

RAMAKRISHNA MISSION VIDYAMANDIRA

(Residential Autonomous College affiliated to University of Calcutta)

B.A./B.Sc. SECOND SEMESTER EXAMINATION, JUNE 2022

FIRST YEAR [BATCH 2021-24]

MICROBIOLOGY (GENERAL)

Date : 24/06/2022

Time : 11 am – 1 pm

Paper : II

Full Marks : 50

1. Answer **any five** questions of the following: [5×2]

- What are nosocomial infection? Name one causative agent.
- What are opportunistic pathogens?
- How do autoinducer molecules perform quorum sensing?
- Give two example of nematophagous fungi?
- What are viroids?
- Give two example of plant virus having single stranded DNA as genetic material.
- 'The mechanism of antimicrobial action caused by desiccation is similar to that caused by plasmolysis.' Explain why?
- Name the factors that affect microbial death rate.

Answer **any four** questions of the following: [4×10]

- Distinguish between:
 - Pathogen and pathogenicity
 - ID₅₀ and LD₅₀
 - Invasiveness and virulence
 - What is the role of normal micro flora in human body?
 - Which anatomical barrier of human host is difficult to penetrate by bacterial pathogen and why?
 - What is KDO and where it is found? [(3×1)+2+(1+2)+(1+1)]
- What is toxoid?
 - Write down the differences between endotoxin and exotoxin.
 - Why there is no normal flora in the lower respiratory tract?
 - What are spreading factors? Give example.
 - Define superantigen. [2+3+2+(1+1)+1]
- Discuss the dynamic nature of rhizospheric soil.
 - Write down the function of mycorrhizal fungi.
 - How do root exudates influence rhizospheric microbiota?
 - What is the difference between rhizosphere and rhizoplane? [3+2+3+2]
- Explain the relationship between Tube worm and chemolithotrophic bacteria.
 - Write down the difference between commensalism and cooperation.
 - Justify that rumen is an anaerobic fermentation chamber.
 - Discuss about endoparasitic nematophagous fungi. [3+2+2+3]
- Explain the various methods of animal viruses cultivation in laboratory. [10]
- Mention important differences between 'sterilization' and 'disinfection'.
 - Briefly describe the mode of action and practical application of chlorine for the destruction of microorganisms.
 - A disinfectant is found to have a phenol coefficient of 3.0. What does this mean?
 - What is cold sterilization? [3+4+2+1]

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