

POSTGRADUATE INSTITUTE OF MEDICINE
UNIVERSITY OF COLOMBO

MD (CLINICAL NUTRITION) EXAMINATION – APRIL 2024

Date:- 1st April 2024

Time:- 9.00 a.m. – 12.00 noon

PAPER I – SEQ

Answer **all five (05)** questions.

Each question to be answered in a separate book.

1. A 45-year-old woman who has undergone bowel resection for volvulus, is on daily infusion of parenteral nutrition and fluids, and presents for her routine clinic review. She had undergone extensive resection of bowel three months ago, leaving her with 1.5 meters of small bowel in jejunostomy and two thirds of distal colon. Ten years ago, she had undergone gastric bypass surgery for morbid obesity.
 - 1.1. Mention two (02) possible diagnoses giving reasons. (20 marks)
 - 1.2. State the factors that you would consider before commencing parenteral nutrition. (20 marks)
 - 1.3. What is the intervention that needs to be performed before weaning off parenteral support? (10 marks)
 - 1.4. List the components of the parenteral support. (25 marks)
 - 1.5. What is the main complication of parenteral nutrition? (10 marks)
 - 1.6. Outline how the complication mentioned in 1.5 above could be prevented. (15 marks)
2.
 - 2.1. Mention three (03) bedside body composition assessment methods. (25 marks)
 - 2.2. Mention two (02) research body composition assessment methods. (14 marks)
 - 2.3. In a 2-compartment model, mention the two (02) compartments. (16 marks)
 - 2.4. List three (03) advantages and three (03) disadvantage of skinfold measurement. (30 marks)
 - 2.5. State the two (02) parameters measured by bio-impedance analysis (BIA). (10 marks)
 - 2.6. Mention the parameter calculated with BIA that reflects cellular health. (05 marks)

Contd..../2-

3. A 4-month-old baby boy with a large ventricular septal defect (VSD) is referred for nutrition rehabilitation prior to surgery. His birth weight is 2.6 kg, and he had no other perinatal complications. The child is being treated with oral spironolactone and furosemide. He is being formula fed due to lack of mother's milk. Examination revealed some dehydration and sacral oedema. The current weight is 2.05 kg. The baby is afebrile and there is no evidence of infection. Cardiovascular system examination shows tachycardia, with mild cardiomegaly and a pan-systolic murmur. The respiratory system is clinically normal except for tachypnoea. The abdomen is soft with 3 cm hepatomegaly. Spleen is not palpable.
- 3.1. Mention the factors that should be taken into consideration when planning nutrition rehabilitation, giving reasons. (50 marks)
- 3.2. How would you embark on the nutrition rehabilitation of this child? (50 marks)
4. A 19-year-old, unmarried, primi mother delivered a baby boy weighing 2 kg at 36-weeks-gestation. The baby was discharged after 24 hours. Weight on discharge was 1.8 kg. The baby was readmitted on day 5 with jaundice requiring phototherapy. The baby was active, alert and weighed 1.7 kg on admission. System examination did not reveal any abnormality. Mother and baby were both O positive and there was no family history of haemolytic diseases. Phototherapy was stopped after 24 hours.
- 4.1. What is the most likely cause for jaundice in this baby? (20 marks)
- 4.2. Outline the management of this baby. (40 marks)
- 4.3. Could this readmission have been prevented? Explain giving reasons. (40 marks)
5. A 45-year-old man is admitted to the emergency department with acute epigastric pain. The pain is associated with nausea and vomiting which is relieved by bending forwards. He gives a history of chronic epigastric pain in the past and uncontrolled diabetes mellitus. On examination he is ill looking and in severe pain. Abdominal examination revealed tender epigastrium. His heart rate is 110 beats/minute and blood pressure is 90/60 mmHg. He remained hypotensive despite fluid resuscitation and was transferred to the ICU for further care.
- 5.1. What is the most likely clinical diagnosis? (10 marks)
- 5.2. Briefly describe the initiation, route, and composition of nutrition supplementation during first 72 hours, in this patient giving reasons. (60 marks)
- 5.3. List three (03) indications for parenteral nutrition in this patient. (30 marks)