

SUMMATIVE ASSESSMENT - II (2015-16)

SCIENCE
Class - IX
Set - A

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 | Write the symbols of phosphorus and potassium? | 1 |
| 2 | Where are the electrons and protons located in an atom ? | 1 |
| 3 | Why do you think that a plant cell is categorised under eukaryotic cell ? Give two reasons. | 1 |
| 4 | An echo returned in 6 sec. Calculate the distance of the reflecting surface. Given speed of sound in air is 344 m/s. | 2 |
| 5 | 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 |
| 6 | What do you understand by atomicity of an element ? Name two poly-atomic elements. Also write their chemical formulae. | 3 |
| 7 | Illustrate stepwise how will you find the valency of the following elements: | 3 |

(a) Chlorine (b) Potassium (c) Phosphorus

- 8 (a) State reason for the following statements : 3
(i) Some elements possess fractional atomic mass.
(ii) Isotopes of an element have similar chemical properties.
(iii) Noble gases are inert.
- 9 All mammals give birth to young ones. 3
(a) Name two mammals which lay eggs.
(b) Name a mammal which gives birth to poorly developed young one.
- 10 Do antibiotics help us when we have common cold ? If we get a bacterial infection along with the common cold then will the antibiotics help us ? 3
- 11 What do you mean by the symptom of disease ? Explain giving two examples. 3
- 12 (a) The volume of 40 g of a solid is 15cm^3 . If the density of water is 1g/cm^3 , will the solid float or sink ? State reason. 3
(b) Why is it easier to lift a heavy stone under water ?
- 13 Distinguish between echo and reverberation. (give two points) Write one application of each. 3
- 14 Define work. State SI unit of work. Calculate the work done in pushing a cart through a distance of 4 m against the force of friction equal to 150 N. Also state the type of work done. 3
- 15 An object of mass m when raised to height h possesses a potential energy of 1200 J. Find the new potential energy : 3
(a) if the same object is raised to height $h/4$.
(b) if the same object is raised to height $4h$.
- 16 A Goldsmith measured the purity of the gold by using a special measuring device. He told the customer that there was impurity present in gold ornament that he wanted to buy and was not of twenty two carats but instead of 18 carat. 3
(a) How can we find purity of gold?
(b) What is the unit of relative density?
(c) Why did the goldsmith disclose impurity in the gold ornament?
- 17 (a) Explain why the number of atoms in one mole of hydrogen gas is double the number of atoms in one mole of helium gas ? 5
(b) Explain atomic mass unit.
(c) How many atoms are present in -
(i) MnO_2 molecule (ii) CO molecule
- 18 'Classification of life forms is closely related to their evolution'. Do you agree with this statement ? Comment with an example. 5

- 19 Justify the following statements : 5
- (a) Availability of proper and sufficient food would prevent from infectious diseases “.
- (b) “The general ways of preventing infection mostly relate to preventing exposure” List three points of prevention of exposure.
- 20 (a) Name the physical quantity described by 5
- (i) maximum displacement of a particle from its mean position.
- (ii) distance between two consecutive crests.
- (b) Identify the characteristics of sound which depend respectively on amplitude and frequency.
- (c) What is meant by the statement “300 Hz frequency?”
- (d) Establish the relation between velocity of sound, wavelength and time period.
- 21 (a) Define power. Give its unit. 5
- (b) A moving body of mass 20 kg has 40 Joules of kinetic energy. Calculate its speed.
- (c) A person carrying a load of 20 kg climbs 4 m in 10 seconds. Calculate the work done and his power. ($g = 10 \text{ m/s}^2$)

SECTION - B (OTBA)

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

- 22 List two schemes for conservation of water bodies. 2
- 23 What is full form of NRCP? What is its objective? Name any famous NRCP Plan launched for a river. 3
- 24 Explain why is water considered to be a wonder liquid? Being a student what is your role to foster awareness in the masses at community level for its conservation? 5

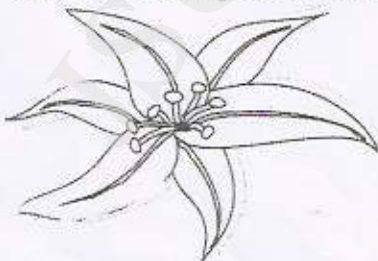
Section - C

- 25 While doing the experiment “to verify the laws of reflection of sound”, the sound received in the ears should be : 1
- (a) the sum total of the direct sound from the clock and the reflected sound coming through the tube.
- (b) the direct sound from the clock.
- (c) the sound reflected from any reflecting surface.
- (d) the sound coming through the tube after reflection.
- 26 To observe and compare the pressure exerted by an iron cuboid, the following apparatus is available in the laboratory. 1
- (i) Completely wet sand in a tray
- (ii) Moist sand in a tray
- (iii) Dry sand in a tray
- (iv) pebbles mixed with sand in a tray.
- The best choice is :
- (a) (i) and (ii)

$$\begin{array}{r} 216 \times \\ \hline 229.5 \end{array}$$

- (b) (ii)
(c) (iii)
(d) (i) and (iv)

- 27 The kind of waves which can be generated by a slinky are : 1
(a) Only longitudinal waves
(b) Only transverse waves
(c) Both longitudinal waves and transverse waves
(d) Neither longitudinal waves nor transverse waves
- 28 Organisms which obtain their food from non-living material in their environment are called : 1
(a) Parasites (b) Saprophytes
(c) Epiphytes (d) Sporophytes
- 29 Aqueous solutions of silver nitrate and sodium chloride are made to react in a closed vessel. 1
Which of the following observations is correct ?
(a) A white precipitate is formed
(b) A blue precipitate is formed
(c) A gas is evolved with effervescence
(d) A slow reaction takes place
- 30 Ravi wants to perform an experiment to verify the Law of Conservation of mass in a chemical 1
reaction. To get best result which pair of reactants should he select ?
(a) Quick lime and water
(b) To heat ferrous sulphate crystals
(c) Magnesium ribbon and copper sulphate solution
(d) Copper sulphate solution and sodium carbonate solution
- 31 Soaked seeds of gram and wheat were given to Aman. He removed the seed coats to count the 1
number of cotyledons and correctly concluded that :
(a) Gram : Monocotyledonous; Wheat : Monocotyledonous
(b) Gram : Dicotyledonous; Wheat : Monocotyledonous
(c) Gram : Monocotyledonous; Wheat : Dicotyledonous
(d) Gram : Dicotyledonous; Wheat : Dicotyledonous
- 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 Out of the following statements regarding the different stages in the life cycle of a mosquito which one is incorrect? 1
- (a) The eggs of mosquito are deposited on stagnant water.
 - (b) The larvae hatch out from the eggs within one hour.
 - (c) The larva stage is followed by the pupa stage.
 - (d) From the pupa an adult mosquito emerges.
- 34 The mass of a solid iron cube of side 3 cm is to be determined by using a spring balance. If the density of iron is about 8.5 g CC^{-1} , What should be the least count of the best suited spring balance to determine the weight of solid? 2
- 35 To establish the relation between the loss in weight of a solid when immersed in tap water and salty water, and weight of water displaced by it an iron ball is hanged from the hook of a spring balance first in air then fully immersed in tap water and then fully immersed in salty water. In which case the reading on the spring balance will be maximum and why? 2
- 36 What are the functions of tail fin of a fish? 2

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