

2020

MICROBIOLOGY — GENERAL

Paper : GE/CC-1

Full Marks : 50

The figures in the margin indicate full marks.

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

Answer **question no. 1** and **any three** questions from the rest.

1. Answer **any ten** questions : 2×10
- (a) Give example of two microorganisms that are responsible for food borne infections.
 - (b) What is prions?
 - (c) What do you mean by passive immunity?
 - (d) What is parasitism?
 - (e) Give example of one industrially important bacteria and one fungi.
 - (f) Which type of microscope is used for observing structure of living organisms and why?
 - (g) Give example of one sexually transmitted disease and name the causative agent of the disease.
 - (h) What are the five main classes of immunoglobulins? Which one is the most abundant?
 - (i) 'Microorganisms can be used as a food material.'— Explain.
 - (j) Which lens of the objective is used for maximum magnification?
 - (k) Describe the principle of Hot Air Oven.
 - (l) What is an epitope?
 - (m) What is primary immune response?
 - (n) Define the term commensalism.
 - (o) What do you mean by binomial nomenclature?
2. Differentiate between : 2½×4
- (a) Active and Passive immunity
 - (b) TEM and SEM
 - (c) Archaea and Bacteria
 - (d) Parasitism and Predation.

Please Turn Over

3. (a) What are the origins and use of single cell protein?
(b) Describe Whittaker's kingdoms of living organism. What is the major drawback of this classification?
(c) What are Basidiomycetes? How do they differ from Ascomycetes? 3+(3+1)+(1+2)
4. (a) What major contributions to microbiology were made by :
(i) Louis Pasteur (ii) Joseph Lister (iii) Paul Ehrlich
(iv) Edward Jenner (v) Alexander Fleming
(b) Describe briefly about the Carl Woese's three kingdom classification system.
(c) What is Germ theory of disease? 5+3+2
5. (a) Which type of sterilization methods are used for the following :
(i) Antibiotic powder (ii) Microbiological media (iii) Gases
(iv) Glasswares (v) Viruses (vi) Medical instruments
(b) Moist heat is more effective than dry heat in killing microorganisms.— Why?
(c) What is the principle of an autoclave?
(d) What is HEPA filter? (½×6)+2+3+2
6. (a) Draw the structure of antibody molecules.
(b) What do you mean by humoral response?
(c) Differentiate between (**any three**) :
(i) Antigen and Immunogen
(ii) Yeast and Mould
(iii) Virus and Viroids
(iv) *Paramecium* and *Plasmodium*. 2+2+(2×3)
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