Total No. of Questions :5]

SEAT No. : ____

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M.Sc. (Part - II)
MICROBIOLOGY
MB-803: Microbial Technology
(2008 Pattern) (Semester - IV)

Time : 3 Hours] ***[Max. Marks :80***

Instructions to the candidates:

1) ***All questions are compulsory.***
2) ***All questions carry equal marks.***
3) ***Draw neat labeled diagrams wherever necessary.***
4) ***Figures to the right indicate full marks.***
5) ***Use of the logarithmic tables scientific calculator is allowed.***
6) ***Assume suitable data, if necessary.***

Q1) Discuss the design of CSTR. Add a note on advantages of CSTR over immobilized cell reactor. **[16]**

OR

With the help of flow chart, describe the commercial production of lipase.

Q2) Answer any two of the following: **[16]**

a) Justify 'SOP is a vital component for any analytical processes.

b) Explain the various mechanisms involved in regulation of primary metabolites.

c) Describe various types of biosensors and their possible use in monitoring process parameters.

Q3) Answer any two of the following : **[16]**

a) Illustrate various forms of IPR

b) Describe the process to produce recombinant vaccines using animal cell culture.

c) Justify with example 'Mycelial forms of growth affects mass transfer of heat and oxygen'.

P.T.O.

Q4) Write short notes on any four of the following : **[16]**

a) Baffles.

b) Growth rate.

c) Non - Newtonian fluids.

d) Process validation.

e) Sensors to monitor pH.

Q5) Refer to the given plot and answer the following. **[16]**

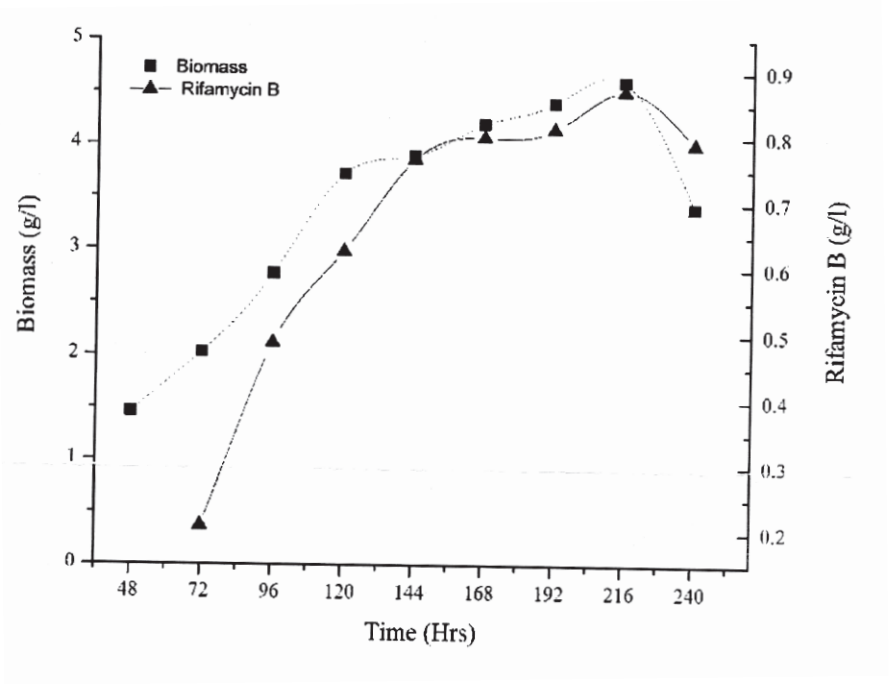

Fig. - Period of fermentation for Rifamycin B production.

a) Interpret the plot for maximum production of RifamycinB

b) Comment about the optimum time required for Rifamycin B production.

c) Describe all the parameters that needs to be optimized for Rifamycin production

d) Discuss the process of recovery of Rifamycin from fermented medium

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