

FIRST SEMESTER B.Sc. DEGREE EXAMINATION, JANUARY 2014

(U.G.-CCSS)

Core Course—Microbiology

MB IB 01—GENERAL MICROBIOLOGY

Time : Three Hours

Maximum : 30 Weightage

I. Answer all *twelve* questions. Choose the correct answer :

1 Theory of abiogenesis was disproved by :

- (a) Winogradsky. (b) Walksman.
(c) Pasteur. (d) Robert Koch.

2 Which of the following is the method of determining viable count of a bacterial suspension ?

- (a) Turbidity measurement. (b) Using coulter counter.
(c) Breed method. (d) Plate count.

3 Which of the following antibiotic inhibits Peptidoglycan synthesis ?

- (a) Streptomycin. (b) Erythromycin.
(c) Tetracyclines. (d) Vancomycin.

4 Spores of which bacterium is used as dry heat sterilization control :

- (a) *Bacillus anthracis*. (b) *Bacillus stearothermophilus*.
(c) *Clostridium tetani*. (d) *Clostridium perfringens*.

Answer the following :

5 Scientist who invented microscope.

6 The method of 'intermittent sterilization' at 100°C.

7 The media used to grow bacteria which are exactly in their nutritional requirements are called.

8 The bacterial forms developing in presence of penicillin in the medium.

Fill in the blanks :

9 The morphological units of capsid are called .

10 Dimorphic fungi can occur as filaments or as ————— depending on the conditions of growth.

Turn over

- 11 _____ granules in bacteria stain with Sudan Black.
12 In *Bacillus anthracis* capsule is made up of _____

(12 x 3 = 36 weightage)

II. Answer all *nine* questions.

Comment on

- 13 Pleomorphism.
14 Bacteriophages.
15 Actinomycetes.
16 Flagellin.
17 Sex pili.
18 Albert staining.
19 Kanamycin.
20 Nystatin.
21 R.C.M. medium.

(9 x 1 = 9 weightage)

III. Write short notes on any *five* :

- 22 Penicillins.
23 Spread plate cultures.
24 Bacterial spore staining.
25 Dark field microscopy.
26 Koch's postulates.
27 Differences between eukaryotes and prokaryotes.
28 Filter sterilization.

(5 x 2 = 10 weightage)

IV. Answer any *two* out of three :

- 29 Describe the different types of microscopy employed in Microbiology.
30 Describe the different staining techniques in Microbiology.
31 Describe the mechanisms of action of antibiotics.

(2 x 4 = 8 weightage)