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C/14/M.Sc./4th Seme./BLM-401(U-26)

M.Sc.

2014

4th Semester Examination

BIOMEDICAL LABORATORY SCIENCE AND MANAGEMENT

PAPER—BLM-401 (UNIT-26)

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 all questions.

(Module — 1)

1. Answer any five questions of the following : 1×5

- (a) What is the importance of a culture media ?
- (b) What is bacteriaemia ?
- (c) What is binary fission ?
- (d) What is meant by 'The Great Plate Count Anomaly' ?

(Turn Over)

- (e) Name two clinical sterilizers.
- (f) How many flagella are present in vibrio chlorae ?
- (g) Write an application of oxidase test.
- (h) Name the two dyes for endospore staining.
- (i) What is cryophiles ?

2. (a) Schematically show the steps required for aseptic transfer of microbes.
- (b) Describe the staining procedure to identify Mycobacterium tuberculosis. 4+4

Or

- (a) Make a comparative statement of major characteristic features of primary and secondary culture.
- (b) Write the fundamental principle followed in gram staining.
- (c) Briefly describe the procedure to identify lactobacillus and *E. Coli* by gram staining.

$2+3+(1\frac{1}{2}+1\frac{1}{2})$

3. (a) 'The location of the spore is an identifying characteristic of endospore forming bacteria' — Explain with suitable examples.
- (b) Describe the salient features that will help in differentiation between Staphylococci and Styptococci.
- (c) How will you separate pathogenic *S. aureus* from the non-pathogenic strain. 3+2+2

Or

- (a) How will you sterilize plastic petriplates and a solution of glucose ?
- (b) What do you mean by selective media ?
- (c) Write the composition of a differential medium.

(1+1)+2+3

(Module — 2)

4. Answer any *five* questions of the following : 1×5

- (a) Write the role of crystal violet in MacCankey agar medium.
- (b) How many chromosomes are present in the genome of *V. Cholerae* ?
- (c) Name an microorganism having the enzyme urecase.
- (d) What is the difference between α and β -hemolysins ?
- (e) How many spores are generated from a single vegetative cell ?
- (f) What is the shape of *Clostridium tetani* ?
- (g) What is meant by MDR-TB ?
- (h) Give two examples of basic dye.

5. (a) Briefly describe different types of diarrhoea.
(b) Describe the common causes of diarrhoea and dysentery mentioning their mode of transmission.
2+(3+3)

Or

- (a) Briefly describe the technique to identify the causative agent of diphtheria.
(b) State the laboratory diagnostic procedure of *Hareophilus influenzae*. 5+3
6. (a) How will you interpret the results of tuberculin skin test?
(b) Describe the procedure of susceptibility testing of mycobacterium. 3+4

Or

- (a) Briefly describe the possible causes of the increasing number of MDR-TB.
(b) Mention an identifying method of *E. Coli*. 4+3
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