Enrollment No: _____ Exam Seat No:_____

C.U.SHAH UNIVERSITY
Summer Examination-2018

Subject Name : Bioprocess Technology

Subject Code : 4LS04MBO2/4SC04BPT1 Branch :B.Sc. (Microbiology)

Semester : 4 Date : 05/05/2018 Time : 10:30 To 01:30 Marks : 70

Instructions:

(1) Use of Programmable calculator & any other electronic instrument is prohibited.
(2) Instructions written on main answer book are strictly to be obeyed.
(3) Draw neat diagrams and figures (if necessary) at right places.
(4) Assume suitable data if needed.

Q-1 Give answer in short- (14)

a) Write names of two DNA mutating agents.
b) Glycerol can be used as an antifoaming agent in fermentation. True/False
c) Write names of two commercially produced acids.
d) Antibiotics are secondary metabolite. True/False
e) Write names of two trace elements used in fermentation.
f) Write full from of SCP.
g) A turbidostat is a continuous microbiological culture device. True/False
h) ……..processing refers to the recovery and purification of biosynthetic products. (Downstream/Upstream)
i) Write two types of industrial fermentation process.
j) Write the function of agitator in fermentor.
k) UV can be used for industrial strain improvement. True/False
l) A chemostat is a growth vessel into which fresh medium is delivered at a constant rate. True/False
m) Buffer resists change in pH. True/False
n) Proteins can be degraded by protease enzymes. True/False

Attempt any four questions from Q-2 to Q-8

Q-2 Attempt all questions **7**

a What do you mean by upstream processing? Describe its importance in bioprocess technology.

b Explain the process of industrial strain improvement by RDT. **7**

Q-3 Write short notes on-

a. Centrifugation **7**

b. Industrial media **7**

Q-4		**Attempt all questions**	
	a.	What do you mean aeration? Describe its role in fermentation process.	**7**
	b.	Explain the effect of temperature and pH on microbial growth.	**7**
Q-5		**Explain the following with suitable diagram-**	
	a.	Batch fermentation	**7**
	b.	Continuous fermentation	**7**
Q-6		**Write short notes on-**	
	a.	Membrane filtration	**7**
	b.	Fed-batch culture	**7**
Q-7		**Attempt all questions**	
	a.	What is sterilization? Explain the physical methods of sterilization.	**7**
	b.	What is cell disruption? Explain the various methods of cell disruption used in downstream processing.	**7**
Q-8		What do you mean by fermentation? Explain the functions of various components of a typical fermentor.	**14**