

**NNF FELLOWSHIP FOR DOCTORS
OCTOBER 2023 EXAMINATION**

THEORY PAPER I

Answer all the questions.

Total Marks: 100

Time: 3 hours

- Read the question carefully.
- **Answers to "LIST" requires only the names as answers, no descriptions are required.**
- Indicate the question number correctly for the answer in the margin space.
- Answer all the parts of a single question together.
- Start the answer to a question on a fresh page or leave adequate space between two answers
- Do not leave any blank pages between two answers.

1. A 37-year-old primigravida mother has been referred to you for antenatal counseling. Her recent ultrasound scan at 30 weeks has shown that the fetus has Congenital diaphragmatic hernia. The anomaly scan at 20 weeks was unremarkable. (2+4+4)

- a. **List** two antenatal prognostic markers of CDH in pregnancy.
- b. How would you stabilize this neonate pre-operatively (labor room and NICU)?
- c. What are the anticipated problems postoperatively?

2. Write about the newer methods of respiratory support

- a. **LIST** various methods of surfactant administration; what are the benefits of less invasive Surfactant administration? (2+2)
- b. What are the benefits of Volume guarantee ventilation? (3)
- c. Briefly describe the expected benefits of High frequency ventilation. (3)

3. A 3-day old preterm born at 25weeks has recent increase in ventilation requirements. The FiO₂ need increased from 25% on the previous day to 45%. (2 + 2 +6)

- a. **List** two important possible causes that may account for this worsening.
- b. If the baby has tachycardia, bounding pulses, and a blood pressure of 40/12mmHg (sepsis work-up is negative and blood gas reveals pH 7.19, PCO₂ 28, HCO₃ 14, lactate 5). **list two** typical echo findings of a Hemodynamically Significant PDA?

- c. Briefly compare the potential **risks and benefits** of the three pharmacologic agents currently used.

4. A 8-day old term born infant presents to the emergency room with lethargy and pallor. Examination shows poor pulses and features of shock. Blood pressure is unrecordable. Lab tests in emergency reveal a pH of 7.01, PCO₂ 30, HCO₃ of 9, BD of 15, sodium 121, potassium 8 mEq/ L.

- a. **LIST** any two causes of sudden unexpected collapse in a previously well neonate. (2)
- a. What is the most likely diagnosis in this case. (1)
- b. How will you manage **this baby** (emergency care, investigations, and management until discharge from this admission) [2 +2+3]

5. A 3-day old term baby has persistent bilious vomiting and is sick appearing.

- a. **LIST** any two likely causes (2)
- a. The baby has no abdominal distension. Tachycardia, pallor, blood-stained vomitus are present. What surgical diagnosis must be excluded? (1)
- b. Discuss the urgent work up, potential complications and management (include pre-operative care and surgical management). [2+2+3]

6. There is an outbreak of Klebsiella sepsis in your NICU.

- a. How will you manage this outbreak? (4)
- b. **LIST** four strategies for prevention of healthcare associated infections in NICU? (4)
- c. **LIST** two important aspects of a quality improvement initiatives with relevance to prevention of health care associated infections (2)

7. Write short notes on the following (answer any 4 questions, 4 × 5 marks each)

- a. NNT
- b. Interpretation of tests of a diagnostic study
- c. LaQshya
- d. Approach and management of supraventricular tachycardia in neonate
- e. Hearing screening protocol and tests

8. A term newborn with Rh isoimmunization is referred to your unit at 18 hours of life with total bilirubin level of 18 mg/dl.

- a. How will you manage this baby in NICU? (4)

- b. List infections that must be screened in blood that has to be used for exchange transfusion. (3)
- c. Briefly discuss the follow-up of this neonate, after discharge (3)

9. A preterm 27-week baby with birth weight 890 gm has reached an enteral feed volume of 60ml/kg/day by oro-gastric feeding on day 7 of life.

- a. List **two** preventable causes of extra-uterine growth restriction. (2)
- b. List **two** the morbidities associated with EUGR (2)
- c. Describe briefly the most common (**any three**) possible causes and management of feed intolerance in this baby (6)