

M.Sc. 4th Semester Examination, 2013

**BIO-MEDICAL LABORATORY SCIENCE
AND MANAGEMENT**

PAPER—401 (Unit-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 – I

1. Answer any *five* of the following questions : 1 × 5
 - (a) What do you mean by sterilisation ?
 - (b) Which reagent is used to stain endospore ?
 - (c) What do you mean by primary culture media ?

(Turn Over)

- (d) Who discovered gram staining ?
 - (e) What is axenic culture ?
 - (f) Give an example of basic dye.
 - (g) What do you mean by aseptic transfer ?
 - (h) What is the causative agent of anthrax ?
2. (a) What is the difference between sterilization and disinfection ?
- (b) Describe the different methods of sterilization and disinfection. 2 + (3 + 3)

Or

- (a) What is differential staining ? Describe briefly any one of differential staining procedure.
 - (b) How bacteria can be classified according to their morphology and flegellar arrangement ?
(1 + 3) + (2 + 2)
3. (a) Describe the basic rules for working in the diagnostic microbiology laboratory.

- (b) Write the composition of Triple Sugar Iron medium. What is the utility of this medium.
- (c) Write a biochemical test to check the differentiation of *E.coli*. $1\frac{1}{2} + (2 + 2) + 1\frac{1}{2}$

Or

- (a) What precaution should be taken while collecting specimens for microbiological investigations?
- (b) Describe briefly the procedure of acid fast staining.
- (c) Write the compositions of a solid and a liquid media. $2 + 3 + (1 + 1)$

MODULE – II

4. Answer any *five* of the following : 1×5
- (a) What is negative staining?
- (b) What is the causative agent of cholera?
- (c) Give an example of spore forming bacteria.

(d) Which drugs can be applied to treat diarrhoea ?

(e) How tuberculosis is transmitted ?

(f) What is the common symptoms of dysentery ?

(g) Give an example of a virus responsible for diarrhoea.

(h) What do you mean by mycobacterial lipid ?

5. (a) Describe the common causes of diarrhoea including the micro-organisms.

(b) What are the symptoms of cholera ?

(c) Describe the diagnosis and treatment of cholera. 4 + 2 + (1 + 1)

Or

(a) What do you mean by antibiotic sensitivity ?

(b) What is the working concentration of kanamycin used for anti-microbial sensitivity test in laboratory ? How much amount of

kanamycin solution is required from a stock of 50 mg/ml for 100 ml medium to meet the working. Concentration in laboratory test ?

- (c) Describe briefly the Albert's staining. State the use of this staining. 1 + (1 + 2) + (3 + 1)
6. (a) Describe any three methods of laboratory diagnosis of pulmonary tuberculosis.
- (b) How mycobacterial susceptibility testing is done ?
- (c) How *Haemophilus influenza* is diagnosed in laboratory ? 3 + 2 + 2

Or

- (a) Describe BACTEC method.
- (b) What is enrichment media ? Give an example.
- (c) Write the characteristic features of *mycobacterium tuberculosis*. 3 + (1 + 1) + 2