

SUMMATIVE ASSESSMENT - II (2016-17)

SCIENCE Class - IX

Time allowed: 3 hours

Maximum Marks: 90

General Instructions :

- (i) The question paper comprises of three Sections, A, B and C. You are to attempt all the sections.
- (ii) All questions are compulsory.
- (iii) All questions of Section-A, Section-B and Section-C are to be attempted separately.
- (iv) Question numbers 1 to 3 in Section-A are one mark questions. These are to be answered in one word or in one sentence.
- (v) Question numbers 4 and 5 in Section-A are two marks questions. These are to be answered in about 30 words each.
- (vi) Question numbers 6 to 16 in Section-A are three marks questions. These are to be answered in about 50 words each.
- (vii) Question numbers 17 to 21 in Section-A are five marks questions. These are to be answered in about 70 words each.
- (viii) Section B has 3 OTBA questions. Question number 22 is two marks, Question number 23 is three marks and Question number 24 is five marks question.
- (ix) Question numbers 25 to 33 in Section-C are multiple choice questions based on practical skills. Each question is a one mark question. You are to select one most appropriate response out of the four provided to you.
- (x) Question numbers 34 to 36 in section C are two marks questions based on practical skills. These are to be answered in about 30 words each.

SECTION-A

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|----|---|---|
| 1 | What is an electron ? Who discovered it ? | 1 |
| 2 | Interpret the number of moles of oxygen atoms in PO_4^{3-} . | 1 |
| 3 | Why do you think that a plant cell is categorised under eukaryotic cell ? Give two reasons. | 1 |
| 4 | Gold has relative density of 19.3. What will be its density in SI units ? | 2 |
| 5 | What is meant by sound board ? Give their importance. | 2 |
| 6 | Draw a sketch of Bohr's model of atom. State the maximum number of electrons which are present or can be attained by the second shell of an atom. | 3 |
| 7 | (i) Write the full form of IUPAC. | 3 |
| 8 | (ii) Hydrogen and oxygen combine in the ratio of 1:8 by mass to form water. What mass of oxygen gas would be required to react completely with 3g of hydrogen gas ? | 3 |
| 8 | Sodium is represented as Na_{11}^{23} : | 3 |
| | (a) What is its atomic mass ? | |
| | (b) Write its gram atomic mass. | |
| | (c) How many atoms of Na will be there in 11.5 g of the sample ? | |
| 9 | Differentiate between 'Healthy and Disease Free' in terms of (i) nature of body functioning (ii) level of considerations. | 3 |
| 10 | State any three differences between cryptogamae and phanerogamae. | 3 |

- 11 Explain the process of inflammation. Mention the local effects and the general effects of inflammation. 3
- 12 (a) Define thrust and pressure. 3
(b) What is meant by 1 pascal and 1 newton ?
- 13 (i) Draw two different forms of wave showing its characteristics, which determine the : 3
(a) Loudness
(b) Pitch of sound
(ii) Define the third characteristic of sound - quality.
- 14 (a) What is upthrust ? 3
(b) Write applications of (i) Lactometer, (ii) Hydrometer ?
- 15 Define work. Give its SI unit. State two factors on which the magnitude of work depends. 3
Give one example each for positive and negative work done.
- 16 Rahul and his younger brother Rohan went to see Dussehra fair. Rohan purchased a bow and 3
arrow there and tried to aim but, the arrow fell on the ground just below. Then Rahul told
him to stretch the string and then release. Rohan did the same and was able to release the
arrow to a good distance.
(i) What type of energy is possessed by the stretched string ?
(ii) How did the arrow gain Kinetic energy ?
(iii) What are the values shown by Rahul and Rohan?
- 17 Name two elements which have isotopes. Write the symbols of their isotopes and provide an 5
account of the subatomic particles present in each of these isotopes.
- 18 Out of the various phyla under animal kingdom, choose the one that fits the given 5
description. Also give an example in each case :
(a) have flattened dorsi-ventrally body.
(b) water driven tube system is present for locomotion.
(c) mostly with shells, some are shellless.
(d) holes are present all over the body.
(e) largest phylum due to a variety of adaptation.
- 19 Give the ways by which microbial agents can commonly move from an infected person to 5
someone else for the following diseases.
(a) Cholera
(b) Pneumonia
(c) Common cold
(d) Malaria
(e) Fungal Infection
- 20 (a) Does the sound of an exploded cracker in air travel faster than the sound produced by a 5
humming bee ? State reason.
(b) List the three characteristics of a sound wave and state the factors on which these
depend.
(c) State the SI units of wavelength and frequency.
- 21 (a) Name two forms of energy involved while a pendulum oscillates. 5
(b) Show with the help of a diagram when each type of energy attain its maximum value.
(c) How do these energies vary while the pendulum oscillates?
(d) Name and state the law involved.

