Index No:- .....

FACULTY OF MEDICINE

UNIVERSITY OF RUHUNA

FINAL EXAMINATION FOR MEDICAL DEGREES
JULY/SEPTEMBER 2026

PAEDIATRICS PAPER I

02.09.2026

1.00 pm – 4.00 pm (Three hours)

1. There are six parts (A,B,C,D,E, & F).
2. There is one question in each part.
3. Answer all six questions.
4. Answer each question in the space provided.
5. Write the index number in the space provided on top of each part.

Part A – Question No 1 Index No: .....

A 7-month-old girl with trisomy 21 was admitted to the ward following a febrile urinary tract infection. Her birth weight was 2.8kg and tetralogy of Fallot's was identified during the perinatal period. Her current weight is 5kg and she was diagnosed to have severe acute malnutrition (SAM) following the admission.

1.1 Define Severe Acute Malnutrition (SAM). (10 marks)

.....

1.2. Mention **three (03)** main underlying aetiologies for the above child to develop SAM from the given details and explain the pathophysiology of each aetiology. (30 marks)

i. Aetiology-

.....

Pathophysiology-

.....

.....

.....

.....

.....

ii. Aetiology-

.....

Pathophysiology-

.....

.....

.....

.....

.....

iii. Aetiology-

.....

Pathophysiology-

.....

.....

.....

.....

.....

1.3 Mention **three (03)** special therapeutic foods that can be used for the nutritional rehabilitation of this child. (15 marks)

.....

.....

.....

1.4 Mention **two (02)** routine special supplements that this child would have received during the routine maternal and child health clinic visits. (10 marks)

.....

.....

1.5 Outline the key areas of the long-term management of this child. (35 marks)

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

Part B– Question No 2 Index No: .....

2.1 List **four (04)** common aetiological agents of gastroenteritis in children.

(10 marks)

.....

.....

.....

.....

2.2 Discuss the clinical features that help to differentiate gastroenteritis **due to viral from bacterial aetiology**. (20 marks)

.....

.....

.....

.....

.....

.....

.....

.....

2.3 List **five (05)** clinical parameters used to assess the degree of dehydration in a child.

(10 marks)

.....

.....

.....

.....

.....

2.4. A one-year-old child weighing 10kg is admitted with acute viral gastroenteritis. On examination, the child is severely dehydrated, with a rapid, thready pulse of 150 beats/min and a capillary refill time (CRFT) of 4 seconds.

2.4.1 Describe the steps in resuscitation of this child? (25 marks)

.....

.....

.....

.....

.....

.....

Following initial resuscitation, the child is haemodynamically stable, with a pulse rate of 110 beats/min and a capillary refill time (CRFT) of <2 seconds. His serum electrolyte results are as follows;

Serum Sodium (Na^+) : 135 mmol/L
Serum Potassium (K^+) : 3.8 mmol/L

2.4.2 Calculate the child's fluid requirement for the next 24 hours according to the APLS guideline. (15marks)

.....

.....

.....

.....

2.5 State **one (01)** medication used in the management of acute viral gastroenteritis in children and describe **one (01)** benefit of its use. (10 marks)

.....

.....

2.6 List **five (05)** complications of Shigella gastroenteritis. (10 marks)

.....

.....

.....

.....

.....

Part C– Question No 3 Index No: .....

A 4- year- old boy is admitted with pallor and jaundice. The preliminary investigations are as follows.

WBC	10.9 x10^9 /L	(4-11)
	N-55% L- 38% E-05%	
Platelet count	221 x10^9 /L	(150-450)
Haemoglobin	5.8 g/dL	(12-15)
Total bilirubin	2.8 mg/dL	(0.2-1.2)
Indirect bilirubin	2.6 mg/dL	

3.1 What is the most likely cause for the low haemoglobin in this patient? (10 marks)

.....

3.2 List **three (03)** other investigations and their expected results that would support the diagnosis mentioned for 3.1. (15 marks)

.....

.....

.....

.....

.....

.....

3.3 List **three (03)** hereditary conditions for the answer you mentioned for 3.1.

(15 marks)

.....

.....

.....

.....

.....

3.4 List **three (03)** acquired causes for the answer you mentioned for 3.1. (15 marks)

.....

.....

.....

During further inquiry it was revealed that the child had dark urine over the last 24 hours and two similar episodes in the past.

3.5 What is the most likely reason for the dark urine? (10 marks)

.....

3.6 What is the most likely underlying aetiology? (05 marks)

.....

3.7 Briefly describe **three (03)** important steps in the management. (30 marks)

.....

.....

.....

.....

.....

.....

.....

.....

.....

Part D– Question No 4 Index No: .....

