

**M.Sc. 4th Semester Examination, 2011**

**BIOMEDICAL LAB. SCI & MGM.**

PAPER—XIII(Unit - 26)

*Full Marks : 40*

*Time : 2 hours*

*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) Define disinfectant.

(b) Name the bacteria, spores of which is used for autoclave control test.

( Turn Over )

- (c) What should be the pore size of bacterial filter ?
- (d) What is the mordant used in Z. N. Staining method ?
- (e) What are the disadvantage of sterilisation by dry heat in hot air oven ?
- (f) Write the name of the chemical used for discarding infected laboratory waste.
- (g) What is the resolution of light compound microscope using oil-immersion lens ?
- (h) Draw a diagram showing 'horizontal laminar air flow' showing direction of air flow.

2. (a) Define selective medium.

(b) Name five selective media.

(c) What are the different ways for making a medium selective one ?

$$1\frac{1}{2} + 2\frac{1}{2} + 4$$

Or

(a) What is capsule of a bacterium ?

(b) Name five capsulated bacteria.

(c) How to demonstrate capsule ?  $1\frac{1}{2} + 2\frac{1}{2} + 4$

3. (a) Write the procedure of gram staining of bacteria.

(b) Describe acidfast staining technique. 3 + 4

Or

What is the (a) composition (b) method of preparation and (c) quality control method of MacConkey's Agar Medium. 1 + 3 + 3

### MODULE - 2

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

(a) What is the colony character of staphylococcus aureus ?

(b) How catalase test is performed ?

- (c) What is mycobacterial susceptibility test ?
  - (d) What is antibiotic sensitivity test ?
  - (e) Name 3 pigment forming bacteria.
  - (f) What is the material used in membrane filter ?
  - (g) How paraffin is sterilised ?
5. (a) Write the name of the microbe for cholera.
- (b) Describe the process of sample collection for microscopic diagnosis of cholera.
- (c) State the process of microscopic detection for the diagnosis of cholera.
- (d) Write the process of culture technique for the confirmation of cholera infection. 1 + 2 + 3 + 2

*Or*

- (a) How urine is collected and preserved for culture in a case of urinary tract infection.

(b) Name six genera of bacteria commonly isolated in U.T.I.

(c) What is the best medium for urine culture ?

State reason.

3 + 3 + 2

6. (a) State the process of ideal sputum collection for the diagnosis of pulmonary tuberculosis.

(b) Write the microscopic technique for the diagnosis of tuberculosis.

(c) What is mycobacterial susceptibility test ?

2 + 3 + 2

*Or*

How internal quality control is done for —

(a) Antimicrobial sensitivity disc

(b) Methylene red test reagent

(c) Incubator (35 °C).

3 + 2 + 2