Q.P. Code :02350

[Time: Three Hours] **[Marks:70]**

Please check whether you have got the right question paper.

N.B: 1. **All** questions are **compulsory**.
2. **Draw** a neat labelled **diagram** wherever **necessary**.

Q.1. Answer the following :-

a) Define resolving power 1
b) Define tyndallization with its applications 1
c) Explain Thermal death point 1
d) Name the organism used for positive control in sterility testing 1
e) Name two examples of gram positive rods 1
f) Name the causative agent of typhoid 1
g) Name the diagnostic test for malaria 1
h) Write Robert Koch's postulates 2
i) Name two chlamydial infections with the causative agent 2
j) Explain any two methods of isolation of pure culture 2
k) Explain principle of differential staining 2

Q. 2 a) Write a note on mechanism of action and applications of gaseous sterilization 4
b) Describe in detail structure of viruses 4
c) How to identify bacteria on the basis of morphological and colony characters. 3

Q. 3 a) Explain working of scanning electron microscopy using a neat labelled diagram. 4
b) Discuss in detail radiation sterilization and write biological indicator used. 4
c) Distinguish between (**any one**) 3
i) Gram positive and gram negative bacteria
ii) Fungi and protozoa

Q. 4 a) Explain sporulation in bacteria 4
b) Write in brief mode of action and applications of halogens as a disinfectant 4
c) Write a note on **any one** 3
i) Protozoan infections
ii) Rickettsial infections

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Q. 5 a) Enlist the methods of enumeration of bacteria and explain any one viable count method in detail. 4

b) How to evaluate the efficiency of new disinfectant 4

c) Write a note on **any one** 3

i) Oncogenic viruses

ii) Sexual reproduction in fungi

Q. 6 a) Draw a neat labelled diagram of bacterial growth cycle and bacterial flagella. 4

b) Explain selective media and differential media with suitable examples 4

c) Discuss in brief significance of algae in pharmaceutical field. 3

OR

Explain bacterial diseases caused by *Staphylococcus aureus*
