

[LB 084]

AUGUST 2012

Sub. Code: 1454

D.M – NEONATOLOGY
Paper – IV COMMUNITY NEONATOLOGY,
RECENT ADVANCES
Q.P. Code: 161454

Time: 3 hours
(180 Min)

Maximum: 100 marks

Answer ALL questions in the same order.

I. Elaborate on:

Pages Time Marks
(Max.)(Max.)(Max.)

- | | | | |
|---|----|----|----|
| 1. Outcome and long term consequences of Preterm Babies. | 16 | 35 | 15 |
| 2. Describe an approach to a Neonate with Multiple Congenital Anomalies and Suggest ways to reduce birth of these babies. | 16 | 35 | 15 |

II. Write notes on:

- | | | | |
|--|---|----|---|
| 1. Role of interventional cardiology in Neonatology. | 4 | 10 | 7 |
| 2. Recent advances in fetal surgery. | 4 | 10 | 7 |
| 3. Neuroprotective strategies in HIE. | 4 | 10 | 7 |
| 4. Post Hemorrhagic Hydrocephalus. | 4 | 10 | 7 |
| 5. Non nutritive sucking. | 4 | 10 | 7 |
| 6. Significance of Neonatal Behavior. | 4 | 10 | 7 |
| 7. Handicaps of late preterm babies. | 4 | 10 | 7 |
| 8. Medical closure of Patent Ductus Arteriosus. | 4 | 10 | 7 |
| 9. Sensory issues affecting VLBW babies. | 4 | 10 | 7 |
| 10. Co surviving twin. | 4 | 10 | 7 |

(LD 084)

AUGUST 2013

Sub. Code:1454

D.M. – NEONATOLOGY
Paper – IV COMMUNITY NEONATOLOGY, NATIONAL MCH
PROGRAMMES, ALLIED DISCIPLINES, NEURO DEVELOPMENT FOLLOW
UP, RECENT ADVANCES, REHABILITATION ETC.,
Q.P.Code: 161454

Time: Three Hours

Maximum: 100 marks

I. Elaborate on:

(2X15=30)

1. Write notes on Dr.Muthulakshmi Reddy scheme and its impact on neonatal health in Tamilnadu.
2. Diagnostic approach to disorders of acid base balance and their management in a neonate.

II. Write notes on:

(10X7=70)

1. Tests for hearing screening of high risk neonates and interpretation brain stem evoked auditory response?
2. Adreno cortical axis in extremely low birth weight infants.
3. Antenatal markers of chromosomal disorders in foetus.
4. Role of magnetic resonance spectroscopy in neonatology.
5. Transcutaneous bilirubin measurement.
6. Merits and demerits of T-Piece Resuscitator.
7. Uses and limitations of the fetal biophysical profile.
8. Non-invasive assessment of lung volume.
9. Variables that can be manipulated during mechanical ventilation to improve oxygenation and ventilation in the neonate?
10. Verbal autopsy as a tool to investigate neonatal death.

D.M. – NEONATOLOGY

Paper – IV COMMUNITY NEONATOLOGY, NATIONAL MCH PROGRAMMES, ALLIED DISCIPLINES, NEURO DEVELOPMENT FOLLOW UP, RECENT ADVANCES, REHABILITATION ETC.,

Q.P.Code: 161454

Time: Three Hours

Maximum: 100 marks

I. Elaborate on:

(2X15=30)

1. Rashtriya Bal Suraksha Karyakram.
2. Evidences on the choice of devices for providing Positive pressure Ventilation in the delivery room.

II. Write notes on:

(10X7=70)

1. Newer surfactants.
2. Simulation based learning in neonatal resuscitation.
3. Current concepts in Immunoglobulin therapy.
4. Early initiation of breast feeding- practical difficulties and possible solutions.
5. Intravenous lipids in parenteral nutrition.
6. Complications of umbilical catheters.
7. VEGF inhibitors therapy in Retinopathy of prematurity.
8. How will you manage a baby born to mother with active chicken pox?
9. Heated humidified high flow nasal canula therapy (HHHFNC).
10. Multiple courses of antenatal corticosteroids.

