



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



27 July 2017

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 Discuss the dominant molecular pathways in the aetio-pathogenesis of colorectal carcinoma and describe the different macroscopic and microscopic features of the tumours concerned, including their precursor lesions. [25]
- 2
- a) Discuss the salient clinical, histological and immunophenotypic features that distinguish a placental site trophoblastic tumour from an exaggerated placental site reaction. (10)
 - b) Briefly discuss pre-analytical laboratory errors that may occur up to the time that a routine haematoxylin and eosin stained slide is produced. (5)
 - c) Six classes of lupus nephritis are recognised by the International Society of Nephrology/Renal Pathology Society Classification (ISN/RPS), according to light microscopic, immunofluorescence and electron microscopic features. Discuss the conceptual similarities and differences between class 3 and 4 of lupus nephritis according to this classification. (6)
 - d) Answer the following questions on CyclinD1 (*CCND1*)
 - i) Function of the *CCND1* gene. (0.5)
 - ii) Four examples of expression in normal, non-neoplastic tissues. (2)
 - iii) Three examples of expression in haematolymphoid tumours. (1.5)[25]
- 3
- a) Briefly describe the chronological sequence of events that characterise the molecular pathogenesis of HPV (Human Papillomavirus) in carcinogenesis of squamous cell carcinoma. (10)
 - b) What are the differences between squamous cell carcinoma in the head and neck region induced by smoking and those induced by HPV? (6)
 - c) Pertaining to the DICER1 syndrome
 - i) What is the mode of inheritance? (1)
 - ii) What are the lesions associated with this syndrome? (2)
 - d) Briefly discuss the cytological features that can help to distinguish a fibroadenoma from a phyllodes tumour on a fine needle aspiration biopsy. (3)
 - e) List the causes of non-infective pericarditis. (3)
- [25]

- 4 a) Give a broad overview of the use of PCR in a surgical pathology laboratory by listing 9 PCR based testing categories, with a relevant example for each category. (9)
- b) Outline the diagnostic utility of the *EWSR1* break-apart FISH investigation by listing 8 different tumours that are commonly *EWSR1* translocation positive (4 marks) and for each tumour listed include its commonest corresponding translocation partner (4 marks) and its characteristic histopathological features (8 marks). (16)
- [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) Discuss the causes (4 marks), in broad categories, of diffuse alveolar damage and describe the sequence of pathological changes seen, including macroscopic and microscopic features (8 marks). (12)
 - b) Write short notes on the clinico-pathological features of parosteal (juxtacortical) osteosarcoma. (5)
 - c) Write short notes on the clinico-pathological features of oligodendroglioma including grading, prognostic factors, together with recently identified molecular changes and their impact on the approach to the histopathological workup of these tumours. (8)

[25]

- 2
 - a) Tabulate the histological, immunophenotypic and behavioural features of benign fibrous histiocytoma and dermatofibrosarcoma protuberans. (15)
 - b) Discuss an approach to the differential diagnosis of cysts of the pancreas. (10)

[25]

- 3
 - a) Discuss auto-immune liver disease (auto-immune hepatitis, primary biliary cirrhosis and primary sclerosing cholangitis) under the following headings
 - i) Serological and biochemical parameters. (6)
 - ii) The distinctive histopathological features for each, including the use of special stains if applicable. (10)
 - b) Discuss chondroblastoma under the following headings
 - i) Clinical presentation, including age and site. (1.5)
 - ii) Radiological features. (1.5)
 - iii) The potential value of immunohistochemical stains and molecular pathology in the diagnosis. (1)
 - c) List five (5) of the most likely differential diagnoses of a fine needle aspirate of salivary gland that comprises large granular cells without stroma and briefly mention two feature(s) or stain(s) for each that could be used to differentiate between them. (5)

[25]

- 4 a) Tabulate the differences in the architectural, cytological and molecular features of follicular lymphoma and reactive follicular hyperplasia. (10)
- b) Write short notes on the histologic features of acute graft versus host disease in the skin and gastrointestinal tract. (6)
- c) Write short notes on the Gleason grade group system under the following headings
- i) The benefits of using the grade group system in comparison with the Gleason scoring system. (1.5)
- ii) The corresponding Gleason scores for each grade group. (2.5)
- d) List the EXCLUSION criteria of non-invasive follicular thyroid neoplasm with papillary-like nuclear features (NIFTP). (5)
- [25]