

**INTERNATIONAL INDIAN SCHOOL DAMMAM**  
**SUMMATIVE ASSESSMENT II**

**CLASS: IX**

**SUBJECT: SCIENCE**  
**SET A**

**TIME: 3.30 hrs**  
**MAX MARK: 90**

**GENERAL INSTRUCTIONS**

- a) The question paper comprises of two sections : A and B. You have to attempt both the sections
- b) All questions of section A and section B are to be attempted separately.
- c) Question numbers 1 to 3 in section A are one mark questions. These are to be answered in one word or one sentence.
- d) Question numbers 4 to 6 in section A are two marks questions. These are to be answered in about 30 words each.
- e) Question numbers 7 to 18 in section A are three marks questions. These are to be answered in about 50 words each.
- f) Question numbers 19 to 22 in section A are five marks questions. These are to be answered in about 50 words each.
- g) Question numbers 23 and 24 to be answered briefly on the basis of the OTBA material given.
- h) Question numbers 25 to 33 in section B are multiple choice questions based on practical skills. You are to select the most appropriate response from the four provided to you.
- i) Question numbers 34 to 36 in section B are 2 marks questions.

**SECTION A**

- |   |  |   |
|---|--|---|
| 1 | What is the frequency of wave with time period 0.025 s   | 1 |
| 2 | Two bodies A and B of equal masses are kept at heights of h and 2h respectively. What will be the ratio of their potential energies  | 1 |
| 3 | Against which disease is BCG vaccination method used?  | 1 |
| 4 | Name the compounds whose chemical formulae are<br>(a) $Zn_3(PO_4)_2$ (b) $(NH_4)_2SO_4$  | 2 |
| 5 | Name two diseases that are organ specific.   | 2 |
| 6 | A cargo ship is loaded in sea water to its maximum capacity. What will happen if this ship is moved to river water? Give reason for your answer.   | 2 |
| 7 | Five electric fans of 120 Watts each are used for 4 hours. Calculate the electrical energy consumed in kilowatt-hours and in joules.   | 3 |
| 8 | What is reverberation? Suggest two methods to reduce it in big halls.  | 3 |
| 9 | a) State Archimedes principle. Give two applications of this principle<br>b) A sphere of iron and another of wood having the same radius are held under water. Which of these experiences greater buoyant force and why? | 3 |

- 10 An element has atom with 13 electrons. 3
- Draw a diagram to show the electron distribution.
  - Write the electronic configuration in its +3 ion
  - Name the element.
- 11 a) The mass of one molecule of a substance is  $4.5 \times 10^{-23}$  grams. What is its molecular mass? 3
- b) Calculate the number of moles in 270gms of Aluminium (Al-27u)
- 12 a) From Rutherford's alpha particle scattering experiment, give the experimental evidence for deriving conclusion that 3
- most of the space inside the atom is empty
  - Nucleus of an atom is positively charged.
- b) If an element has mass number ~~35~~ and atomic number ~~17~~ find
- Number of neutrons in the element.
  - Number of electrons in the outermost shell.
- 13 Define the following characteristics of sound. 3
- Pitch
  - Wavelength
  - Amplitude
- 14 In an experiment to verify the laws of reflection of sound, Nandita plotted graphs for different observation between angle of incidence and angle of reflection. But her friend Samita helped her in plotting the correct graph. Nandita thanked Samita for timely help. 3
- What values are displayed by Samita?
  - State the law relating the angle of incidence and angle of reflection.
  - Draw the correct graph between angle of incidence and angle of reflection.
- 15 Differentiate between Monocot and Dicot. 3
- 16 Name the Phylum to which the following organisms belong: 3
- Sponge
  - Spider
  - Hydra
  - Tapeworm
  - Starfish
  - Octopus
- 17 Differentiate between Acute and Chronic diseases with an example for each. 3
- 18 1. What are called as the Amphibians of the Plant Kingdom? 3
2. Mention any two characteristic feature of this Division?
- 19 a) What is SONAR? With the help of a diagram explain how is it useful in determining the depth of ocean. 5
- b) A longitudinal wave of wavelength 1cm travels in air with a speed of 330m/s. Calculate the frequency of the wave. Can this wave be heard by a normal human being?

