

M.Sc. BIOTECHNOLOGY  
THIRD SEMESTER [SPECIAL REPEAT]  
MEDICAL BIOTECHNOLOGY  
MBT-304

**SET  
A**

[USE OMR SHEET FOR OBJECTIVE PART]

Duration: 1hr. 30 mins.

Full Marks: 35

Time: 15 mins.

**(Objective)**

Marks: 10

Choose the correct answer from the following:

1×10=10

- Which of the following bacteria is a part of normal flora present inside the mouth and also a frequent cause of bacterial dental caries?  
a. *Staphylococcus epidermidis*                      b. *Lactobacillus acidophilus*  
c. *Streptococcus mutans*                              d. *Candida albicans*
- Which of the following bacteria is present as normal flora in the acidic pH of the vagina?  
a. *Clostridium botulinum*                              b. *Lactobacillus acidophilus*  
c. *Neisseria gonorrhoeae*                              d. *Streptococcus mutans*
- Which of the following microorganism is a part of the normal flora of the skin and is also a common pathogen isolated from skin infections?  
a. *Bacillus anthracis*                                      b. *E. coli*  
c. *Staphylococcus aureus*                              d. *Candida albicans*
- An appropriate term for human resident flora is:  
a. Commensals    b. Parasites  
c. Mutualism     d. Pathogens
- The endotoxin of the following gram negative bacteria does not play any part in the pathogenesis of the natural disease:  
a. *E. coli*    b. *Vibrio cholerae*  
c. *Pseudomonas aeruginosa*                              d. *Klebsiella sp.*
- Which of the following is associated with "Black death"?  
a. Measles    b. Tuberculosis  
c. Plague    d. Anthrax
- Which is the most common form of anthrax?  
a. Inhalation anthrax                                      b. Cutaneous anthrax  
c. Injection anthrax                                        d. Gastrointestinal anthrax
- The first person who discovered *Mycobacterium tuberculosis* was:  
a. Robert Koch    b. Edward Jenner  
c. Louis Pasteur    d. None of the above

9. Which of the following can be an active agent in an antiseptic?
- a. Alcohol
  - b. Phenol
  - c. Iodine
  - d. All of the above
10. Antibiotics are used to treat infections by:
- a. Virus
  - b. Bacteria
  - c. Fungi
  - d. All microbes

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( Descriptive )

Time : 1 hr. 15 mins.

Marks : 25

[ Answer question no.1 & any two (2) from the rest ]

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|---|--------|
| 1. Explain disease cycle with a diagram.  | 5      |
| 2. Write the effect of antibiotics on proteins, nucleic acid, and cell wall.                          | 10     |
| 3. Write short notes on:  | 10     |
| a) Anthrax  |        |
| b) Plague   |        |
| 4. Explain the morphology, classification, cultural characteristics, pathogenicity, and diagnosis of- | 5+5=10 |
| i) <i>Streptococci</i> or <i>Bordetella</i>   |        |
| ii) <i>Corneibacterium</i> or <i>Haemophilus</i>  |        |
| 5. Explain the morphology, classification, cultural characteristics, pathogenicity, and diagnosis of- | 5+5=10 |
| a) <i>E. coli</i> or <i>Shigella</i>  |        |
| b) <i>Vibrios</i> or <i>Salmonella</i>  |        |

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