



IAP Neonatology Chapter

IAP Neonatology Fellowship Exam August 2024

Theory Paper 2

Time: 3hours

TotalMarks–100

- Attempt all questions.
- Write in legible handwriting.
- Draw appropriate figures and flow diagrams
- Quote evidence / studies wherever required.

1. Question 1: A term 2.1 kg neonate with maternal history of PIH, was admitted to your unit with persistent hypoglycemia on day 2 with need for a central line for infusing high concentration of glucose. On day 8 the newborn was found to be lethargic , with prolonged CRT and one episode of euglycemic seizure. (20 marks)

- i. Enumerate the differential diagnosis and name your most probable diagnosis (5)
- ii. Describe the clinical feature, and pathophysiology of such kind of infections (5)
- iii. State the preventive strategies for such infections in the NICU. (5)
- iv. Write a note on recent advances in identifying the bug in blood culture. (5)

2. Question 2: A term neonate, with a maternal blood group A negative, is admitted on day of life 2 with a serum bilirubin of 24 mg/dl. (20 marks)

- i. Outline the steps in management (5)
- ii. What are the likely neurological concerns in the short and long term? (5)
- iii. How should the mother ideally have been followed up in the antenatal period? (5)
- iv. What is BIND score? (2 marks)
- v. Discuss preferred mode of hearing screening in this neonate (3)

3. Question 3: A P2 mother delivers a neonate at 33 weeks of gestation via vaginal route. This baby weighed 1200 gram at birth, needed delivery room CPAP at 5cm of H₂O with FiO₂ requirement of 25% without need of surfactant. (20 marks)

- i. Comment on delivery room preparation to receive preterm baby. (5)
- ii. Would you initiate immediate Kangaroo mother care (iKMC) , if so, what is the preparation needed in deliver room. Comment on the evidence for iKMC. (5)
- iii. Write in detail about transportation of this baby (5)
- iv. Describe Mother Newborn Care Unit (5)



4. **Question 4: A term neonate in postnatal ward with an uneventful birth and on exclusive breastfeeds is found to have a pre-ductal oxygen saturation of 95% and a post-ductal saturation of 89% on routine pulse-oximetry screening, in quiet and awake state, at 28 hours of life.** (20 marks)

- i. Outline the algorithm for pulse oximetry screening of the newborn and describe the next step you will take for this baby (5)
- ii. What are the likely causes and how would you like to arrive at a diagnosis? (5)
- iii. What is the principle of pulse oximetry (5)
- iv. Discuss if and when CCHD screening should be part of the national screening program (5)

5. **Question 5: An out born term neonate is admitted at your level III NICU at 3 hours of life with a history of delayed cry at birth, APGAR score of 0,3,5 at 1, 5 and 10 mins of life. There is associated thick meconium-stained liquor, abnormal sensorium and shallow respiration. The cord pH is 6.9, and the baby requires active resuscitation at birth. The admission saturations are 70%, perfusion is poor, and respiration is shallow. After admission, there is a difference in the pre-post ductal saturations of 10%. The baby has a seizure at 4 hours.** (20 marks)

- a) Broadly outline a cardiorespiratory management strategy for this baby (5)
 - b) Describe the likely echocardiographic findings in this neonate in the given clinical scenario (5)
 - c) Describe the neurological monitoring and interventions that you would undertake for this neonate. (5)
5. Discuss the controversies around therapeutic hypothermia (5)