Seat No. _____

HAP-003-2013022

B. Sc. (Sem.-III) (CBCS) Examination

June - 2023

Biochemistry : 301

(Biomolecules)

Faculty Code : 003

Subject Code : 2013022

Time : $2\frac{1}{2}$ Hours / Total Marks : **70**

1 (A) Write the correct Answer the following Question: **4**

(1) Give the name of the most common monomer of carbohydrate.

(2) What type of linkage is there present in chitin?

(3) Give the structure of any aldose and ketose sugar.

(4) What are the derived sugar?

(B) Answer Any **one** of the following questions: **2**

(1) What is the difference between amylose and amylopectin.

(2) Define invert sugar.

(C) Answer Any **one** of the following questions: **3**

(1) Write a note on mutarotation.

(2) Write a note on cellulose.

(D) Answer Any **one** of the following questions: **5**

(1) Write a function of Carbohydrate.

(2) Write a detail note on any two heteropolysaccharides.

2 (A) Write the correct Answer the following Question: **4**

(1) Define Acid number.

(2) Give the structure of Glycerophosphalipid.

(3) What do you mean of lipoprotein?

(4) Hydrolysis of fats by alkali into fatty acid and glycerol is called _____?

(B) Answer Any **one** of the following questions: **2**

(1) What is the importance of cardiolipin?

(2) What is the function of steroid lipids in human body?

(C) Answer Any **one** of the following questions: **3**

(1) What is the function of phospholipids?

(2) Write the structure and function on cholesterol.

(D) Answer Any **one** of the following questions: **5**

(1) Write a note on lipids present in plasma membrane structure.

(2) Describe the classification of lipid with suitable example.

3 (A) Write the correct Answer the following Question: **4**

(1) Give the name of amino acid that lack of asymmetric carbon.

(2) Draw the structure of basic amino acid (any two).

(3) Explain Ninhydrin reaction.

(4) Define isoelectric point (pI).

(B) Answer Any **one** of the following questions: **2**

(1) What is zwitterion?

(2) Give the name of an two structural protein.

(C) Answer Any **one** of the following questions: **3**

(1) Explain in detail chemical property of amino acid.

(2) Write a note secondary structure of protein.

(D) Answer Any **one** of the following questions: **5**

(1) Explain in detail classification of amino acids.

(2) Explain methods for determination of amino acid sequence.

4 (A) Write the correct Answer the following Question : **4**

(1) Define Central dogma.

(2) The Negative charge of DNA is due to _____?

(3) Which radiolabel isotope are used in Hershey chase experiment?

(4) What is the role of r-RNA in Protein biosynthesis?

(B) Answer Any **one** of the following questions: **2**

(1) Draw the structure of ATP.

(2) Which protein play important role in packaging of DNA?

(C) Answer Any **one** of the following questions: **3**

(1) What do you understand by denaturation and renaturation of DNA?

(2) Write a note difference between A, B, Z type of DNA.

(D) Answer Any one of the following questions: **5**

(1) Write a note on RNA.

(2) Write the experimental evidence that proved DNA is genetic material.

5 (A) Write the correct Answer the following Question: **4**

(1) Define Vitamins.

(2) Give the chemical name of Vitamin B_3 _____?

(3) The Name of Vitamin that protect us from pellagra disease _____.

(4) Give the name of vitamin act as antioxidant property.

(B) Answer Any **one** of the fallowing questions : **2**

(1) Give the name of enzyme play important role in heme biosynthesis.

(2) Give the name of vitamin Deficiency case osteoporosis?

(C) Answer Any one of the following questions: **3**

(1) Describe the characteristics and function of vitamin C.

(2) Write a detail note on Porphyrin and its function.

(D) Answer Any one of the following questions: **5**

(1) Described vitamin A in detail.

(2) Write a detail note bile pigment.
