

2019

MSc

2nd Semester Examination

MICROBIOLOGY

PAPER – MCB-204

(Theory)

Full Marks : 40

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

Candidates are required to give their answers in their own words as far as practicable.

Illustrate the answers wherever necessary.

1. Answer any **FOUR** questions from the following: 2 X 4=8
- Define biodegradation.
 - What is biofuel?
 - Give example of any two classes of microbes based on their habitat.
 - What is differential staining?
 - Who discovered penicillin? Name the source microorganism.
 - What is bioinsecticide? Give one example.
 - What is selective media?
 - Write the mode of action of UV-ray.
2. Answer any **FOUR** questions from the followings: 4 X 4=16
- State Koch's postulates. 4
 - Write the contributions of L. Pasteur in the field of microbiology. 4
 - Discuss two uses of microbiology in everyday life. Name one citric acid (3+1) producing fungus. Mention the role of agar in bacteriological medium.
 - How microbial contamination in raw milk can be reduced without hampering 4 the nutritive value?
 - State the process of curd production from milk? 4
 - What is thermophilic organism? Give example of thermo-acidophilic microbe. Write example of 2nd generation bio-fuel. (2+1+1)
 - Differentiate between moist heat and dry-heat sterilization. How heat-sensitive liquid medium can be sterilized? (3 + 1)
 - Write the composition of cell wall of bacteria? 4

3. Answer any **TWO** questions from the followings: 8 X 2=16
- a) Write short note on – 2 X 4
- i) Animalcules
 - ii) Vaccination
 - iii) HEPA
 - iv) Cold-sterilization
- b) What is pure culture? How pure culture can be obtained from contaminated culture? What is disinfectant? How it is differed from antiseptic? (2+2+2+2)
- c) Briefly discuss the microbial degradation of pollutants with suitable example. What is xenobiotics? (6 + 2)
- d) Name one bio-active molecule producing microorganism and mention the mode of action of that molecule. Differentiate autotroph and heterotroph. What is magnetosome? (1+2+3+2)