D.M. – NEONATOLOGY

Paper IV – COMMUNITY NEONATOLOGY, NATIONAL MCH PROGRAMMES, ALLIED DISCIPLINES, NEURO DEVELOPMENT FOLLOW UP, RECENT ADVANCES, REHABILITATION ETC.,

Q.P.Code: 161454

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Multidisciplinary management of a high risk infant detected to have moderate neurodevelopmental handicap.
2. Role of foetal nurse in the delivery room in improvement of neonatal care.

II. Write notes on:

(10 x 7 = 70)

1. The changes in NRP guidelines in the last decade.
2. Benefits and disadvantages of patient triggered modes of ventilation.
3. Developmental dysplasia of hip.
4. Therapeutic hypothermia as a neuroprotective strategy.
5. Newer diagnostic markers for neonatal sepsis.
6. Cord blood banking.
7. Operationalization of SNCU.
8. Controversies in defining hypoglycaemia and management of refractory hypoglycaemia.
9. Usefulness of Partogram and barriers in implementing it.
10. Aplasia cutis congenita.

D.M. – NEONATOLOGY

Paper IV – COMMUNITY NEONATOLOGY, NATIONAL MCH PROGRAMMES, ALLIED DISCIPLINES, NEURO DEVELOPMENT FOLLOW UP, RECENT ADVANCES, REHABILITATION ETC.,

Q.P.Code: 161454

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Recent advances in surfactant therapy.
2. Neuro developmental supportive care in MCU and evidence for implication.

II. Write notes on:

(10 x 7 = 70)

1. Janani suraksha yojana.
2. Home based versus facility based neonatal care.
3. Nitric oxide therapy in preterm.
4. Complications of parenteral nutrition.
5. Prevention of vertical transmission of HIV infection.
6. Monitoring of cerebral function.
7. Phenobarbitone versus Levetiracetam in neonatal convulsions.
8. Human milk banking – advantages and problems.
9. Role of neuronal biomarkers for predicting outcome in perinatal asphyxia.
10. Management of vesicoureteric reflux.

D.M. – NEONATOLOGY

Paper IV – COMMUNITY NEONATOLOGY, NATIONAL MCH PROGRAMMES, ALLIED DISCIPLINES, NEURO DEVELOPMENT FOLLOW UP, RECENT ADVANCES, REHABILITATION ETC.,

Q.P.Code: 161454

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Describe methods of neurodevelopmental therapy. Outline the scientific principles governing them. Describe the measures that can be taken to improve the feeding experience of a spastic infant.
2. The government wishes to take immediate steps to reduce neonatal-perinatal mortality in the state by establishing special care newborn units across the state in order to achieve this aim over a period of 5 years. Discuss the process of development, building up capacity and services, as well as supervision and evaluation of such special care newborn units.

II. Write notes on:

(10 x 7 = 70)

1. What are postural reflexes? Enumerate and describe them.
2. Human milk banking guidelines.
3. Define 'transient dystonia of the preterm' and 'tonic labyrinthine reflex'. Describe measures for positioning an infant with tonic labyrinthine reflex.
4. Universal newborn hearing screening in developing countries.
5. Antimicrobial prophylaxis for children with genitourinary anomalies.
6. Resuscitation of infants born through meconium stained amniotic fluid – current evidence.
7. Neurally adjusted ventilatory assist.
8. Foetal growth restriction and its relation to health among adolescents.
9. Screening for neonatal hypothyroidism.
10. Post-discharge growth of extremely low birth weight neonates.

D.M. – NEONATOLOGY

Paper IV – COMMUNITY NEONATOLOGY, NATIONAL MCH PROGRAMMES, ALLIED DISCIPLINES, NEURO DEVELOPMENT FOLLOW UP, RECENT ADVANCES, REHABILITATION ETC.,

Q.P.Code: 161454

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Enumerate the standard measures available for neurodevelopmental assessment of a neonate. Describe TWO standard assessments in detail. Critique the available assessments from the perspective of psychometric properties, ease of performance, motor predictability and feasibility in a secondary care centre.
2. Describe the process and priorities towards establishing screening programmes to screen for a variety of congenital disorders in newborn infants in developing countries.

