12 – Applied Sciences-I

Time Allowed: 150 Minutes Total Marks: 50

Objective – Section A (10 Minutes)

1. An apparent change in frequency due to relative motion between the source of sound emission to source is called:
A. Weather Effect
B. Transmission Effect
C. Doppler Effect
D. Timber Effect

2. The electricity build on the surface of a substance is known as:
A. Current Electricity
B. Static Electricity
C. Moving Electricity
D. Magnetic Electricity

3. It is the distance between successive crust in an electromagnetic wave.
A. Frequency
B. Period
C. Velocity
D. Wavelength

4. V=IR. This equation represents:
A. Bohr's Law
B. Dalton's Law
C. Pascal's Law
D. Ohm's Law

5. Electromagnetic theory was proposed by:
A. Bose Einstein
B. Carl Wieman
C. James Clark Maxwell
D. Archemedes

6. It is only metallic element that is liquid at room temperature:
A. Cesium
B. Gallium
C. Rubidium
D. Mercury

7. The solution that contains one mole of solute in one decimeter cube of solution is known as:
A. Molar Solution
B. Normal Solution
C. Molal Solution
D. Standard Solution

8. Ammonium chloride is an:
A. Basic Salt
B. Acidic Salt
C. Neutral Salt
D. Strong Salt

9. pH of the stomach acid is around:
A. 3.5 to 4
B. 6 to 8
C. 4 to 6
D. 1.5 to 3.5

10. Which of the following is not an amino acid?
A. Glutamic Acid
B. Aspartic Acid
C. Palmitic Acid
D. Alanine

Short Questions – Section B

Each question carries 2 marks. Attempt any 13 questions.

Q1. What are the units of mass and volume?

Q2. What is pressure in hydrostatic fluids?

Q3. Differentiate between transmission and reflection of light.

Q4. Enlist differences between insulators and conductors.

Q5. Define electromagnetic (electric and magnetic) induction.

Q6. What is the unit of current? Define wavelength.

Q7. What is ionization?

Q8. In which circumstances excitation of electrons occurs?

Q9. Write down the formulae of the given compounds.

i) Sulphuric acid ii) Sodium hydroxide

Q10. Enlist any 2 applications of chemical reactions.

Q11. Name the 4 stages of water cycle.

Q12. Differentiate between hard water and soft water.

Q13. What are the various types of concentration units of solutions?

Q14. Define hydrolysis. Is vinegar alkaline or acidic in nature?

Q15. Define buffer. What is a buffer generally composed of?

Q16. Enumerate uses of table salt.

Q17. Explain electrolysis.

Long Questions – Section C

Each question carries 7 marks. Attempt any 2 questions.

Q1. a. What is Scientific method? Discuss its steps in detail. (4)
b. What is Archimedes' principle? Mention its 2 applications. (3)

Q2. a. What are the characteristics of sound? Describe in detail. (4)
b. Explain Charle's law in detail. (3)

Q3. Discuss the sources and importance of carbohydrates and lipids in detail. (7)