

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

- | | | |
|---|--|---|
| 1 | If K L and M shells of an atom are completely filled with electrons, then what would be : | 1 |
| | (i) The total number of electrons in the atom ? | |
| | (ii) Find its valency. | |
| 2 | Name two scientists who established the laws of chemical combination. | 1 |
| 3 | What are lichens? | 1 |
| 4 | The volume of a 350 g sealed tin is 200 cubic cm. Find the density of the tin in g/cc. Also find the density in SI unit. | 2 |
| 5 | State the laws of reflection of sound waves. | 2 |
| 6 | (a) State two important postulates of Bohr's model of an atom. | 3 |
| | (b) If K and L shells of an atom are full then what would be the total number of electrons in the atom ? | |
| 7 | Write the chemical names of the following compounds : | 3 |
| | (a) K_2SO_4 (b) $Mg_3(PO_4)_2$ (c) NH_4Cl | |
| | (d) ZnS (e) Na_3N (f) $AgBr$ | |
| 8 | Define formulae unit mass of a compound. Calculate the formulae unit mass of following compounds :- | 3 |
| | (a) $Na_2CO_3 \cdot 10H_2O$ (b) $CuSO_4$ | |
| | (Given atomic mass of Na = 23u, C = 12u, O = 16u, Cu = 63.5u, S = 32u) | |

- 9 Differentiate between infectious and non-infectious diseases (any three differences). 3
- 10 Name three plants under the group Thallophyta. Mention three characteristics of this group. 3
- 11 What are viruses ? How do they multiply ? Why are antibiotics ineffective in case of viral diseases ? 3
- 12 The dimensions of a rectangular block of mass 10 kg kept on a table are $0.2 \times 0.1 \times 0.05 \text{ m}^3$. Find the pressure exerted by the block if it is kept on the table with sides of dimensions : 3
 (a) $0.2 \times 0.1 \text{ m}^2$ and (b) $0.1 \times 0.05 \text{ m}^2$? (Take $g=10 \text{ m/s}^2$)
- 13 Identify the part producing sound in the following musical instruments : 3
 (a) Tabla (b) Mouthorgan (c) Veena
 Name the type of wave produced in each case.
- 14 (a) State Archimedes' principle. Give its two applications ? 3
 (b) When an object is immersed in the fluid, name the two forces acting on it ?
- 15 (a) Define Power. Write its SI unit. 3
 (b) Compute the power required by a man to move a 10 kg mass to change the speed from 10 m/s to 20 m/s in 5 sec.
- 16 Ritwick's family received a heavy electricity bill and decided not to pay it. His friend Sujoy explained them the importance of paying all bills on time and suggested some methods to reduce the units consumed in future. 3
 (i) Write the commercial unit of Electrical energy.
 (ii) What is its relation with the SI unit of energy ?
 (iii) What values of Sujoy do you observe from his suggestions ?
 (iv) List any two ways you practice at home to save electricity.
- 17 (a) Atom is considered electrically neutral. Explain. 5
 (b) State the valency of Helium.
 (c) If an atom has atomic mass 4 and 2 protons in its nucleus, how many neutrons does it have ?
- 18 Classify organisms of kingdom protista on the following basis and give an example of each : 5
 (a) Based on structure for locomotion
 (b) Based of mode of nutrition
- 19 How do infectious diseases spread in a community ? Make a list of all the possible means of spread of diseases. 5
- 20 (a) Establish a relationship between speed of sound, its frequency and wavelength. 5
 (b) If the velocity of sound in air is 340 m/sec. Find :
 (i) frequency when wavelength is 0.65 m
 (ii) wavelength when frequency is 400 Hz.
- 21 (a) Write an expression for potential energy of an object with mass a placed at height h . Write SI unit of potential energy. 5
 (b) Find the ratio of changed potential energy to the original potential energy if the mass of the object is halved.
 (c) Find the ratio of changed potential energy to the original potential energy if the object is now placed at half of its original height from the ground.

