KERALA AGRICULTURAL UNIVERSITY

B.Tech.Food Engg. 2015 Admission
IIIrd Semester Final Examination-January 2017

Cat. No: Fdqu 2103

Title: Biochemical Engineering (1+1)

Marks: 50

Time : 2 hours

I. Fill in the blanks/ answer the following:
(10 x 1=10)

1. Reynold's number is defined as ---------
2. The non-protein component of an enzyme is called ---------
3. --------- are usually present in cytoplasm and are more active in protein-synthesizing cells.
4. The enzyme --------- is used for inversion of sucrose to a mixture of fructose and glucose.
5. What is coenzyme?
6. What is catabolism?
7. Define space time.
8. Write any four commonly used adsorbents.
9. Which are the ideal reactors?
10. Name two meters to measure the flow of fluids.

II. Write short notes/answers on ANY FIVE:
(5x 2=10)

1. What is chemical composition of a cell?
2. State law of diffusion in mass transfer.
3. What is an enzyme?
4. What are various nutritional requirements of organisms?
5. Differentiate between anaerobic and aerobic process.
6. Write the methods of enzyme immobilization.
7. Write notes on DNA and RNA?

III Write answers on ANY FIVE:
(5 x 4=20)

1. Explain Monod equation for specific growth rate.
2. Explain the role of diffusion in bioprocessing.
3. Describe simple and complex media with examples.
4. What are factors affecting cellular oxygen demand?
5. What is meant by enzyme specificity? Explain types of enzyme specificity.
6. Explain types of agitators used in fermentor.
7. Write a note on nucleic acid.

IV. Write essay on any ONE
(1 x 10=10)

1. Describe the working of a fluidized bed bioreactor. What are its advantages?
2. Explain how Michealis Menten equation can be derived for enzyme kinetics from first principle.

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