



Cert Neonatology(SA)

THE COLLEGES OF MEDICINE OF SOUTH AFRICA

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

Subspecialty Examination for the Certificate of Neonatology of the
College of Paediatricians of South Africa

25 July 2019

Paper 1

(3 hours)

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

- 1 Discuss anaemia of prematurity under the following headings
 - a) Pathogenesis. (5)
 - b) Clinical and laboratory features. (5)
 - c) Prevention. (5)
 - d) Management. (10)[25]

- 2 Discuss pain under the following headings
 - a) Fetal and neonatal physiologic responses to pain. (5)
 - b) Tools to assess pain in the neonate. (5)
 - c) Pharmacological and non-pharmacological management of pain in the neonate. (10)
 - d) Long term effects of inadequate pain management in the neonatal period. (5)[25]

- 3 Gastroesophageal reflux disease (GERD) is one of the conditions that is often suspected as an underlying problem in neonates presenting with different conditions including those related to otolaryngology, pulmonology and feeding problems. Discuss this condition under the following
 - a) Discuss the mechanisms for physiologic gastroesophageal reflux (6)
 - b) List the symptoms that are often attributed to gastroesophageal reflux disease. (3)
 - c) List common diagnostic tests used to assess neonates with GERD and discuss each one's strengths and weaknesses. (8)
 - d) What are pharmacologic therapies that have been suggested for use in neonates with GERD and what are their mechanisms of action? (8)[25]

- 4
 - a) Discuss the aetiology, clinical manifestations, investigations and management of Neonatal hepatitis syndrome. (15)
 - b) Describe the calculation of perinatal mortality rate and perinatal care index and what is the significance of both these indicators. (5)
 - c) Describe the role of the Intestinal Microbiome in the pathogenesis of necrotising enterocolitis. (5)[25]



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26 July 2019

Paper 2

(3 hours)

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

Please answer questions 1 – 3 in one book

- 1 Discuss clinical assessments and bedside tests that one can use to diagnose shock in neonates. [10]
- 2 Discuss treatment options of cardiovascular compromise (shock) according to underlying mechanisms of the compromise in the first postnatal day of life. [10]
- 3 How would you manage a neonate with (primary) persistent pulmonary hypertension of the neonate, who has not responded to supplemental oxygen and mechanical ventilation? [10]

Please answer questions 4 – 5 in one book

- 4 a) Write short notes on Benign neonatal seizures (fifth day fits) under the following headings
i) History (2)
ii) Clinical features, seizure types. (2)
iii) Diagnosis. (1)
b) Write short notes on the use of Levetiracetam in neonates under the following headings
i) Mechanism of action. (1)
ii) Evidence for efficacy, safety and optimal dosing. (3)
ii) Indications for use. (1)
[10]
- 5 Discuss the use of Intravenous Immunoglobulin in the following settings
a) Neonatal alloimmune haemolytic disease. (5)
b) Neonatal thrombocytopenia. (5)
[10]

Please answer questions 6 – 7 in one book

- 6 Write short notes on the principles of and the indications for the ex-utero intrapartum treatment (EXIT) procedure. [10]

- 7 Write short notes on fortification of human milk feeds. [10]

Please answer questions 8 – 9 in one book

- 8 In a patient with neonatal sepsis, define and discuss the concepts below in relation to the C-reactive protein (CRP) test
- Specificity.
 - Sensitivity.
 - Positive Predictive Value.
 - Negative Predictive Value.

[10]

- 9 Outbreaks due to Carbapenem resistant *Klebsiella pneumoniae* have become a major problem in many Neonatal Intensive Care Units (NICU's) in the country
- Briefly discuss the mechanism(s) underlying Carbapenem resistance in resistant *Klebsiella pneumoniae* infection. (5)
 - Colistin (monotherapy or in combination) is used in treatment of multi-drug resistant (MDR) gram negative infections in the neonate. Write short notes on the use of Colistin in neonates under the following headings (5)
 - Mode of action.
 - Elimination.
 - Adverse effects.

[10]

Please answer question 10 in one book

- 10 Write short notes on Elimination of Mother To Child Transmission (EMTCT) under the following headings
- Definition and management (Including doses of medication used) of a high risk neonate born to a HIV positive mother. (2.5)
 - Management of a neonate with an indeterminate Polymerase Chain Reaction (PCR). (2.5)
 - Follow up of neonates who are HIV exposed. (2.5)
 - Adverse effects of HIV prophylactic therapy in neonates. (2.5)

[10]

Please answer question 11 in one book

- 11 Newborn screening: Discuss the criteria for recommending universal screening for any disease in the newborn period. [10]

Please answer question 12 in one book

- 12 List the main components of pulmonary surfactant and describe their function. [10]