Printed Pages: 01 **Sub Code: BP-605T**

Paper Id: 231973 **Roll No.** | | | | | | | | | | |

B PHARM
(SEM VI) THEORY EXAMINATION 2022-23
PHARMACEUTICAL BIOTECHNOLOGY

Time: 3 Hours ***Total Marks: 75***

Note: Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief. **10 x 2 = 20**

a. Explain role of catalase and peroxidase enzymes.

b. What is protein engineering.

c. Define vectors along with two examples.

d. What do you mean by PCR.

e. Define cellular and humoral immunity.

f. Define monoclonal antibodies.

g. Explain mutation and mutagens with examples.

h. Explain ELISA.

i. Define fermenter and their types.

j. Write name of any two microorganisms used in production of citric acid.

SECTION B

2. Attempt any *two* parts of the following: **2 x 10 = 20**

a. Explain biosensors and their types along with applications.

b. Explain in detail about production and purification of monoclonal antibodies by hybridoma technology.

c. Explain in detail PCR and its applications.

SECTION C

3. Attempt any *five* parts of the following: **5 x 7 = 35**

a. Explain scope and application of pharmaceutical biotechnology.

b. Write in detail different methods of enzyme immobilization.

c. Write in detail the method of preparation of insulin by recombinant DNA technology.

d. Differentiate between prokaryotes and eukaryotes.

e. Explain the production of vitamin B12 by fermentation.

f. Explain general method of preparation and storage of bacterial vaccines.

g. Explain different types of hypersensitivity reactions with example.