

(LH 035)

AUGUST 2015

Sub. Code: 1572

M.Ch. – NEURO SURGERY

THREE YEARS COURSE

Paper IV – OPERATIVE NEURO SURGERY AND RECENT ADVANCES

Q.P.Code: 181572

Time: Three Hours

Maximum: 100 Marks

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

1. Discuss in detail the principle on which the neuroendoscope works. Describe how you will perform a neurosurgical procedure with an endoscope and clinical application of intra cranial and intra spinal endoscopy.
2. Surgical management of brain and spinal metastatic disease.

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

1. Radiotherapy of gliomas.
2. Diffuse axonal injury.
3. Stereotaxic surgery – principles and application.
4. Tethered cord syndrome.
5. Classify fractures of spine and discuss on the clinical features and management.
6. Colloid cyst of third ventricle.
7. Bipolar coagulation.
8. Thromboembolism in neurosurgery.
9. Hyponatremia.
10. Blood transfusion reactions and complications.

(LJ 035)

AUGUST 2016

Sub. Code: 1572

M.Ch. – NEURO SURGERY
THREE YEARS COURSE – Final – Paper - IV /
SIX YEARS COURSE – Part III – Paper II
OPERATIVE NEURO SURGERY AND RECENT ADVANCES

Q.P.Code: 181572

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Discuss briefly about the role of Neuroendoscopy.
2. Discuss briefly about Modern Neurosurgical approaches in skull base lesion.

II. Write notes on:

(10 x 7 = 70)

1. Immunotherapy of Brain tumors.
2. Newer antiepileptic drugs.
3. Cranioplasty.
4. Gama knife.
5. Disability evaluation.
6. Functional MRI.
7. Deep Brain stimulation.
8. Monitoring in Neurosurgical ICU.
9. Neuronavigation.
10. Recent advances in management of CSF leak.

(LK 035)

FEBRUARY 2017

Sub. Code: 1572

M.Ch. – NEURO SURGERY
THREE YEARS COURSE – Final – Paper - IV /
SIX YEARS COURSE – Part III – Paper - II
OPERATIVE NEURO SURGERY AND RECENT ADVANCES

Q.P.Code: 181572

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Classify tumors of pituitary gland.
Discuss the pathology, clinical features, management of lesions of pituitary gland with detailed description of the various surgical approaches.
2. Write in detail on endovascular neurosurgery, pre-procedural evaluation, methodology, complication avoidance and application in various fields of neurosurgery.

II. Write notes on:

(10 x 7 = 70)

1. C2 fracture – axis fracture.
2. Cavitron Ultrasonic Suction Aspirator.
3. Walter Dandy.
4. Indications and steps of anterior cervical discectomy.
5. Fibrin glue.
6. Spinal abscess.
7. Cerebral Edema.
8. Acute subdural hematoma.
9. Dandy walker malformation.
10. Three pin head fixator.

(LL 035)

AUGUST 2017

Sub. Code: 1572

M.Ch. – NEURO SURGERY
THREE YEARS COURSE – Final – Paper - IV /
SIX YEARS COURSE – Part III – Paper - II
OPERATIVE NEURO SURGERY AND RECENT ADVANCES

Q.P.Code: 181572

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Classify lesions affecting pineal gland.
Discuss the pathology, clinical features and surgical approaches and management of pineal lesions.
2. Surgical management of cerebellar tumor in children.

II. Write notes on:

(10 x 7 = 70)

1. Syringomyelia.
2. Extra dural hematoma.
3. Neurosurgical aspects of HIV 1 infection.
4. Somatosensory evoked potential.
5. Harvey Cushing.
6. Laser in Neurosurgery.
7. Endoscopic discectomy.
8. Meralgia paraesthetica.
9. Malignant Hypertension.
10. Hypothalamic hamartoma.

(LM 035)

FEBRUARY 2018

Sub. Code: 1572

M.Ch. – NEURO SURGERY
THREE YEARS COURSE – Final – Paper - IV /
SIX YEARS COURSE – Part III – Paper - II
OPERATIVE NEURO SURGERY AND RECENT ADVANCES

Q.P.Code: 181572

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Discuss about modern spinal stabilization methods.
2. Real time Neuronavigation.

II. Write notes on:

(10 x 7 = 70)

1. EC-IC bypass.
2. Aneurysm clipping-merits and demerits.
3. Neurological Manifestations of AIDS.
4. Transcranial Doppler.
5. Surgical management of Pituitary tumors.
6. Hypertonic saline in Neurosurgery.
7. Functional Neurosurgery.
8. List the methods of determining the motor cortex in MRI with notes on intra-operative localization of motor cortex.
9. Father of Modern Neurosurgery.
10. Trapped fourth ventricle.

(LN 035)

AUGUST 2018

Sub. Code: 1572

M.Ch. – NEURO SURGERY
THREE YEARS COURSE – Final – Paper - IV /
SIX YEARS COURSE – Part III – Paper - II
OPERATIVE NEURO SURGERY AND RECENT ADVANCES

Q.P.Code: 181572

Time: Three Hours

Maximum: 100 Marks

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

1. Describe the recent advances in the management of Neurotrauma.
2. Classify clival lesions. Discuss the pathology, clinical features and management of clival chordomas.

