B. Sc. DEGREE (C.B.C.S.S.) EXAMINATION, MARCH 2017
SEMESTER VI - BOTANY
BOT6BB - BIOTECHNOLOGY AND BIOINFORMATICS

Time: Three Hours   **Maximum Marks: 60**

PART A

I.   Answer all questions. Each question carries 1 mark.

1.   What do you mean by totipotency?
2.   Give an account on synthetic seeds.
3.   What are cloning vectors? State an example for cloning vector.
4.   What is a super bug?
5.   State the applications of stem cell culture.
6.   Explain the term transcriptome.
7.   What is Rasmol?
8.   Define animal cloning.

                                                                    (8x1=8)

PART B

II.   Answer any six questions. Each question carries 2 marks.

9.   What you mean by in *vitro* differentiation? Explain de-differentiation and re-differentiation.
10.   Write a short note on M.S. Medium.
11.   Give an account on molecular scissors. State examples.
12.   What are Ti plasmids?
13.   Explain microinjection.
14.   What are monoclonal antibodies?
15.   Explain micro array.
16.   What is a biowar?
17.   What is BLAST? Give its uses.
18.   Give a brief account on molecular docking.

                                                                    (6x2=12)

PART C

III.   Answer any four questions. Each question carries 4 marks.

19.   Describe the Sangers method of DNA sequencing.
20.   Give the scope and relevance of Bioinformatics.
21.   What is DNA finger printing? Give its applications.
22.   Give an account on blotting. Explain southern blotting.
23.   Explain the diffenent phases of micropropagation?

24. Write an account on somatic embryogenesis.

(4x4=16)

PART D

IV. Answer any two questions. Each question carries 12 marks.

25. Describe the technique of micropropagation and discuss its advantages and disadvantages.
26. Give and account of physical and chemical gene transfer techniques in biotechnology.
27. What are biological databases? Explain various types of databases with an example.
28. Briefly explain the major applications of genome projects.

(2x12=24)