STELLA MARIS COLLEGE (AUTONOMOUS) CHENNAI 600 086
(For candidates admitted from the academic year 2004-2005)

SUBJECT CODE: BT/MC/AB64

B.Sc. DEGREE EXAMINATION, APRIL 2007
BRANCH V(a) – PLANT BIOLOGY AND PLANT BIOTECHNOLOGY
SIXTH SEMESTER

COURSE : MAJOR – CORE
PAPER : APPLIED BIOTECHNOLOGY
TIME : 3 HOURS **MAX. MARKS : 100**

SECTION –A

ANSWER ALL QUESTIONS

I. FILL IN THE BLANKS: **(5 MARKS)**

1. _____ is commonly called as the rooting hormone.
2. Somatic embryos when immobilized are known as _____
3. The immunoglobin related to hypersensitivity is _____
4. Phosphate uptake can be enhanced using _____
5. The bacterium _____ is widely known as superbug.

II. MATCH THE FOLLOWING: **(4 MARKS)**

6.	Haploid plant	-	epitope
7.	Antigen	-	sperm banks
8.	in vitro fertilization	-	yeast
9.	Biofuel	-	anther

III. STATE WHETHER TRUE OR FALSE : **(5 MARKS)**

10. Somaclonal variations are desirable in ornamental plants.
11. Resistance to fungal pathogens can be improved by transforming plant cells with chitinase genes.
12. All biofertilizers improve only the N content of the soil.
13. Monoclonal antibodies can be used in cancer therapy.
14. Xenobiotics such as PCP can never degrade.

IV. CHOOSE THE CORRECT ANSWER: **(4 MARKS)**

15. The hormone used for callus culture is
    a) 2,4-D b) 2iP c) zeatin d) Gibberellin
16. Antibodies consist of _____ peptides
    a) 2 b) 3 c) 4 d) 5
17. Which of the following is not a xenobiotic?
    a) DDT b) PCB c) DAP d) BTEX
18. Gene cloning does not involve
    a) restriction enzymes b) plamids c) transformation d) transduction

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V. ANSWER ANY SIX OF THE FOLLOWING. EACH ANSWER NOT TO EXCEED 50 WORDS: (6 x 3 = 18)

19. Direct organogenesis.
20. Cryopreservation.
21. Pollen culture.
22. cybrid
23. Haptens.
24. CD4.
25. Interferons.
26. Gasohol.
27. Surrogate mother.

ANSWER ANY FOUR OF THE FOLLOWING. EACH ANSWER NOT TO EXCEED 200 WORDS: (4 x 6 = 24)

28. Write notes on callus culture and list out its merits and demerits.
29. Give an account of the application of tissue culture in forestry.
30. Discuss briefly about biofertilizers and their advantages.
31. Explain briefly about the cells of the immune systems.
32. Give an account of biofuels.
33. Write briefly on the microbial degradation of xenobiotics.

ANSWER ANY TWO OF THE FOLLOWING. EACH ANSWER NOT TO EXCEED 1000 WORDS: (2x 20 = 40)

34. Give a detailed account of protoplast isolation and fusion. Add a note on their significance.
35. Explain the role of transgenic plants for crop improvement with reference to herbicide and insect resistance.
36. Explain in detail about the steps involved in the production of monoclonal antibodies. Comment on their uses.
37. Explain the biotechnological methods used to overcome infertility. Add a note on the ethical issues involved.

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