

M.Sc. (Microbiology) (NEP Pattern) Semester-III
STPG03MCB002 - Paper-II - Recombinant DNA Technology

P. Pages : 1

Time : Three Hours



GUG/S/25/16124

Max. Marks : 80

Notes : 1. All questions are compulsory.

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| 1. | Explain in detail about restriction endonucleases, DNA ligases and DNA polymerases used for recombinant DNA technology. | 16 |
| OR | | |
| a) | Discuss functions and mode of actions of restriction digestion enzyme. | 8 |
| b) | Classify type II endonucleases and write it's peculiar characters. | 8 |
| 2. | Explain construction of genomic libraries and write its applications. | 16 |
| OR | | |
| a) | Discuss PET and PBAD as expression vector. | 8 |
| b) | Discuss Cosmid as cloning vector. | 8 |
| 3. | Discuss recombinant DNA technology with reference to cloning and production of Insulin. | 16 |
| OR | | |
| a) | Discuss application of genetically modified organisms. | 8 |
| b) | Discuss artificial chromosome with reference to it's strategy in library construction. | 8 |
| 4. | Explain principle and procedure of PCR. | 16 |
| OR | | |
| a) | Discuss designing of primers for PCR. | 8 |
| b) | Explain dideoxy method of DNA sequencing. | 8 |
| 5. | a) Write mode of action and application of SI nuclease. | 4 |
| | b) Discuss DNA cloning with single stranded DNA vectors. | 4 |
| | c) Discuss application of expression vectors in gene cloning. | 4 |
| | d) Give an account on application of PCR. | 4 |
