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SAMPLE PAPER 05 FOR SESSION ENDING EXAM (2018-19)

SUBJECT: SCIENCE
CLASS : IX

MAX. MARKS : 80
DURATION : 3 HRS

General Instructions:

1. The question paper comprises of five sections – A, B, C, D and E. You are to attempt all the sections.
2. All questions are compulsory.
3. Internal choice is given in sections B, C, D and E.
4. Question numbers 1 and 2 in **Section-A** are one mark questions. They are to be answered in one word or in one sentence.
5. Question numbers 3 to 5 in **Section- B** are two marks questions. These are to be answered in about 30 words each.
6. Question numbers 6 to 15 in **Section-C** are three marks questions. These are to be answered in about 50 words each.
7. Question numbers 16 to 21 in **Section-D** are 5 marks questions. These are to be answered in about 70 words each.
8. Question numbers 22 to 27 in **Section- E** are based on practical skills. Each question is a two marks question. These are to be answered in brief.

SECTION – A

1. How do action and reaction forces help us to walk?
2. Suggest what kind of motion is represented by the following graph:



SECTION – B

3. (a) State the role of respiration in ‘Oxygen Cycle’.
(b) What is soil erosion?
4. What are the benefits of cattle farming.

OR

How is crop rotation classified?

SECTION – C

5. What is meant by kinetic energy? Which state of matter has the highest and lowest kinetic energy? Justify your answer by giving a reason.
6. (a) State the limitations of J.J. Thomson’s model of an atom.
(b) Define valency by taking the examples of magnesium (At. No.=12) and oxygen (At. No.= 8).
(c) S^{2-} has completely filled K, L and M shells. Find its atomic number.
7. What are miscible liquids? Give one example. Explain how will you separate them?

OR

What is chromatography? State its principle. Write one advantage of chromatography over other techniques.

8. (a) 5 mL of hydrogen peroxide is dissolved in 95 mL of water. Calculate the percent- age in volume by volume.
(b) Explain why air is a mixture and water is a compound.
9. The speed of a car is 54 km/h. Express this speed in m/s and calculate the distance covered by the car in 5 seconds.
10. Draw a neat labelled structure of human ear, depicting the auditory parts only.

11. (a) State Newton's second law of motion.
(b) In a cricket match, why does a player lower his hands slightly while catching the ball?

OR

- (a) When is the work done by a body said to be negative?
(b) An object of mass 5 kg is dropped from a height of 10 m. Find its kinetic energy, when it is half way down.

12. List any six characteristics of parenchyma.

13. Why do we classify organisms?

Classify the following in their respective Phylum/Class: Jelly fish; Earthworm; Cockroach; Rat.

14. Medical science took a giant step forward when it declared its capability to store stem cells. Stem cells can be used later on to treat certain diseases if need arises. Along with many Western countries, India also has the facility for storage of stem cell and for use of the same for therapy. Scientist' are trying their best to maximize the benefit from storage of stem cells.

- (a) What is the main source of stem cells?
(b) What are the diseases that can be treated by storing stem cells?

15. Give three differences between epithelial tissue and connective tissue.

OR

Describe the characteristics of the division Pteridophyta.

16. (a) Calculate mass of 1 molecule of oxygen. [Atomic mass of O = 16 u]
(b) What is the mass of 5 moles of chlorine gas. [Atomic mass of Cl = 35.5 u]
(c) Calculate the number of hydrogen molecule in 8 g of H₂ [Atomic mass of H = 1 u]

OR

- (a) Calculate the number of atoms in (i) 52 u of He (ii) 52 g of He (m) 52 moles of He
(b) State the law of conservation of mass. Illustrate the law with the help of an example.

17. (a) Draw a diagram for thomson model of atom. Why it was discarded?

- (b) Give reasons for the following:
(i) Ions are more stable than atoms.
(ii) Noble gases have low reactivity.
(iii) An atom is electrically neutral.

18. (a) Identify the kind of motion in the following cases:

- (i) A car moving with constant speed turning around a curve.
(ii) An electron orbiting around nucleus.
(b) An artificial satellite is moving in a circular orbit of radius 36,000 km. Calculate its speed if it takes 24 hours to revolve around the earth.
(c) Why is uniform circular motion called accelerated motion?

OR

An object starting from rest travels 20 m in first 2 s and 160 m in next 4 s. What will be the velocity after 7 s from the start?

19. (a) State two factors on which the magnitude of buoyant force acting on a body immersed in a fluid depends.
(b) Will buoyant force exerted by a liquid increase if its volume is increased?
(c) Name the devices based on Archimedes' principle.
20. What are the main functional regions of a cell? Explain with the help of diagram.
21. (a) Name any two air-borne diseases. How does the disease causing microbe spread through air?
(b) How does HIV virus spread from a patient to a healthy person? Give any two methods of transmission of this disease.
(c) How does the immune system of our body function?

OR

- (a) What do you mean by a meristematic tissue?
(b) Mention different types of meristematic tissues present in plants. Draw a diagram showing the three types of meristematic tissues.

SECTION – D

22. What mass of sodium sulphate will react with 5.22 g of Barium chloride to produce 6.10 g of sodium chloride and 2.8 g of barium sulphate? Name the law which govern your answer. Write the balanced chemical equation.
23. How will you separate components of sand, common salt and ammonium chloride in two steps?

OR

How can you tell that bronze is a mixture and not a compound?

24. Give two differences between transverse waves and longitudinal waves.

OR

When sound is reflected from a distant object, an echo is produced and heard in a winter night. Now, if the distance between the reflecting surface and the source of sound production remains the same, will you hear the echo of the same sound on a summer day? Explain.

25. A solid is first immersed in tap water and then in strongly salty water. In which case one will observe loss in weight more and Why?
26. Differentiate between gymnosperms and angiosperms.

OR

Differentiate between onion peel cells and human cheek cells.

27. Draw the diagram of a neuron and label the following : (a) dendron and (b) axon on it.