

2019

MSc

4th Semester Examination

MICROBIOLOGY

PAPER – MCB-402

(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.

(Turn Over)

Group A

20 Marks

Answer any **TWO** questions:

(10 X 2)

1. a) What are the steps of pharmacokinetics? 2+5+3
- b) Describe the biotransformation / metabolism of drug by giving emphasis on the microsomal enzymes.
- c) State the mode actions of antifungal antibiotics.

2. a) State the medicinal properties of mushrooms. 3+4+3

- b) What are the characteristics of an ideal probiotics?
- c) State the significance of incorporation of probiotics along with antibiotics.

3. Answer any **FOUR** questions:

2.5 X 4

- a) Importance and relationship between MIC and MBC value.
- b) Therapeutic application of different size dextrose.
- c) Cite the examples and applications of different therapeutically important enzymes.
- d) Write a note of recombinant insulin.
- e) Define the term Nutraceuticals. Write the medical importance of omega-3 – fatty acids.
- f) What are the significances of targeted-drug delivery.

Group B

20 Marks

Answer any **TWO** questions:

(10 X 2)

1. a) Describe briefly the biosynthesis, regulation and catabolism of Poly-3-hydroxybutyrate (PHB) granules in bacteria.

b) Describe the use of nanoparticles in drug delivery. (2+2+2)+4

2. Describe the role of magnetic nanoparticles in the treatment of cancer. What is nanofertilizer? Briefly describe its advantages & disadvantages over normal fertilizer. What is nanozeolite? (4+1+3+2)

3. Write notes on : (Any **TWO**)

2.5 X 4

a) Role of QA and QC in pharmaceuticals.

b) Role of nanomaterial in plant growth

c) Nanosensor

d) Antimicrobial effect of silver nanoparticles.

e) Biosensor

f) Spoilage of pharmaceuticals products.