

2014

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 — 1

(Cytotechnology & Cytogenetics)

Answer all questions.

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

- (a) Write the full form of PAP technique;
- (b) Write the full form of ISEL;
- (c) What do you mean by basic dye;
- (d) What is progressive staining?

(Turn Over)

- (e) Write the strength of formaldehyde available in market;
 - (f) What is karyotype ?
 - (g) What is the meaning of caspase ?
 - (h) What do you mean by secondary antibody ?
2. (a) Write the difference between FACA and FACS.
- (b) State the application of FACS in 'Bio-Mdical Lab Science'.
- (c) Write the working principle of 'flow cytometry'.

3+2+3

Or

- (a) Write the principle of detection of disease marker along the cell surface by imuno fluorescense cytotechnology.
 - (b) Describe the steps followed in ABC technique for the detection of cell marker.
 - (c) Why immunofluorescence is preferred over immuno enzymatic techniques in cytology ?
3. (a) Write the principle of 'TUNEL' study.
- (b) State the steps adopted in 'TUNEL' study.
- (c) Write the application of 'TUNEL' study in 'bio-Med. Lab. Sci.'

3+3+2

2+3+2

Or

- (a) State in brief the chromosome staining technique.
- (b) Write the cytogenetical basis of inborn error of Metabolism.
- (c) Write the application of cell fractionation in 'Bio-Med Lab-Sci'. 3+2+2

Module — II

(Hystotechnology)

Answer *all* questions.

- 4. Answer any *five* questions from the following : 1×5
 - (a) Write any one function of clearing agent.
 - (b) When frozen section is used in histology ?
 - (c) Why periodic acid is used in PAS stain ?
 - (d) Write the application of 'Feulgen reaction' in histology.
 - (e) What do you mean by infiltration ?
 - (f) Write the application of 'Alcian Blue stain in histology'.
 - (g) What is graded dehydration ?
 - (h) What do you mean by routine fixative ?

- 5. (a) State the principle of 'Feulgen reaction'.
 - (b) Write the procedure for the preparation of PAS stain.
 - (c) Write the process of protein fixation in tissue. 3+2+3

Or

- (a) Write any one process of decalcification of bone in histology laboratory.
- (b) How will you confirm the completion of decalcification process of bone ?
- (c) Write the Biactives of honing of microtome knife.

3+3+2

6. (a) Write the protocol of haemotoxylene solution preparation in histological laboratory.
- (b) What do you mean by deformalinization ?
- (c) What are the draw backs of Zenker fixative for tissue fixation and how will you rectified.

3+2+(1+1)

Or

- (a) Describe in brief about 'Ninhydrine-Schiff' method for amino group detection in tissue section.
- (b) Write short about :
'Alcian Blue' staining for disulfide linkage.

3+4