

APRIL - 2001

[KD 032]

Sub. Code : 1562

M.Ch. DEGREE EXAMINATION

(Higher Specialities)

Branch II — Neurosurgery

(New and Revised Regulations for 5 Years Course)

Part II

**Paper II — NEUROCHEMISTRY AND
NEUROPATHOLOGY**

Time : Three hours

Maximum : 100 marks

1. Describe production and circulation of cerebrospinal fluid in brief and discuss pathophysiology of primary (idiopathic) intracranial hypertension. (25)
2. Discuss bio-chemical and pathological changes in traumatic brain injury. (25)
3. Write short notes on : (5 × 10 = 50)
 - (a) Carotico-cavernous fistula
 - (b) Smear diagnosis of cerebral lesion
 - (c) Anti-oxidants
 - (d) Spinal arachnoiditis
 - (e) Opportunistic infections in Acquired Immuno Deficiency Syndrome (AIDS)

NOVEMBER - 2001

[KE 032]

Sub. Code : 1562

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(New and Revised Regulations for 5 Years Course)

Branch II — Neurosurgery

Part II

**Paper II — NEUROCHEMISTRY AND
NEUROPATHOLOGY**

Time : Three hours

Maximum : 100 marks

1. Discuss the present system of classification and grading of astrocytomas. (25)
 2. Write brief notes on the neurotransmitters of basal ganglia. (25)
 3. Write short notes on : (5 × 10 = 50)
 - (a) Ganglio glioma
 - (b) Pathology of tuberculous granuloma
 - (c) Lamotregine
 - (d) Vasospasm
 - (e) Dermoid cyst.
-

MARCH - 2002

[KG 032]

Sub. Code : 1562

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(New and Revised Regulations for 5 years course)

Branch II — Neurosurgery

Part II

**Paper II — NEUROCHEMISTRY AND
NEUROPATHOLOGY**

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

1. Discuss the pathophysiology of cerebral ischaemia and add a note on ischaemic penumbra. (25)
2. Discuss the pathology of tuberculosis. (25)
3. Write short notes on : (5 × 10 = 50)
 - (a) Cerebral protection.
 - (b) Albumino cytological dissociation.
 - (c) Biochemistry of Parkinson's disease.
 - (d) Septic shock.
 - (e) X linked inheritance.

SEPTEMBER - 2002

[KH 032]

Sub. Code : 1562

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

Branch II — Neurosurgery

(New and Revised Regulations for 5 years course)

Part II

**Paper II — NEUROCHEMISTRY AND
NEUROPATHOLOGY**

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

1. Discuss etiology and pathophysiology of brain abscess. (25)
2. Discuss biochemical and pathological profile of pituitary tumours. (25)
3. Write short notes on : (5 × 10 = 50)
 - (a) Brain banking
 - (b) Neoplastic meningitis
 - (c) Pathology of traumatic nerve injury
 - (d) Tumour necrosis factor (TNF)
 - (e) Charcot-Bouchard aneurysm.

APRIL - 2003

[KI 032]

Sub. Code : 1562

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(New and Revised Regulations for 5 years course)

Branch II — Neurosurgery

Part II

**Paper II — NEUROCHEMISTRY AND
NEUROPATHOLOGY**

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

- 1. Discuss the opportunistic infections of CNS. (25)**
 - 2. Discuss the pathology of nerve injury. Add a note on nerve regeneration. (25)**
 - 3. Write short notes on : (5 × 10 = 50)**
 - (a) Pathogenesis of cerebral abscess**
 - (b) Ischaemic injury of brain**
 - (c) Carcinogenesis**
 - (d) Alpha Foeto protein**
 - (e) Raised intra cranial tension.**
-

OCTOBER - 2003

[KJ 032]

Sub. Code : 1562

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(New and Revised Regulations for 5 Year Course)

Branch II — Neurosurgery

Part II

Paper II — NEUROCHEMISTRY AND
NEUROPATHOLOGY

Time : Three hours

Maximum : 100 marks

Theory : Two hours and
forty minutes

Theory : 80 marks

M.C.Q. : Twenty minutes

M.C.Q. : 20 marks

M.C.Q. must be answered SEPARATELY on the
answer sheet provided as per the instruction
on the first page of M.C.Q. Booklet.

