GUJARAT BOARD CLASS 9 TERM 2
SCIENCE SAMPLE PAPER- SET 1

Time: 2 hrs   **Total Marks: 60**

General Instructions:

PART A

- In MCQs, internal options will not be given.
- 30 MCQs will be asked in this part of the paper. Each carries **1 Mark**. All these questions are compulsory.

PART B

- Internal options will be asked from the same chapter with equal difficulty level.
- **Section A:** → Question no. 1 to 5 are to be answered in short. Each carries 2 marks.
  → Internal option will be available in two questions.
- **Section B:** → Question no. 6 to 9 are to be answered in brief. Each carries 3 marks.
  → Internal option will be available in one question.
- **Section C:** → Question no. 10 to 11 are to be answered in detail. Each carries 4 marks.
  → Internal option will be available in one question.

PART A

Choose the correct option from the given choices for each of the following questions:
[*1 mark each*]   **[30]**

1. Calculate the work done in moving a body of mass 50 Kg to a height of 5 m. ($g = 10$ m/ s^2)
   (a) 250 J
   (b) 2500 J
   (c) 25 x 10^3 J
   (d) 2.5 x 10^5 J

2. Why are the walls and roof of an auditorium covered with sound absorbent materials?
   (a) To improve sound quality
   (b) To reduce reverberation
   (c) To reduce noise
   (d) To increase the pitch of sound

3. Decibel is the unit of:
   (a) Loudness of sound
   (b) Pitch of sound
   (c) Intensity of sound
   (d) Frequency of sound

4. A pendulum oscillates 120 times in 1 min then what will be the frequency of the pendulum?
   (a) 5 Hz
   (b) 0.05 Hz
   (c) 0.5 Hz
   (d) 50 Hz

5. Potential energy is the energy possessed by an object due to its
   (a) Motion
   (b) Speed
   (c) Position
   (d) None of these

6. A freely falling body during its fall will have:
   (a) Kinetic energy
   (b) Potential energy
   (c) Sound energy
   (d) Both kinetic energy and potential energy

7. If the angle between the force acting on a body and displacement is 90°, then the work done by this force would be:
   (a) Maximum
   (b) Minimum
   (c) Infinite
   (d) Cannot be determined

8. When we throw a rock from the top of a building which equation describes the energy of the body at each point during its fall?

(a) $\frac{1}{2}mv^2 + mgh = 0$

(b) $\frac{1}{2}mv^2 + mgh = \text{constant}$

(c) $\frac{1}{2}mv^2 - mgh = \text{constant}$

(d) $\frac{1}{2}mv^2 = mgh$

9. The linear distance between two consecutive centres of compressions in a sound wave is known as
   (a) Amplitude
   (b) Frequency
   (c) Wave velocity
   (d) Wavelength

10. Who proposed the 'Law of Octaves'?
    (a) John Newland
    (b) J.W. Dobereiner
    (c) Lothar Meyer
    (d) William Prout

11. In modern periodic law the properties of elements are periodic functions of their:
    (a) atomic mass
    (b) atomic volume
    (c) atomic number
    (d) density

12. Which one of the following does not increase while moving down a group in the periodic table?
    (a) Atomic radius
    (b) Valence electrons
    (c) Metallic character
    (d) Shells in the atoms

13. Dobereiner arranged the elements with similar properties into:
    (a) Periods
    (b) Groups
    (c) Both periods and groups
    (d) None of these

14. In noble gases the number of electrons in the valence shell can be:
    (a) 8 only
    (b) 2 only
    (c) 8 or 2
    (d) 8 or 4

15. The correct electronic configuration for sodium ion is:
    (a) 2, 8, 1
    (b) 2, 8
    (c) 2, 8, 7
    (d) 2, 8, 8, 1

16. Which of the following is an ionic compound?
    (a) CCl_4
    (b) NH_3
    (c) NH_4Cl
    (d) CO_2

17. What is the formula for copper (II) oxide?
(a) CuO
(b) Cu_2O
(c) CuO_2
(d) Cu_2O_2

18. Which of the following is a polar covalent molecule?
(a) HCl
(b) O_2
(c) Cl_2
(d) H_2

19. Identify the feature shared by fungal cells, plant cells and certain bacteria.
(a) Prokaryotic nature of the cell
(b) Cell organelles
(c) Cell wall
(d) Nucleus

