M. SC. (MICROBIOLOGY) SEM-II (C.B.C.S.) (2012 COURSE) :
SUMMER - 2018
SUBJECT: FERMENTER DESIGN & MICROBIAL BIOTECHNOLOGY

Day: **Wednesday** Time: **03.00 PM TO 06.00 PM**
Date: **11/04/2018** Max. Marks: 60

S-2018-0906

N.B.:

1) All questions are **COMPULSORY**.
2) Figures to the right indicate **FULL** marks.
3) Draw neat diagrams **WHEREVER** necessary.

Q.1 Describe different methods used for sterilization of fermenter. **(15)**

OR

Describe the commercial production of antibiotics.

Q.2 **a)** Describe the different types of valves used in bioreactor design. **(10)**

b) What is biotransformation? Write short note on steroid biotransformation. **(05)**

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

a) Describe the carbon source used for SCP production and describe application of SCP.

b) State antifoam agents and describe characteristics for ideal antifoam agents.

c) Mention the factors which can affect K_L value.

d) Mention the commercial applications of enzymes.

Q.4 Write short notes on any **THREE** of the following: **(15)**

a) Baffles

b) Animal cell culture fermenter

c) Fluizded bed reactors

d) Draw a neat diagram of fermenter used for production of Penicillin

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