

[Time: 3 Hours]

[Marks:70]

Please check whether you have got the right question paper.

N.B:

- Q.1
- Define microbial assay 1
 - Write two autoimmune disease (Names only) 1
 - Write the difference between exotoxin & Endotoxin 2
 - What is prozone effect? 1
 - Write the difference between agglutinin and precipitation reaction 2
 - Name any four application to recombinant DNA Technology 2
 - Define gene library with application 2
 - Name any two killed viral vaccines with the organism involved. 2
 - Write two types of immunoglobulin with their significance. 2
- Q.2
- Write the production of penicillin G 4
 - Explain the different steps required for downstream process. 3
 - Write different steps involved in r-DNA technology 4
- OR**
- Q.3
- Write the following factor effect in fermentation. 4
- 1) Temperature 2) pH 3) Aeration 4) Agitation
- Q.4
- write a note on (any one) 4
- 1) plasmid
2) cosmid
- Q.5
- Write enzyme involved in r-DNA technology with reference to restriction endonucleases. 3
 - Draw a neat labelled diagram at a fermentor 3
 - What is YAC 1
- Q.6
- Describe the method of enzyme immobilization by gel entrapment method. 3
 - What is biosensor ? write application of biosensor? 3
 - Write a note on PCR 3
- OR**
- Q.7
- Write the use of gene therapy 2
 - Differentiate between northern blotting and Southern blotting.
- Q.8
- Write in detail about soluble mediators involved in body defense 3
- OR**
- Q.9
- What are the uses of transgenic plants. 4
 - What are the types of ELISA? Write any one method in detail. 4
 - Write the production of a monoclonal antibody with its application. (with diagram)
- Q.10
- Outline the general method of preparation of BGC vaccine. 4
- OR**
- Q.11
- What are the 1st line body defense? 4
 - Classify hypersensitivity and explain the process of type IV. 3
 - Short note on: stem cell culture.