

Code: 9A23503

B.Tech III Year I Semester (R09) Supplementary Examinations June 2017

BASIC INDUSTRIAL & ENVIRONMENTAL BIOTECHNOLOGY

(Biotechnology)

Time: 3 hours

Max. Marks: 70

Answer any FIVE questions
All questions carry equal marks

- 1 Explain the microbial production process of the following primary metabolites:
 - (a) Acetic acid.
 - (b) Phenylalanine.
 - (c) 2, 3-Butanediol.
- 2 How are the various classes of low molecular weight secondary metabolites produced? Explain with examples.
- 3
 - (a) Describe the production process for the synthesis of amylases and cellulases.
 - (b) Discuss the various enzymes used in the food and pharmaceutical industries.
- 4 How are the following recombinant proteins synthesized? Explain;
 - (a) Insulin.
 - (b) Interleukin.
 - (c) Interferons.
- 5
 - (a) Illustrate the production process for single cell protein and drug intermediates with examples.
 - (b) How are the bioconversion of steroid and vegetable oils performed? Explain.
- 6 Write the comparison between the suspended growth and attached growth processes involved in the rotating biological contactor and fluidized bed bioreactor for the treatment of wastewater.
- 7 Explain the following bioremediation processes for the reclamation of contaminated site:
 - (a) Biostimulation.
 - (b) Bioaugmentation.
 - (c) Bioventing.
 - (d) Biosparging.
- 8 How are the hazardous wastes managed? Explain with three examples.
