M.Sc. 1st Semester Examination, 2018

BOTANY

(Microbiology)

Paper : BOT-101C(T)

Course ID : 11351

Time: 2 Hours **Full Marks: 30**

The figures in the margin indicate full marks.

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

Group – A

1. Answer *any two* questions from the following: 1×2=2

    (a) Into which kingdom did Haeckel place unicellular organisms?

    (b) What is dental caries?

    (c) What are the different granules found in the bacterial cytoplasm?

    (d) Distinguish between autotrophy and heterotrophy.

2. Answer *any one* question from the following: 5×1=5

    (a) What are the characteristics of an ideal antimicrobial chemical agent? Write the mode of action of phenolic compounds . What is batch culture? 2+2+1=5

    (b) What is meant by mixotrophs? Write the meaning of fastidious heterotrophs with example.
    3+2=5

3. Answer *any one* question from the following: 8×1=8

    (a) Write the contribution of Louis Pasteur in microbiology. What is the importance of Bergey's manual of systematic bacteriology ? What is meant by Col Plasmid? 4+3+1=8

    (b) Write a short note on *any two* of the following: 4×2=8

        (i) Bacterial chemotaxis

        (ii) Bacterial genetic materials

        (iii) Murein biosynthesis

Group – B

4. Answer *any two* questions from the following: 1×2=2

    (a) Why it is considered that there are no effective antibiotics for the treatment of viral infections?

    (b) What is cyanophage?

    (c) What is viriod?

    (d) What are the functions of T cells?

5. Answer *any one* question from the following: 5×1=5

(a) Mention the components of the immune system. What are adjuvants? 3+2=5

(b) Define the following processes:

Proteolysis, deamination, ammonification, nitrification, denitrification

6. Answer *any one* question from the following: 8×1=8

(a) State the reasons for and against the consideration of viruses as living entities. What is Lytic cycle? What is the molecular basis for the regulation of lysogeny in λ (lamda) phage?

3+1+4=8

(b) Write short notes on *any two*: 4×2=8

   (i) Generalized transduction

   (ii) Structure of lac operon

   (iii) RIA

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