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<b>a</b>	(c)	9	(a)	<u>\( \begin{array}{c} \) \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ \\ </u>	:Atte		16:3 h		(SEN		Ŧ	llowi	ted I
The destructi (moist heat) i	Exponential prolonged by vessel.()	Thermodyna system. ( )	Batch bioreac	Indicate True (	mpt all question ver of each part		lours]	BIOPROCE	1. VII)THEOH		Paper ID :154754	ng Paper ID a	Printed Pages: 4
The destruction of microorganization by steam (moist heat) follows first order binetics. ( )	Exponential growth in a batch culture may be prolonged by the addition of fresh medium in the vessel. ()	Thermodynamatically, CSTR is a Closed system.()	tor operates at Stead	(F) or False (F):	Nate: Attempt all questions. All parts carry equal marks. Write answer of each part in short.  (10x2=20)	Section-A	[Tot:	SSENGINEERING	RYEXAMINATION	B.Tech.	Roll No.	(Bollowing Paper ID and Roll No. to be filled in your South	470
ation by steam netics.()	ulture may be medium in the	is a Closed	ly state. ( )		al marks. Write (10x2=20)		al Marks:100]	H	(, 2015-16			illed in your	EBT-042

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/50	750	
(2)	9	of an industrial product with an
EB1-042	EBTOA	neat flow process diagram.
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oxidation of one mole of glucose. ( )

(B) Fill in the gap by a suitable one word:

.of

- Э Bioreactor is regarded as a .... the system. K<sub>2</sub>a is used as a measurement of. of.
- $\Xi$ 9 Batch culture system represents

₽.

...system.

- Ξ Fermeuted **veгу**..... containing about 5 to 20% of broth generally
- 9 Liquids and gases before. .the

## Section-B

Attempt any five questions from theis section.  $(10 \times 5 = 50)$ 

- How do you corelate biochemical Engg. with biotechnology?
- Enumerate the steps in a bioprocess for the production

estimation of microbial growth.

- How do you differentiate between "simple type product formation" and "simultaneous type of product
- Discuss the features of a chemoslate

6

- Give a brief mention of mass transfer in a bioreactor.
- a brief discription of one of these methods. Enumerate the methods for scale-up of bioreactor with
- Write short notes on any two of the following:
- (a) Residence time.
- (b) Power consumption in bioreactor.
- (c) Analysis of bioprocess experimental data.
- (d) Airlift bioreactor.

## Section-C

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

 Enumerating the factors affecting 'K<sub>2</sub>a' and develop the following expression:

$$K_L a = \frac{Cc^* Ca \Delta xy}{C^* - C_L}$$

(3)

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