

Bachelor of Pharmacy 3rd Year, 2nd Semester Examination, 2018

Subject: Applied Microbiology-II

Time : Three Hours

Full Marks: 100

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

Group - A

1. A Pharmaceutical Chemist wants to synthesize 6-APA from fermentation media --- What will be the procedure to obtain the precursor 6-APA ? What is Penicilloic acid ? Why potassium salt of clavulanic acid is used along with ampicillin ? Point out the proportion to be used for both the ingredients for an adult dose. Write the mechanism of action of benzyl penicillin. What is Penedure LA 6 ?

6+2+2+2+4+4 =20

2. Define synergism. Write a note on Co-trimoxazole. Define chemotherapeutic index. How it differs from therapeutic index ? Write a brief note on bacterial resistance to antibiotics.

2+6+2+4+6=20

3. Define Prebiotics, Probiotics and Psychobiotics. What is antibiotic associated diarrhoea ? Write the name of causative organism involved in this episode. Why Zn is used in ORS composition according to the WHO guidelines ? What is extrachromosomal DNA of a bacterium.

6+4+4+4+2=20

Bachelor of Pharmacy Examination, 2018
3rd Year, 2nd Semester.

Applied Microbiology- II

Time: Three Hours

Full Marks: 100

Answer any five questions taking at least one from each group

Group – B

4. (a) What should be the design of an ideal fermenter ?
(b) What are the sources of strains used in industrial fermentation processes? How the strains are improved? How the improved strain of an antibiotic producing organism is selected? How the strains are preserved?
(c) Define the primary and secondary metabolites of microorganisms with example.

$6 + (2+3+3+3) + 3 = 20$

5. (a) What do you mean by Batch Process and Continuous Process of fermentation?
(b) Why in-line control of some process parameters is preferred over off-line control?
(c) Why nutrients are not added all at a time at the start of benzyl penicillin production?
(d) Write a note on fed nutrients during the production of benzyl penicillin.
(e) How benzyl penicillin is recovered and purified from fermentation broth?
(f) Write down the application of benzyl penicillin?
(g) What is the mechanism of action of benzyl penicillin on bacteria?

$2+2+2+4+6+2+2 = 20$

B.PHARMACY THIRD YEAR SECOND SEMESTER-2018

APPLIED MICROBIOLOGY -II

TIME :

FULL MARKS:

GROUP - C

USE SEPARATE ANSWER SCRIPTS FOR EACH GROUP

- Q.6 i) Write down the characteristics of an ideal antimicrobial chemical agent.
ii) Elaborate on how antimicrobial chemical agents act on the cytoplasm of the microorganism.
iii) Explain the term 'chemosterilant'. Indicate the use. Give examples.

10+6+4=20

- Q.7 i) Define disinfection. Classify disinfection on the basis of different levels of action.
ii) Explain how a) environmental factors and b) toxicity of the agents affect the choice of an antimicrobial agent. Define 'OES' and 'MEL'.

iii) Write short notes on (any two):

*Parabens

*Iodophors

*Phenols-clear soluble fluids, black fluids and white fluids.

4+6+(2*5)=20