

2021

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.*

Question no. 1 is compulsory. Answer **any three** questions from the rest.

1. Answer **any ten** questions :

2×10

- (a) Why deuteromycetes are called 'fungi imperfecti'?
- (b) Who discovered the first antibiotic? Name the antibiotic and its source.
- (c) What is meant by 'magic bullet'?
- (d) State the 'one gene one enzyme' hypothesis.
- (e) What contribution did Edward Jenner make in the field of Microbiology?
- (f) Mention any two scopes of Microbiology.
- (g) Differentiate between prokaryotic and eukaryotic ribosomes.
- (h) Name two fungi that are agriculturally important.
- (i) What are the different types of flagella found in algae?
- (j) Name the algal source of agar-agar.
- (k) Why red tide is caused and why are they harmful?
- (l) Differentiate between virus and viroid.
- (m) Why anemia is caused in malaria?
- (n) State the contribution of S. Winogradsky.
- (o) What is heterokaryosis? Give example.

- 2.** (a) 'Leeuwenhoek's observations were the critical step in the development of Microbiology'— Explain.
(b) State any two limitations of Koch's postulates.
(c) How did Pasteur disprove the Theory of Spontaneous Generation?
(d) What important contribution did Joseph Lister make in preventing infections?
(e) Why is agar used as solidifying agent in Microbiology labs?

2+2+3+1½+1½

Please Turn Over

3. (a) What is known as the 'three-domain system'? What was its basis? Who introduced this classification?
(b) What is meant by LUCA in Microbiology?
(c) What are the drawbacks of Whittaker's five kingdom classification system?
(d) How did the term protists arise? (2+2+1)+1+3+1
4. (a) What is meant by 'Alternation of Generations'?
(b) Schematically represent Diplobiontic life cycle of algae.
(c) Name one algal strain used for biofuel production.
(d) Name different pigment and food reserve found in different groups of algae. 2+3+1+(2+2)
5. (a) How haustoria help fungus in parasitism?
(b) What is the importance of mycorrhiza?
(c) Briefly explain parasexual cycle in fungi. Give one example of fungi showing parasexual cycle.
(d) What are aflatoxins? Name one producer organism. 2+2+(3+1)+(1+1)
6. (a) Name the causative agent and state the symptoms of giardiasis.
(b) State the importance of pseudopodia and food vacuole in *Amoeba proteus*.
(c) What is referred to as 'slipper animalcule'?
(d) What is leishmaniasis? How is it diagnosed? (1+2)+3+1+(1+2)
-