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# 21BTH2C6L

Sl. No.

## M.Sc. II Semester Degree Examination, Sept./Oct. - 2024

## BIOTECHNOLOGY

### Genomics and Genetic Engineering

### (NEP)

Time : 3 Hours Maximum Marks : 70

***Note :*** *(i) Answer **any five** of the following questions with Question No.1(**Q1) compulsory**. Each question carries **equal** marks.*

*(ii) Draw neat diagrams wherever necessary.*

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**1.** (a) What is Human Genome project ? Explain in detail on process and its ethical issues. **7+7=14**

(b) Explain in detail about Eukaryotic genome organization.

**2.** (a) What are restriction endonuclease ? Explain about its classification. **7+7=14**

(b) Explain about role of linkers and adapter in cloning.

**3.** (a) Write a note on pBR322 and its advantages in cloning. **7+7=14**

(b) What are artificial chromosomes ? Explain with examples.

**4.** (a) Explain in detail about physical methods of transformation of DNA. **7+7=14**

(b) What is *in-vitro* translation *?* Give a note on its applications.

**5.** (a) What is RAPD ? Describe and explain its methodology and mention its applications. **7+7=14**

(b) Explain about RTPCR and its application in molecular diagnostics.

**6.** (a) Describe southern blot technique and mention its applications. **7+7=14**

(b) What are viral vectors ? Explain its construct with suitable example.

**7.** (a) What is DNA finger-printing ? Explain its methodology. **7+7=14**

(b) Explain about biological method of DNA transformation.

**8**. (a) RNA interference **5+5+4=14**

(b) DNA Foot printing

(c) DNA Linkers

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