relative Molecular Mass is no unit. Explain.

ii) Define: Atomicity.

27. Differentiate. Atoms and molecules.

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

29. Write about the structure of Vascular bundle of dicot stem.

30. (i) What are the types of Plastids? (ii) What is Grana?

31. Deduce the equation of a force using Newton's second law of motion.

32. Calculate the velocity of a moving body of mass 5 kg whose linear momentum is 2.5 kg ms^{-1}.

Part –IV

Answer ALL the questions **3 X 7 = 21**

33. a. i) Describe rocket propulsion.

ii) Define inertia. Give its classification **(or)**

b. i) List any five properties of light.

ii) 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.

34. a. i) Calculate the gram molecular masses of CH_4 and CO

ii) Classify the following molecules based on their atomicity and fill in the table:

$C_6H_{12}O_6$, P_4, NH_3, HCl, N_2, CO, O_3, NH_4Cl, $CaCO_3$, O_2, SO_2

Molecule	Di-atomic	Tri-atomic	Poly-atomic
Homo			
Hetero			

(or)

b. i) Explain Avagadro Hypothesis with reaction between hydrogen and chlorine to form hydrogen chloride gas.

ii) What are the Applications of Avogadro's law?

35. a. i) Why should the light dependent reaction occur before the light independent reaction?

ii) Write the reaction for photosynthesis? **(or)**

b. i) 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?

ii) Differentiate- Aerobic and Anaerobic respiration