



AAH-003-038402 Seat No. _____

**Medical Laboratory & Molecular Diagnostic
Technology (Sem. IV) Examination**

April / May - 2016

4.2 : Histopathology & Cytology

Faculty Code : 003

Subject Code : 038402

Time : $2\frac{1}{2}$ Hours]

[Total Marks : 70

SECTION - I

1 Multiple Choice Questions : 20

- (1) What is benign Tumor derived from all 3 germ cell layers called?
(A) Myoma (B) Fibroma
(C) Teratoma (D) Lymphoma
- (2) Which of the following would be best suited to visualize reticular fibers?
(A) Wright's stain
(B) Hematoxylin and eosin stain
(C) Sudan stain
(D) Silver impregnation
- (3) Collecting cells through a fine needle into a syringe is called...
(A) aspiration cytology (B) exfoliative cytology
(C) dyskaryotic cytology (D) papanicolaou cytology
- (4) In gynecology, the _____ is a medical screening method for detecting infectious, premalignant, and malignant processes in the cervix and vagina.
(A) Polythesian test (B) Papanicolaou test
(C) Polyurathane test (D) Polyanaemia test
- (5) Which of the following is NOT a pathway in which malignant cells spread (metastasize)?
(A) Lymph (B) Saliva
(C) Blood (D) None
- (6) Most commonly used Microtome is
(A) Rotary microtome
(B) Rocking microtome
(C) Ultra microtome
(D) Cryostat

- (7) In histopathology, wax embedded tissue samples are mounted in microtome, and sections of _____ thickness are cut.
- (A) 5-7 cm (B) 5-7 nm
(C) 5-7 km (D) 5-7 μ m
- (8) Process by which cell move from one site to another.
- (A) Transportation (B) Metastasis
(C) Biotransformation (D) Metrostatic
- (9) What does TNM stand for?
- (A) Tumor size, lymph node, malignancy
(B) Tumor size, leiomyoma, malignancy
(C) Tumor shape, lymph node, metastasis
(D) Tumor size, lymph node, metastasis
- (10) The three basic components of all types of connective tissue are :
- (A) Elastic fibers, collagen fibers, and mast cells
(B) Collagen fibers, fibroblasts, and lymph
(C) Blood vessels, Type II collagen, and fibroblasts
(D) Cells, fibers, and ground substance
- (11) A technique called _____ uses antibodies which have been raised artificially to specific substances of interest and which bind to the specific substances being tested for in the tissue section
- (A) Cytogenetics
(B) Immunohistochemistry
(C) Histopathology
(D) haematology
- (12) Select the ODD one out among types of plastination methods
- (A) Whole organ plastination
(B) Sheet plastination
(C) luminal cast plastination
(D) Glass plastination
- (13) Small chemical groups on the antigen molecule that can react with antibody
- (A) epitope (B) isotope
(C) paratope (D) allotrope
- (14) FITC conjugated antiserum reacting directly with the _____ in tissue sections.
- (A) Polyclonal B cell response
(B) Antigen
(C) Immune system
(D) Phagocyte

- (15) _____ (PSA): for prostate cancer
 (A) Factor X
 (B) Prostate-specific antigen
 (C) Plasmin
 (D) Reelin
- (16) The direct method is a one-step staining method, and involves a labeled _____
 (A) Adaptive immune system
 (B) Autoantibody
 (C) Immune system
 (D) Antibody
- (17) Which microscope does not rely on visible light?
 (A) Transmission electron microscope
 (B) Compound microscope
 (C) Phase contrast microscope
 (D) Dissection microscope
- (18) What is the maximum resolving power seen with a compound microscope?
 (A) 2 millimeters (B) 0.2 millimeters
 (C) 2 micrometers (D) 0.2 micrometers
- (19) During the preparation of a routine H&E slide, what step occurs after the tissue is stained?
 (A) Fixation (B) Embedding in paraffin
 (C) Staining (D) Dehydration
- (20) IHC can be used to
 (A) Typing of lymphomas
 (B) Type tumors that are poorly differentiated
 (C) (A) or (B)
 (D) Both (A) and (B)

SECTION - II

- 2** (a) Answer in brief : (any 3) **2×3=6**
- (1) Enlist types of Microtome.
 - (2) What are features of Malignant Tumor?
 - (3) What are basic steps in Museum specimen techniques?
 - (4) Define IHC and IF.
 - (5) Write on pathogenesis of cancer.
 - (6) Discuss advantage of Automation as compared to Manual methods.

- (b) Answer in brief : (Any 3) **3×3=9**
- (1) What is Fixative and write on its ideal properties.
 - (2) Difference between Carcinoma and Sarcoma.
 - (3) What is exfoliative cytology and enlist types of specimens along with its recommended use.
 - (4) Note on Floating Bath and Hot Plate with its uses.
 - (5) Draw chart and explain about steps in ImmunoHistoChemistry.
 - (6) Discuss cryotome.
- (c) Write short notes : (Any 2) **2x5=10**
- (1) Brief note on rotary Microtome.
 - (2) What is IF and how it is done? Write in detail.
 - (3) Write in detail on various steps of Tissue Processing from Dehydration to Embedding.
 - (4) Note on Special Staining.
 - (5) Write in detail about steps in Histopathology.
- 3** (a) Answer in brief : (Any 3) **2×3=6**
- (1) Define Histotechniques and Decalcification.
 - (2) What are advantages of plastination over routine method?
 - (3) Note on smear preparation and its types.
 - (4) Difference in Normal and special staining.
 - (5) What are major routes of Tumor spread?
 - (6) Note on types of Antibodies used in IHC and IF.
- (b) Answer in brief : (Any 3) **3×3=9**
- (1) Discuss on Kaiserling method.
 - (2) Elaborate on events in Neoplastic Transformation.
 - (3) What are precautions before section cutting?
 - (4) Explain Anaplasia and Dysplasia.
 - (5) Write on criteria for rejection of specimen.
 - (6) Note on Techniques to obtain Biopsy Tissue.
- (c) Write short notes (Any 2) **2×5=10**
- (1) Discuss Automated Tissue Processor.
 - (2) Discuss in detail about Procedure of Frozen sectioning.
 - (3) Brief on types and collection method of Bronchial specimen.
 - (4) Note on cryostat.
 - (5) Write in detail on Tumor Staging and Grading.