



SN - 417

V Semester B.Sc. Examination, November/December 2017  
(F + R/CBCS)  
**BIOTECHNOLOGY - V**  
**Genetic Engineering and Environmental Biotechnology**

Time : 3 Hours

Max. Marks : 70

**Instruction :** Draw neat labelled Diagrams wherever necessary.

SECTION - A

**BMSCW**

i. Write short notes on the following :

(5x2=10)

- 1) DDT
- 2) R Nase H
- 3) Methanogens
- 4) Lac Z gene
- 5) PAGE.

SECTION - B

ii. Answer **any four** of the following :

(4x5=20)

- 6) Write a note on pBR322.
- 7) Write a note on Southern Blotting.
- 8) What is colony hybridisation ? Explain.
- 9) Explain microbial H<sub>2</sub> production.
- 10) Write a note on genetically modified plants.



## SECTION - C

III. Answer **any three** of the following : (3×10=30)

- 11) Describe in detail the steps involved in PCR. Add a note on its applications.
- 12) Discuss about the degradation of plastics in detail. Add a note on its environmental hazards.
- 13) What are Biofertilizers ? Explain in detail symbiotic N<sub>2</sub> fixation in bacteria.
- 14) Write notes on the following :
  - a) T<sub>4</sub> DNA ligase
  - b) Expression of cloned DNA in E.coli.
- 15) Explain the steps involved in construction of cDNA library.

## SECTION - D

IV. Answer the following : (10×1=10)

- 16) What is pyrolysis ?
  - 17) Name any two organisms used in the bioleaching of Uranium.
  - 18) Define Biosorption.
  - 19) Expand TEMED.
  - 20) Name the vector commonly used in the recombinant Hepatitis B vaccine production.
  - 21) Write any two demerits of microinjection.
  - 22) Expand dd NTP's.
  - 23) What is the function of exonucleases ?
  - 24) Give any two examples of conventional fuels.
  - 25) What are cosmids ?
-