

V Semester B.Sc. Examination, Nov./Dec. 2014

(F + R) (Semester Scheme)

BIOTECHNOLOGY - V

BTP-501 : Genetic Engineering and Environmental Biotechnology

(70 - 2013-14 & Onwards)

(60 - Prior to 2013-14)

Time : 3 Hours

Max. Marks : 70/60

**Instructions :** 1) 70 marks for students of 2013-14 onwards.

2) 60 marks for **repeater** students prior to 2013-14.

3) Sections **A, B, C** common to all.

4) Section **D** for students of 2013-14 onwards.

5) Draw **neat** labelled diagrams **wherever** necessary.

SECTION - A

I. Write short notes on the following :

(5×2=10)

- 1) Lac Z gene
- 2) Cosmids
- 3) Biofilm
- 4) Rhizobium
- 5) Alkaline phosphatase.

SECTION - B

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

(4×5=20)

- 6) Explain immunological screening of recombinants.
- 7) Describe the method of production of ethanol from sugar.
- 8) What are restriction enzymes ? Explain the types.
- 9) Write a note on phytoremediation.
- 10) Explain the structure of pBR 322.



## SECTION – C

III. Answer **any three** of the following :

(3×10=30)

- 11) What is blotting ? Explain Northern blotting.
- 12) Discuss the role of recombinant DNA technology in the production of insulin.
- 13) What are conventional fuels ? Enumerate on their environmental impact.
- 14) What are biofertilizers ? Explain the production of biofertilizer.
- 15) Explain the steps involved in preparation of chimeric DNA.

## SECTION – D

IV. Answer the following in **one** sentence :

(10×1=10)

- 16) Expand IPTG.
- 17) What is symbiosis ?
- 18) Name the antibiotic resistance genes in pUC18.
- 19) Mention the phases of viral life cycle.
- 20) What are exhaustible fuels ?
- 21) What is electrophoresis ?
- 22) Name any two organisms involved in bioleaching.
- 23) What is ectomycorrhiza ?
- 24) What is ultrafiltration ?
- 25) What is reverse osmosis ?

B.M.S.C.W