



## **IAP Neonatology Chapter**

### **IAP Neonatology Fellowship Exam 2024**

#### **Theory Paper 1**

**Time: 3hours**

**TotalMarks–100**

- **Attempt all questions.**
- **Write in legible handwriting.**
- **Write answers to the point.**
- **Quote evidence / studies wherever required.**

#### **Question 1: Describe in brief the following aspects of perinatal care (20 marks)**

- WHO recommendations for antenatal corticosteroids. Add a note on pros and cons of various drug formulations. (5)
- Benefits of delayed cord clamping in neonates. Discuss various cord clamping strategies in term and preterm neonates. (5)
- Methods of surfactant administration without the use of an endotracheal tube.(5)
- Describe immediate KMC. Write a note on evidence-based benefits of KMC in developed versus developing countries. (5)

#### **Question 2: Write short notes on the following: (20 marks)**

- Management of needle stick injury in the NICU. (5)
- Whole exome sequencing and its role in NICU. (5)
- Oral immune therapy with physiologic and clinical benefits. (5)
- Lung protective strategies in preterm neonates. (5)

#### **Question 3: Illustrate the following using flow chart (20 marks)**

- Approach to a 4 day old infant with metabolic acidosis and hypoglycemia. (5)
- Approach to suspect disorder of sexual differentiation (5)
- Approach to a neonate with prolonged unconjugated hyperbilirubinemia. (5)
- Timing of delivery based on Doppler abnormalities in fetal growth restriction. (5)

#### **Question 4: Write short notes on the following (20 marks)**

- Objectives and salient points of RBSK (5)
- Assessing utility of a diagnostic test with formulae (5)
- Factorial approach to derive caloric requirements of a growing preterm(5)
- Measurement of iron status in a neonate(5)



**Question 5: Choose the most appropriate answer (20 marks - 1 mark for each MCQ)**

1. Nirsevimab is used for prevention of which condition:
  - a. CMV
  - b. RSV
  - c. Zika virus
  - d. Varicella
  
2. MALDI-TOF is used as an adjunct test for diagnosis of which condition:
  - a. Neonatal encephalopathy
  - b. Neonatal sepsis
  - c. Neonatal stroke
  - d. Necrotising enterocolitis
  
3. Plastic wraps/ polythene bags are recommended for use for thermal care at birth for below .....gestational age at birth
  - a. 28 weeks
  - b. 30 weeks
  - c. 32 weeks
  - d. 34 weeks
  
4. According to ESPGHAN 2022, the dose of Vitamin D for preterm babies is:
  - a. 400-1000 IU/ day
  - b. 400-700 IU/Kg/day
  - c. 800-1000 IU/kg/day
  - d. 500-800 IU/day
  
5. As per latest NRP guidelines, the ideal method for estimating heart rate during resuscitation is
  - a. Auscultation
  - b. Umbilical cord pulsations
  - c. 3-lead ECG monitoring
  - d. All of the above



6. In pressure support ventilation, the following parameters are controlled by the clinician:
  - a. Pressure support above PEEP, PEEP, Ti, Back up Rate
  - b. Pressure support above PEEP, FiO<sub>2</sub>, Ti, PEEP
  - c. Pressure support above PEEP, PEEP, Back up rate, FiO<sub>2</sub>
  - d. Pressure support above PEEP Volume, Rate, Ti
  
7. The preferred modality of imaging for perinatal asphyxia in the first 72 hours of life is:
  - a. MRS
  - b. DW MRI
  - c. T1 and T2 weighted MRI
  - d. Neurosonogram
  
8. What is the main objective of the NSSK program:
  - a. To provide Level 1 and Level 2 care to all eligible newborns
  - b. To ensure transport of sick neonates to appropriate higher levels of care
  - c. To ensure trained personnel for basic newborn care and resuscitation at every delivery point
  - d. To ensure recognition of neonatal sepsis, administration of first dose of antibiotic and referral to higher levels of care
  
9. What chemical disinfectant is used for cleaning a blood-spill in the NICU
  - a. Formaldehyde
  - b. 2% Glutaraldehyde
  - c. Chlorhexidine
  - d. Sodium hypochlorite
  
10. The agreement of transcutaneous bilirubinometer levels as compared to serum bilirubin can be best described by
  - a. Kaplan Mayer test
  - b. Chi-square test
  - c. Bland Altman plot
  - d. ROC curve
  
11. What is the role of antenatal magnesium sulfate given to mothers at risk of imminent preterm delivery
  - a. Improved cognition score
  - b. Reduction in cerebral palsy
  - c. Better survival rates
  - d. Shorter NICU stay



12. The first line treatment for an infant with suspected CMPA is
- Partially hydrolyzed formula
  - Extensively hydrolyzed formula
  - Continue breastfeeding with mother being completely off dairy products
  - Soy-based formula
13. What is the formula for Oxygenation index?
- $(PIP \times FiO_2) / SpO_2$
  - $(PIP \times FiO_2) / PaO_2$
  - $(MAP \times FiO_2) / SpO_2$
  - $(MAP \times FiO_2) / PaO_2$
14. In pulmonary graphics, PV loop,  $C20/C < 1$  indicates:
- Air hunger
  - High flow
  - Overdistension
  - Atelectasis
15. Tracheo esophageal fistula is a developmental anomaly that originates in which phase of lung development?
- Saccular
  - Canalicular
  - Embryonic
  - Pseudoglandular
16. In Ballard scoring, which neurological parameter has the maximum score?
- Square window
  - Popliteal angle
  - Posture
  - Heel to ear
17. In the PLaNeT-2 trial, safe threshold for platelet transfusion was determined to be a platelet count less than ...../ cu mm
- 30 000
  - 25 000
  - 10 000
  - 50 000



18. Which minor blood group is not associated with Hemolytic disease of newborn?
- Kell
  - Kid
  - Lewis
  - C antigen
19. The most common cause for Postrenal Acute kidney injury in a male neonate is:
- PUJ obstruction
  - PUV
  - VUJ obstruction
  - Perinatal asphyxia
20. A five-day old neonate develops fever, edema, low platelet and shock subsequently. After supportive management and recovery, he develops a hyperpigmentation over the nose. This is described in:
- Perinatal varicella
  - Perinatal chikungunya
  - Klebsiella sepsis
  - Parechovirus infection