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

1. Optic nerve gliomas.
2. Complications of transsphenoidal surgeries.
3. Carotid endarterectomy.
4. Endoscopic third ventriculostomy.
5. Differential diagnosis of cerebellopontine angle lesions.
6. Management of spasticity.
7. Colloid cyst of third ventricle.
8. Mesial temporal sclerosis.
9. Japanese ortho association score for grading cervical compressive myelopathy.
10. Differentiate cerebral salt wasting syndrome from diabetes insipidus.

(LO 035)

FEBRUARY 2019

Sub. Code: 1572

M.Ch. – NEURO SURGERY
THREE YEARS COURSE – Final – Paper - IV /
SIX YEARS COURSE – Part III – Paper - II
OPERATIVE NEURO SURGERY AND RECENT ADVANCES

Q.P. Code: 181572

Time: Three Hours

Maximum: 100 Marks

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

1. Classify craniopharyngiomas radiologically and discuss the various approaches to surgical excision of craniopharyngioma.
2. Discuss in detail the pathogenesis of split cord malformation and its management.

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

1. Current concepts of hypothermia in managing traumatic brain injury.
2. Carpal tunnel syndrome.
3. Differences between neurofibroma and schwannoma.
4. Nascis trials.
5. Advantages of endoscopic removal over microscopic removal of pituitary adenoma.
6. Neurocysticercosis.
7. Trigeminal neuralgia.
8. Radionecrosis. Differentiate radionecrosis from recurrence of glioma.
9. Chronic sub dural hematoma membranes.
10. Selective amygdalohippocampectomy.

(LP 035)

AUGUST 2019

Sub. Code: 1572

M.Ch. – NEURO SURGERY

THREE YEARS COURSE – Final – Paper - IV /

SIX YEARS COURSE – Part III – Paper - II

OPERATIVE NEURO SURGERY AND RECENT ADVANCES

Q.P. Code: 181572

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Discuss intramedullary spinal cord tumors and its management. How will you manage intraoperative spinal cord bulge?
2. Endovascular neurosurgery for AVMs.

II. Write notes on:

(10 x 7 = 70)

1. Brain oedema and its management.
2. Immunohistochemical markers in brain tumors and its significance.
3. Cranioplasty.
4. Newer Antiepileptic Drugs.
5. Foetal Neurosurgery.
6. Growing skull fracture.
7. Prolactinoma.
8. Management of 5mm colloid cyst in an 30yrs female.
9. Neuronavigation in spinal surgery.
10. Neuroendoscopy in Cerebello pontine angle tumors.

(LR 035)

NOVEMBER 2020
(AUGUST 2020 SESSION)

Sub. Code: 1572

M.Ch. – NEURO SURGERY
THREE YEARS COURSE – Final – Paper - IV /
SIX YEARS COURSE – Part III – Paper - II
OPERATIVE NEURO SURGERY AND RECENT ADVANCES

Q.P. Code: 181572

Time: Three Hours

Maximum: 100 Marks

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

1. Enumerate the various surgical approaches to the pineal region. Discuss in detail with neatly labelled diagrams the factors that influence the choice of surgical approach for a lesion in the pineal region.
2. Discuss in detail the setting up of a neurosurgical operating room and the precautions to be taken by the neurosurgical team in the operating room in the current situation of Covid 19 pandemic.

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

1. Discuss briefly the management options for Von hippel lindau disease
2. Arterial spin labelling MR perfusion imaging
3. Write briefly about stereotactic radiosurgery for brain AVMs
4. Recent advances in deep brain stimulation for Parkinson's disease.
5. Intra-operative facial nerve monitoring
6. Management of pseudo meningocele following lumbar disc surgery
7. Recent advances in imaging for CSF rhinorrhoea
8. Dynamic spine stabilisation
9. Neuro-otological work up of a patient with vestibular schwannoma
10. Discuss the various sites of burrhole and the trajectory from each burrhole to cannulate lateral ventricle for placement of cranial end in ventriculo peritoneal shunt.

(MCH 0821)

AUGUST 2021

Sub. Code: 1572

M.Ch. – NEURO SURGERY
THREE YEARS COURSE – Final – Paper - IV /
SIX YEARS COURSE – Part III – Paper - II
OPERATIVE NEURO SURGERY AND RECENT ADVANCES

Q.P. Code: 181572

Time: Three Hours

Maximum: 100 Marks

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

1. Discuss in detail the operative approaches to the terminal basilar artery.
2. Discuss in detail the indication, surgical techniques, relevant anatomy and complications of endoscopic third ventriculostomy.

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

1. Diffuse tensor imaging and MR fibre tractography.
2. Clinical features and management of growth hormone secreting pituitary adenoma.
3. Neuroimaging and biomarkers workup of pineal region tumours.
4. Surgical management for MOYAMOYA disease.
5. Draw a labelled diagram of the ligamentous anatomy of the midline sagittal plane of craniovertebral junction.
6. Draw a labelled diagram of lumbosacral plexus.
7. Pupillary examination in Horner's syndrome.
8. UMN Foot drop.
9. Intra-operative neuro monitoring.
10. Imaging classification of cranial sub arachnoid bleed.