II. Write notes on:

(10 x 7 = 70)

1. Restrictive versus liberal fluid therapy in neonates.
2. Describe the importance of early nutrition in later outcomes in preterm infants using current literature evidence.
3. Nasal high frequency ventilation.
4. Down Syndrome: antenatal and postnatal radio imaging and diagnosis.
5. Changes in preterm breast milk composition with advancing infant age.
6. Training health care professionals in performing neonatal intubation.
7. Twin to twin transfusion syndrome and outcomes.
8. Smoking and pregnancy.
9. Volume guarantee ventilation.
10. Role of caffeine in neonatal medicine : recent evidence.

(LM 084)

FEBRUARY 2018

Sub. Code: 1454

D.M. – NEONATOLOGY

Paper IV – COMMUNITY NEONATOLOGY, NATIONAL MCH PROGRAMMES, ALLIED DISCIPLINES, NEURO DEVELOPMENT FOLLOW UP, RECENT ADVANCES, REHABILITATION ETC.,

Q.P.Code: 161454

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Hypoxic – ischemic encephalopathy and novel strategies for neuroprotection.
2. The reproductive, maternal, child and adolescent Health programme in India (RMNCH + A).

II. Write notes on:

(10 x 7 = 70)

1. Pressure support ventilation - merits and demerits.
2. Use of Recombinant Leukocyte Growth factors for neonatal neutropenia.
3. Prevention of congenital malformations.
4. Principles and patterns of drug transfer in pregnancy and lactation.
5. Strategies to prevent invasive Candida infection in extremely preterm infants.
6. Controversies in trophic and nutritional feeding of preterm babies.
7. Scientific evidence for the use of kangaroo mother care in LBW babies.
8. Metabolic bone disease of prematurity.
9. Evaluation of a baby with hydrocephalous.
10. Bayley scale of Infant and toddler development III.

D.M. – NEONATOLOGY

Paper IV – COMMUNITY NEONATOLOGY, NATIONAL MCH PROGRAMMES, ALLIED DISCIPLINES, NEURO DEVELOPMENT FOLLOW UP, RECENT ADVANCES, REHABILITATION ETC.,

Q.P.Code: 161454

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Discuss in detail the concept, status and implementation of Home based Newborn care in India. Remark on relevant health programs and personnel in this regard.
2. Enumerate and discuss the evidences on the newer strategies for improvement of Neurodevelopment outcomes in Preterm infants.

II. Write notes on:

(10 x 7 = 70)

1. Aerosol delivery in ventilated neonates.
2. Autologous transfusions in Newborn infants – Challenges and controversies.
3. Discuss the contribution of SNCUs in reducing neonatal mortality.
4. Newer drug delivery systems.
5. Cord Blood Banking – evidence and recommendations.
6. Role of Cerebral Function Monitoring in Therapeutic Hypothermia.
7. Liquid ventilation in neonates.
8. Resuscitation with Intact Placental Circulation.
9. Strategies to improve collection and storage in Human Milk Banks.
10. Bailey neurodevelopmental assessment vs DDST.

D.M. – NEONATOLOGY

Paper IV – COMMUNITY NEONATOLOGY, NATIONAL MCH PROGRAMMES, ALLIED DISCIPLINES, NEURO DEVELOPMENT FOLLOW UP, RECENT ADVANCES, REHABILITATION, ETC.,

Q.P. Code: 161454

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Write an essay on fetal therapy. Write a brief description of the EXIT procedure.
2. India newborn action plan (INAP). Detail the causes of stillbirths and steps to reduce stillbirth rate.

II. Write notes on:

(10 x 7 = 70)

1. Newer diagnostic tests in neonatal sepsis.
2. Fetal origins of adult disease.
3. Less invasive Surfactant administration.
4. Target oxygen saturation in preterm babies- Evidence.
5. Developmental dysplasia of the hip.
6. Management of perinatal H1N1 infection.
7. Chief Minister's Comprehensive Health Insurance Scheme.
8. Fetal growth restriction (FGR).
9. Antenatal steroids- Indications and controversies in use.
10. Advantages of Kangaroo Mother Care.

D.M. – NEONATOLOGY

Paper IV – COMMUNITY NEONATOLOGY, NATIONAL MCH PROGRAMMES, ALLIED DISCIPLINES, NEURO DEVELOPMENT FOLLOW UP, RECENT ADVANCES, REHABILITATION ETC.,

Q.P. Code: 161454

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Discuss in detail Gestation Age based pattern of Neurodevelopment and maturation, principles behind them and discuss the clinical methods in use to assess neuro-maturation.
2. What is prenatal mortality rate (PMR)? What are the factors determining PMR? Outline a plan to reduce PMR in your State.

