

Seat No. : _____

AE-134

April-2019

M.Sc., Sem.-II

410 : Microbiology (Advances In Microbial Technology)

Time : 2:30 Hours]

[Max. Marks : 70

1. (A) Enumerate and discuss critical points for fermentative production of Acetone Butanol. 14

OR

- (i) Write in brief the microbial production of citric acid. 7
(ii) Write a short note on preparation of 'beer'. 7
- (B) Answer any **four** in **1-2** lines only : (out of 6) 4
- (a) Uses of acetic acid
(b) Bioethanol
(c) Red wine
(d) Microbes producing vinegar
(e) Viticulture
(f) Two spoilages of wine

2. (A) Discuss the production and recovery of Streptomycin. 14

OR

- (i) Enlist anticancer agents and describe any one in detail. 7
(ii) What are siderophores. Discuss their mechanism and their application. 7
- (B) Answer any **four** in **1-2** lines only : (out of 6) 4
- (a) Define Chimeric Vaccine
(b) Name producers of Cephalosporin
(c) Preparation of DNA vaccine
(d) Types of siderophores
(e) Calviceps purpurea
(f) Classification of alkaloids

3. (A) Explain the biosynthetic pathway for overproduction of glutamic acid and discuss production aspects. 14

OR

- (i) Enlist producers and write a note on the commercial production of Vitamin B2. 7
(ii) Give a detailed account of fermentation production of Proteases. 7

- (B) Answer any **three** in **1-2** lines only : (out of **5**) **3**
- (a) What are the different types amylases ?
 - (b) Define submerged fermentation.
 - (c) What are the applications of lipases ?
 - (d) Steps in purification of amylase.
 - (e) Producers of L-Lysine.
4. (A) Write an essay on microbial production of biosurfactants give and its applications. **14**
- OR**
- (i) Discuss the microbial transformation of progesterone by hydroxylations. **7**
 - (ii) Discuss the production and uses of PHA. **7**
- (B) Answer any **three** in **1-2** lines only : (out of **5**) **3**
- (a) What is PHBV ?
 - (b) Uses of Dextran
 - (c) What are biodegradable polymers ?
 - (d) Structure of Xanthan.
 - (e) Producers of PHB
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