

PSG COLLEGE OF ARTS & SCIENCE  
(AUTONOMOUS)

MSc DEGREE EXAMINATION MAY 2018  
(Second Semester)

Branch-BIOTECHNOLOGY

RECOMBINANT DNA TECHNOLOGY

Time: Three Hours

Maximum: 75 Marks

Answer ALL questions  
ALL questions carry EQUAL marks (2 + 5+ 8)

- 1 a Define restriction site.  
b Write a short notes on ligase.  
c Give a detailed on the enzymes involved in rDNA technology.  
OR  
d What is Topoisomerase?  
e Discuss the enzymes that modifies the ends of DNA.  
f What is ligase? Write the types, properties and mechanisms of DNA ligase.
- 2 a Define vector.  
b Explain the characteristic features of cosmid.  
c Write in detail about plasmid and its types.  
OR  
d What is cosmids?  
e Write a shot note on Lambda phage vector,  
f Discuss in detail about yeast vector.
- 3 a Name the vectors for creating genomic library.  
b Describe about the uses of animal viruses as vector,  
c Explain the construction of c-DNA library.  
OR  
d What is selectable marker?  
e Explain one strategy for screening genomic DNA library,  
f Explain any two viral vectors in detail.
- 4 a What is RACE?  
b Write a note on DNA profiling,  
c Give a note on VNTR and STR. Write its applications.  
OR  
d What is STR?  
e Write a short notes on Blotting techniques,  
f What is PCR? Explain RT-PCR and nested PCR in detail.
- 5 a What is gene therapy?  
b Give a brief account on applications of genetic engineering techniques,  
c Write an essay on production of commercial products from cell culture.  
OR  
d What are DNA vaccines?  
e Write short notes on DNA augmentation therapy,  
f Give a detailed account on molecular farming from transgenic plants  
with emphasis on immunotherapeutic drugs.