

Bachelor of Pharmacy 2nd Year, 2nd Semester Examination, 2017
Subject: Applied Microbiology-I

Time : Three Hours

Full Marks: 100

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

Group - A

1. a) Define Pasteurization and its importance to control the tuberculosis infection. 8
- b) Write the concept of "Pasteurized Shell Eggs" & its health benefits. What is Salmonellosis ?
6+2=8
- c) Tyndallisation requires 3 days operation- Explain Why ? 4
2. a) Write a note on "Radiation Sterilization" with mentioning the items are to be sterilized through this method.
Wearing of "Dosimeter" is mandatory in the radiation unit--- Explain Why ?
8+4=12
- b) Write a note on "Filtration Sterilization". How the bacteria is separated from pharmaceutical preparations.
4+2=6
- c) Point out the role of *Pseudomonas diminuta* in Filtration Sterilization. 2

OR

2. a) Define and Differentiate: Prokaryotes and Eukaryotes 8
- b) Write a note on Beneficial role of microbes. 6
- c) Give one example of Gram-Negative Cocci including the harmful effects. What is STDs. 4
- d) Classify bacteria according to the arrangement of Flagella. 2

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Group - B

- 3.** (a) Write down the principle of Scanning Electron Microscopy.
(b) With the help of a schematic diagram describe the working principle of Fluorescent microscope.
(c) Is bacterial staining a chemical or a physical process? Give answer with explanation.
(d) Write down the principle and method of Acid - fast staining. Why alcohol is used along with acid as a decolorizer during acid fast staining of urinary sample?

[3+7+3+ (6+1)] = 20

- 4.** (a) Draw the structure of dextran. Name the organism which is used for its industrial production. Write down its uses.
(b) Write down the clinical importance of Desferrioxamine B. Which organism produces its precursor?
(c) Write about the clinical uses and one industrial producer organism of the following substances: (i) Cyanocobalamin (ii) Lactic acid (iii) Streptokinase
(d) Write down the principle of Diffusion assay of antibiotic.

[(1+1+3) + (3 + 1) + (2x3) +5] = 20

GROUP - C

Answer atleast **one** from this group.

5. (a) Draw a figure IgG and label it. 10
(b) Describe M-cells in details. 10
6. What are the different stages of lymphocyte development and differentiation ?
Please provide the role of primary and secondary lymphoid organs and antigen dependence with reference to lymphocyte differentiation. 10+10

B. PHARMACEUTICAL TECHNOLOGY SECOND YEAR SECOND SEMISTER – 2017

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Group-D

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

1. a) Short answer type questions: (any four)

- i. Macro element
- ii. Chemo-litho autotroph
- iii. Defined media with an example
- iv. Differential media with an example
- v. Cultivation of anaerobic bacteria

(4X5)

2. a) How does environmental factors influence bacterial growth.

b) Establish the mathematical expression of growth for bacteria. Describe different growth phases of a typical growth curve of bacteria.

(8+5+7)
