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

DATE: 28-06-2019

**Special Supplementary Examination, JUNE 2019**

**B.Sc BIOTECHNOLOGY- VI SEM**

**BT 6115: Industrial and Animal Biotechnology**

Supplementary candidates only.

**Time: 2.5 Hrs Max Marks: 70**

**Note The question paper has three parts and one printed page**

1. **Answer any Ten of the following 10x2=20**
2. Name the strains used to obtain Xanthan Gum?
3. What is the need to produce SCO from microbial source?
4. State two examples of enzymes in the market obtained from a plant source.
5. What is Head space?
6. What are the natural sources for sugars used in fermentation?
7. What are the Industrial uses of amylase enzyme?
8. What are transformed cell lines?
9. State two examples of genes introduced to develop a transgenic fish.
10. What is mass transfer?
11. What are HEK cell lines?
12. How would you increase transfection efficiency in liposome mediated method?
13. What is the role of [GnRH](http://home.comcast.net/~john.kimball1/BiologyPages/H/Hypothalamus.html) in experiments involving mice?
14. **Answer any Five of the following 5x6=30**
15. How would you identify a mutant strain that was developed by strain improvement?
16. Discuss the stages in industrial production of Beer.
17. Discuss Draft tubes.
18. Discuss the process involved in Cryopreservation and Thawing.
19. Discuss Scorable and Selectable markers.
20. What are clinical trials?
21. State the ethical concerns involved in using of animals for pharmaceutical testing.
22. **Answer the following 2x10=20**
23. a. Discuss the stages in Down Stream Processing.

 **OR**

b. What are the Biological and physical parameters involved to design an ideal fermentor?

1. a. Discuss the construct of a Knock out mice. What are its applications?

 **OR**

b. Discuss the media used in animal tissue culture.

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