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 bacteriæmia?
(c) What is binary fission?
(d) What is meant by 'The Great Plate Count Anomaly'?
(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
3

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: \[1 \times 5\]

(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
Haremophilus 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