

- 3** Answer the following : (Each of **07** marks) **14**
- (a) Describe various methods of sterilization with their principles and usefulness.
 - (b) Describe various methods of Measuring microbial growth and highlight merits and demerits of these methods.
- 4** Answer the following : (Each of **07** marks) **14**
- (a) Write on the various methods of preservation & maintenance of pure culture.
 - (b) Classify microorganisms on the basis of their mode of nutrition.
- 5** Answer the following : (Each of **07** marks) **14**
- (a) Write a short note on Epidemiology.
 - (b) Describe various Virulence factors.
- 6** Answer the following : (Each of **07** marks) **14**
- (a) Define : Infection. Explain the process of infection in brief.
 - (b) Describe development of competence and transformation in bacteria.
- 7** Answer the following : (Each of **07** marks) **14**
- (a) Explain the molecular basis of mating and transfer of DNA in *E. coli*.
 - (b) Discuss recombination and its implications in bacteria.
- 8** Answer the following : (Each of **07** marks) **14**
- (a) Highlighting the general features of viruses, distinguish DNA and RNA viruses.
 - (b) Describe the Lytic & Lysogeny cycle in viruses.

- 9** Answer the following : (Each of **07** marks) **14**
- (a) Give the structural details for HIV.
 - (b) Provide details of reverse transcription process in HIV.
- 10** Answer the following : (Each of **07** marks) **14**
- (a) Write a note on various antibacterial agents and mode of actions.
 - (b) Provide an account on the development of antibiotic resistance.
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