 **ST.JOSEPH’S COLLEGE (AUTONOMOUS), BANGALORE-27**

SUPPLEMENTARY EXAMINATION APRIL 2018

B.Sc MICROBIOLOGY- II SEMESTER

 **MB 6212: Microbial Technology, Plant and Animal Biotechnology**

(For supplementary candidates)

Do not write the register number on the question paper

Please attach the question paper along with the answer script.

 **Time: 3hrs Max Marks: 100**

This question paper has **1** printed page and **4** parts.

**I. Answer any Five of the following. 5 x 3 =15**

1. Using a flow chart explain the genetic modification of Flavr Savr.
2. Define biochips and list their applications.
3. Explain the process of malting.
4. Define dedifferentiation, redifferentiation and totipotency.
5. List the various micronutrients used in PTC media and mention their functions.
6. Write a short note on IPR.
7. Mention the advantages of serum free medium.

**II. Answer any Five of the following. 5 x 6 = 30**

1. Describe the industrial production of Wine.
2. Explain the various steps that are involved in the production of Vitamin B12 .
3. Write a note on surface sterilization of explant.
4. What is meant by Organogenesis? Explain its steps.
5. Write a note on Animal viral vectors for gene transfer.
6. Discuss in general the procedure of producing transgenic animals.
7. Describe the methodology for the preparation of primary cell line.

**III Answer any Three of the following 3 x 15 = 45**

1. What are the limitations of *in vitro* cytotoxicity studies? List and explain the methods used for assaying cell viability and cytotoxicity.
2. Explain the different steps involved in Citric acid production.
3. Write a brief note on somatic hybridization and its applications.
4. Explain the methodology involved in production of secondary metabolites and its applications.
5. Write a note on gene therapy and its applications.

**IV. Answer the following 1x10=10**

20. Blood sample of a person showed high levels of uric acid after a dietary supplement prescribed. Identify the supplement and describe its production.

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