

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	Write atomicity of the following : (i) Sulphur (ii) Phosphorus	1
2	Where are the electrons and protons located in an atom ?	1
3	Who proposed the system of binomial nomenclature for organisms?	1
4	Define density and relative density. Give their SI unit.	2
5	Write the commercial unit of electrical energy. Derive the relation between the commercial unit of energy and joules. What is meant by the statement that the wattage of an electric iron is 1000 W.	2
6	(a) Which among the following has more number of molecules : 1 g of hydrogen (H ₂) or 1 g of methane(CH ₄) ? (Atomic mass of H = 1 u, C = 12 u) (b) Calculate the number of particles in 46 g of Na atoms. (Atomic mass of Na = 23 u)	3
7	(a) How many electrons are present in the valence shell of nitrogen, oxygen and argon ? (b) Nucleus of an atom has 5 protons and 6 neutrons. What is the atomic number, mass number and electronic configuration of the atom ?	3

8	Write the chemical formulae for the following compounds and find the ratio by mass of the combining elements in each one of them. (N = 14 u, H = 1 u, C = 12 u, O = 16 u, S = 32 u) (a) Methane (b) Carbon dioxide (c) Hydrogen Sulphide	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	What are vectors? Name one commonest vector. Explain how the female organism of this vector spreads malaria.	3
11	(a) From where does the term disease originate? (b) How is it possible to be in poor health without actually suffering from a particular disease?	3
12	(a) State Archimedes' principle. Give its two applications? (b) When an object is immersed in the fluid, name the two forces acting on it?	3
13	A stone is dropped from the top of a tower 200 m high in a pool of water at the base of the tower. When is the splash heard at the top? Given $g = 10 \text{ m/s}^2$ and speed of sound is 340 m/s.	3
14	Establish a relationship between momentum and kinetic energy of a body..	3
15	Explain what is ultrasonography. Give its two applications.	3
16	Shruti went to a hill station with her parents and her elder brother Rushil. One day they were walking through a valley where Shruti and her brother started playing. Shruti was surprised to distinctly hear the same sound twice. She discussed it with her brother. He told her that this phenomenon is called 'echo'. (a) Define echo. What should be the minimum distance from the source for a distinct echo to be heard? (b) Write the values shown by Rushil?	3
17	(a) Define Valency. What conclusions can be drawn about the reactivity of an atom from its valency? (b) Why does an atom of Argon have zero valency? Explain using the electronic configuration of Argon.	5
18	Fungi are heterotrophic eukaryotic organisms and have cell wall made of chitin. Name five cell organelles that are present in the fungal cell. Also state two-structural differences between plant cell and fungal cell. Which life form occurs due to association of cells of fungi and algae?	5
19	"Educating parents would help a lot in reducing the incidences of diseases in children". Justify the statement with five reasons.	5
20	(a) A cube of side 5 cm is immersed in water and then in saturated salt solution. In which case will it experience a greater buoyant forces? If each side of the cube is reduced to 4 cm and then immersed in water, what will be the effect on the buoyant force experienced by the cube as compared to the first case for water. Give reason for each case. (b) A ball weighing 4 kg of density 4000 kg/m^3 is completely immersed in water of density 10^3 kg/m^3 . Find the buoyant force on it. (Given $g = 10 \text{ m/s}^2$)	5

