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BPHARM
(SEM III) THEORY EXAMINATION 2023-24
PHARMACEUTICAL MICROBIOLOGY

TIME: 3HRS

M.MARKS: 75

Note: 1. Attempt all Sections. If require any missing data; then choose suitably.

SECTION A

1. Attempt *all* questions in brief.

10 x 2 = 20

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| a. | What are prokaryotes and eukaryotes? Give one example of each. |
| b. | Enlist the factors affecting the microbial spoilage of pharmaceutical products. |
| c. | Give difference between Antiseptic and Disinfectant with example. |
| d. | Elucidate about clean area classification according to ISO. |
| e. | Comment on co-relation between D-value and Z-value in sterilization. |
| f. | Explicate about primary cell culture. |
| g. | Explain about DOP test of HEPA filter. |
| h. | Admit all the physical parameter required for bacterial growth. |
| i. | How will you explain about discovery of Penicillin? |
| j. | Give a annotate note on microbiological assay of amino acid. |

SECTION B

2. Attempt any *two* parts of the following:

2 x 10 = 20

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| a. | Expound the physical methods of sterilization with principle, procedure & applications. |
| b. | Explain the Ultra structure of bacteria and give its brief morphological classification. |
| c. | Discuss general procedure for animal cell culture. Write any two application of cell culture in pharmaceuticals and research. |

SECTION C

3. Attempt any *five* parts of the following:

7 x 5 = 35

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| a. | Why do we need to preserve the microbes? Explain any two methods for preservation. |
| b. | Detailed note on sources and types of microbial contaminants in pharmaceuticals. |
| c. | Write about gram staining in detail with its principle and procedure. |
| d. | Define virus. Give methods of cultivation of virus in details. |
| e. | Illustrate about methods for sterility testing of pharmaceutical products according to IP. |
| f. | Discuss about the construction and design of aseptic room in proper details. |
| g. | Elaborate different methods used for microbiological assay of antibiotics or vitamins. |