

26 March 2016

SET - A

SUMMATIVE ASSESSMENT - II (2015-16)

**SCIENCE
Class - IX**

Time allowed: 3 hours

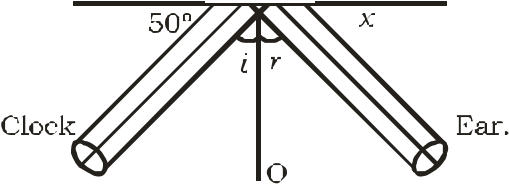
Maximum Marks: 90

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	State the postulate of Dalton's atomic theory which can explain the law of conservation of mass.	1
2	Diagrammatically show the electronic distribution of Na ⁺ in its orbit.	1
3	The immediate causes of many diseases are not infectious. Name any two such diseases.	1
4	Audio frequency range of a human ear is 20 Hz to 20,000 Hz. Express the range in terms of time period.	2
5	Define : (a) fluid (b) buoyant force	2
6	Calculate the molar mass of (a) HNO ₃ (b) Al ₂ (SO ₄) ₃ (c) CaCO ₃ [Given that atomic mass of Al=27 u, S=32 u, O=16 u, Ca=40 u, C=12 u, H=1 u, N=14 u, O=16 u]	3

7	<p>(a) Answer the following questions :</p> <p>(i) Name the scientist who discovered protons.</p> <p>(ii) What is the charge and mass of a proton ?</p> <p>(iii) Where is proton located in an atom ?</p> <p>(b) An atom of an element has mass number 28 u and its atomic number is 14. How many neutrons does it have ? Also name the element.</p>	3
8	State difference between anion and cation.	3
9	Classify the following organisms on the basis of absence or presence of true coelom (i.e. Coelomate, Acoelomate and pseudocoelomate): Ascaris , Herdmania, Earthworm, Planaria, Fishes, Humans	3
10	Tabulate three differences between acute and chronic diseases.	3
11	<p>Explain the following giving reasons :</p> <p>(a) Balanced diet is necessary for maintaining healthy body.</p> <p>(b) Health of an organism depends upon the surrounding environmental conditions.</p>	3
12	Calculate the work required to stop the car of 1500 kg moving at a speed of 72 km/h by applying brakes.	3
13	<p>(a) Suggest two ways to decrease pressure on a surface.</p> <p>(b) Density of an object is 1.8 g/cm^3. Express it in kg/m^3.</p>	3
14	<p>(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.</p> <p>(b) Why is it easier to lift a heavy stone under water ?</p>	3
15	<p>State the laws of reflection of sound.</p> <p>For hearing the loudest ticking sound of the table clock, what should be the angle x?</p> 	3
16	<p>Nalini visited her relative in Raipur. One day her aunt expressed unhappiness with the milk supplied by the milkman. She complained of adulterated milk. Nalini asked her to buy an instrument to check the purity of milk. Next day, the supplied milk was tested and found water being mixed in the milk. Her aunt informed all her neighbors about the instrument.</p> <p>On the basis of above information answer the following questions:-</p> <p>(a) Identify the instrument and the principle on which it is based ?</p> <p>(b) Write the values shown by Nalini, her aunt and the milkman respectively ?</p>	3

17	An atom of an element has 4 electrons in the outermost M shell. What will be the atomic number of this element ? Name this element. Find the valency of this element. Draw a schematic diagram of its atom showing the distribution of electrons in its shells.	5
18	Construct a table to differentiate between Monera and Fungi on the following grounds – (a) Body organization (b) Prokaryotic/Eukaryotic (c) Cell Wall (d) Mode of nutrition Name an organism belonging to each of the two kingdoms.	5
19	Many cases of Malaria are reported in city hospitals. (a) Mention any two unhygienic conditions that must have helped in spreading this disease. (b) Name the vector that must have carried the pathogen. (c) Why the female vector prefers human blood, only ? (d) What prevention methods should be followed to avoid infection of this disease ?	5
20	(a) Define power. Give its unit. (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. ($g = 10 \text{ m/s}^2$)	5
21	(a) State Archimedes principle. (b) It is easier to swim in sea water than in river water. Why? (c) Give any two important applications of Archimedes principle. (d) What do you mean by relative density of a substance? What is its unit?	5
SECTION - B (OTBA)		
(* Please ensure that open text of the given theme is supplied with this question paper.)		
Conservation of Water Bodies		
22	What is the main objective of programme RRR launched by government?	2
23	Suggest some ways in which you can create awareness about water conservation in your neighbourhood.	3
24	What indicates that the river water is polluted and can no longer be used for human consumption? How can we as responsible citizens help in conservation of rivers that are the lifelines of our survival?	5
Section - C		
25	The loudness of reflected sound heard is maximum when the inner surface of tubes are : (a) rough and uneven (b) solid and polished (c) smooth and polished (d) hollow, smooth and polished	1

26	To compare the pressure exerted by a student on a table, it will be observed that pressure will be maximum when the student will : (a) sit on the table (b) stand on the table (c) sleep on the table (d) equal in all the three cases	1
27	The relationship between pulse velocity, frequency and wavelength is : (a) frequency = pulse velocity \times wavelength (b) wavelength = pulse velocity \times frequency (c) frequency = pulse velocity / wavelength (d) pulse velocity = frequency \times wavelength	1
28	Which of the following is not a feature of monocots ? (a) Trimerous flowers (b) Fibrous root system (c) Leaf with parallel venation (d) Secondary growth	1
29	In a chemical reaction the mass of the products is 56 g. If the mass of one of the reactants is 26 g, then according to the law of conservation of mass, the mass of the other reactant will be : (a) 26 g (b) 36 g (c) 30 g (d) 82 g	1
30	According to the law of conservation of mass: (a) Mass of reactants=Mass of products (b) Volume of reactants=Volume of products (c) Molecules of reactants=Molecules of products (d) Moles of reactants=Moles of products	1
31	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 are of Her conclusions would have been marked incorrect by her teacher ? (a) (A) (b) (B) (c) (C) (d) (D)	1
32	The classification of monocot and dicot plant can be done on the basis of : (a) Number of cotyledons, leaf venation and colour of flower. (b) Thickness of stem, arrangement of flowers and leaf venation. (c) Floral parts, leaf venation and number of cotyledons. (d) Leaf shape, roots and nature of fruit.	1

33	The correct sequence in the life cycle of a mosquito is :- (a) egg → pupa → adult (b) egg → directly to adult (c) egg → pupa → larva → adult (d) egg → larva → pupa → adult	1
34	A student observed that a block of mass 100 g displaced 50 mL of water when dipped in measuring cylinder. Calculate the density of the block.	2
35	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
36	How do cockroaches breathe ? On which side of the body are these structures present ?	2
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