II. Write notes on:

(10 x 7 = 70)

1. Heart rate variability monitoring in NICU.
2. Point of Care tools in Neonatology.
3. Microbiology in Human Milk Banking.
4. Auditory testing for Preterm NICU graduates.
5. Implementation of Quality Improvement Projects in SNCUs.
6. Evidences on Early markers of Preterm delivery.
7. Withdrawing or withholding of life sustaining therapies (WWLST).
8. Synthetic surfactants for RDS.
9. Checklists for Follow up Programme for High Risk Neonates.
10. Hybrid modes in Neonatal Ventilation.

(LR 084)

NOVEMBER 2020
(AUGUST 2020 SESSION)

Sub. Code: 1454

D.M. – NEONATOLOGY

Paper IV – COMMUNITY NEONATOLOGY, NATIONAL MCH PROGRAMMES, ALLIED DISCIPLINES, NEURO DEVELOPMENT FOLLOW UP, RECENT ADVANCES, REHABILITATION ETC.,

Q.P. Code: 161454

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Rashtriya Bal Swasthya Karyakram (RBSK), Describe the structure and function of District Early Intervention Centres (DEIC).
2. Describe the changes in muscle tone in fetus and during infancy and how it is assessed in neuro developmental follow up.

II. Write notes on:

(10 x 7 = 70)

1. Home based versus facility based newborn care.
2. Describe the role of artificial intelligence in neonatology.
3. Developmentally supportive care for newborn.
4. Describe the levels of newborn care and requirements of level III care.
5. Recent advances in management of broncho pulmonary dysplasia.
6. Discuss prophylactic therapies in vogue in preterm care and the current evidences for them.
7. Role of smart phone Apps in neonatology and Tele-neonatology.
8. Growth charts for neonatal use and their utility.
9. Describe management of 'inadequate milk' in breast feeding and role of breast milk bank.
10. Newborn screening by dried blood spot.

(DM 0821)

AUGUST 2021

Sub. Code: 1454

D.M. – NEONATOLOGY

Paper IV – COMMUNITY NEONATOLOGY, NATIONAL MCH PROGRAMMES, ALLIED DISCIPLINES, NEURO DEVELOPMENT FOLLOW UP, RECENT ADVANCES, REHABILITATION ETC.,

Q.P. Code: 161454

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Targeted oxygen in the resuscitation of preterm infants: discuss the current evidence.
2. Discuss perinatal transmission of HIV and recent guidelines on prevention.

II. Write notes on:

(10 x 7 = 70)

1. Umbilical cord blood banking.
2. Foetal therapy.
3. General body movement assessment tool in high risk infants.
4. Newer methods of surfactant delivery in Newborn Infants.
5. Home based newborn care (HBNC).
6. 'Rashtriya bal swasthya karyakram' (RBSK).
7. Cord blood stem cell banking-scopes and limitations.
8. Non-inferiority trials.
9. Resuscitation with intact placental circulation.
10. Neuro developmental outcome of acute bilirubin encephalopathy.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[DM 0222]

FEBRUARY 2022

Sub.Code :1454

D.M. – NEONATOLOGY

Paper IV – COMMUNITY NEONATOLOGY, NATIONAL MCH PROGRAMMES, ALLIED DISCIPLINES, NEURO DEVELOPMENT FOLLOW UP, RECENT ADVANCES, REHABILITATION ETC.,

Q.P. Code: 161454

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Discuss Janani Suraksha Yojana (JSY) and Janani Shishu Suraksha Karyakram (JSSK) programmes.
2. Describe the multidisciplinary management of a high risk neonate with moderate neurodevelopmental handicap.

