

**NEONATOLOGY**

**PAPER – I**

**Time : 3 hours**  
**Max. Marks : 100**

**NEONAT/D/12/19/I**

**Attempt all questions in order.**  
**Each question carries 10 marks.**

1. Describe the embryopathology and prevention of neural tube defects? 7+3
2. Describe the salient points in reporting a clinical trial as per CONSORT statement? 10
3. How is body water distributed in pre-term and term neonates? Discuss the physiology of fluid balance in preterm neonates? 3+7
4. Discuss the endocrine basis of IUGR? 10
5. What are the markers of bilirubin toxicity in preterm infants? What is low bilirubin kernicterus? 6+4
6. Describe the controversies in defining hypoglycemia in neonates. How will you manage a neonate with refractory hypoglycemia? 6+4
7. Enumerate the causes of hyperammonemia in neonates. Discuss the management. 4+6
8. Discuss the role of sepsis screen in neonatal infections. 10
9. Discuss the physiology of neonatal thrombosis. Enumerate specific clinical conditions and their management. 4+6
10. Discuss the physiological basis of ECMO. Outline the indications, constraints and complications of ECMO. 2+(3+3+2)

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**PAPER – II**

Time : 3 hours  
Max. Marks : 100

NEONAT/D/12/19/II

Attempt all questions in order.  
Each question carries 10 marks.

1. Describe the mechanism of bilirubin neurotoxicity. 10
2. Discuss strategies for screening of congenital heart disease. 10
3. Write briefly about the mechanism of generation of free radicals in neonates. Discuss various disorders associated with free radical generation in neonates? 4+6
4. Outline ventilatory strategy in the following conditions: 4+3+3  
(a) MAS(meconium aspiration syndrome)  
(b) Hyaline membrane disease  
(c) Pulmonary hemorrhage
5. Discuss the salient issues in feeding of IUGR neonates. 10
6. Define congenital nephrotic syndrome and write a brief outline of its etiology and management. 2+3+5
7. Define and classify neonatal thrombocytopenia. Describe the diagnostic approach to a neonate with thrombocytopenia. (1+3)+6
8. Outline the rationale, dosage and precautions in use of lipids and amino acids in neonatal parenteral nutrition. 3+3+4
9. Define neonatal hypertension. Outline the diagnostic approach to a hypertensive neonate. 2+8
10. Discuss recent advances in management and prognostication of hypoxic ischemic injury in neonates. 6+4

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**PAPER – III**

**Time : 3 hours**  
**Max. Marks : 100**

**NEONAT/D/12/19/III**

**Attempt all questions in order.**  
**Each question carries 10 marks.**

1. Enumerate the causes of delayed passage of meconium. Describe the diagnosis of Hirschsprung's disease in neonates. 3+7
2. What is cord blood banking? Discuss definite indications of cord blood banking. 5+5
3. Discuss the etiology and diagnostic work up of a bleeding neonate. 3+7
4. Discuss the organization of neonatal transport services. 10
5. Describe the various tests for the antenatal assessment of gestation and discuss their utility. 4+6
6. Discuss the mechanism of action, toxicity and clinical usage of caffeine in neonates. 5+3+2
7. Classify retinopathy of prematurity and outline the steps of management for each stage. 6+4
8. Describe changes in muscle tone in fetus and during infancy. How is it assessed in neurodevelopment follow up in infancy? 5+5
9. What is osteopenia of prematurity? Outline risk factors, prevention and management of a case with osteopenia of prematurity. 2+(3+2+3)
10. What are the long term medical & neurodevelopmental challenges of VLBW neonates? 5+5

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