

**SUPPLEMENTARY**  
**MASTER OF PHARMACY (M. PHARM.) (CBCS-2019 COURSE)**  
**M.Pharm. Sem-II PHARMACEUTICAL BIOTECHNOLOGY :SUMMER- 2022**  
**SUBJECT : PROTEINS & PROTEIN FORMULATIONS**

Day : Wednesday

Time : 10:00 AM-01:00 PM

Date : 14-09-2022

S-20761-2022

Max. Marks : 75

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**N.B.:**

- 1) **Q. No. 1 and Q. No. 5** are **COMPULSORY**. Out of remaining questions answer any **TWO** from each section.
  - 2) Figures to the right indicate **FULL** marks.
  - 3) Answers to both the sections should be written in **SEPARATE** answer book.
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**SECTION -I**

- Q.1** What are C and N terminal tags? What are their applications? **(08)**
- Q.2** An industrially important enzyme is sourced from a fungus, however this enzyme is found to be unstable for higher temperature and change in pH. Describe how you will make this enzyme stable using site directed mutagenesis. **(15)**
- Q.3** Write a note on protein finger printing used for protein identification. **(15)**
- Q.4** Write short notes on any **TWO** of the following: **(15)**
- a) Green fluorescent protein
  - b) Non-peptide peptidomimetics
  - c) SDS- PAGE

**SECTION-II**

- Q.5** What are monoclonal antibodies? Write their clinical applications. **(07)**
- Q.6** A surgeon has provided you with biopsy on esophageal tumor. Describe how you will find drug targets using 2D gel electrophoresis. **(15)**
- Q.7** Discuss nasal delivery system for peptide drug. **(15)**
- Q.8** Write short notes on any **TWO** of the following: **(15)**
- a) PEGylation
  - b) MALDI-TOF
  - c) Forced degradation study

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