Answer ALL questions.

Draw suitable diagram wherever necessary.

Essay Questions :

1. Write an essay on acquired metabolic disorders of the nervous system. (15)
2. Discuss the neuropathology of dementias and pathology and pathophysiology of Alzheimer's disease in detail. (15)

3. Short notes : (10 × 5 = 50)

- (a) Diffuse axonal injury
- (b) Familial subcortical infarction
- (c) Cerebral Toxoplasmosis
- (d) Legionnaires disease
- (e) Physiology of cerebrospinal fluid
- (f) Neurogenic (Cerebral) salt wasting
- (g) Pure word blindness
- (h) Glossopharyngeal neuralgia
- (i) Pathology of Creutzfeldt-Jakob disease
- (j) Ketogenic diet.

APRIL - 2004

[KK 032]

Sub. Code : 1562

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(New and Revised Regulations for 5 Years Course)

Branch II — Neuro Surgery

Part II

Paper II — NEUROCHEMISTRY AND
NEUROPATHOLOGY

Time : Three hours

Maximum : 100 marks

Theory : Two hours and
forty minutes

Theory : 80 marks

M.C.Q. : Twenty minutes

M.C.Q. : 20 marks

Answer ALL questions.

A. Essay :

(2 × 15 = 30)

(1) What are Neuro Transmitters and discuss the role of dopamine in neurological diseases.

(2) Classify histologically the tumors of central nervous system.

B. Write short notes on : (10 × 5 = 50)

- (1) Serotonin.
- (2) NMDA receptors.
- (3) Endorphins.
- (4) Mesial temporal sclerosis.
- (5) Neurofibroma.
- (6) Tumor markers.
- (7) Histopathology in poly myositis
- (8) Ach-receptor antibody.
- (9) Immunoglobulins.
- (10) MPTP (1 Methyl – 4 Phenyl 1236 — Tetrahydro pyridine).

AUGUST - 2004

[KL 032]

Sub. Code : 1562

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(New and Revised Regulations for 5 Year Course)

Branch II — Neurosurgery

Part II

**Paper II — NEUROCHEMISTRY AND
NEUROPATHOLOGY**

Time : Three hours

Maximum : 100 marks

**Theory : Two hours and
forty minutes**

Theory : 80 marks

M.C.Q. : Twenty minutes

M.C.Q. : 20 marks

Answer ALL questions.

Draw suitable diagram wherever necessary.

I Essay Questions :

(2 × 15 = 30)

(1) What are Free Radicals? Discuss the role of oxygen free radicals in neurological disorders.

(2) What is angiogenesis? Discuss its neurosurgical perspective.

II Write short notes on : (10 × 5 = 50)

- (a) Acetylcholine**
- (b) Channelopathy**
- (c) Alpha-Bungarotoxin.**
- (d) Histochemistry.**
- (e) Catecholamine neurons.**
- (f) Cranio pharyngioma.**
- (g) Burkitt lymphoma.**
- (h) Cerebral oedema.**
- (i) Cryptococcal meningitis.**
- (j) Protein C & S.**

FEBRUARY - 2005

[KM 032]

Sub. Code : 1562

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(New and Revised Regulations for 5 Years Course)

Branch II — Neuro Surgery

Part II

**Paper II — NEUROCHEMISTRY AND
NEUROPATHOLOGY**

Time : Three hours

Maximum : 100 marks

**Theory : Two hours and
forty minutes**

Theory : 80 marks

M.C.Q. : Twenty minutes

M.C.Q. : 20 marks

Answer ALL questions.

I. Essay questions : (2 × 15 = 30)

(1) Discuss the mechanism of Neurogenesis and neural growth factors.

(2) To discuss on pathophysiology and pathology of cerebro vascular diseases in a 40 year old male patient.

