

oxidation of one mole of glucose. ()

- (B) Fill in the gap by a suitable one word:
- (f) K_a is used as a measurement of.....of the system.
- (g) Bioreactor is regarded as aof ..
- (h) Batch culture system represents.....in a.....system.
- (i) Fermented broth is generally very.....containing about 5 to 20% of the.....
- (j) Liquids and gases before.....the bioreactor are.....

Section-B

Attempt any five questions from this section. (10×5=50)

- How do you correlate biochemical Engg. with biotechnology?
- Enumerate the steps in a bioprocess for the production of an industrial product with a neat flow process diagram.

750

(2)

EBT-042

estimation of microbial growth.

- How do you differentiate between "simple type product formation" and "simultaneous type of product formation"?
- Discuss the features of a chemostat.
- Give a brief mention of mass transfer in a bioreactor.
- Enumerate the methods for scale-up of bioreactor with a brief description of one of these methods.
- Write short notes on any two of the following:
 - Residence time.
 - Power consumption in bioreactor.
 - Analysis of bioprocess experimental data.
 - Airlift bioreactor.

Section-C

Attempt any two question from this section. (15×2=30)

- Enumerating the factors affecting ' K_a ' and develop the following expression:

$$K_a = \frac{C^* C_a \Delta xy}{C^* - C_t}$$

750

(3)

P.T.O.



1.1. Calculate the aeration rate with large fermentor. The data required for this are as under :

(i) Aeration rate with

Small fermentor = 1 VVM.

(ii) Scale up ratio = 5.0

—X—

(4)

EBT-042

firstRanker.com

www.FirstRanker.com