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Reg. No. :

Name :

Seventh Semester B.Tech. Degree Examination, June 2009
(2003 Scheme)
Branch : Biotechnology and Biochemical Engg.
03-706 (Elective III) : METABOLIC ENGINEERING (B)

Time : 3 Hours

Max. Marks : 100

PART – A

Answer **all** questions.

1. Explain the term glucose effect and clamp deficiency.
2. What is energy change ? Why is it important ?
3. How do you distinguish passive transport from active transport ?
4. Discuss the role of resistant mutants in synthesis of primary metabolites.
5. How will you alter the permeability ?
6. What are precursor ? How do they influence the biosynthesis of secondary metabolites ?
7. Mention the factors which influence the yield of bioconversion.
8. Comment on gene dosage.
9. Write short notes on regulation of enzyme synthesis.
10. Discuss the application of metabolic Engineering. **(10×4=40 Marks)**

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PART – B

Answer **one** question from **each** Module.

Module – I

11. Explain how the monod model to represent the characteristic features of microbial growth. (1×20=20 Marks)

OR

12. Discuss the aminoacids regulation of RNA synthesis. (1×20=20 Marks)

Module – II

13. Discuss the role of the following in the sythesis of primary metabolites :

1) Alteration of feedback regulation

2) Alteration of permeability.

(1×20=20 Marks)

OR

14. Write notes on enzyme induction in the biosynthesis of secondary metabolites.

(1×20=20 Marks)

Module – III

15. Explain the following :

a) Mixed or sequential bioconversion.

10

b) Bioconversion of insoluble substance.

10

OR

16. Discuss the role of improved fermentation, recognition of growth rate peak and feedback repression in the regulation of enzyme production.

(1×20=20 Marks)
