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BRAINWARE UNIVERSITY

Term End Examination 2023
Programme – B.Sc.(MLT)-2020/B.Sc.(MLT)-2021
Course Name – Applied Histology
Course Code - BMLT402
(Semester IV)

Full Marks : 60

Time : 2:30 Hours

[The figure in the margin indicates full marks. Candidates are required to give their answers in their own words as far as practicable.]

Group-A

(Multiple Choice Type Question)

1 x 15=15

1. Choose the correct alternative from the following :

- (i) When preparing a tissue for Histopathology and light microscopy, which method precedes clearing the specimen with an organic solvent?
a) Fixation
b) Clearing
c) Staining
d) Embedding
- (ii) Which is not the aim of fixation?
a) To prevent putrefaction
b) Remove excess water from the tissue
c) Prevent osmotic swelling
d) Render the tissue suitable for subsequent staining
- (iii) Which of the following acid is used in the electrolyte method for decalcification
a) Formic acid
b) Nitric Acid
c) HCL
d) Acetic acid
- (iv) Which of the following is used in electron microscope?
a) electron beams
b) magnetic fields
c) light waves
d) electron beams and magnetic fields
- (v) Which of the following would likely require the use of a microscope?
a) histology
b) cytology
c) gross anatomy
d) a and b only
- (vi) Which one of the following glands would possess numerous demilunes?
a) parotid
b) posterior lingual
c) von Ebner
d) sublingual
- (vii) What is the pH for the activity of alkaline phosphate.
a) 6.0- 6.2
b) 7.1- 7.4
c) 8.3- 8.8
d) 9.0- 9.6
- (viii) Which solution is used as a counterstain in Sudan IV or Oil red O stain.
a) Ehrlich's hematoxylin
b) Harris hematoxylin
c) Mayer's hematoxylin
d) All of these

- (ix) Choose the incorrect statement.
- a) Hemosiderin is an example of Haematogenous pigment
 b) Melanin is an example of Non-Haematogenous pigment
 c) Lipofuscin is an example of Haematogenous pigment
 d) Bilirubin is an example of Haematogenous pigment
- (x) Identify the type of epithelium that lines the thick ascending portion of the loop of Henle?
- a) Stratified columnar
 b) Simple columnar
 c) Simple cuboidal
 d) Simple squamous
- (xi) Which dye is neutral dye
- a) Hematoxylin
 b) Eosin
 c) Romanowsky
 d) Supravital
- (xii) Identify The adhesive used commonly in slide preparation is
- a) Meyer's Egg albumin
 b) Glycerine
 c) Alcohol
 d) DPX
- (xiii) Which fixative is used in frozen section technique ?
- a) Zenker's Fluid
 b) 10% Formalin
 c) Acetic Acid
 d) None of These
- (xiv) Select from which Ameloblasts are derived
- a) morphogenic
 b) organizing
 c) formative
 d) maturational
- (xv) Which of the following component of TEM focuses the beam of electrons on the sample?
- a) ocular lens
 b) condenser lens
 c) stage
 d) column

Group-B

(Short Answer Type Questions)

3 x 5=15

2. List the advantages and disadvantages of Cryostat. (3)
3. Discuss use of Cryostat-Microtomes in Immunohistochemistry Laboratories (3)
4. What is immunohistochemistry and what is it used for? (3)
5. Define Cryostat Sectioning with applications. (3)
6. Contrast between Intra Vital and Supra Vital Staining. (3)

OR

- Contrast between advantages and disadvantages of Toluidine blue stain. (3)

Group-C

(Long Answer Type Questions)

5 x 6=30

7. Explain the principle, reagent & result of modified fouchet's technique for bile pigment. (5)
8. Which stain is used to detect glycogen storage disease? Discuss about the principle of that stain. Express the result. (5)
9. Summarize the factors which can influence enzyme histochemistry. (5)
10. Write down the clinical significance of Alkaline Phosphatase (ALP) (5)
11. Describe the principle and results of the stain which you can use for Reticulin identification. (5)
12. How can you stain microorganisms in the tissue sections? Explain any one method. (5)

OR

- Which experiment would you perform for Intracellular fungal infection detection. Write down the composition of the Stain. (5)