Karunya University
(Karunya Institute of Technology and Sciences)
(Declared as Deemed to be University under Sec.3 of the UGC Act, 1965)

End Semester Examinations - 2015-16 Even Semester - May 2016

14BT2048 Metabolic Engineering

Set A

Time : 3 hrs
Total Marks: 100

1. (a) Explain in detail the role of metabolic flux analysis in metabolic engineering [12]

   (b) Describe briefly the fate of pyruvate formed in glycolysis during aerobic conditions [8]

OR

2. (a) What is feedback regulation? Describe concerted feedback regulation and cumulative feedback regulation [12]

   (b) Comment on mutants resistant to repression [8]

3. Summarize the biosynthetic pathways and regulation for production of amino acid glutamic acid [20]

OR

4. (a) Enumerate the principles of metabolic engineering for the production of purine nucleotides [12]

   (b) Outline the applications of secondary metabolites [8]

5. What about metabolic pathway manipulations for the enhancement of product yield with reference to vitamin production [20]

OR

6. (a) What are secondary metabolites? Explain the phase during which it is synthesized and the different regulatory methods [15]

   b) Explain enzyme induction with suitable examples [5]

7. (a) Discuss different types of mycotoxins in food and their impact on human health [14]

   (b) Illustrate the types of biotransformation reactions **[6]**

OR

8. (a) Explain bioconversion of steroids with a flow chart [12]

   (b) What are bioconversions? How are these important in synthesis of metabolites? [8]

9. Give an account on the isolation of mutants that do not recognize the presence of inhibitors and repressors [20]

Wishing you All the Best