

PSG COLLEGE OF ARTS & SCIENCE

• (AUTONOMOUS)

.14BCVI4/* &c,

BSc DEGREE EXAMINATION MAY 2017

(Fourth Semester)

Branch - **BIOCHEMISTRY****RECOMBINANT DNA TECHNOLOGY**

Time : Three Hours

Maximum : 75 Marks

SECTION-A (20 Marks)Answer **ALL** questions**ALL** questions carry **EQUAL** marks • (10x2 = 20)

- 1 List any two properties of M13 DNA.
- 2 Define restriction endonuclease.
- 3 What are the selectable markers in pBR322?
- 4 * Define shuttle vectors - give their properties.
- 5 Define DNA probes.
- 6 What is cDNA?
- 7 Expand RFLP and give its application.
- 8 What is HRT? List its importance.
- 9 Define expression Cassettes.
- 10 List any two properties of recombinant interferons.

SECTION - B (25 Marks)Answer **ALL** Questions**ALL** Questions Carry **EQUAL** Marks (5 x 5 = 25)

- 11 a Define Plasmids with its basic features and classification.
OR
b What are the steps involved in preparation of phage DNA?
- 12 a Elaborate on Yeast vectors.
OR
b How is phage DNA introduced into bacterial cell?
- 13 a Explain the construction of DNA library.
OR
b Comment on RFLP technique.
- 14 a How is DNA sequenced by Frederick Sanger?
OR
b Brief on PCR technique and its application.
- 15 a Exemplify the production of human insulin by genetic engineering.
OR
b List Hazards and safety aspects of genetic engineering.

SECTION - C (30 Marks)Answer any **THREE** Questions• **ALL** Questions Carry **EQUAL** Marks (3 x 10 = 30)

- 16 Write notes on (i) Preparation of plasmid DNA from bacteria (ii) DNA ligase and their properties.
- 17 Discuss the identification and selection of recombinants.
- 18 Explain about the methods and applications Western Hybridization.
- 19 Illustrate DNA finger printing with its applications.
- 20 How is recombinant TPA (Tissue plasminogen activator) produced using genetic engineering techniques? Describe.

Z-Z-Z**END**