

**Sr. No. 7048****Exam. Code: 210002**  
**Subject Code : 4824****M. Sc. Botany - 2nd Sem.****(2517)****Paper-BOT523: General Microbiology****Time allowed: 3 hrs.****Max. Marks: 50**

Note: Section - A is compulsory and answer to any question should not exceed four lines. Attempt any SEVEN questions from Section - B, answer to these questions should not exceed two pages and attempt any THREE questions from Section - C answer to these questions should not exceed four pages.

**SECTION - A**

1. Define synthetic culture media.
2. Give the genetic constitution and structure of TMV.
3. Define pathogenicity.
4. Why sewage must be treated before discharge?
5. Give examples of two airborne human pathogens and the disease they cause.
6. Define air-borne toxin.
7. Giving suitable example, define a primary metabolite.
8. How non ionizing radiations help in controlling microorganisms?

1x8=8

**SECTION - B**

1. Discuss various staining procedures to study morphology of microorganisms.
2. Discuss in detail the origin of plant viruses.
3. Briefly discuss the protocol for industrial production of genetically engineered insulin.
4. Discuss the symptoms and causal organism of foot and mouth disease.
5. Discuss the problems associated with public health impact of raw sewage discharge?
6. Briefly describe the procedure for the analysis of fecal coliform bacteria in drinking water.
7. Discuss in detail the methodology for the production of mushroom compost.
8. Discuss various sampling devices for the collection of bioaerosols.
9. Give morphology and classification system of plant viruses.
10. Discuss in detail the characteristic of an ideal antimicrobial chemical agent.

3x7=21

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(2)

Sr. No. 7048

SECTION – C

1. Discuss in detail the process of transduction in bacteria.
2. Describe the technology for the production of citric acid. Also discuss various means of enhancing the yield of citric acid in microorganisms.
3. Discuss in detail various important airborne toxins and the disease they cause in animals and human beings.
4. Describe in detail the methodology of bioremediation. Discuss its advantages and associated problems.
5. Discuss various chemical agents for the control of pathogenic microorganisms.

7x3=21

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