

Reg. No. :

Name :

First Semester B.Sc. Degree Examination, November 2019

Career Related First Degree Programme under CBCSS

Group 2(a) : Biochemistry and Industrial Microbiology

Vocational Course I

IM 1171 : FUNDAMENTALS OF MICROBIOLOGY

(2014 Admission Onwards)

Time : 3 Hours

Max. Marks : 80

SECTION – A (1-10) – Very short answer types questions

Answer **all** the following in one word or **one** to **two** sentences. **Each** question carries **1** mark.

1. Psychrophiles
2. Simple staining is used to study
3. Acid fastness in Mycobacteria is due to the presence of _____
4. Thermal death time
5. N-acetyl glucosamine is a component of _____
6. Rideal-Walker test is used for _____
7. Heating milk at 63°C for 30 min is called _____

P.T.O.

8. Plasmid
9. Prophage
10. Application of Indian ink.

(10 × 1 = 10 Marks)

SECTION – B (11-22) – Short answer type questions

Answer any **eight** questions. Each in one paragraph. **Each** question carries **2** mark.

11. Mechanism of action of penicillin
12. MacConkey Agar
13. Hot air oven
14. Spheroplast
15. Generation time
16. Heterotrophs
17. Applications of SEM
18. Tyndallisation
19. Mycoplasma
20. Mesosomes
21. Quellung reaction
22. Mechanisms of lethal effects of phenols

(8 × 2 = 16 Marks)

SECTION – C (23-31) – Short essay type question

Answer any **six** questions. Answer not exceeding 120 words. **Each** question carries **4** marks.

23. Structure of lipopolysaccharide
24. Ziehl and Neelsen staining method and its applications
25. Selective media. Application with example
26. Structure of bacterial spore
27. Methods of testing disinfectants
28. Principle and applications of TEM
29. Staining method for metachromatic granules
30. General structure of algae
31. Virus cultivation methods

(6 × 4 = 24 Marks)

SECTION – D (32-35) – Long essay type questions.

Answer any **two** questions. **Each** question carries **15** marks.

32. Describe classification of bacteria based on morphological features with diagrammatic representation and examples. Describe structure of flagella and its arrangement in various bacteria with examples.
33. Explain principle and applications of bright field, fluorescence and phase contrast microscopy.
34. Explain various culture methods and methods for culture preservation.
35. Explain various sterilization methods and its applications. Explain sterilisation control

(2 × 15 = 30 Marks)