

2021

Microbiology

[HONOURS]

(CBCS)

(B.Sc. First Semester End Examinations-2021)

PAPER-C2T

Full Marks: 40

Time: 02 Hrs

The figures in the right hand margin indicate marks

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

Illustrate the answers wherever necessary

Group-A

Answer any five from the following:

5x2= 10

1. What is refractive index?
2. What are focal points and focal length. 1+1
3. What is generation time? Give example. 1+1
4. What are the difference between spheroplast and protoplast? 2
5. What is meant by binomial nomenclature?
6. Why is spore formation not considered a from of reproduction?
7. What is replicative plasmid?
8. What is selective media?

(2)

Group-B

Answer any four from the following:

4x5 = 20

1. Write down the difference between light microscope and electron microscope. 5
2. How can anaerobic bacteria be cultivated? 5
3. State the general characteristics of
 - i) Erenarchacta
 - ii) Halophiles. $2\frac{1}{2} + 2\frac{1}{2}$
4. Write short notes on
 - i) DNA-DNA hybridization
 - ii) G+C content
5. List the principle difference between prokaryotic and eukaryotic flagella. 5
6. Classify bacteria according to nutrient requirements. 5

Group -C

Answer any one of the following :

10x1 = 10

- 1) a) List the similarities and differences between passive diffusion and facilitated diffusion.
b) Explain the structure of Bacterial cytoplasmic membrane as suggested by Fluid Mosaic Model.
c) Briefly describe the structure of capsule write its functions.

(3)

d) Write down the difference between Gram(+ve) and Gram(-)ve bacterial flagella structure. What is the function of pili?

2+3+2+3

- 2) a) Write down the mode of action of antibiotics on cell wall synthesis.
b) What is phenol coefficient?
c) What are the limitation of SEM?
d) Write down the structure of peptidoglycan layer of Gram(+ve) bacteria.
e) Schematically represent the capsule staining.

2+2+2+2+2
