

M.Sc. 4th Semester Examination, 2010
BIO-MEDICAL LABORATORY SCIENCE
AND MANAGEMENT

(Clinical Microbiology and Diagnostic Bacteriology)

PAPER—XIII(U-26)

Full Marks : 40

Time : 2 hours

Answer all questions

The figures in the right-hand margin indicate marks

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

Illustrate the answers wherever necessary

MODULE—1

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

(a) What do you mean by chemo-organotrophs bacteria ?

(b) Write the advantage of solid media.

(c) Write the features of cell wall of Gram(-ve) bacteria.

(d) What do you mean by microaerophilic bacteria ?

(e) What do you mean by enriched media ?

(f) Write the use of DCA media.

(g) Mention the name of the non-pathogenic spore bearing organisms.

(h) Write the application of HEPA filter.

2. (a) What is spore ?

(b) Write the procedure of Ziehl-Neelsen staining.

(c) What are the pathogenic and non pathogenic acid fast organisms ?

1 + 5 + 2

Or

(a) What precautions to be taken during specimen collection and handling for the bacteriological examination ?

(b) How will you proceed to take a blood sample for bacteriological examination ?

(c) What do you mean by disinfectant ?

(2 + 2) + 2 + 2

3. (a) Write the composition and use of Lowenstein Jensen and Mckonkey medium.

(b) Describe the procedure of bile solubility and catalase test for bacterial identification.

(2 + 2) + $\left(1\frac{1}{2} + 1\frac{1}{2}\right)$

Or

(a) Briefly describe the physical method for the selection of pure culture.

(b) What do you mean by bacterial growth rate and generation time ?

(c) Write the different steps for the preparation of culture media ?

3 + (1 + 1) + 2

MODULE-2

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

(a) Name the pathogenic organisms commonly found in blood.

(b) Name the diagnostic test for vibrio cholerae.

(c) Write the name of specific media for the detection of mycobacterium tuberculosis.

(d) What do you mean by antimicrobial resistance ?

(e) Mention the identifying characters of Staphylococcus aureus.

(f) What are the biochemical activity of salmonella typhi ?

(g) Write the application of Robertson's cooked meat media.

(h) What do you mean by antimicrobial sensitivity test ?

5. (a) Write the composition and staining procedure of Albert Stain.
- (b) What are the bindings in a case of Diphtheria patient ? 5 + 3

Or

- (a) Write the morphology and cultural characteristics of Haemophilus Influenzae.
- (b) Write the staining property and biochemical activity of E. coli.
- (c) What pathogenesis are produced by Haemophilus Influenzae ? $\left(1\frac{1}{2}+2\right)+\left(1\frac{1}{2}+2\right)+1$
6. (a) Write the morphology and cultural characteristics of Neisseria Gonorrhoeae.
- (b) How laboratory diagnosis can be made ?

$$\left(1\frac{1}{2}+1\frac{1}{2}\right)+4$$

Or

(a) Briefly describe the mode of action of antimicrobial agents.

(b) Describe the dilution and disc diffusion techniques in laboratory for the antimicrobial sensitivity test.

2 + 5