II. Write notes on:

(10 x 7 = 70)

1. Human milk fortification- Types and Challenges.
2. Role of prebiotics and probiotics with evidence.
3. Discuss common Birth defects and National birth defects registry.
4. Fetal stem cell therapy and the advancements.
5. Status of breast feeding in India and strategies for improving breast feeding rates in India.
6. N95 masks and other masks.
7. Describe levels of neonatal care and discuss regionalization of neonatal care in health system in India.
8. Volume-targeted versus pressure-limited ventilation in the neonate.
9. Verbal Autopsy for investigating neonatal death.
10. Learning neonatal resuscitation by simulation technique.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[DM 0822]

AUGUST 2022

Sub. Code :1454

D.M. – NEONATOLOGY

Paper IV – COMMUNITY NEONATOLOGY, NATIONAL MCH PROGRAMMES, ALLIED DISCIPLINES, NEURO DEVELOPMENT FOLLOW UP, RECENT ADVANCES, REHABILITATION ETC.,

Q.P. Code: 161454

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. List the physiologic effect, types, indication and major components of CPAP. Discuss briefly the role of CPAP as respiratory support in Meconium aspiration syndrome with evidence.
2. List the Objectives of Home based Newborn Care (HBNC). Write briefly on the key activities in HBNC.

II. Write notes on:

(10 x 7 = 70)

1. Physiology of Non-invasive positive pressure ventilation (NIPPV).
Mention its clinical uses and newer concepts of synchronized NIPPV.
2. Synthetic surfactant.
3. MusQan initiative of National Health Mission.
4. Discuss briefly the evidence-based changes in the 8th edition of Neonatal Resuscitation Protocol by AAP and AHA.
5. Closed loop automated oxygen control in neonates.
6. Comparative genomic hybridization (Chromosomal Micro array).
7. Renal replacement therapy.
8. Biochemical features of osteopenia of prematurity.
9. Developmental dysplasia of Hip in Newborn.
10. Controversies in the practice of antenatal steroids in preterm labour.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[DM 0823]

AUGUST 2023

Sub. Code :1454

D.M. – NEONATOLOGY

PAPER IV – COMMUNITY NEONATOLOGY, NATIONAL MCH PROGRAMMES, ALLIED DISCIPLINES, NEURO DEVELOPMENT FOLLOW UP, RECENT ADVANCES, REHABILITATION ETC.,

Q.P. Code: 161454

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Discuss about the quality improvement initiative to improve neonatal care in NICUs. Write briefly about National Quality Assurance Standard (NQUAS).
2. Enumerate and discuss on the newer strategies for the improvement of Neurodevelopment outcomes in Preterm infants.

II. Write notes on:

(10 x 7 = 70)

1. Epidermolysis bullosa.
2. Neonatal MRI in predicting early childhood neuro developmental outcomes.
3. Vasopressin as an inotrope in Neonates.
4. Probiotics in NNEC, recent evidences.
5. Aseptic Non-touch Techniques (ANTT) in reduction of Health care associated infection.
6. Role of Next Generation Sequencing (NGS) in Newborn screening.
7. Transcutaneous bilirubinometer.
8. Benefits of Volume Guarantee in high frequency oscillatory ventilation.
9. Management of invasive fungal sepsis in Newborn.
10. Write a note on the “Omics” approach in the management of Bronchopulmonary dysplasia.

THE TAMIL NADU DR. M.G.R. MEDICAL UNIVERSITY

[DM 0124]

JANUARY 2024

Sub. Code :1454

D.M. – NEONATOLOGY

PAPER IV – COMMUNITY NEONATOLOGY, NATIONAL MCH PROGRAMMES, ALLIED DISCIPLINES, NEURO DEVELOPMENT FOLLOW UP, RECENT ADVANCES, REHABILITATION ETC.,

Q.P. Code: 161454

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. What are the four major components of 'Rashtriya Bal Swasthya Karyakram (RBSK) program and describe in detail the structure and function of 'District Early Intervention Centres' (DEIC).
2. Discuss Multidisciplinary management of a high risk infant detected to have moderate neuro developmental handicap.

II. Write notes on:

(10 x 7 = 70)

1. Developmental Assessment Scales for Indian Infants (DASII).
2. Family centered care in Neonatal Intensive Care Unit.
3. Umbical cord blood banking: utility and controversies.
4. Mother's Absolute Affection (MAA) Program and Baby Friendly Hospital Initiative (BFHI).
5. Role of Smartphone Apps in Neonatology and Tele-neonatology.
6. Universal newborn screening and feasibility.
7. Discuss management of 'Not enough Milk' in Breast feeding and a note on Breast milk bank.
8. Newer drug delivery systems.
9. Recent advances in fetal surgery.
10. What is the principle of a pulse oximeter and the recent advancements in it?
