



KC-209

Seat No. _____

Third Year B. Sc. Examination

March / April - 2013

Biotechnology : Paper-VI

(Bioprocess & Biochemical Engineering)

Time : 3 Hours]

[Total Marks : 70

- 1 (a) What is preservation ? Explain different techniques used for preservation of microorganisms. 14
- (b) What is growth ? Explain different techniques used to measure growth.

OR

- (a) What is fermentation ? Write about ranges of fermentation process.
- (b) Write about recombinant DNA technology to be used as strain improvement in industrial fermentation.

- 2 (a) What are media ? Explain in detail different types of media. 14
- (b) Explain principal and methods for media sterilization at industrial level.

OR

- (a) Explain in detail about different ingredients of fermentation media.
- (b) Explain inoculums development for industrial fermentation.

- 3 (a) What are fermenters ? Write about fermenter design. 14
- (b) Explain chromatography as separation technique.

OR

- (a) Explain types of fermenters.
- (b) Give overview of industrial downstream processing.
- 4 (a) Write a note on solid state fermentation. 14
- (b) What is bioassay ? Write about bioassay of growth promoting substance.

OR

- (a) Write a note on mushroom cultivation and applications.
- (b) Write a generalized note on fermented dairy products.

- 5 Write any two : 14
- (a) Write about SCO
- (b) Explain fermentative production of alcohol
- (c) Write about fermentative production of penicillin
- (d) Write a note on fermentation economy.
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