

**NEONATOLOGY**

**PAPER- I**

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

**NEONAT/D/11/19/I**

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

1. Describe the placental development, and discuss the endocrine and paracrine functions of the placenta. 4+3+3
2. What is evidence based medicine (EBM)? Describe strength of evidence and quality of evidence. Discuss importance of EBM in relation to neonatal resuscitation. 2+3+5
3. Describe the development of skin and discuss strategies for epidermal barrier maturation. 4+6
4. Write a note on retinal development with special emphasis on pathophysiology of Retinopathy of Prematurity (ROP) and discuss the management of ROP. 5+5
5. Tabulate the ontogenic time table of gut development and describe the neonatal gastrointestinal functions. 4+6
6. Describe the host defense mechanisms against fungi and discuss the management of fungal sepsis. 6+4
7. Describe neuronal migration and discuss disorders of neuronal migration. 5+5
8. Enumerate various modes used in echocardiography. Discuss the role of functional echocardiography in the neonatal intensive care unit. 3+7
9. What is meant by evaluation of a diagnostic test? Discuss the same in relation of 'Sepsis Screen' in neonates. 3+7
10. What is Biophysical Profile? Discuss the modalities to assess fetal well being. 3+7

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**PAPER- II**

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

**NEONAT/D/11/19/II**

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

1. Describe fetal circulation. Discuss the pathophysiology of persistent pulmonary hypertension in newborn. 4+6
2. Define perinatal asphyxia. Describe the pathophysiology and discuss recent advances in management of an asphyxiated neonate. 2+3+5
3. Discuss the antenatal markers of chromosomal disorders in fetus. 10
4. Describe the mechanisms of neonatal lung injury and discuss lung protective strategies in neonatal ventilation 5+5
5. What is the mechanism of bilirubin brain toxicity? List the clinical features of kernicterus and its MRI findings. 4+4+2
6. Define intra-uterine growth restriction (IUGR). Discuss clinical assessment of nutrition, and enumerate the short and long term complications associated with IUGR. 2+3+3+2
7. How would you clinically suspect Inborn Errors of Metabolism (IEM) in a neonate? Describe a stepwise investigative approach to diagnosis of IEM. 4+6
8. Describe transient disorders of thyroid function in neonates and discuss universal thyroid screening in new-born. 6+4
9. Discuss the prenatal diagnosis of Congenital Adrenal Hyperplasia (CAH). Enumerate steps of pre and post natal management of CAH. 5+2+3
10. Discuss the clinical presentation and treatment of gastro-esophageal reflux. 4+6

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**PAPER- III**

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

**NEONAT/D/11/19/III**

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

1. Describe levels of Neonatal Care. Discuss regionalization of neonatal care in public health system in India. 4+6
2. Describe the maturational changes in EEG in preterm and term neonates and discuss the role of cerebral function monitor in clinical practice. 4+3+3
3. Enumerate the causes and discuss the diagnostic approach to a case of obstructive uropathy. 3+7
4. Discuss the diagnosis, prevention and management of intraventricular hemorrhage in a preterm neonate. 3+3+4
5. Enumerate components of Janani Shishu Suraksha Karyakram (JSSK) and discuss its role in achieving Millennium Development Goals (MDG). 5+5
6. Describe assessment scale used for neurobehavioral assessment in newborn and discuss its significance. 6+4
7. Describe pain pathway. Discuss assessment and management of pain. 3+3+4
8. What is developmentally supportive care? Discuss the organization of developmentally supportive care in a resource poor setting. 4+6
9. Discuss challenges in diagnosis and management of Necrotizing Enterocolitis (NEC). Comment on status of probiotics in management—Issues and controversies. 5+5
10. Discuss issues in enteral feeding of very low birth weight neonates with special reference to nutritional supplements. 5+5

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