

Code: 9A23703

**R09**

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

**DOWNSTREAM PROCESSING**

(Biotechnology)

Time: 3 hours

Max. Marks: 70

Answer any FIVE questions  
All questions carry equal marks

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- 1 Describe characteristics of biological mixtures. Add a note on cost-cutting strategies.
- 2 Explain isolation and extraction with suitable product examples. Add a note on recent developments in product isolation.
- 3 Describe cell disruption methods for intracellular products.
- 4 Write about principles, driving forces, applications of membrane separation process.
- 5 Explain the following:
  - (a) Integrated bioprocess.
  - (b) Two-phase extraction.
  - (c) Precipitation methods in brief.
- 6 Write about the following:
  - (a) Agarose gel electrophoresis.
  - (b) Pulse field electrophoresis.
  - (c) Preparative electrophoresis.
- 7 Describe short notes on:
  - (a) TLC.
  - (b) GC.
  - (c) FPLC.
- 8 Explain in detail about penicillin production and process with suitable diagram.

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