



THE COLLEGES OF MEDICINE OF SOUTH AFRICA

Incorporated Association not for gain
Reg No 1955/000003/08

Final Examination for the Fellowship of the College
Of Pathologists of South Africa - Anatomical

21 February 2019



Paper 1

(3 hours)

All questions to be answered. Each question to be answered in a separate book (or books if more than one is required for the answer)

- 1 a) Write notes on three different applications of Next Generation Sequencing with examples. (10)
- b) Regarding MDM2 in surgical pathology, write notes on
- i) The definition of MDM2. (1)
 - ii) The different types of assay tests to assess MDM2 expression and their respective advantages and disadvantages. (2)
 - iii) Applications in diagnostic surgical pathology. (5)
 - iv) Significance of combined MDM2 and CDK4 expression in bone tumours. (1)
- c) Regarding intra-operative methods of diagnosing central nervous system lesions:
- i) Mention the intra-operative cytological preparations (methods) you can employ. (2)
 - ii) List the benefits of cytological methods, supporting these with examples. (3)
 - iii) Mention the advantages of frozen section over cytological methods in the intra-operative diagnosis of central nervous system lesions. (1)
- [25]
- 2 a) Describe the macroscopic and microscopic autopsy findings in the pancreas of a patient who died with acute pancreatitis. (8)
- b) Describe the primary autopsy findings of the heart (macroscopy and microscopy) in a patient with systemic lupus erythematosus. (7)
- c) List 2 AIDS defining illnesses in each of the following categories
- i) Parasitic infestations. (1)
 - ii) Fungal infections. (1)
 - iii) Bacterial infections. (1)
 - iv) Viral infections. (1)
 - v) Neoplasms. (1)
- d) Discuss the reasons for structured proforma reporting (standardized templates) in histopathology practice. (5)
- [25]
- 3 a) Describe the general principles and interpretation of fluorescence in-situ hybridisation (FISH). (10)

- b) Regarding non-Hodgkin lymphomas:
- i) Describe the Hans algorithm for diffuse large B cell lymphoma (DLBCL), not otherwise specified. (5)
 - ii) Discuss the pathogenesis of extranodal marginal zone lymphoma at different anatomical sites. (3)
 - iii) Compare the molecular profile of anaplastic large cell lymphoma in adults and children. (3)
 - iv) Discuss the molecular pathogenesis of mantle cell lymphoma. (4)
- [25]
- 4 a) Tabulate the usual direct immunofluorescence patterns of autoimmune mediated subepidermal bullous dermatoses. (8)
- b) Regarding SMARCB1 / INI1
- i) Describe its molecular features (locus and function) (2) and immunohistochemical expression in normal tissues (1). (3)
 - ii) Mention the molecular event(s) that may result in loss of SMARCB1 / INI1 protein expression. (1)
 - iii) List 6 tumours that characteristically (always or almost always) show complete loss of SMARCB1 / INI1 immuno-expression. (3)
- c) Write short notes on the macroscopic orientation of a radical prostatectomy specimen. (5)
- d) Outline the general structure (headings and standard items) of a standard operating procedure document in anatomical pathology. (5)
- [25]



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Paper 2

(3 hours)

All questions to be answered. Each question to be answered in a separate book (or books if more than one is required for the answer)

- 1 a) Write notes on the clinico-pathologic features of inherited conditions that are associated with congenital nephrotic syndrome. (13)
- b) Write notes on the cellular evaluation of bronchoalveolar lavage (BAL) fluid specimens with specific reference to assessment criteria (features that should be reported on) and examples to illustrate the diagnostic value of BAL. (12)
- [25]
- 2 a) Discuss Merkel cell carcinoma under the following headings
- i) Risk factors. (3)
- ii) Positive immunohistochemical markers commonly used in the diagnostic work-up, and their staining patterns. (4)
- b) With reference to the anterior mediastinum, mention the four most likely conditions to be considered in the differential diagnosis of a neoplastic condition with epithelioid cell morphology. (2)
- c) With reference to the posterior mediastinum, mention the four most likely conditions to be considered in the differential diagnosis of a neoplastic condition with spindle cell morphology. (2)
- d) List 4 neoplasms in the neck with thymic or related branchial pouch differentiation / derivation (0.5 x 4), and describe for each entity the major light microscopic features on haematoxylin-and-eosin stain (1.5 x 4). (8)
- e) List the Weiss criteria used to evaluate malignant potential in adrenocortical neoplasms. (4)
- f) List 4 characteristic cytoplasmic inclusions found in sarcoidosis. (2)
- [25]
- 3 a) Discuss low grade fibromyxoid sarcoma (Evans' tumour) (7) and myxofibrosarcoma (7) according to
- i) Clinical features. (1)
- ii) Morphological features. (3)
- iii) Immunophenotypic features. (1)
- iv) Molecular features. (1)
- v) Prognosis. (1)
- (14)

- b) Discuss the macroscopic and microscopic pathology of bacterial (pyogenic) osteomyelitis. (6)
 - c) Discuss gastric hyperplastic polyps under the headings - clinical associations, location within the stomach, microscopy and risk of malignancy. (5)
- [25]
- 4
- a) Write short notes on the diagnostic criteria (Turin proposal) for poorly differentiated thyroid carcinoma. (4)
 - b) Write short notes on the light microscopic features on the haematoxylin-and-eosin stain that distinguish desmoplastic mesothelioma from fibrous pleurisy. (5)
 - c) Outline your diagnostic approach to primary appendiceal mucinous tumours. (11)
 - d) Write short notes on the different histopathologic patterns that are commonly encountered in testicular biopsy specimens for the investigation of azoospermia. (5)
- [25]