

2013

M.Sc.

3rd Semester Examination

BIOMEDICAL LABORATORY SCIENCE AND MANAGEMENT

PAPER—BLM-301 (Unit-18)

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.

Module—I

(CYTOTECHNOLOGY & CYTOGENETICS)

1. Answer any *five* of the following : 1×5
- (a) Write the full form of ABC technique,
 - (b) What do you mean by primary antibody/monoclonal antibody in immuno cytotechnology ?
 - (c) Write the names of any two automated devices used in cytotechnology.
 - (d) Write any one application of in-situ hybridization in cytotechnology.

(Turn Over)

- (e) Write the names of any two enzymes used in antibody labelling in cytotechnology.
 - (f) Write the nature of image formed in compound microscope.
 - (g) What do you mean by karyotyping?
 - (h) Write the full form of Caspase.
2. (a) Write the fundamental principle of immuno enzymatic cytotechnology.
- (b) State the fundamental steps adopted for the detection of specific marker by PAP technique in cytotechnology.
- (c) Why immunofluorescence cyto technological method is preferred over immuno enzymatic cytotechnological method ? 2+4+2

Or

- (a) Write the fundamental principle of real time PCR.
- (b) State the fundamental steps adopted in real time PCR for diagnosis of genetical disease in the field of cytotechnology.
- (c) Write the application of flow cytometry in cytotechnology. 2+4+2
3. (a) What is museum technology in cytology ?
- (b) Write the importances of museum technology in the field of cytotechnology.
- (c) Write the fundamental principle adopted in in-situ hybridization. 2+3+2

Or

- (a) State the basic steps followed for chromosome isolation in cytology.
- (b) Write the application of karyotyping in disease diagnosis.
- (c) Write the application of marker study in disease diagnosis. 2+3+2

Module—II

(CYTOTECHNOLOGY)

4. Answer any five questions of the following : 1×5
- (a) Write the names of any two secondary fixatives.
 - (b) Write the objective of stropping.
 - (c) What do you mean by cryocut section ?
 - (d) Write the names of any two dehydrating agents.
 - (e) What do you mean by controlled oxidizing agent ?
 - (f) Write the application of 'Alcian-Blue' staining.
 - (g) Write the molecules of PAS-stain.
 - (h) What do you mean by microwave technology in histology.

5. (a) Write the principle of PAS staining.
(b) State the basic steps followed for detection of biomolecule by PAS staining.
(c) How do you prepare Schiff reagent ? 2+4+2

Or

- (a) Write the principle of Ninhydrine-Schiff method for detection of aminogroup in biomolecule.
(b) State the routine steps followed in Ninhydrine-Schiff method in histology.
(c) How is micro-organism in tissue section detected in histology ? 2+4+2
6. (a) When frozen section is preferred for diagnosis in histotechnology ?
(b) Write the process of decalcification of bone tissue in histology.
(c) Write the objectives of clearing in tissue processing. 2+3+2

Or

- (a) Write the advantages of automated tissue processor over manual technique in histotechnology.
(d) Write the procedure of Giemsa staining in histotechnology.
(c) Why Millor reaction is applied in histotechnology. 2+3+2