



**JBL-1612010701050200** Seat No. \_\_\_\_\_

**M. P. M. (Sem. IV) Examination**

**December – 2019**

**BP - 403 : Pharmaceutical Chemistry - V**

*(Biochemistry - II)*

Time : 3 Hours]

[Total Marks : 80

**Instructions :**

1. Figures to the right indicate marks.
2. Answer any three questions from each section. Question 1 and question 5 are compulsory.
3. Draw neat and clean labeled diagram wherever required.

**SECTION - I**

- 1 Answer the following questions : (any seven) 14
- a) Draw the structure of hemoglobin.
  - b) Write the function of mRNA.
  - c) Define : Zwitterion.
  - d) What is meaning of high Energy Compound ? Classify high energy compound.
  - e) Give definition of Transamination.
  - f) Define genetic code.
  - g) Define biological oxidation.
  - h) Define : Enzymes and co-enzymes.
  - i) Comment : Urea is the end product of protein metabolism.
- 2 Answer the following questions :
- A. Discuss concept of Lac operon. 7
  - B. Write a detailed note on Heme Biosynthesis. 6
- 3 Answer the following questions :
- A. Define : Amino Acid. Discuss structural classification of Amino Acid. 7
  - B. Write a detailed note on Electron Transport Chain (ETC). 6

- 4 Answer the following questions :
- A. Explain the Urea cycle. 7
  - B. Explain Secondary structure of protein. 6

## SECTION - II

- 5 Answer any two out of three : 14
- A. Short note on "Structure of DNA".
  - B. Classify amino acid based on polarity and nutritional value.
  - C. Write in brief about gel filtration chromatography.
- 6 Answer the following questions :
- A. Write basic principle of electrophoresis. Classify different technique in electrophoresis. 7
  - B. Define terms Bioenergetics and Oxidative phosphorylation. 6
- 7 Answer the following questions :
- A. Explain the principle of polymerase chain reaction. 7
  - B. Explain functions of DNA and RNA. 6
- 8 Answer the following questions :
- A. Discuss properties of Amino Acid. 7
  - B. Explain : Denaturation and coagulation. 6
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