Seat No.:	
[Max. Marks: 5	0
ual marks. ion – I.	•,
COMPULSORY.	
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tion. ineered organisms.	7 7
	7 7
	7
ration of microbial cells.	7
extraction system. effluent treatment.	7 7
rminations as physical assays of	7
for fermentation product.	7
of LAL test. as components of fermentation	7
as components of total	7
llin from fermentation broth. entation broth.	7 7
lications of amylase	

AE-115

August-2021

B.Sc., Sem.-VI

310: Microbiology

(Bio Process Tech.)

	[Max. Marks: 5	0
	Time: 2 Hours	
	Instructions: (1) All questions in Section – I carry equal marks. (2) Attempt any three questions in Section – I.	
	(3) Question No. – 9 in Section – II is COMPULSORY.	
	Section - I	7
	1. (A) Explain with examples; solid-substrate fermentation.	7
	1. (A) Explain with examples; solid-substrate left that the state of t	1
		7
	2. (A) Write a note on: Continuous fermentation.	7
	(B) Write a note on: Mass transfer of oxygen.	
		7
	3. (A) Draw and describe Foam separation method.	7
	- Ata use of rotary vacuum inter in separation	
	(B) Describe the discontinuous for system	7
	4. (A) Explain in brief co-current and counter-current extraction system.	7
	(D) Deceribe activated study	
	(B) Describe activated that (B) Describe activated that (B) Describe turbidity analysis and cell-yield determinations as physical assays of (A) Describe turbidity analysis and cell-yield determinations as physical assays of	
	Describe turbidity analysis and cell-yield determinations as physical	7
	5. (A) Describe turbidity distribution product.	7
	fermentation product. (B) Write a note on end point determination assays for fermentation product.	
	(B) Write a note on the	7
	(A) Describe principle, procedure and applications of LAL test. One of the principle, procedure and applications of LAL test. One of the principle, procedure and applications of LAL test.	
	6. (A) Describe principle, procedure and applications of LAL test. (B) Describe research cost and patent position as components of fermentation	7
	(B) Describe research cost	
	economics. Oescribe in brief harvest and recovery of penicillin from fermentation broth. The covery of ethanol from fermentation broth.	7
è	chargest and recovery of penicillin from fermentation broun.	7
	7. (A) Describe in brief narvest and rethanol from fermentation broth.	84
	7. (A) Describe in brief harvest and recovery of penicinin from fermentation broth. (B) Describe in brief recovery of ethanol from fermentation broth.	í .
	Commission and fermentation. Enlist applications of amylase	7
	o (A) Give a brief outline of Clurc acid lord	7
	7. (A) Describe in brief natvest and (B) Describe in brief recovery of ethanol from fermentation broth. (B) Describe in brief recovery of ethanol from fermentation broth. (B) Give a brief outline of Citric acid fermentation. Enlist applications of amylase and citric acid. (A) Give a brief outline of Citric acid fermentation. (B) Posseribe L-lysine fermentation.	· ·
	and citric acid. (B) Describe L-lysine fermentation. P.T	.0.
	(B) Describe Daystand	

Section - II

- 9. Give short and specific answer in 1 to 2 lines only: (any 8 out of 16)
 - (A) Give name of two gaseous components of scale-up window.
 - (B) What is the use of tachometer in stirred tank bioreactor?
 - (C) What is represented by A_w in solid substrate fermentation?
 - (D) Which phase of microbial growth is extended in continuous culture?
 - (E) Which solvent is used to precipitate out dextrans from fermentation broth?
 - (F) Which type of centrifuge is also called as centrifugal filter?
 - (G) Name the organic acid that can be extracted using liquid membrane.
 - (H) Give full name of BAFS.
 - (I) Give an example of vital fluorescent stain.
 - (J) What is seeded agar?
 - (K) What is the significance of positive controls of sterility testing?
 - (L) Which component of gram-negative bacterial cell generally act as a pyrogen?
 - (M) Draw the chemical structure of 6-Aminopenicillanic acid.
 - (N) Give an example of organic acid that can be used as plasticizer.
 - (O) In addition to Saccharomyces cerevisiae which other types of yeast can be used for alcohol production?
 - (P) What is feed back repression ?