SECTION - B (OTBA)

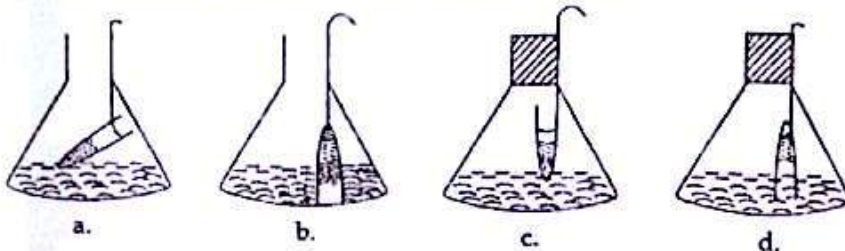
(* Please ensure that open text of the given theme is supplied with this question paper.)

Theme: Health & Environment

- 22 State the harmful effects of consumption of tobacco and the steps taken by government to reduce it. 2
- 23 Water is an important source of chemical hazard. Give three examples to support the statement. 3
- 24 Give a brief account of Bhopal gas tragedy. 5

SECTION - C

- 25 In an experiment to verify the laws of reflection of sound, position of the ticking clock should be along the :- 1
- (a) axis of pipe (b) radius of pipe
 (c) diameter of pipe (d) any where near the pipe
- 26 In an experiment Sudhir took a solid iron cuboid having mass 5 kg and dimensions 30 cm x 20 cm x 10 cm. He kept the cuboid on the table. The force and the pressure exerted by this cuboid on the table top if it lies with its face of dimensions 20 cm x 10 cm respectively would be. 1
- (a) 4.9 N and 2.45 Nm^{-2} (b) 49 N and 2450 Nm^{-2}
 (c) 0.49 N and 0.245 Nm^{-2} (d) 490 N and 24.50 Nm^{-2}
- 27 The qualities in a slinky which you will like to choose for your experiment on speed of pulse are : 1
- (a) It should be short, soft and flexible.
 (b) It should be long, soft and flexible.
 (c) It should be short, rigid and flexible.
 (d) It should be long, rigid and flexible.
- 28 Some students want to prepare a temporary mount of spirogyra. Where should they search for a fresh specimen ? 1
- (a) In a pond of salty water
 (b) In a pond of stagnant dirty water
 (c) In a stream of running fresh water
 (d) In a stream of running salty water
- 29 If in a chemical reaction one of the products is a gas, then to verify the law of conservation of mass, the reaction will be carried out in an / a : 1
- (a) open container (b) closed container
 (c) under water (d) empty room
- 30 Which of the following is the correct set up for observing the law of conservation of mass in a chemical reaction before the solutions are mixed? 1



31 The correct identification of dicotyledonous plant from the following figures is : 1



A



B



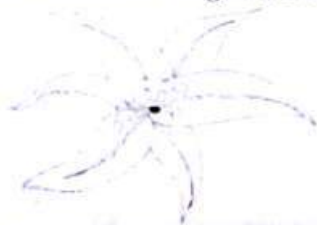
C



D

- (a) both A and C
 (b) A, B and D
 (c) both B and C
 (d) both C and D

32 Observe the diagram below and identify it : 1



- (a) trimerous flower of monocotyledonous plant.
 (b) trimerous flower of dicotyledonous plant.
 (c) pentamerous flower of monocotyledonous plant.
 (d) pentamerous flower of dicotyledonous plant.

33 Nandini saw very small creatures in a pot with water lying in the garden. In the life cycle of a mosquito the stage represented by these creatures is : 1

- (a) Egg
 (b) Larva
 (c) Pupa
 (d) Adult

34 (i) If we want to determine the volume of a solid by immersing it in water, then what kind of solid should we take ? 2

(ii) If a body floats on the surface of a liquid, then how much is the weight of the liquid displaced as compared to weight of body ?

35 In an experiment to establish the relation between the loss in weight of a solid when fully immersed in tap and salty water separately a student inferred the correct result as follows : 2
 (Complete the result by filling appropriate words)

(a) The loss in weight of the solid immersed in the liquid is _____ to the weight of the liquid displaced by that solid, which proves the _____ Principle.

(b) The loss in weight of the solid in strongly salty water is _____ as compared to the tap water for the same solid as up thrust in salty water is _____ than in tap water.

36 If the weight of displaced water by an object weighing 50 N is 10 N, then find the buoyant force of water on the object. What will be the weight of object in water ? 2

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