

Bachelor of Pharmacy Third Year Second Semester Examination 2019.

Subject: Applied Microbiology- II

Time: Three Hours

Full Marks: 100

Answer any Five Questions taking at least Two from each group

Group-A

1. Define Synergism. Write a note on Co-trimoxazole with therapeutic applications. Explain the term -- Therapeutic Window. Define Chemotherapeutic Index.

4+10+4+2=20

2. a) Define Immunotherapy and Chemotherapy with examples.

b) What is 6-APA ? Write the structure and its application in Pharma industry.

c) What is Penicilloic Acid ? Write the importance of Clavulanic acid used along with Amoxycillin.

d) Write a note on 'Strain Improvement' especially for Benzyl Penicillin synthesis.

5x4=20

3. a) Classify antimicrobial agents according to their different sources.

b) Write a note on Benzyl Penicillin with mode of action.

c) The concept of 'AST' is used mainly in case of parenteral antibiotics – Explain.

8+8+4=20

4. a) Define Drug tolerance and Drug resistance.

b) Write a brief note on bacterial resistance to antibiotics & its remedy.

6+14=20

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Group B

1. a) Write a note on immuno suppressants obtained from micro organisms.
b) How microbes acts as antifungal agents?
c) Discuss various roles of *Lactobacillus* species in different products of microbial interests.
d) Write about the products obtained from *Streptomyces* species used in cancer.
5+5+5+5=20
2. a) What is r-DNA technology?
b) Discuss the role of different enzymes used in r-DNA technology.
c) What are the role of linker and adaptor in r-DNA technology?
d) What are the application of r-DNA technology?
e) What are the process of gene transfer during formation of plasmid DNA?
2+7+3+3+5=20
3. a) What is antibiotic?
b) What are the difference between primary and secondary metabolites?
c) Write a note on extracellular enzymes and organic acids obtained from solid state fermenter.
d) Discuss recovery process of penicillin after fermentation.
e) Discuss "Substrate Utilization Method" in the light of mutant isolation in strain purification.
1+2+6+5+6=20
4. a) What are the steps involved in production of Humulin through plasmid DNA.
b) Discuss in details about fermentation of penicillin. 10+10=20