

**PSG COLLEGE OF ARTS & SCIENCE**  
 • (AUTONOMOUS)  
**BSc DEGREE EXAMINATION MAY 2019**  
 (Fourth Semester)

Branch - **BIOTECHNOLOGY**

**rDNA TECHNOLOGY**

Time : Three Hours

Maximum : 75 Marks

**SECTION-A (20 Marks!)**

Answer **ALL** questions

**ALL** questions carry **EQUAL** marks (10 x 2 = 20)

- 1 What is a cosmid?
- 2 What is phagemid?
- 3 What is an adapter?
- 4 What is the function of DNA helicase?
- 5 What is a reporter gene?
- 6 what is yEP?
- 7 What are VNTRs?
- 8 What is cDNA library?
- 9 What is genetic immunization?
- 10 What are minisatellites?

**SECTION - B (25 Marks)**

Answer **ALL** Questions

**ALL** Questions Carry **EQUAL** Marks (5 x 5 = 25)

- 11 a Give a brief account on the characteristic features of an ideal vector.  
OR  
b Give a brief account on the preparation of phage DNA.
- 12 a What are restriction endonucleases? What are its types and functions?  
OR  
b Give a brief note on agarose gel electrophoresis.
- 13 a Explain briefly about electroporation and its advantages.  
OR  
b Write a short note on pBR322.
- 14 a Give a brief account on southern blotting technique.  
OR  
b Explain briefly about Maxam Gilbert DNA sequencing.
- 15 a What is DNA fingerprinting? Add a note on its applications.  
OR  
b Explain briefly about the problems in using *E. coli* as a host.

**SECTION - C (30 Marks)**

Answer any **THREE** Questions

**ALL** Questions Carry **EQUAL** Marks (3 x 10 = 30)

- 16 What are plasmids? Add an account on naturally occurring plasmids.
- 17 Explain in detail about restriction mapping.
- 18 Explain in detail about yeast vectors.
- 19 Write down the strategy and applications of PCR in detail.
- 20 Write a note on expression vectors for *E. Coli* in detail.

Z-Z-Z

END