II. Short notes : (10 × 5 = 50)

- (a) Neurophysiology of sleep**
 - (b) Para neoplastic syndromes**
 - (c) Cryptococcal meningitis**
 - (d) Normal pressure hydrocephalus**
 - (e) Transient global amnesia**
 - (f) Neuropathology of AIDS dementia complex**
 - (g) Punch-Drunk encephalopathy**
 - (h) Neuro myelitis optica**
 - (i) Genetics of mitochondrial diseases**
 - (j) Inherited metabolic diseases of infancy.**
-

FEBRUARY - 2006

[KO 032]

Sub. Code : 1562

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(New and Revised Regulations for 5 years Course)

Branch II — Neuro Surgery

Part II

**Paper II — NEUROCHEMISTRY AND
NEUROPATHOLOGY**

Time : Three hours

Maximum : 100 marks

Theory : Two hours and
forty minutes

Theory : 80 marks

M.C.Q. : Twenty minutes

M.C.Q. : 20 marks

Answer ALL questions.

I. Essay questions :

(2 × 15 = 30)

(1) Discuss the mechanism of Neuro transmission and synapses and discuss the clinical implications of neurotransmitter disease.

(2) Discuss in detail WHO classification of Brain tumours and various tumour markers in diagnosis.

II. Short notes : (10 × 5 = 50)

- (a) Broadman's area.
 - (b) Cerebral dominance.
 - (c) Dandy-Walker malformation.
 - (d) Ramsey-Hunt syndrome.
 - (e) TORCH.
 - (f) Encephalocele.
 - (g) β endorphin.
 - (h) Limbic system.
 - (i) Chiarc malformation.
 - (j) Muscle spindle.
-

AUGUST - 2006

[KP 032]

Sub. Code : 1562

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(New and Revised Regulations for 5 years Course)

Branch II — Neuro Surgery

Part II

**Paper II — NEUROCHEMISTRY AND
NEUROPATHOLOGY**

Time : Three hours

Maximum : 100 marks

**Theory : Two hours and
forty minutes**

Theory : 80 marks

M.C.Q. : Twenty minutes

M.C.Q. : 20 marks

Answer ALL questions.

I. Essay :

1. Discuss the applied aspect of neurochemistry of muscle tone. (20)
2. Discuss the role of various antibiotics in pyogenic infections of the CNS. (15)
3. Discuss the pathology and management of orbital tumors. (15)

II. Short notes :

(6 × 5 = 30)

- (a) Differences in true and pseudo cyst.
 - (b) Vasopressin.
 - (c) Anti-oxidants.
 - (d) Neurological causes of obesity.
 - (e) Gene gun.
 - (f) Neurochemical basis of seizures.
-

FEBRUARY - 2007

[KQ 032]

Sub. Code : 1562

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(New and Revised Regulations for 5 Years Course)

Branch II — Neuro Surgery

Part II

**Paper II — NEUROCHEMISTRY AND
NEUROPATHOLOGY**

Time : Three hours

Maximum : 100 marks

**Theory : Two hours and
forty minutes**

Theory : 80 marks

M. C. Q : Twenty minutes

M.C.Q. : 20 marks

Answer ALL questions.

I. Essay :

**1. Describe the advances in pathophysiology of
cerebral ischemia. (20)**

**2. Describe the neuropathology of Alzheimer's
disease. (15)**

**3. Discuss the role of Blood brain barrier in health
and disease. (15)**

II. Short notes :

(6 × 5 = 30)

(1) P₄₅₀ enzyme

(2) Peroxisomes

(3) Myelin basic protein

(4) Genetics of parkinsonism

(5) Cerebral toxoplasmosis

(6) Phantom pain.

August-2007

[KR 032]

Sub. Code : 1562

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(New and Revised Regulations for 5 Years Course)

Branch II — Neuro Surgery

Part II

**Paper II — NEUROCHEMISTRY AND
NEUROPATHOLOGY**

Time : Three hours

Maximum : 100 marks

**Theory : Two hours and
forty minutes**

Theory : 80 marks

M.C.Q. : Twenty minutes

M.C.Q. : 20 marks

Answer ALL questions.

I. Essay questions :

(1) Discuss the pathogenesis of elevated intracranial pressure and monitoring of raised intracranial pressure. (20)

(2) Discuss the role of stem cells in basic and clinical neurosciences. (15)

(3) Discuss the etiopathology of non neoplastic, non inflammatory intracranial cysts and their differentiating features. (15)

II. Short notes :

(6 × 5 = 30)

(a) Dopaminergic receptors

(b) Botulinum toxin

(c) Nitric oxide

(d) Prion protein

(e) Tropical Pyomyositis

(f) Tissue plasminogen activator.

