Objective - Section A

1. _____ is the tendency of an atom to attract the shared pair of electrons towards itself in a covalent bond.
A. Electronegativity
B. Electropositivity
C. Ionic radii
D. Enthalpy

2. The chemical analysis of semen sample also involves the detection of _____, because it is the source of energy to sperm and indicates viability of sperm in sample.
A. Zinc ion
B. Testosterone level
C. Glucose concentration
D. Fructose concentration

3. Some times ketone bodies are detected in urine, the condition is known as ketonuria. Example of ketone bodies are _____.
A. Beta hydroxy butyric acid
B. Acetoacetic acid
C. Acetylene
D. A and B

4. The causal factors responsible for the disease conditions are known as its _____.
A. Pathogenesis
B. Etiology
C. Pathology
D. Clinical significance

5. Complete the following equation;

$$CH_4 + 2O_2 \rightarrow$$

A. $CO + H_2O$
B. $CO_2 + H_2O_2$
C. $CO_2 + 2H_2O$
D. $CO_2 + 2H_2O_2$

6. Solute and solvent are in the state of _____ and _____ respectively, in soda water.
A. Liquid and liquid
B. Liquid and gas
C. Gas and liquid
D. Solid and liquid

7. _____ is the number of moles present in per kilogram of solvent.
A. Molarity
B. Molality
C. Normality
D. Percent solution

8. Weight of an object depends on mass and acceleration due to gravity. Its SI unit is:
A. Kilogram
B. Gram
C. Newton
D. Cubic meter

9. The number of protons and neutrons combine to give us the _____ of an atom. It is represented using the letter A.
A. Mass number
B. Atomic number
C. Valence number
D. Atomic mass

10. A group of two or more atoms linked together by sharing electrons in a chemical bond, is called _____.
A. Element
B. Molecules
C. Salt
D. Matter

Short Questions - Section B

Each question carries 2 marks. Attempt any 13 questions.

Q1. What is the definition of chemistry?
Q2. Define and differentiate organic and inorganic chemistry.
Q3. Describe atomic structure with the help of an example.
Q4. Define the term ionization enthalpy.
Q5. What is the difference between mass and weight?
Q6. What is molarity and normality?
Q7. How kidneys respond to compensate acidosis of extracellular fluid?
Q8. What is the process of decantation?
Q9. What do you know about chemical changes? Answer with example.
Q10. What is double displacement reaction? Give one example.
Q11. Mention any four factors that influence the rate of a chemical reaction.
Q12. What do you know about LIMS or LMS in pathology laboratory?
Q13. Describe the role of clinical pathology section in medical laboratory.
Q14. Write a short note on proteinuria.
Q15. Give name and method of any test used for the detection of glucose in urine.
Q16. Describe significance of the presence of bile salt in urine.
Q17. What is a preferred sample for diagnosis of pulmonary tuberculosis and how it is collected?

Long Questions - Section C

Each question carries 7 marks. Attempt any 2 questions.

Q1. a. Define pH. What is physiological pH of plasma? How plasma pH is regulated? (4)
b. Briefly discuss blood pH buffer system. (3)

Q2. a. Define the term solubility and discuss various factors influencing solubility. (4)
b. Write a note on microscopic examination of stool. (3)

Q3. a. What is a chemical reaction? Enumerate different types of chemical reactions. Discuss redox reaction with example. (4)
b. Define the following terminologies: (3)
i) Carcinogens ii) Azoospermia iii) Heamaturia