

Bachelor of Pharmacy 3rd Year, 2nd Semester Examination, 2017
Subject: Applied Microbiology-II

Time : Three Hours

Full Marks: 100

Answer any five questions taking at least one from each group.

Group - A

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|---|---|
| 1. a) Write a note on 6-APA with Clinical importance. | 5 |
| b) Define Chemotherapy and Chemotherapeutic Index. | 4 |
| c) In which situation the penicillic acid is formed. | 4 |
| d) Write the different sources of Antimicrobial Agents with examples. | 4 |
| e) Write a note on Co-trimoxazole with its therapeutic application. | 3 |

2. What are the applications of "Sterile Air" and "Positive Pressure" inside the pharmaceutical premises. What do you mean by "Bioburden determination" of Pharmaceuticals? Give few examples of spore forming bacteria. 10+6+4= 20

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Group – B

3. (a) Define fermentation. Mention the different types of fermentation products in the fields of foods and pharmaceuticals.
(b) Write down the structure of benzyl penicillin? Which strain is used for its industrial production? How the strain is improved?
(c) What are the characteristics of inoculums used for the production of a fermentative product?
(d) Why inoculums are required to be developed before addition to the fermentation tank?
(e) Write a note on oxygen supply during fermentative production of benzyl penicillin.
(f) Why all the operations should be aseptic during the production of benzyl penicillin?

$$[(1+3) + (1+1+3) + 3 + 2+3+3] = 20$$

4. (a) What are the sources of gene of interest or desired gene in r-DNA technology?
(b) What is a linker? What is its role in r-DNA technology?
(c) What are the problems of eukaryotic gene expression in a prokaryotic host?
(d) Write down the steps of c-DNA synthesis.
(e) Describe the production of Human Insulin by r-DNA technology.

$$1.5 + (1+2) + 5+3+ 7.5 = 20$$

B. PHARMACEUTICAL TECHNOLOGY THIRD YEAR SECOND SEMISTER – 2017

Subject: APPLIED MICROBIOLOGY-II

Time: 3hrs

Full Marks: 100

Group- C

Answer any five questions taking at least one from each group.

5. a) How to develop a strain for better product recovery?
b) Describe the procedure of Industrial production of ethyl alcohol from molasses, emphasizing on the fermentation conditions and by-products recovered.
- (5+15)

6. a) What are the criteria while selecting a chemical agent for practical use?
b) Write down the mode of action and practical application of Alcohols, Halogens, Detergents, Phenolic compounds and Heavy metals as antimicrobial agents.
c) Write the name of two Gaseous antimicrobial agents.
- (4+15+1)
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