BRAINWARE UNIVERSITY

Term End Examination 2024-2025
Programme – DMLT-2023
Course Name – Cytopathology & Histopathology
Course Code - DMLT301
(Semester III)

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) Choose the acid that is NOT applied for decalcification.

a) Picric acid b) Sulfosalicylic acid
c) Nitric Acid d) Acetic Acid

(ii) Papanicolaou stain is a_____.

a) Confirmative method for detection of breast cancer b) Confirmative method for detection of cervical cancer
c) Screening method for detection of cervical cancer d) None of these

(iii) Identify the preferable size of the Section for Microtomy.

a) 1-2μ b) 3-5μ
c) 10-15μ d) 7-8μ

(iv) Identify the Fixative reagent from the following.

a) Formal Sublimate b) Bouins Fluid
c) Potassium Dichromate Solution d) Toluene

(v) Potassium Alum in Haematoxylin & Eosin Stain acts as_____.

a) Blueing Agent b) Mordant
c) Decolourizer d) Oxidizing Agent

(vi) Which staining procedure is specifically effective in highlighting glycogen and glycoproteins in tissues?

a) Methylene blue stain b) Hematoxylin and eosin stain
c) Massons trichrome stain d) Periodic acid-Schiff stain

(vii) Overstaining with Haematoxylin is typically corrected by which of the following methods?

a) Differentiation b) Blueing
c) Mounting d) Dehydration

(viii) Which substance is typically used for tissue dehydration?

a) Ethanol
b) Toluene
c) Xylene
d) Formalin

(ix) What temperature range is typically used in cryostat sectioning?

a) -20°C to -10°C
b) 0°C to -5°C
c) -30°C to -20°C
d) -80°C to -70°C

(x) Which fluorescent dye is commonly used to label nuclei in immunofluorescence staining in immune cytochemistry?

a) Hematoxylin
b) Eosin
c) DAPI (4,6-diamidino-2-phenylindole)
d) Giemsa stain

(xi) Which type of antibody is typically used as the secondary antibody in immunohistochemistry (IHC) for immune cytochemistry?

a) Monoclonal antibody
b) Polyclonal antibody
c) Conjugated antibody
d) Antigen-binding antibody

(xii) In aspiration cytology, what type of needle is typically used for obtaining tissue or fluid samples?

a) Hypodermic needle
b) Catheter needle
c) Chiba needle
d) Fine-needle biopsy (FNB) needle

(xiii) Which term is used to describe the accumulation of fluid in the abdominal cavity?

a) Pericardial effusion
b) Pleural effusion
c) Ascites
d) Hemopericardium

(xiv) What is the effect of prolonged exposure to decalcifying fluids on tissue?

a) It makes the tissue more durable
b) It enhances tissue quality
c) It has no effect
d) It adversely affects the tissue

(xv) Which of the following is NOT a dehydrating agent mentioned in the text?

a) Formaldehyde
b) Ethyl Alcohol
c) Methyl Alcohol
d) Acetone

Group-B

(Short Answer Type Questions) 3 x 5=15

2. What is immunohistochemistry? (3)
3. Identify the normal composition of CSF. (3)
4. Describe the role of fixatives in tissue processing. (3)
5. Discuss the different types of connective tissues. (3)
6. Conclude the result of Papanicolaou stain. (3)

OR

Analyze the comparative drawbacks of cryostat sectioning in relation to conventional histological methods. (3)

Group-C

(Long Answer Type Questions) 5 x 6=30

7. What is a cytocentrifuge, and what is its primary purpose in cytology? (5)
8. Categorize different components of the Cryostat-Microtome with Their Uses. (5)
9. What are the essential qualities of an ideal fixative used in histopathology? (5)
10. Assess the implications of using various antigen retrieval methods on the staining quality and accuracy of immunohistochemistry results. (5)
11. Discuss the methods used to determine the endpoint of decalcification. (5)
12. Summarised the procedure of Pap stain. (5)

OR

Summarize the formation and circulation of CSF. (5)