20. Which type of relationship is seen in lichens?
(a) Parasitism
(b) Symbiosis
(c) Commensalism
(d) Predation

21. The leaves in dicot plants show:
(a) Reticulate venation
(b) Parallel venation
(c) No venation
(d) Spines on it

22. The scientific name of rice is *Oryza sativa*. What can be deduced from this information?
    (a) Rice belongs to species *Oryza* and genus sativa
    (b) Rice gives large amount of energy.
    (c) Rice belongs to genus *Oryza* and species sativa
    (d) Rice is a monocotyledon.

23. Two chambered heart is present in:
    (a) Amphibians
    (b) Reptiles
    (c) Birds
    (d) Fishes

24. The common name of Ascaris is?
    (a) Roundworm
    (b) Pinworm
    (c) Tapeworm
    (d) Ringworm

25. Which of the following is not a characteristic feature of mammals?
    (a) Four-chambered heart
    (b) Warm-blooded
    (c) Skin covered with scales
    (d) Mammary glands

26. Which of the chemicals are responsible for the ozone hole?
    (a) Chlorofluorocarbons
    (b) Acidic gases
    (c) Greenhouse gases
    (d) PAN

27. Which of the following is not a greenhouse gas?
    (a) Water vapour
    (b) Methane
    (c) Carbon dioxide
    (d) Ammonia

28. The temperature on the surface of the moon ranges from:
    (a) -180^0C to -100^0C
    (b) 180^0C to -100^0C
    (c) -190^0C to 110^0C
    (d) -190^0C to -110^0C

29. Suzan found some water droplets on the plate she used to cover a vessel containing hot water. These water droplets on the inner surface of the plate were due to:
(a) Evaporation
(b) Condensation
(c) Sublimation
(d) Vaporisation

30. How many nutrients, essential for plant growth, are supplied by soil?
    (a) 16
    (b) 13
    (c) 6
    (d) 12

PART B
Section A

Answer the following questions in short: **[10]**
[*2 marks each*]

1. Distinguish between transverse and longitudinal waves.   [2]

2. Mention four uses of ultrasonic waves.   [2]

3. What are the main features of Mendeleev's periodic table? [2]

4. Write the names of the compounds represented by the following formulae:
NaBr, Al_2O_3, $ZnNO_3$, $CaCO_3$ [2]

5. Write a short note on greenhouse effect. [2]

OR

What are the two types of natural resources? Define and give an example of each.

Section B

Answer the following questions in short: [12]
[3 marks each]

6. What is SONAR? For what it is used? Explain its working in brief. [3]

7. A brown substance 'X' on heating in air forms a compound 'Y'. When hydrogen gas is passed over 'Y', it changes to 'X' again. [3]
(a) Name the substance 'X' and 'Y'.
(b) Name the processes occurring during the two changes.
(c) Write the chemical equations involved.

OR

Name the type of chemical reaction represented by the following equations and also mention whether it is an endothermic or exothermic reaction:
(a) $CaCO_{3(s)} \rightarrow CaO_{(s)} + CO_{2(g)}$
(b) $CaO_{(s)} + H_2O_{(l)} \rightarrow Ca(OH)_{2(aq)}$
(c) $2CO_{(g)} + O_{2(g)} \rightarrow 2CO_{2(g)}$

8. Describe in brief any four different kinds of irrigation systems adopted to supply water to agricultural lands. [3]

9. Write a short note on the greenhouse effect.   [3]

Section C

Answer the following questions in detail: [8]
[4 marks each]

10. Explain in brief the formation of ionic bonds with the help of an example.   [4]

OR

Write the properties of ionic compounds.

11.   [4]
   (a) Certain force acting on a 20 kg mass changes its velocity from 5 m/ s to 2 m/ s.
      Calculate the work done by the force.
   (b) If the kinetic energy of a body is increased by 300% then determine the percentage
      increase in its momentum.