

QP Code: 625006

Reg. No.....

**Sixth Semester B. Pharm Degree Supplementary Examinations
June 2025**

Pharmaceutical Biotechnology

(2017 Scheme)

Time: 3 Hours

Max. Marks: 75

- *Answer all questions to the point neatly and legibly • Do not leave any blank pages between answers • Indicate the question number correctly for the answer in the margin space*
- *Answer all parts of a single question together • Leave sufficient space between answers*
- *Draw diagrams wherever necessary*

Essays

(2x10=20)

1. Explain the production of vitamin B₁₂. Write a note on large scale fermenter design.
2. Explain general methods of preparation of bacterial vaccines. Add a note on hyper sensitivity.

Short Notes

(7x5=35)

3. Discuss the various enzyme immobilization techniques with applications.
4. Write a note on blood products and plasma substitute.
5. Write the principle and procedure of ELISA.
6. Explain the aeration and agitation process used in fermentation.
7. Write a note on protein engineering and its applications.
8. Discuss any five microbial biotransformation reactions with examples.
9. Write a note on plasmid and transposons.

Answer Briefly

(10x2=20)

10. Biosensors.
11. Application of r DNA technology.
12. Short note on immune stimulants.
13. Write the applications of microbial mutation.
14. Define Immunoglobulin.
15. Difference between vaccine and serum.
16. Cloning vectors.
17. Enlist the types of mutation.
18. Name any two commonly used microorganisms used for production of penicillin.
19. Note on collection of blood products.
