



## 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 - Haematology

21 February 2019



Paper 1

Laboratory Practice and Basic Principles

(3 hours)

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### Please answer question 1 in one book

- 1 The paediatrician in charge of the neonatal intensive care unit at your institution enquires if the reference ranges for haematological and coagulation parameters at your laboratory are locally applicable. Explain to her how a laboratory goes about establishing reference ranges, and what the complexities are in establishing neonatal reference ranges in particular. [25]

### Please answer questions 2 to 4 in one book

- 2 You are the newly appointed pathologist in a laboratory serving a haematological oncology unit. Formulate a practical approach for the laboratory workup of new patients with acute myeloid leukaemia. Your resources must be used wisely. [25]
- 3 Briefly discuss the laboratory investigation of monocytosis. [10]
- 4 You have to compare the potency of plasma-derived and recombinant factor VIII products using the one stage factor VIII assay and the chromogenic substrate factor VIII assays. In the form of a table, briefly compare the methodology, advantages, and limitations of the two methods for this purpose. [10]

### Please answer questions 5 to 7 in one book

- 5 Briefly outline the current and investigational use(s) of a "liquid biopsy" in the diagnosis and monitoring of haematological malignancies. [10]
- 6 Write short notes on the use(s) of erythrocyte flow cytometric analysis. [10]
- 7 Write short notes on approaches to minimise the risk of transmission of microbial infections through the transfusion of blood and blood products. [10]



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Paper 2

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### Please answer question 1 in one book

- 1 A patient has recently been diagnosed with chronic lymphocytic leukaemia (CLL). Discuss
- i) The important prognostic markers in CLL. (9)
  - ii) The indications for treatment of the patient's CLL. (8)
  - iii) The main treatment options available for CLL. (8)
- [25]

### Please answer questions 2 to 4 in one book

- 2 An ear, nose and throat surgeon consults you about a patient with massive epistaxis. Provide her with practical advice about how to exclude a haemostatic problem. [10]
- 3 Discuss gene therapy in the treatment of haemophilia. [10]
- 4 A challenge for blood transfusion centres in the near future will be to ensure an adequate and safe supply of blood platelets. Briefly discuss novel approaches to ensure that these demands are met. [10]

### Please answer questions 5 to 7 in one book

- 5 A newly arrived refugee is brought to your haematology clinic. She is a 17-year-old woman with a vague history of "thalassaemia" which was treated with blood transfusions. Her haemoglobin is 6.0 g/dl and she has a spleen which is measured at 6 cm below the costal margin. Describe how you would assess her and which appropriate laboratory tests you would perform at the first visit. [25]
- 6 You have a telephonic consultation with the paediatrician concerning an anaemic neonate. Provide the paediatrician with practical advice on how to work the patient up. [10]
- 7 Briefly discuss intraoperative blood salvage. Concentrate on
- i) The indications for intraoperative blood salvage. (5)
  - ii) The requirements for an intraoperative blood salvage apparatus. (5)
- [10]