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B.Sc. DEGREE (C.B.C.S.S.) EXAMINATION, NOVEMBER 2015

First Semester

Complementary Course—FUNDAMENTALS OF MICROBIOLOGY

(For B.Sc. Biotechnology)

Time : Three Hours

Maximum : 60 Marks

Part A

Answer all questions.
Each quesiton carries 1 mark.

1 Name two decolorizing agents used in Grams staining.

2 What is the nutritionally neutral solidifying agent used in culture media ?

3 Peptidoglycan is present in which part of a bacterial cell ?

4 What is the other name of pili ?

5 Name a protozoan with flagella.

6 Which culture method is employed to detect motility in a semisolid medium ?

7 Name the preservation method by freeze drying in vacuum.

8 Name the aldehyde used for disinfection of wool.

(8 × 1 = 8)

Part B

Answer any six of the following questions.
Each question carries 2 marks.

Write briefly on :

9 Pasteurization.

10 Pour plate culture method.

11 Beneficial bacteria in Agriculture.

12 Principle of Simple staining.

13 Differential media.

14 Scanning electron Microscope.

15 Koch's postulates.

16 Cold sterilization.

17 Bacterial capsule.

18 Theory of spontaneous generation.

(6 × 2 = 12)

Turn over

Part C

Answer any **four** *of the following questions.*
Each question carries 4 marks.

Write short essay on :

19 Differential staining.

20 Bacterial nutrition.

21 Mechanism of action of antibiotics.

22 Classification of protozoa.

23 Moist and dry heat methods of sterilization.

24 Principle and applications of phase contrast microscopy.

$(4 \times 4 = 16)$

Part D

Answer any **two** *of the following questions.*
Each question carries 12 marks.

Write essay on :

25 Bacterial cell division and growth curve with suitable diagrams.

26 Factors affecting microbial growth.

27 Classification of culture media with suitable examples.

28 Methods of isolation of pure cultures.

$(2 \times 12 = 24)$