

P-256

B. Sc. (Biotechnology) Part - III Examination, 2018

BIOTECHNOLOGY

Paper : IX

(Recombinant DNA Technology)

Time : Three Hours]

[Maximum Marks : 75

Note : Attempt *all* questions from *Section – A*, *seven* questions from *Section – B* and *two* questions from *Section – C*.

SECTION – A

1. DNA-Ligase was discovered by in 1961.
(a) Kornberg (b) Jeffry
(c) Gellert (d) Mullis
2. Artificial tyrosine-tRNA synthesis in *invitro* conditions was discovered by :
(a) Nirenberg (b) Watson
(c) Khorana (d) Miescher
3. Inverted repeats of DNA are called :
(a) hnRNA (b) t RNA
(c) Heterochromatin (d) Palindrome
4. T_m value of DNA is a part of denaturation. *True/False*
5. Restriction endonuclease cleaves both the strands of DNA at the same time. *True/False*

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6. Cosmids are hybrid vectors. *True/False*
7. Direct introduction of foreign DNA-RDT into cell through transient channels-Pores in the cell membrane is by :
(a) Electrophoresis (b) PCR
(c) Electroporation (d) RT-PCR
8. 'Super bugs' are genetically engineered bacteria. *True/False*
9. pBR 322 is a reconstructed plasmid. *True/False*
10. Eco RI is an restriction endonuclease. *True/False*

SECTION – B

1. Discuss the principle and procedure of 'Western blot' technique.
2. What is a vector in recombinant DNA technology ?
3. How do you prepare a cDNA ?
4. What is a transgenic mice ?
5. How do you synthesize 'Monoclonal Antibodies' ?
6. Discuss the principle of PCR.
7. What are cosmid ?
8. Differentiate between Genomic DNA and gene sequences.
9. What is a reporter gene ?

SECTION – C

- . Discuss the process of construction of 'Genomic library' and also its applications.
 - !. What are the different ways by which DNA fragmentation can come about ? Discuss at least two.
 - l. How do you introduce a recombinant DNA into a host cell ?
 - .. Discuss separately the role of RFLP, AFLP and RAPD in genome analysis.
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