

First Semester Examination-2017

M.Sc. BOTANY

Paper Code: BOT-101, Microbiology

Full Marks : 40

Time: 2 Hours

Write the answer for each unit in separate sheet

- 1. Answer any five questions from the following:** 2×5=10
- What is enrichment cultural mechanism? Give example.
 - Give example of a recombinant vector. Mention its two unique properties.
 - Mention the functions of leghaemoglobin.
 - Define nitrification? Give example of two nitrifying bacteria
 - What is hop. Mention its importance in fermentation industries.
 - Write two differences between Eubacteria and Archaea.
 - What were the contributions of Winogradsky and Jenner in microbiology.
 - Name the causal organism for
 - Q-fever
 - Pleue
- 2. Answer any two questions from the following:** 5×2=10
- Mention the process for cultivation of plant viruses.
 - Draw and discuss the structure of Nitrogenase enzyme.
 - Discuss complement fixation test.
 - Draw and discuss ultra-structure of bacteria flagella.
- 3. Answer any two question of the following:** 10×2=20
- Discuss Entner – Doutoroff pathway for glucose catabolism. 4+6
 - Discuss different phases of bacterial growth curve with diagram.
 - Discuss about the regulation of “nif” gene. 5+3+2
 - How synchronous growth can be obtained in laboratory?
 - Mention bacteriostatic and bacteriocidal effect of antibiotic.
 - What is resolving power of a microscope? How resolving power is restricted by numerical aperture and wavelength of visible light? (2+2)+4+2
 - Briefly discuss endospore formation in bacteria.
 - Mention four properties of Ig G.

