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

[DM 0822] AUGUST 2022 Sub. Code :1506

D.M. – PAEDIATRIC NEUROLOGY

Paper I – BASIC SCIENCES (CONSISTING OF NEURO ANATOMY, NEURO-PHYSILOGY, NEURO CHEMISTRY, NEURO PATHOLOGY, NEURO PHARMACOLOGY, NEURO MICROBILOGY, PARASITOLOGY, IMMUNOLOGY, EPIDEMIOLOGY AND GENETICS

Q.P. Code: 161506

Time: Three Hours **Maximum: 100 Marks**

I. Elaborate on: **(2 x 15 = 30)**

1. Discuss the structure and function of the neuromuscular junction and briefly mention the clinical significance.

2. Describe the mechanisms involved in the control of micturition.

II. Write notes on: **(10 x 7 = 70)**

1. Commissural fibers of the brain.
2. Transgenic mice in neural development studies.
3. Neurobiology of ADHD.
4. The respiratory chain and mitochondrial complexes.
5. Anatomy of cerebral sinovenous circulation.
6. Anti-dystonia medications.
7. Folic acid and neurology.
8. Visual pathway.
9. Cobalamin metabolism.
10. Pathophysiology of neonatal seizures.

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

[DM 0124] JANUARY 2024 Sub. Code :1506

D.M. – PAEDIATRIC NEUROLOGY

PAPER I – BASIC SCIENCES
(CONSISTING OF NEURO ANATOMY, NEURO-PHYSILOGY, NEURO CHEMISTRY, NEURO PATHOLOGY, NEURO PHARMACOLOGY, NEURO MICROBILOGY, PARASITOLOGY, IMMUNOLOGY, EPIDEMIOLOGY AND GENETICS)

Q.P. Code: 161506

Time: Three Hours **Maximum: 100 Marks**

I. Elaborate on: **(2 x 15 = 30)**

1. Cross-section of Spinal Cord.
2. Pathophysiology of Super-refractory Status Epilepticus **.**

II. Write notes on: **(10 x 7 = 70)**

1. Sanger Sequencing.
2. Triple repeats.
3. Blood supply of Internal Capsule.
4. F-waves.
5. H-Reflux.
6. Monoclonal antibodies.
7. Fenfluramine.
8. Transgenic mice in neural development studies.
9. Identification of various stages of bleeding in the MRI of the brain.
10. Role of CT vs MRI of the brain in Intensive care unit.

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

[DM 0824] **AUGUST 2024** **Sub. Code :1506**

D.M. – PAEDIATRIC NEUROLOGY

PAPER I – BASIC SCIENCES
(CONSISTING OF NEURO ANATOMY, NEURO-PHYSILOGY, NEURO CHEMISTRY, NEURO PATHOLOGY, NEURO PHARMACOLOGY, NEURO MICROBILOGY, PARASITOLOGY, IMMUNOLOGY, EPIDEMIOLOGY AND GENETICS)

Q.P. Code: 161506

Time: Three Hours **Maximum: 100 Marks**

I. Elaborate on: **(2 x 15 = 30)**

1. Discuss the pathway of the optic nerve, examination of the same with localisation of lesions.

2. Discuss role of the basal ganglia in movement disorders.

II. Write notes on: **(10 x 7 = 70)**

1. Normal developmental of a child in different domains from 6 to 12 months of age.
2. Developmental reflexes in a term infant.
3. Cerebrospinal fluid formation.
4. Functional connectivity of the brain in autism spectrum disorders.
5. Chromosomal microarray.
6. Phenylalanine and monoamine metabolism.
7. Long-chain polyunsaturated fatty acids in brain development.
8. Neural tube development.
9. Pain pathway.
10. Sleep physiology in Children.

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

[DM 0225] **FEBRUARY 2025** **Sub. Code :1506**

D.M. – PAEDIATRIC NEUROLOGY

PAPER I – BASIC SCIENCES (CONSISTING OF NEURO ANATOMY, NEURO PHYSILOGY, NEURO CHEMISTRY, NEURO PATHOLOGY, NEURO PHARMACOLOGY, NEURO MICROBILOGY, PARASITOLOGY, IMMUNOLOGY, EPIDEMIOLOGY AND GENETICS)

Q.P. Code: 161506

Time: Three Hours **Maximum: 100 Marks**

I. Elaborate on: **(2 x 15 = 30)**

1. Discuss the pathway of the optic nerve, examination of the same with localisation of lesions.

2. Discuss the role of the basal ganglia in movement disorders.

II. Write notes on: **(10 x 7 = 70)**

1. Normal development of a child in different domains from 6 to 12 months of age.
2. Developmental reflexes in a term infant.
3. Cerebrospinal fluid formation.
4. Functional connectivity of the brain in autism spectrum disorders.
5. Chromosomal microarray.
6. Phenylalanine and monoamine metabolism.
7. Long-chain polyunsaturated fatty acids in brain development.
8. Therapeutic drug monitoring for anti-seizure medications.
9. Anatomy of the craniovertebral junction.
10. Apgar score and clinical significance.

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

[DM 0126] JANUARY 2026 Sub. Code :1506

D.M. – PAEDIATRIC NEUROLOGY

PAPER I – BASIC SCIENCES
(CONSISTING OF NEURO ANATOMY, NEURO PHYSILOGY, NEURO CHEMISTRY, NEURO PATHOLOGY, NEURO PHARMACOLOGY, NEURO MICROBILOGY, PARASITOLOGY, IMMUNOLOGY, EPIDEMIOLOGY AND GENETICS)

Q.P. Code: 161506

Time: Three Hours **Maximum: 100 Marks**

I. Elaborate on: **(2 x 15 = 30)**

1. Describe the primitive reflexes and postural reactions and their importance in the neurodevelopmental examination of an infant.

2. Discuss the process involved in the formation of cortical development and the major malformations that can occur.

II. Write notes on: **(10 x 7 = 70)**

1. Anomalies of the fontanel.
2. Voltage gated sodium channels and related neurological disorders.
3. Ras-MAPK signaling pathway.
4. Cobalamin metabolism.
5. Pathophysiology defects leading to epilepsy.
6. Cannabidiol.
7. The vertebral-basilar posterior circulation arterial system.
8. Drugs for treating Dystonia in children and their mechanism of actions.
9. Role of Multiplex ligation -dependent probe amplification (MLPA) in diagnosis of neurological disorders in children.
10. Opportunistic brain infections in primary immune deficiency.

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