

(Following Paper ID and Roll No. to be filled in your  
Answer Books)

Paper ID : 154611

Roll No. 

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**B.TECH.**

**Theory Examination (Semester-VI) 2015-16**

**FERMENTATION BIOTECHNOLOGY**

*Time : 3 Hours*

*Max. Marks : 100*

**Section-A**

**Q.1 Attempt all parts. All parts carry equal marks. Write answer of each part in short. (2×10 = 20)**

- a) What is the difference between submerged and solid state fermentation.
- b) Write name the first antibiotic, which is effective against tuberculosis.
- c) What is corn steep liquor used as raw material.
- d) Write the basic structural unit of cellulose and hemicelluloses.

- e) Gave an example of operon involved in controlling the anabolic process of microbes.
- f) How many structural genes are controlled by trp operon?
- g) Write two chemical mutagens which participated in mutation.
- h) Write the name of antifungal and antimicrobial agent.
- i) What is microbial leaching?
- j) Explain the term microbial transformation.

### Section-B

**Q2. Attempt any five parts. All parts carry equal marks:**

(5×10=50)

- a) Write the importance of fermentation economics in brief.
- b) List out raw material available in surroundings explain in brief.
- c) Lac operon controlled by the catabolic process of microbes. Justify in brief?
- d) Describe the technique in brief which is involved in over-production of metabolites.

(2)

- e) Write the procedure, parameters and materials for the production of amylase.
- f) What is crabtree effect? Explain in brief.
- g) Give the details of the process, parameters and materials for the production of insulin.
- h) Write the strategies for isolation of microbes from the environment.

### Section-C

**Note: Attempt any two questions from this section.**

(2×15=30)

- Q3. Explain the general concept of scale up and scale down in fermentation process.
- Q4. Write down the procedure for industrial manufacturing of β-lactum.
- Q5. Write down the storage preservation technique of micro-organism. Explain in brief. Write two names of microbial culture collection centre in India.

(3)