

2020

MICROBIOLOGY — HONOURS

Paper : 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) What are prions?
 - (b) Why agar is preferable over gelatin as a solidifying agent? And who discovered the importance of agar as a solidifying agent?
 - (c) Explain mycotoxin with an example.
 - (d) Differentiate between bacterial and algal flagella.
 - (e) Name the causative agent of giardiasis. What is its source?
 - (f) Define single cell proteins with example.
 - (g) Who was credited to have develop first vaccine and what was the disease the vaccine had been developed for?
 - (h) What is dolipore septum?
 - (i) Write two drawbacks of Koch's postulate.
 - (j) What is tyndallization? Who invented this technique?
 - (k) Write down the different plant body types in algae.
 - (l) State the contribution of Anton von Leeuwenhoek.
 - (m) What do you mean by the term Binominal nomenclature?
 - (n) State the difference between viruses and viroids.
 - (o) Name the pigments and storage products that can be observed in Rhodophyceae.
2. (a) What is eye-spot of algae?
- (b) Why are algae important in the food chain of aquatic environment?
- (c) Give concise account of algal thallus organization.
- (d) Schematically represent haplobiontic life-cycle of algae. 2+2+3+3

Please Turn Over

3. (a) What was the purpose of swan-necked flasks that Louis Pasteur designed to disprove spontaneous generation?
(b) How did Edward Jenner introduce the modern method of vaccination?
(c) How did Leeuwenhoeks' work influence the contributions of Pasteur and Koch?
(d) What is the concept of pure culture? Who first obtained pure culture of bacteria and how?
2+3+2+(1+1+1)
4. (a) Write down the causative agent and symptoms of amoebiasis.
(b) Diagrammatically represent the life-cycle of *Plasmodium*.
(c) How protozoa differs from algae?
(d) Name different locomotory organs of protozoa. (1+2)+4+2+1
5. (a) Name two fungi each which are beneficial and pathogenic for human being, respectively, along with their mode of action.
(b) Describe the chemical composition of fungal cellwall.
(c) Name and describe different spores formed in asexual reproduction of fungi. 2+4+4
6. (a) What is the basis of Whittaker's five kingdom classification? Name the different kingdom proposed by this system of classification.
(b) Write short note on viroids.
(c) State the economic importance of algae. (2+2)+2+4
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