B.Sc. Biotech Part II Examination, 2016

Faculty of Science

(Industrial Biotechnology)

Time: 3 Hours **Maximum Marks: 50**

Note: Question 1 is compulsory, Attempt five questions in all, selecting at least one question from each section.

Q1. Answer the following:

i) Define shelf life improvement?
ii) What is the basic principle of fermentation technology?
iii) Write monad Equation?
iv) What is the difference between bioreactor and fermenter?
v) Describe FMD?

Section A

Q2. Describe in detail types of bioreactor, components of fermenters and their specification?

Q3. Write short notes on any two:

i) Range of microbial fermentation process
ii) Value addition shelf life improvement
iii) Construction, design and operation of fermenters

Section B

Q4. Describe in detail strain preservation, maintenance and strain improvement by mutation of gene transfer processes?

Q5. Write brief description on:

i) Ethyl alcohol
ii) Single cell protein
iii) New castle disease

Section C

Q6. Give a detailed account on genetic engineering, protein engineering of enzymes and cloning strategy of enzyme production?

Q7. Describe nature of enzymes, application and limitation of microbial cells used as catalyst?

Section D

Q8. Describe in detail microbial polysaccharides and polyesters?

Q9. Give brief account on any two:

i) Biofilms
ii) Microbial culture selection with high yield
iii) Cheese

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Q1. Answer the following:

i) What is polyacrylamide?
ii) Describe various type of retting of Jute?
iii) How deterioration of papers can be prevented?
iv) Why cloning strategy is needed for enzyme production?
v) What is biofilm?

Section A

Q2. Describe in detail monad model and solid state fermentation?

Q3. Write short note on:

i) Batch fed batch
ii) Continuous fermentation process
iii) Biotransformation

Section B

Q4. Describe steps to maintain microbial culture in aseptic environment?

Q5. Write brief description on any two:

i) Citric acid
ii) Penicillin
iii) Antibiotics

Section C

Q6. Describe ethanol generation from biomass and microbial recovery of petroleum?

Q7. Write short note :

i) Production of amino acids by immobilized enzymes
ii) Application of enzymes in medical and in food industry

Section D

Q 8. Give a detail account on the production of monoclonal antibodies?

Q9. Give brief account on any two:

i) Microbial biopolymer
ii) Biosurfactants
iii) Yoghurt