

**M. SC. (MICROBIOLOGY) SEM-II (C.B.C.S.) (2012 COURSE) :
WINTER- 2017**

SUBJECT : FERMENTER DESIGN AND MICROBIAL BIOTECHNOLOGY

Day : Monday
Date : 23/10/2017

Time : 03.00 PM TO 06.00 PM
Max. Marks : 60

W-2017-0806

N. B. :

- 1) All questions are **COMPULSORY**.
 - 2) Figures to the right indicate **FULL** marks.
 - 3) Draw neat and labelled diagram **WHEREVER** necessary.
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Q. 1 State the basic design and functions of a fermentor. Write short note on Air lift fermentor. (15)

OR

Write note on production of SCP. Mention its advantages and disadvantages.

Q. 2 a) Mention different methods use for sterilization of a fermentor. (10)

b) Determination of KLa value. (05)

Q. 3 Attempt **ANY THREE** of the following: (15)

a) Describe different types of values used in fermentor design.

b) Write note on Fluid Rheology.

c) Describe note on biotransformation of Steroids.

d) State the production mechanism of any one Enzyme.

Q. 4 Attempt **ANY THREE** of the following: (15)

a) Describe the different types of impellers.

b) Write note on Deep Jet fermentor.

c) State the scale-up process of fermentor.

d) Write note on Plant Cell culture.

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