



G-035019

Seat No. _____

B. Sc. (Sem. V) (Microbiology) Examination

April / May - 2019

BSCOC505C - Bioprocess Technology

Time : 3 Hours]

[Total Marks : 70

- 1** Write any two of the following **14**
- (1) Components of fermentation
 - (2) Microbial enzymes as a range of fermentation
 - (3) Importance of secondary screening
 - (4) preservation of industrially important microbes
- 2** Answer any two of the following : **14**
- (1) Nitrogen sources used for fermentation media
 - (2) Continuous sterilization of fermentation media
 - (3) Sterilization of animal cell media
 - (4) Fungal inoculum development
- 3** Write on any two of the following : **14**
- (1) Design of typical fermentor
 - (2) Types of bioreactors
 - (3) Tower fermentors
 - (4) Cell disruption methods
- 4** Write on any two of the following : **14**
- (1) SSF
 - (2) Mutation for strain improvement
 - (3) Aseptic operations
 - (4) Applications of immobilized enzyme

5 Write in one or two sentences on the following : **14**

- (1) Applications of xanthan gum
 - (2) Define biotransformation
 - (3) Factors affecting fermentation economics
 - (4) What is the use of auxotrophs in fermentation industries ?
 - (5) Write $K_L a$ value formula
 - (6) Two names of antifoam agents
 - (7) Define OTR.
 - (8) One difference of open and closed fermentation.
 - (9) What are the types of centrifuge ?
 - (10) Two flocculating agents used for centrifugation.
 - (11) Give one reason for 'Fouling' of filters.
 - (12) Give two names of seals used in fermenters.
 - (13) Define protected fermentation.
 - (14) Which microbe is used for production of erythromycin ?
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