SECTION - B (OTBA)

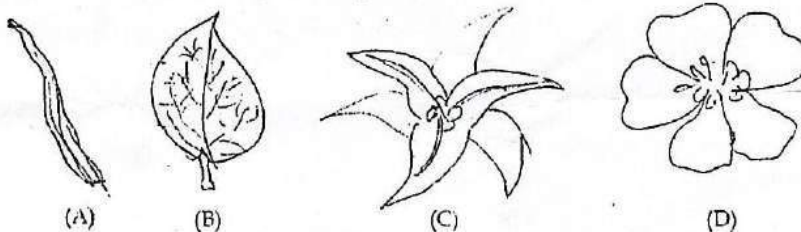
(* Please ensure that open text of the given theme is supplied with this question paper.)

Theme: Solid Waste Management

- 22 What does 'source reduction's' & 'source separation' imply? 2
- 23 Suggest some amendments in the present rules which would help in better management of solid waste. 3
- 24 What are the objectives of solid waste management? 5

SECTION - C

- 25 In an experiment to verify the laws of reflection of sound, we need : 1
- (a) A polished mirror.
 (b) A concave surface painted blue.
 (c) A large size, opaque reflecting surface .
 (d) A glass plate.
- 26 Thrust of an iron cuboid on fine sand is equal to : 1
- (a) Mass of cuboid (b) Weight of cuboid
 (c) Volume of cuboid (d) Surface area of cuboid
- 27 In an experiment to find the speed of pulse propagated through a slinky, the pulse is produced : 1
- (a) by pulling the slinky towards us.
 (b) by giving a jerk into the slinky in the direction perpendicular to its length.
 (c) by pushing the slinky in vertically upward direction only.
 (d) by pushing the slinky so as to compress it.
- 28 Observe the parts A and B of the plant shown in the diagram. This plant belongs to sub division : 1
- (a) Bryophyta (b) Pteridophyta
 (c) Gymnosperm (d) Angiosperm
- 29 In a chemical reaction 63.8 g of copper sulphate solution completely reacts with 42.4 g of sodium carbonate solution. After the reaction 56.8 g of sodium sulphate and some amount of copper carbonate were formed. The exact mass of copper carbonate formed is : 1
- (a) 43.4 g (b) 56.4 g
 (c) 106 g (d) 49.4 g
- 30 In an experiment to verify the Law of conservation of mass 30 g solution of lead nitrate taken in a test tube was poured into a beaker containing 30 g of sodium chloride solution. The mass of the products obtained in beaker would be : 1
- (a) 60 g (b) 30 g (c) 40 g (d) 50 g
- 31 What do the following figures A, B, C and D indicate. 1



- (a) A - Reticulate venation B - Parallel venation C - Pentamerous flower D - Trimerous flower
- (b) A - Parallel venation B - Reticulate venation C - Pentamerous flower D - Trimerous flower
- (c) A - Reticulate venation B - Parallel venation C - Trimerous flower D - Pentamerous flower
- (d) A - Parallel venation B - Reticulate venation C - Trimerous flower D - Pentamerous flower

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- 32 Science teacher asked Reema to study the external features of roots leaves and flowers of monocot and dicot plants, Reema observed the plants and recorded her conclusions as follows
(A) Monocot root is fibrous and dicot root is a tap - root.
(B) A monocot leaf shows parallel venation where as dicot leaf shows reticulate venation.
(C) A monocot flower is pentamerous but dicot flower is trimerous.
(D) In seeds of monocotyledonous plant one cotyledon and in dicotyledonous plant two cotyledons are present.
Which of her conclusions would have been marked incorrect by her teacher ?
(a) (A) (b) (B) (c) (C) (d) (D) 1
- 33 The least active stage in the life cycle of a mosquito is : 1
(a) Imago (b) Larva
(c) Pupa (d) Adult
- 34 A student is determining the density of a solid by using spring balance and measuring cylinder. What law is applied by him ? State the law. 2
- 35 A 500 g mass body is immersed in two liquids X and Y in succession. The extent to which the body sinks in liquid Y is less than that in liquid X. From such observation compare the densities of liquids X and Y. Justify your answer. 2
- 36 Based on the table of densities name the materials in which an object of density 5.07 g/cm^3 would sink and the materials on the surface of which it will float. 2

Material	Density g/cm^3
Gasoline	0.7
Mercury	13.6
Paraffin (wax)	0.87
Molten lead	11.3

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