

R09
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Code: 9A23503

B.Tech III Year I Semester (R09) Supplementary Examinations, May 2013  
**BASIC INDUSTRIAL & ENVIRONMENTAL BIOTECHNOLOGY**  
(Biotechnology)

Time: 3 hours

Max. Marks: 70

Answer any FIVE questions  
All questions carry equal marks

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1. Describe the different events in fermentative production of citric acid.
2. List out the chemical structure, fermentation process, harvest and recovery methods employed in production of vitamin B12.
3. Give an account of production of  $\alpha$  – amylases and their applications.
4. What are recombinant proteins? Mention about interferon's its types and production of recombinant human interferon.
5. Trace the nutritional quality, substrates, microorganisms, and process involved in production of single cell protein.
6. What is anaerobic digestion? Explain with diagrams about contact digestors and upflow anaerobic sludge blanket.
7. Explain about the bioreactors involved in liquid phase bioremediation.
8. Enumerate the following:
  - (a) Xenobiotic compounds.
  - (b) Hazardous waste management.
  - (c) Biological detoxification.

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