Science

Class -IX

Summative Assessment – II

Time: 3 Hours   **Max. Marks: 90**

General Instructions:

(i) This question paper has **three sections A, B and C**. You are to attempt all the sections.

(ii) **All** Question are **compulsory**

(iii) There is no choice in any of the questions

(iv) **All** question of **Section – A, Section – B and Section – C** are to be attempted separately

(v) Question numbers **1 to 3** in **Section – A** are **one mark** question. These are to be answered in **one word** or **one sentence**.

(vi) Question numbers **4 and 5 in Section – A** are two marks question. These are to be answered in about **30 words** each.

(vii) Question numbers **6 to 16** in **Section – A** are three marks question. These are to be answered in **50 words** each.

(viii) Question number **17 to 21** in **Section – A** are five marks question. These are to be answered in **70words** each.

(ix) Section – B has **3 OTBA** questions. Question number **22 in two marks**. Question number **23** is **three marks** and Question number **24** is **five marks** question.

(x) Question numbers **25 to 33** in **Section – C** are multiple choice question based on practical skills. Each question is a one mark question. You are to select one most appropriate reason out of the four provided to you.

(xi) Question numbers **34 to 36** in section - C are marks question based on practical skills. These are to be answered in **30 words** each.

SECTION - A

1. State the numerical value of Avogadro Constant.

2. Find the number of electrons, protons and neutron possessed by the alpha particles $\left(\frac{4}{2}He^{++}\right)$ used in the gold leaf experiment.

3. Name any two group of microorganisms from which antibiotics can be extracted.

4. Define relative density. What is the density of silver given that its relative density is 10.3?

5. A person hears an echo from the top of a tower, 2.2 seconds after the second is produced. How far away is the tower from the person? Speed of the sound in air is 33^2m sec^{-1}.

6. (a) When 10g of Sulphur is burnt in 10g of oxygen 20g of Sulphur dioxide is produced? Find the mass of Sulphur dioxide formed on burning 20g of Sulphur in 30g of oxygen? Justify your answer by stating the law which governs your answers.

(b) State the postulate of Dalton's atomic theory which explains the above law.

7. (a) Define isotopes.

(b) List any two applications of isotopes in the field of medicine.

8. Write the electronic configuration and valency of the following:

(i) Chlorine

(ii) Sodium

(iii) Silicon

9. How is the criteria for deciding divisions in plant kingdom different from the criteria for deciding the sub-group among animals?

10. What is the role of the immune system, when a disease causing microbe enters the healthy human body?

11. State any three differences between cryptogamae and phanerogamae.

12. (a) Water is falling on the blades of a turbine at the rate of 6×10^3 kg per minute. The height of the fall is 10 m. Calculate the power given to the turbine. Take g = 10 ms^{-2}

(b) A driver speed-up his vehicle when he moves up a hill. Give reason.

13. (a) A dining hall has dimensions 50m × 15m× 3.5m. Calculate the mass of air in the hall. Density of air =1.30 kgm^{-3}.

(b) State the unit of air Relative Density.

14. How does the sound produced by a vibrating object in a medium reach our ears? Explain giving the names of main parts of ear which help in the process.

15. A man has power of 90 W and mass 60kg runs up a staircase in 40 seconds. If each step of staircase is 20cm high, calculate the number of steps.

16. During the vacations, Nitin visited his native village. He observed that for washing clothes, villagers used the water from the well. Out of curiosity he drew water from the well and observed that the bucket full of water appeared to be heavier as it came out of the water. Answer the following question based an above information:

- Name the principle used in the above passage.
- Why does the bucket appear to be heavier in air?
- Which values are reflected in Nitin's behaviour?

17. (a) Write down the chemical formulae of the following compounds:

(i) Magnesium nitride   (ii) Calcium nitrate Sodium nitrite

(b) Find the number of atoms present in:

(i) SO_2 molecule   (ii) SO_2 ion.
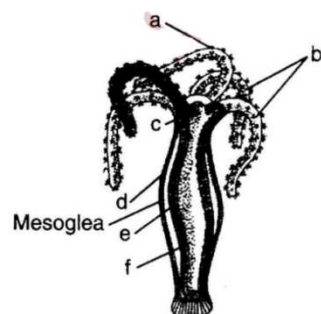
18. (a) State one function each of a and b.

(b)(a) Name the opening

(b) and state its function.

(c) How many germ layer are there and which structures are formed from them name e and f?

(d) In which part of the body digestion taken place?

(e) Is it colonial or solitary?

19. Differentiate between the following:

- Acute disease and Chronic disease.
- Infectious disease and Non-infectious disease.
- Symptom based treatment and Microbe based treatment.
- Antibiotics and Vaccines.
- Congenital disease and Acquired disease.

20. Name two forms of mechanical energy. Define them and give their SI units. Find the energy of a body of mass 35 kg moving with a velocity of 15 ms^{-1}.

21. (a) Define power. Give its SI unit.

  (b) How is kWh different from kW. Find the relation between commercial and SI unit of energy.

  (c) potential energy of the body at that height, (g =10 ms^{-2})

25. For effective reflection of sound, the tubes used in the experiment should have:

a) Equal lengths around 25 to 30cm.
b) Any length and may be unequal.
c) Equal lengths but short.
d) No conditions on the length of the tube.

26. If we perform the experiment, to observe and compare the pressure exerted by a solid cuboid on sand in vacuum, we observe that the pressure exerted by cuboid on the sand is:

a) Same as that on the Earth's surface
b) Les that that on the Earth's surface
c) Greater than that on the Earth's surface
d) Equal to zero

27. While measuring time taken by pulse move in the slinky, Gauri forgot to set the time to zero in the stop watch in which its hand was at 15 sec. At the end of his experiment the needle stops at 40 sec. The time taken by pulse to travel in the slinky was:

(a) 70 sec.   (b) 25 sec.

(c) 115 sec.   (d)45 sec.

28. Out of the following the figure which represents a moss plant body?

29. Law of conservation of mass was proposed by the Scientist:

(a) Dalton   (b) Lavoisier   (c) Archimedes   (d) Bohr

30.28g nitrogen combines with 6 g hydrogen to from ammonia gas. If the law of conservation is true, the mass of ammonia gas will be:

(a) 28g   (b) 6g   (c) 22g   (d) 34g

31.Rohan was uprooting some plants to clean his garden. He found that it was easy to uproot them and the stem, that he was holding was hollow. The plant could be a:

(a) Pteridophyte

**32**. In monocotyledonous plants flower have petals that are:

 (a) Four in number   (b) Five in number

 (c) two in number   (d) Three or multiple of thre

33. Larva breathes through spiracle or siphons present on:

(a) 5^{thj} segment   (b)7_{th} segment   (c)th 8 segment   (d)3th segment

34. A spring balance used for measuring mass of the cuboid has a least count of 2gwt. Two students using the same spring balance noted two different readings, 46gwt and 47gwt. Which reading is correct and why?

35. An object of volume 200 cm³ is floating on a fluid with half of its portion inside the fluid as shown below. Find the volume and weight of the fluid displaced by the object.
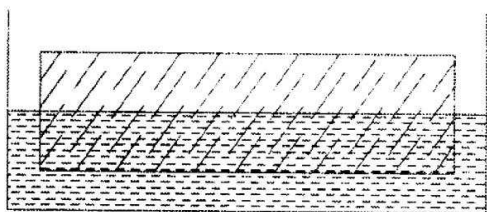
36. Enlist any two characteristics which are present in animals which belong to phylum chordata.