



IAP Neonatology Chapter

IAP Neonatology Fellowship Exam 2023

Theory Paper 1

Time: 3hours

Total Marks–100

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

Question 1: Write short notes on the following:

(20 marks)

- A. “Golden hour management” in preterm neonates. (5)
- B. Initial fraction of inspired oxygen used for positive pressure ventilation in preterm and term neonates in the delivery room, and the evidence base for it. (5)
- C. Time-line of events in perinatal asphyxia. (5)
- D. High impact low-cost interventions to reduce neonatal mortality.

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

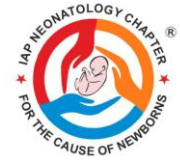
- A. CLABSI prevention bundles. (5)
- B. Ventilation strategy for a 3 kg baby with severe meconium aspiration syndrome. (5)
- C. Approach to suspected congenital heart disease. (5)
- D. Prognostic markers for congenital diaphragmatic hernia. (5)

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

- A. Approach to hyperbilirubinemia in a term baby in first 48 hrs. (5)
- B. Screening for osteopenia of prematurity. (5)
- C. Approach to a well-baby with persistent poor muscle tone. (5)
- D. Approach to a neonate with cardiac murmur. (5)

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

- A. Noninvasive prenatal testing. (5)
- B. Management of neonate born to HIV positive mother. (5)
- C. INAP. (5)
- D. Legal aspects of fetal viability. (5)



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

1. Which Candida species can be found on the hands of HCWs:

- A. C. albicans
- B. C. para albicans
- C. C. parapsilosis
- D. C. krusei

2. As per ACOG the term ‘Full term’ means a pregnancy at:

- A. 37^{0/7}-38^{6/7}
- B. 38^{0/7}-39^{6/7}
- C. 39^{0/7}-40^{6/7}
- D. 40^{0/7}-41^{6/7}

3. HERO score is used for:

- A. Heart rate variability
- B. Perfusion index
- C. Heart rate- BP correlation
- D. OI variability

4. Calculate the OI from the following: FiO₂ 60%/PIP 20cm H₂O/PEEP 5cm H₂O /MAP 10 cm H₂O/ paO₂ 60mm Hg/pAO₂ 200mm Hg

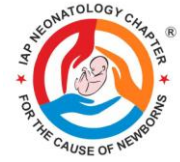
- A. 2
- B. 5
- C. 10
- D. 18

5. In OPP if ALP is persistently low what deficiency should one think of?

- A. Ca
- B. P
- C. Mg
- D. Zn

6. III wave in BERA originates in

- A. Cochlear nucleus
- B. Superior olivary nucleus
- C. Lateral lemniscus
- D. Inferior colliculus



7. A 20-day-old girl presented with prolonged neonatal jaundice, lethargy, and poor feeding, treated as sepsis by empirical antibiotics and nothing by mouth. Oral feeding resumed after partial response, and the condition deteriorated again. Baby is hypoglycemic and has cataract. In this condition, the blood culture is MOST likely to grow:-
- A. Escherichia coli
 - B. Staphylococcal aureus
 - C. group B streptococcus
 - D. Pseudomonas aeruginosa
8. A preterm 30-week born baby was screened for ROP at 21 days of life. Right eye finding of a ridge near the optic disc. Which option is likely to have better visual & neurodevelopmental outcomes?
- A. Conservative management-follow up after 14 days
 - B. Laser
 - C. Bevacizumab
 - D. Aflibercept
9. A newborn with persistent hypoglycemia requiring glucose infusion rate of 12 mg/kg/min was treated by a neonatologist. After discharging on oral medications, the mother follows up with complains of facial edema. The likely cause is
- A. Diacoxide
 - B. Chlorthiazide
 - C. Cholecaciferol
 - D. Propranolol
10. An infant is born with widespread bullae and erosions. Handling increases the area. Which of the following is the diagnostic test
- A. Tzank smear
 - B. KOH mount
 - C. Immunofluorescence
 - D. FNAC Giemsa Stain
11. All of the following are true for neuroimaging EXCEPT
- A. Cranial USG is unable to image cerebral convexities and non-hemorrhagic injury
 - B. CT uses ionizing radiation and is likely to miss heterotopias



- C. For 8 month age child, MRI should be used for differentiation in grey and white matter in T 1 and T 2 image.
- D. Gyrfication index on MRI cartography is related to neurodevelopmental outcome.

12. A 28-day-old girl presented with lethargy, poor feeding, and repeated vomiting for last 5 days; IV fluid and empirical antibiotics were started; later she develops repeated seizures not responding to IV calcium, glucose, B6, and anticonvulsant drugs. Septic screen is negative; serum ammonia is elevated with normal anion gap and normal pH. Family history reveals 2 siblings died with same scenario. Of the following, the MOST likely diagnosis is

- A. galactosemia
- B. hyperglycinemia
- C. urea cycle defects
- D. phenylketonuria

13. A baby admitted immediately after birth with respiratory distress, hypotonia, areflexia, tongue fasciculations, which of the following investigations will clinch the diagnosis -

- A. muscle biopsy
- B. CPK
- C. Genetic testing
- D. MRI brain

14.. Which of the following cardiac diagnoses may have a normal four-chamber view on echo?

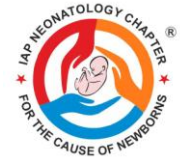
- A. Hypoplastic Left Heart
- B. Transposition of great arteries
- C. Tricuspid Atresia
- D. Ebstein's anomaly

15. Which amongst the following statistical approaches can compare multiple randomized controlled trials:

- A. Pair-wise meta-analysis
- B. Individual patient data meta-analysis
- C. Meta-analysis of Bland Altman plots
- D. Network meta-analysis

16. What is most appropriate timing of delivery in a growth restricted fetus of 29 weeks' gestation?

- A. Absent end diastolic flow in the umbilical artery
- B. Reversed end diastolic flow in the umbilical artery



- C. Reversal of 'a' wave in the ductus venosus
- D. Altered resistive index in the middle cerebral artery

17. A preterm neonate was diagnosed with necrotising enterocolitis (NEC). The neonate has signs of peritonitis clinically with pneumatosis intestinalis in abdominal radiography. Portal venous gas was visualized in ultrasonography of the abdomen along with ascites. What is the staging of NEC as per modified Bell staging?

- A. IIA
- B. IIB
- C. IIIA
- D. IIIB

18. Use of dexamethasone in the first week of life in preterm neonates is associated with:

- A. Severe intraventricular hemorrhage
- B. Retinopathy of prematurity requiring intervention
- C. Cerebral palsy
- D. Patent ductus arteriosus requiring intervention

19. Perfusion index if utilized in pulse oximetry screening for congenital heart diseases may help in increasing the sensitivity for detection of which of the following condition:

- A. Tetralogy of Fallot
- B. Transposition of great arteries
- C. Ebstein's anomaly
- D. Coarctation of aorta

20. Which amongst these trials evaluated the success rates of different methods of lumbar puncture in neonates?

- A. GRIT
- B. TRUFFLE
- C. HELIX
- D. NEOCLEAR