

# **2010 Scheme**

**QP CODE: 301006**

**Reg. No: .....**

## **Third Year B.Pharm Degree Supplementary Examinations January 2022**

### **Pharmaceutics IV**

**(Pharmaceutical Microbiology and Biotechnology)**

**Time: 3 Hours**

**Total Marks: 100**

- *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*
- *Write chemical structures/equations wherever necessary.*

#### **Essays**

**(3x10=30)**

1. Classify culture media and discuss the nutrients required for culture media. Add a note on cultivation of Bacteria
2. Explain in detail the extraction of penicillin.
3. Brief the development of hybridoma for monoclonal antibodies.

#### **Short notes**

**(14x5=70)**

4. Dry heat sterilization.
5. Fungal reproduction and cultivation.
6. Gene cloning and their applications.
7. Preparation and standardization of vaccines.
8. Validation of sterilization methods and equipments.
9. Aerobic and anaerobic bacterial culture methods.
10. Mention the Biochemical methods for identification of bacteria
11. Define antibiotics. Explain microbial assay of antibiotics.
12. Brief antigen-antibody reactions.
13. Draw bacterial cell and explain acid fast staining.
14. Explain biotransformation process.
15. Explain transduction and protoplast fusion.
16. Write the principle and procedure of aseptic transfer and isolation of pure culture.
17. Medical and pharmaceutical importance of fungi.

\*\*\*\*\*