1. Describe the placental development, and discuss the endocrine and paracrine functions of the placenta.

2. What is evidence based medicine (EBM)? Describe strength of evidence and quality of evidence. Discuss importance of EBM in relation to neonatal resuscitation.

3. Describe the development of skin and discuss strategies for epidermal barrier maturation.

4. Write a note on retinal development with special emphasis on pathophysiology of Retinopathy of Prematurity (ROP) and discuss the management of ROP.

5. Tabulate the ontogenic time table of gut development and describe the neonatal gastrointestinal functions.

6. Describe the host defense mechanisms against fungi and discuss the management of fungal sepsis.

7. Describe neuronal migration and discuss disorders of neuronal migration.

8. Enumerate various modes used in echocardiography. Discuss the role of functional echocardiography in the neonatal intensive care unit.

9. What is meant by evaluation of a diagnostic test? Discuss the same in relation of ‘Sepsis Screen’ in neonates.

10. What is Biophysical Profile? Discuss the modalities to assess fetal well being.
NEONATOLOGY

PAPER-II

Time : 3 hours
Max. Marks : 100

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 gastroesophageal reflux. 4+6

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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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