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

[MCH 0222]

FEBRUARY 2022

Sub.Code :1572

M.Ch. – NEURO SURGERY

THREE YEARS COURSE – Final – Paper - IV /

SIX YEARS COURSE – Part III – Paper - II

OPERATIVE NEURO SURGERY AND RECENT ADVANCES

Q.P. Code: 181572

Time: Three Hours

Maximum: 100 Marks

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

1. Classify low grade gliomas and discuss the management of low grade glioma in a eloquent cortex with a note on intraoperative neuromonitoring.
2. Discuss in detail about pathogenesis and management of AV malformations.

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

1. Amygdalohippocampectomy.
2. ISAT.
3. Functional MRI.
4. Carotid endarterectomy.
5. Recent classification of medulloblastomas.
6. Giant aneurysm.
7. Endoscopic third ventriculostomy.
8. Blood patch.
9. Adjuvant treatment of glioblastoma multiforme.
10. OLIF.

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

(MCH 0822)

AUGUST 2022

Sub. Code: 1572

M.Ch. – NEURO SURGERY

THREE YEARS COURSE – Final – Paper - IV

SIX YEARS COURSE – Part III – Paper - II

OPERATIVE NEURO SURGERY AND RECENT ADVANCES

Q.P. Code: 181572

Time: Three Hours

Maximum: 100 Marks

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

1. Describe the lateral ventricular tumours and various surgical approaches to each locations.
2. Describe about sellar and suprasellar Craniopharngioma and discuss about different corridor and surgical approaches to this lesion.

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

1. External ventricular drainage.
2. Anterior cervical dissection and fusion.
3. Cavitron ultrasonic aspirator.
4. Colloid cyst.
5. Arteriovenous malformation of brain- classification and management Protocol.
6. Minimally invasive spine surgery.
7. Carpel tunnel syndrome.
8. Stereotactic radiosurgery.
9. Surgical management for scaphocephaly.
10. Preoperative tumour embolization.

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

(MCH 0124)

JANUARY 2024

Sub. Code: 1572

M.Ch. – NEURO SURGERY

THREE YEARS COURSE – FINAL – PAPER - IV

SIX YEARS COURSE – PART III – PAPER - II

OPERATIVE NEURO SURGERY AND RECENT ADVANCES

Q.P. Code: 181572

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Discuss the types of chiari malformations and add a note on surgical management of chiari malformations.
2. Discuss the classification, clinical features, investigation and various surgical approaches of a clinoidal meningioma.

II. Write notes on:

(10 x 7 = 70)

1. Hypothalamic gliomas.
2. Microlumbar discectomy.
3. Vasospasm management.
4. Cavernoma.
5. Non-dominant temporal lobe lesions.
6. Odontoidectomy.
7. Hemostasis in neurosurgery.
8. Cranial prosthesis.
9. Tumour markers.
10. Vertebroplasty.

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

(MCH 0825)

AUGUST 2025

Sub. Code: 1572

**M.Ch. BRANCH II – NEURO SURGERY
THREE YEARS COURSE – FINAL – PAPER - IV
SIX YEARS COURSE – PART III – PAPER - II
OPERATIVE NEURO SURGERY AND RECENT ADVANCES**

Q.P. Code: 181572

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Discuss the operative anatomy and various craniometric lines of CVJ. Write briefly on the management of occipito-atlantal dislocation.
2. A 24-year-old female from a low socioeconomic group has come to OPD with sudden onset of right sided weakness and had one episode of complex partial seizures. Discuss the differential diagnosis and add a brief note on management of Brain abscess.

II. Write notes on:

(10 x 7 = 70)

1. Cervical braces.
2. Immunotherapy of brain tumours.
3. NIH Stroke scale.
4. Jackson's syndrome.
5. Juvenile pilocytic astrocytoma.
6. Petrosal craniotomy.
7. Pseudo aneurysms.
8. Lumboperitoneal shunt.
9. Carotid endarterectomy.
10. Caroticocavernous fistula.

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

(MCH 0126)

JANUARY 2026

Sub. Code: 1572

M.Ch. – NEURO SURGERY

THREE YEARS COURSE – FINAL – PAPER - IV

SIX YEARS COURSE – PART III – PAPER - II

OPERATIVE NEURO SURGERY AND RECENT ADVANCES

Q.P. Code: 181572

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Microsurgical anatomy and surgical approaches to Anterior 3rd Ventricular tumor.
2. Classification, Clinical features and management of CV Junction anomalies.

II. Write notes on:

(10 x 7 = 70)

1. Cisternostomy.
2. Diffusion tensor imaging.
3. Intra-operative Neuro-monitoring.
4. Recent advances in Epilepsy Surgery.
5. Chiari I Malformation.
6. Unilateral Biportal Endoscopy
7. 360° Fusion.
8. Telovelar approach.
9. Microneuro surgery.
10. Kawase approach.
