Reg. No.										

प्रज्ञानं ब्रह्म

Manipal

INSPIRED BY LIFE

INTERNATIONAL CENTRE FOR APPLIED SCIENCES

(Manipal University)

IV SEMESTER B.S. DEGREE EXAMINATION

SUBJECT: BIOCHEMISTRY (CH 241)

Day, Month + Date, Year

Time: 3 Hours **Max. Marks: 100**

- ✓ **Answer ANY FIVE Questions.**

1A.What is the difference between mutarotation and optical activity? Give important properties of monosaccharides.
1B. What are glycosidic bonds? Explain the functions of saccharides.
1C. What are proteoglycans?List the functions associated with it. (6+6+8)

2A. Explain the classification of fatty acids with suitable examples.
2B. What is the physiological role of cholesterol? Explain the structure.
2C. What are the different types of phospholipids? Explain the mechanism of phospholipases on phospholipids. (6+6+8)

3A. What are prions? Explain the denaturation of proteins and agents that cause denaturation.
3B. Classify the proteins on the basis of solubility and physical properties.
3C. Explain the structure of tRNA and its classes. Add a note on processing of tRNA. (6+6+8)

4A. Explain the reactions of urea cycle.
4B. List the diagnostic enzymes with its application.
4C. Explain the steps involved in genetic engineering with suitable examples. (6+6+8)

5A. Describe the reactions of EMP pathway.
5B. Write the composition of blood. Add a note on glycosuria and pentosuria.
5C. Explain the structure of oxygen binding protein and its properties. (6+6+8)

6A. Explain the technique of electrophoresis and its uses.
6B. Give details of fatty acid metabolism. Explain the bioenergetics of beta oxidation and its efficiency.
6C. What are hormones? Write the physiological functions of few hormones with suitable examples. (6+6+8)

7A. Give the classification of chromatographic techniques and its application.
7B. Explain the functions and necessity of PEP and 1,3 Bisphosphoglycerate.
7C. Explain the coupling of reactions in biological systems with suitable examples and its significance. (6+6+8)

8A. What are derived proteins? Comment on negative ion precipitation and positive ion precipitation.
8B. Write the difference between proteoglycans and glycoproteins. Explain the structure of proteoglycans.
8C. Explain the branched fatty acids with examples. Give an account of identification of oils and fats. (6+6+8)