

SUMMETIVE ASSESSMENT – II (SAMPLE PAPER) SCIENCE CLASS – IX - 5

- Q.1. When we add barium chloride solution to sodium sulphate solution in a closed conical flask we observe a chemical change has taken place. Will the mass of the flask also change ? Give reasons for your answer.
- Q.2. Helium atom has 2 electrons in its valence shell but its valency is not 2. Explain.
- Q.3. Why do you think that a plant cell is categorised under eukaryotic cell ? Give two reasons.
- Q.4. Identify and state the type of transformation of energy in the following cases :
- (a) when a dry cell discharges. (b) in a hydroelectric power plant.
- Q.5. A tuning fork having frequency 312 Hz emits a wave which has a wavelength of 1.10 m. Calculate the speed of sound.
- Q.6. (a) Write difference between O_2 and $2O$.
- (b) Give one example in each of the following cases :
- (i) Monoatomic molecule (ii) Diatomic molecule
- (iii) Triatomic molecule (iv) Tetraatomic molecule
- Q.7. Classify the following into isotopes and isobars. State reason for their similar chemical properties in case of all the isotopes of one element. Argon, Protium, Deuterium, Tritium, Calcium.
- Q.8. (a) Explain what do you understand by Avogadro's constant ?
- (b) Calculate the number of moles for 56 g of Ne. (Atomic mass of Ne = 20)
- Q.9. (i) Assign a group to an organism 'X' which has notochord in larval stage .
- (ii) What would be the place of occurrence of 'X' ? (iii) What would be the type of symmetry in 'X' ?
- Q.10. Tabulate three difference between acute and chronicle disease?
- Q.11. During a health check-up camp in a school, the doctor talked about prevention of diseases. Which six points will you share with your friend on "prevention of diseases is more desirable than its successful treatment".
- Q.12. Calculate the kinetic energy of a car of mass 750 kg moving with a velocity of 54 kmh^{-1} . Find the new kinetic energy of the car if a passenger of mass 50 kg sits in the car.
- Q.13. State the mathematical formula that relates thrust and pressure. List the factors on which the pressure depends and explain how it depends on them ?
- Q.14. (a) What type of waves are produced before actual earthquake ? (b) Name two species of animals which can detect and produce these waves. (c) What is the range of hearing for children under the age of five ?
- Q.15. (a) Suggest two ways to decrease pressure on a surface. (b) Density of an object is 1.8 g cm^{-3} . Express it in kg m^{-3} .

Q.16. Mukul is a student of class VI. Once he was suffering from cold and cough. His mother took him to a doctor. The doctor examined him with the help of a 'Stethoscope'. On returning home, he asked his elder brother Shubham about the Stethoscope.

- (a) What is Stethoscope ? State its application.
(b) Name any other device which works on the same principle as being utilised in a Stethoscope.
(c) What quality is shown by Mukul and his brother Shubham.

Q.17. With the help of a labelled diagram describe in brief the Rutherford's alpha particle scattering experiment. Write any three important conclusions drawn from the experiment.

Q.18. Propose three examples of characteristics used for hierarchical classification. Based on these, develop the definition of characteristics. Why the characteristics of body design used for classification of plants is different from those used for classifying animals ?

Q.19. Students of class IX had to present a seminar on 'Dengue fever'. They wanted to introduce the disease by starting with :

- (a) Immediate causes of the diseases (b) Definition of infectious diseases
(c) Pathogen causing dengue fever (d) Vector responsible for dengue microbe

Can you help them to explain the above points ? Give details.

Q.20. Find force of buoyancy on a body of volume 200 cm^3 when it is dipped in water with :

- (i) Half the volume in water. (ii) Completely submerged in water. (Given density of water = 1000 kg m^{-3} , $g = 9.8 \text{ ms}^{-2}$)

Q.21. (a) A steel needle sinks in water but a steel ship floats. Explain how. (b) Why do you prefer a broad and thick handle for your suitcase ?

SECTION – B

Q.25. After syngamy four spores are produced in :

- (a) Algae (b) Bryophytes (c) Pteridophytes (d) Gymnosperms

Q.26. Rohan's grandmother is cutting vegetables for lunch, but the knife is blunt, Rohan sharpens the knife and helps his grandmother. Now she could cut vegetable easily. The reason for this is :

- (a) more area applies more pressure (b) more area applies less pressure
(c) less area applies more pressure (d) less area applies less pressure

Q.27. Students in a class were asked to produce transverse waves. They will do so by :

- (i) dropping a pebble in calm water. (ii) moving stretched slinky at right angle to the length of slinky.
(iii) compressing the free end of the slinky. (iv) striking the tuning fork with a hard rubber pad.

The correct method methods are : (a) (iii) and (iv) (b) (i) and (ii) (c) only (iv) (d) only (i)

Q.28. After studying the characteristics of Agaricus, Madan noted them as following :

- (i) it is fleshy. (ii) it has an umbrella like cap called pileus.
(iii) it has a ring like membrane structure attached at the base of stalk. (iv) its body is made of filaments.

Which of the above observations is not correct ? (a) (i) (b) (ii) (c) (iii) (d) (iv)

Q.29. When we add lead nitrate solution to sodium chloride solution, a precipitate of lead chloride and sodium nitrate solution are obtained. To prove the law of conservation of mass, which of the following statements is correct?

- (a) Mass of lead nitrate = Mass of sodium chloride
- (b) Mass of lead nitrate + Mass of sodium chloride = Mass of lead chloride + Mass of sodium nitrate
- (c) Mass of lead chloride + Mass of sodium chloride = Mass of lead nitrate + Mass of sodium nitrate
- (d) Mass of sodium chloride + Mass of sodium nitrate = Mass of lead chloride + Mass of lead nitrate

Q.30. Which of the following pair of solutions is suitable to verify the law of conservation of mass in a chemical reaction ?

- (a) Barium chloride and Sodium chloride
- (b) Barium sulphate and Sodium sulphate
- (c) Copper sulphate and Sodium carbonate
- (d) Sodium sulphate and Sodium carbonate

Q.31. Which the following is not a feature of dicotyledonous plants.

- (a) tap root system
- (b) leaf with parallel venation
- (c) pentamerous flower
- (d) secondary growth

Q.32. Which of the following is an example of monocotyledonous plant:

- (a) onion
- (b) mint
- (c) beans
- (d) pea

Q.33. Identify the incorrect statement of the stages in the life cycle of a mosquito.

- (a) eggs are deposited on or near water.
- (b) larva does not feed.
- (c) from pupa an adult mosquito emerges,
- (d) pupa undergoes metamorphose.

Q.34. When a body hanging with the hook of a spring balance is immersed in a liquid, state the factor due to which the reading of spring balance decreases. Define the factor.

Q.35. In an experiment a metal ball weighs 2 N in air and 1.5 N when immersed completely in water.

What is the magnitude of the buoyant force acting on it ?

Q.36. Differentiate between bony fish and cartilagenous fish on the basis of position of mouth and operculum.