

QP Code: 103327

Reg No:

**First Year M.Pharm Degree Examinations (Supplementary)- November 2012
(Pharmaceutics)**

Paper III- Industrial Microbiology and Biotechnology

Time: 3 hrs

Maximum Marks: 100

- *Answer all questions*
- *Draw diagrams wherever necessary*

Essays:

(2x20 =40)

1. Explain the role of plasmids in genetic engineering and discuss in detail the production of human insulin by r-DNA technology
2. Explain the application of enzymes and the production of amyloglucosidase and its uses.

Short Essays:

(6x10=60)

3. Explain the production of monoclonal antibodies in detail with suitable examples.
4. Discuss in detail the design and operation of a typical bioreactor
5. Explain the concepts involved in new generation vaccines.
6. What is gene therapy . Explain in detail the PCR technology
7. How will you investigate the efficiency of air-sterilization methods.
8. Describe in detail the fermentation production downstream processing and uses of the antibiotic streptomycin
