

**SUMMATIVE ASSESSMENT - II (2015-16)**  
**SCIENCE**  
**Class - IX**

Time allowed: 3 hours

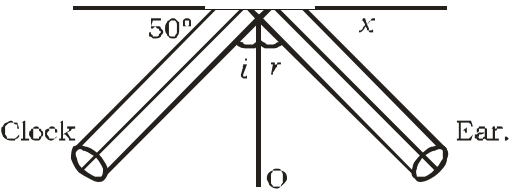
Maximum Marks: 90

**General Instructions :**

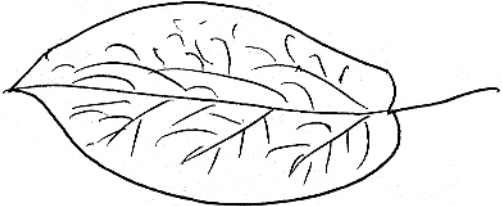
- (i) The question paper comprises of **three Sections, A, B and C**. You are to attempt all the sections.
- (ii) **All questions are compulsory.**
- (iii) **All questions of Section-A, Section-B and Section-C** are to be attempted separately.
- (iv) Question numbers **1 to 3** in **Section-A** are **one 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**

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| 1 | Diagrammatically show the electronic distribution of $\text{Na}^+$ in its orbit.  | 1 |
| 2 | State the postulate of Dalton's atomic theory which can explain the law of conservation of mass.  | 1 |
| 3 | The immediate causes of many diseases are not infectious. Name any two such diseases.   | 1 |
| 4 | Define :<br>(a) fluid<br>(b) buoyant force  | 2 |
| 5 | Identify and state the type of transformation of energy in the following cases :<br>(a) riding a bicycle<br>(b) burning of cracker  | 2 |
| 6 | State difference between anion and cation.  | 3 |
| 7 | Calculate the molar mass of (a) $\text{HNO}_3$<br>(b) $\text{Al}_2(\text{SO}_4)_3$ (c) $\text{CaCO}_3$<br>[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 |

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| 8  | <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 |
| 9  | <p>Name two plants each of the following types :</p> <p>(i) Vascular cryptogams</p> <p>(ii) Naked seeded plants</p> <p>(iii) Flowering plants.</p>   | 3 |
| 10 | Tabulate three differences between acute and chronic diseases.   | 3 |
| 11 | From where does the term Echinoderma originate ? Mention two animals belonging to Echinodermata.   | 3 |
| 12 | <p>(a) The volume of 40 g of a solid is 15cm<sup>3</sup>. If the density of water is 1g/cm<sup>3</sup>, will the solid float or sink ? State reason.</p> <p>(b) Why is it easier to lift a heavy stone under water ?</p>   | 3 |
| 13 | <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 <math>x</math>?</p>   | 3 |
| 14 | Calculate the work required to stop the car of 1500 kg moving at a speed of 72 km/h by applying brakes.  | 3 |
| 15 | <p>(a) Suggest two ways to decrease pressure on a surface.</p> <p>(b) Density of an object is 1.8 g/cm<sup>3</sup>. Express it in kg/m<sup>3</sup>.</p>  | 3 |
| 16 | <p>Dev while watching a show named "Mega-structures" on television observed that metal blocks are used in the construction of big-structures. Workers for detecting flaws or defect inside the metal blocks were using ultrasound. His brother asked him about this technique. Dev explained it to him.</p> <p>(a) What is ultrasound ? Write its two other applications.</p> <p>(b) What value is depicted from Dev's behaviour ?</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 |

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| 18 | Many cases of Malaria are reported in city hospitals.<br>(a) Mention any two unhygienic conditions that must have helped in spreading this disease.<br>(b) Name the vector that must have carried the pathogen.<br>(c) Why the female vector prefers human blood, only ?<br>(d) What prevention methods should be followed to avoid infection of this disease ? | 5 |
| 19 | Construct a table to differentiate between Monera and Fungi on the following grounds –<br>(a) Body organization<br>(b) Prokaryotic/Eukaryotic<br>(c) Cell Wall<br>(d) Mode of nutrition<br>Name an organism belonging to each of the two kingdoms.  | 5 |
| 19 | Mrs. Chaturvedi had just recovered from tuberculosis. She still felt weak and tired all the time. What do you infer about the type of disease? Write three characteristics of such diseases. Name two other diseases belonging to this category.  | 5 |
| 20 | (a) State Archimedes principle.<br>(b) It is easier to swim in sea water than in river water. Why?<br>(c) Give any two important applications of Archimedes principle.<br>(d) What do you mean by relative density of a substance? What is its unit?  | 5 |
| 21 | (a) Define power. Give its unit.<br>(b) A moving body of mass 20 kg has 40 Joules of kinetic energy. Calculate its speed.<br>(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 |
|    | <b>SECTION - B (OTBA)</b><br><b>(* Please ensure that open text of the given theme is supplied with this question paper.)</b><br><b>Conservation of Water Bodies</b>  |   |
| 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 |
|    | <b>Section - C</b>  |   |
| 25 | The loudness of reflected sound heard is maximum when the inner surface of tubes are :<br>(a) rough and uneven                      (b) solid and polished<br>(c) smooth and polished                  (d) hollow, smooth and polished  | 1 |
| 26 | To observe and compare the pressure exerted by a solid cuboid on a fine sand while resting on the three phases and to calculate it the type of cuboid the student will choose is :<br>(a) Cuboid of plastic                              (b) Hollow cuboid of iron<br>(c) Solid cuboid of iron                          (d) Cuboid of wood                      | 1 |

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| 27        | A single disturbance is created in a medium and it lasts for a short while. It is called :<br>(a) a Wave (b) a Pulse<br>(c) a Crest (d) a Trough  | 1 |
| 28        | A student identified a specimen as mushroom. The basis on which he has identified this is :<br>(a) umbrella shaped with chlorophyll.<br>(b) umbrella shaped without chlorophyll.<br>(c) it has root, stem and leaf.<br>(d) it has capsule at its tip.           | 1 |
| 29        | According to the law of conservation of mass:<br>(a) Mass of reactants=Mass of products<br>(b) Volume of reactants=Volume of products<br>(c) Molecules of reactants=Molecules of products<br>(d) Moles of reactants=Moles of products                           | 1 |
| 30        | 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 :<br>(a) 26 g (b) 36 g<br>(c) 30 g (d) 82 g                     | 1 |
| 31        | Leaves of which of the following plants has reticulate venation in their leaves as shown in figure below ?<br><br>(a) Rose plant (b) Maize plant<br>(c) Grass (d) Wheat plant | 1 |
| 32        | The plant which has tap root system is :<br>(a) wheat (b) mint<br>(c) grass (d) maize   | 1 |
| 33        | Male mosquito feeds on :<br>(a) blood and sugar (b) blood<br>(c) nectar and sugar (d) blood and nectar  | 1 |
| 34        | In a spring balance the space between 0 and 25 gram weight marks is divided into 10 equal parts. Find the least count of the spring balance.  | 2 |
| 35        | When an object is kept on a liquid, then two forces act on it. Name the two forces and their directions.  | 2 |
| 36        | How do cockroaches breathe ? On which side of the body are these structures present ?   | 2 |
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