- 20 a) Justify by giving proper reasoning whether the workdone in the following cases is zero, positive or negative 5
- i. Workdone by a man in lifting a bucket out of a well by means of a rope tied to the bucket.
  - ii. Workdone by friction on a body sliding down an inclined plane.
- b) A rocket of  $3 \times 10^6$  kg mass takes off from a launching pad and acquires a vertical velocity of 1 km/s at an altitude of 25 km. Calculate
- i) Potential energy and (ii) kinetic energy.
- (Take  $g = 10 \text{ m/s}^2$ )

- 21 a) Give reasons for the following 5
- i. Isotopes of an element are chemically similar.
  - ii. An atom is electrically neutral.
- b) State the difference between isotope and isobar. Give one example each.

- 22 1. What is the full form of AIDS? 5
2. Name the Virus that causes AIDS.
3. Write three causes for the spread of AIDS.

**OTBA – Q 23 & 24**

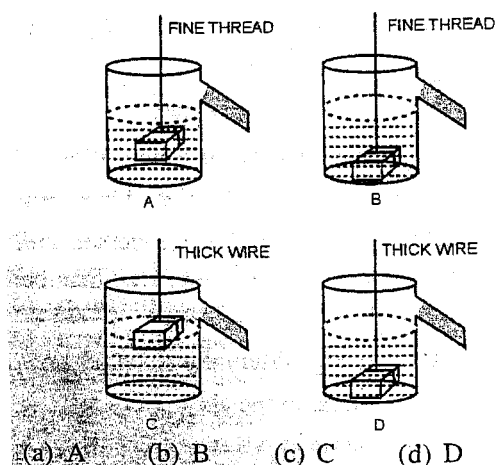
- 23 1. Suggest measures to maintain the quality of water collected through Rain Water Harvesting. 5
2. Write a letter to the Principal of the school suggesting ways in which Sanitation practices can be improved in the nearby village.

- 24 Suggest Sanitation practices which may lead to reduction of Air and Soil Pollution from the inputs from the above case studies. 5

**SECTION B**

- 25 If the air in the room warms up the speed of sound 1
- (a) Increases (b) remains the same
- (b) Decreases (d) fluctuates

- 26 The correct experimental set up for determining the mass of a solid in water is shown in the figure. 1



- 27 The buoyant force acting on a body due to different fluid is 1  
(a) Different (b) same  
(b) Zero (d) none of these
- 28 A glass cube has dimensions 10cmx10cmx10cm.It rests with its perfect face (10cmx10cm) in 1  
contact with the table top.If it is lifted and allowed to rest on the other surface, the  
pressure exerted will  
a) Increase  
b) decrease  
c) remain unchanged  
d) may increase or decrease depending on the shape of the table.
- 29 The unit of pulse velocity is 1  
(a) second (b)kilogram  
(c) metre/second (d)newton
- 30 The Malaria causing organism carried by a Mosquito is 1  
(a) Plasmodium (b) Amoeba (c) HIV (d) None of these
- 31 An animal covered by chitin covering, having wings, antennae and jointed legs is; 1  
(a) Cockroach (b) Flatworm (c) Leech (d) Nereis
- 32 Feathers and Beaks are present in this animal class; 1  
(a) Aves (b) Reptilia (c) Amphibia (d) Mammalia
- 33 What is the name of the excretory organs of an Earthworm? 1  
(a) Nephridia (b) Malpighian tubules (c) Body surface (d) Flame cells
- 34 What is an echo?Calculate the minimum distance required between the source of sound 2  
and the reflecting body for hearing an echo when velocity of sound is 340m/s
- 35 A solution of barium chloride containing 2.08g of the salt is mixed with the solution of 2  
sodium sulphate when the products formed are barium sulphate (2.33 gm)and sodium  
chloride(1.17gm).Name the salt which forms precipitate.Calculate the amount of sodium  
sulphate in its solution for the completion of reaction.
- 36 Give two identifying features of Dicotyledonous plant. 2