A 2-month-old boy was referred to the paediatric clinic for further evaluation of persistent yellowish discoloration of the sclera. He was the second baby born to non-consanguineous healthy parents following an uneventful antenatal period. His birth weight was 3.0kg, and his current weight is 4.5kg. His basic investigations are as follows;

WBC	13,000 x10^9 /L	(4000-15000)
Hb	11.5g/dL	(11-14)
Platelets	234000 x10^9 /L	(150000-450000)
Total bilirubin-	88 µmol/L	(< 17 µmol/l)
Direct bilirubin-	48 µmol/L	(<2µmol/l)

4.1 Mention the expected urine and stool colour of this baby. (10 marks)

Urine - .....

Stool - .....

4.2 List **three (03)** possible differential diagnoses for the above presentation. (15 marks)

.....

.....

.....

4.3 List **five (05)** necessary examination finding you would look for in this patient to support the diagnosis. (15 marks)

.....

.....

.....

.....

.....

4.4 List **five (05)** laboratory investigations with reasons which support the diagnosis.

(20 marks)

.....

.....

.....

.....

.....

4.5 State **two (02) radiological** investigations useful in arriving at the diagnosis.

(10 marks)

.....

.....

4.6 Outline the management of the child until the definitive diagnosis is made.

(20 marks)

.....

.....

.....

.....

.....

.....

.....

.....

.....

.....

4.7 Mention **one (01)** crucial public health initiative included in the Child Health Developmental Records (CHDR) in Sri Lanka to facilitate the early identification of the conditions mentioned in 4.2. (10 marks)

.....

.....

Part E– Question No 5 Index No: .....

A 6-year-old boy weighing 20 kg was admitted to the paediatric ward with a 2-day history of severe headache, periorbital oedema and red coloured urine. On admission, his pulse rate was 100 beats/min, capillary refill time (CRTF) was 2 seconds, and blood pressure was 130/100 mmHg, which was above the 99th centile for his age, sex and height.

5.1 State the most likely clinical diagnosis and the most common underlying aetiology. (10 marks)

.....

5.2 State **one (01)** investigation that would provide evidence supporting the suspected aetiology in 5.1. (05 marks)

.....

5.3 List **five (05)** important clinical observations that should be recorded during daily ward rounds. (15 marks)

.....

.....

.....

.....

.....

5.4 State **four (04)** other possible aetiologies that gives rise to similar presentation.

(20 marks)

.....

.....

.....

.....

On the third day of admission, his urine output decreased to 60 mL during the preceding 12 hours. His serum creatinine was 1.8 mg/dL (age-related reference interval: 0.3–0.7 mg/dL).

5.5 State the acute complication that has developed. Support your answer using the urine-output criterion. (10 marks)

.....

.....

5.6 Outline the principles of fluid management in this child. (25 marks)

.....

.....

.....

.....

.....

.....

5.7 List **three (03)** potentially life-threatening complications that may develop. (15 marks)

.....

.....

.....

Part F – Question No 6 Index No: .....

A 6-year-old boy was referred to the paediatric clinic by the community paediatrician for further evaluation of frequent falls and deranged liver enzymes. He was followed up at the developmental paediatrics clinic and has the formal diagnosis of Autism and Attention Deficit Hyperactivity Disorder.

He is the firstborn to non-consanguineous healthy parents with an uneventful antenatal and birth history. Since early infancy, he showed deficits in communication and social domains and a delay in gross motor skills. Currently, he can walk and speak in 2-word sentences.

His examination findings and investigation reports are as follows;

Weight: 20kg (Median to -1SD)
Height: 105cm (Median to -1SD)

Anicteric
No hepatosplenomegaly

AST- 450 U/L (<45U/L)
ALT- 225 U/L (<45 U/L)

Creatine Phospho Kinase-	17500 IU/L	(<150)
Serum albumin-	40 g/dL	(35-50)
PT/INR-	1.0	
Gamma GT-	10 U/L	(<30)
Total Bilirubin-	0.2 g/dL	(0.2-1.0)

6.1 List **four (04)** other important features that needs to be elicited in the history of this boy. (20 marks)

.....

.....

.....

.....

6.2 List **three (03)** other important features in the examination you would look in this boy. (15 marks)

.....

.....

.....

6.3 What is the most likely clinical diagnosis? (15 marks)

.....

.....

6.4 What is the mode of inheritance of the condition you mentioned in 6.3? (10 marks)

.....

6.5 Write **two (02)** treatment options that are available in the management of the condition mentioned in 6.3. (20 marks)

.....

.....

This child is waiting for circumcision surgery in 3 months time.

6.6 What precautions you should take to prevent life threatening complications during anaesthesia? (20 marks)

.....

.....

.....

.....