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|  | **ST. JOSEPH’S COLLEGE (AUTONOMOUS), BANGALORE-27** |  |  |
|  | **B.Sc. MICROBIOLOGY– VI SEMESTER** |  |  |
|  | **SEMESTER EXAMINATION: APRIL 2017** |  |
|  | **MB 6212 – Microbial and Cell Culture Technology** |  |  |  |  |  |
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**This question paper contains 2 printed pages and 4 parts**

**Time : 3hrs Maximum marks :100**

1. **Answer any Five of the following 5 x 3 = 15**
2. Comment on infusion mashing.
3. Define: Explant, Dedifferentiation and Redifferentiation.
4. How is Cyanocobalamin recovered from the fermented broth?
5. Define the following: Histotypic culture, Organotypic culture and Primary culture.
6. What are feeder layers? Mention its applications in Animal cell culture.
7. Define Miniprotoplasts, Microprotoplasts and cytoplasts.
8. Which strategy is used in *Flavr Savr* tomato and why?
9. **Answer any Five of the following 5 x 6 = 30**
10. Write a detailed account on the production of Acetone/Butanol.
11. What are the different types of amylases used in starch hydrolysis? Give the flowchart for the production of amylases.
12. Define fusion proteins and explain the production of somatostatin fusion proteins.
13. Schematically explain Hybridization and Cybridization.
14. Give a diagrammatic representation of T-DNA transfer and its integration into the host plant cell genome.

MB-6212-B-17

1. Explain Dilution Cloning technique with diagram.
2. Write a short note on suicide gene therapy.
3. **Answer any Three of the following 3 x 15 = 45**
4. Define Biosensors. Illustrate the working principles of Electrochemical and Thermometric biosensors with a diagram.
5. What are the components of plant tissue culture media? Mention their role in the growth and proliferation of an explant.
6. a. Write a short note of SCP and its applications. **(7.5 marks)**

b. Explain the various methods used in Protoplast Fusion. **(7.5 marks)**

1. Explain the various techniques used in primary cell cultures.
2. Write notes on IPR.

**IV. Answer the following 1 x 10 = 10**

1. A plant with EPSPS is sensitive to glyphosate”. Justify the statement and mention the strategies applied commercially with respect to the above statement.