M.Sc.

2016

4th Semester Examination

BIOMEDICAL LABORATORY SCIENCE AND MANAGEMENT

PAPER—BLM-402

Full Marks : 40

Time : 2 Hours

The figures in the right-hand margin indicate full marks.

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

Illustrate the answers wherever necessary.

Answer Q. No.1 and any *three* of the following.

1. Answer any *ten* questions of the following : 10×1

   (a) What is selective media ?

   (b) Distinguish between solid media and liquid media.

   (c) Write the principle of Dry heat mediated sterilization.

   (d) Write the name of two basic stain.

(e) What is chemotaxis ?

(f) How antibiotic solutions are sterilized ?

(g) What do you mean by mordant ?

(h) What is negative staining ?

(i) Define glycocalyx.

(j) How bacterial endospore protect the genomic DNA ?

(k) Why bacterial population are constant in Lag phase ?

(l) Why petri plates should be inculated upside down in incubator ?

(m) Mention this role of Eosin methylene blue present in EMB agar ?

2. Describe in some detail the composition and structure of peptidoglycan, Gram positive cell wall and gram negative cell wall. 5+2+3

3. (a) Discuss the basic rules and regulations of Microbiology laboratory.

(b) Why mycobacterium is called as acid fast bacteria ? Name one dye used to stain endospore. "Ampicillin (Amp) resistance gene in bacteria is extra-chromosonal'— Justify. 5+(3+1+1)

4. Write the different biochemical test for *E. Coli* and identification. 5+5

5. (a) Name the different generation of drugs used in urine culture.

   (b) State the principle of a acidfast staining.

   (c) Design an experiment for the enumeration of bacterial load in an infected urine sample along with their identification. 3+3+4

6. (a) You have given an unknown drug (DI). How will you check the efficacy of that particular dry on bacteria (both gram + ve and gram – ve).

   (b) How would you prepare a culture media for pathogenic bacteria. Write the identifying features of pathogenic bacteria. 5+3+2

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