

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

P. Pages : 1

Time : Three Hours



**GUG/W/24/16124**

Max. Marks : 80

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1. What are restriction endonucleases? Write in detail about nomenclature, types and properties of restriction endonucleases in detail. **16**
- OR**
- a) Discuss in detail about chemical synthesis of DNA. **8**
- b) Give details about restriction digestion, ligation and transformation. **8**
2. What is DNA library? Discuss in detail about construction and applications of cDNA and genomic libraries. **16**
- OR**
- a) Discuss in detail about various bacteriophage vectors. **8**
- b) Discuss in details about various plasmid vectors. **8**
3. Discuss in details about production of Insulin using RDT. **16**
- OR**
- a) Discuss in details about applications of Genetically Modified Organisms (GMO). **8**
- b) Write a detailed note on vectors used for library construction. **8**
4. What is DNA amplification? Discuss in details about principle and procedure and applications of PCR. **16**
- OR**
- a) Discuss in details about DNA sequencing methods. **8**
- b) Give a detailed note on physical mapping of genomes. **8**
5. Write a note on.
- a) DNA ligases **4**
- b) M13 vectors. **4**
- c) Expression vectors. **4**
- d) Real-time quantitative PCR. **4**

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