[KS 032]

Sub. Code : 1562

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(New and Revised Regulations for 5 Years Course)

Branch II — Neuro Surgery

Part II

Paper II — NEUROCHEMISTRY AND
NEUROPATHOLOGY

Q.P. Code : 181562

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

I. Essay questions : (2 × 20 = 40)

(1) Discuss the pathophysiology of
Neurotuberculosis.

(2) Discuss the pathophysiology and genetics of
Parkinson's disease.

II. Short notes : (10 × 6 = 60)

(1) Oligodendroglia.

(2) Cerebral dominance.

(3) Opioid receptors.

(4) Neurofibromatosis.

(5) Prions.

(6) Ion Channels.

(7) Antidiuretic Hormone (ADH)

(8) Nitric Oxide.

(9) Tau Proteins.

(10) Cortical Dysplasia.

August 2009

[KV 032]

Sub. Code: 1562

MASTER OF CHIRURGIAE (M.Ch.) DEGREE EXAMINATIONS

(Super Specialities)

(New and Revised Regulations for 5 years course)

Branch II – NEUROSURGERY

PART - II

Paper I – NEUROANATOMY AND NEUROPHYSIOLOGY

Q.P. Code: 181562

Time: Three hours

Maximum: 100 Marks

Answer ALL questions

Draw suitable diagrams wherever necessary.

I. Essays:

(2 x 20 = 40)

1. Discuss the pathogenesis of cerebral oedema.
2. Discuss the neurotransmitter changes in various movement disorder.

II. Write short notes on:

(10 x 6 = 60)

1. Free radicals.
2. Biochemical changes in Alzheimer's disease.
3. Neurotrophic factors.
4. Stem cell.
5. Wallerian degeneration.
6. Pathology of diffuse axonal injury.
7. Gliomatosis cerebri.
8. Brain Metastases.
9. Grading for Astrocytoma.
10. Pathology of meningioma.

August 2011

[KZ 032]

Sub. Code: 1562

**MASTER OF CHIRURGIAE (M.Ch.) DEGREE EXAMINATION
(SUPER SPECIALITIES)**

BRANCH II – NEURO SURGERY

NEUROCHEMISTRY AND NEUROPATHOLOGY

Q.P. Code: 181562

Time : 3 hours

Maximum : 100 marks

(180 Min)

Answer ALL questions in the same order.

I. Elaborate on :

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

- | | | | |
|--|----|----|----|
| 1. Discuss the pathological changes in diffuse axonal injury. | 11 | 35 | 15 |
| 2. Discuss the pathological changes in the spine and spinal cord in cervical spondylotic myelopathy. | 11 | 35 | 15 |

II. Write notes on :

- | | | | |
|---|---|----|---|
| 1. Dysembryoblastic neuroepithelial tumour. | 4 | 10 | 7 |
| 2. Melanotic neuroectodermal tumour of infancy. | 4 | 10 | 7 |
| 3. Pseudorosettes. . | 4 | 10 | 7 |
| 4. Ganglioglioma. | 4 | 10 | 7 |
| 5. Genetics of neurofibromatosis. | 4 | 10 | 7 |
| 6. Oncocytomas. | 4 | 10 | 7 |
| 7. Pituitary apoplexy. | 4 | 10 | 7 |
| 8. GABA. | 4 | 10 | 7 |
| 9. Substance P. | 4 | 10 | 7 |
| 10. Endorphins. | 4 | 10 | 7 |

[LB 032]

AUGUST 2012

Sub. Code: 1562

M.Ch – NEUROSURGERY

FIVE YEARS COURSE-PART-II

PAPER – II NEUROCHEMISTRY AND NEUROPATHOLOGY

Q.P. Code: 181562

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. Enumerate tumor markers and its applications in neuropathology | 16 | 35 | 15 |
| 2. Classify pituitary tumors and discuss their pathology. | 16 | 35 | 15 |

II. Write notes on:

- | | | | |
|---|---|----|---|
| 1. Fibrous dysplasia. | 4 | 10 | 7 |
| 2. Hyponatraemia in neuro ICU. | 4 | 10 | 7 |
| 3. Choroid plexus papillomas. | 4 | 10 | 7 |
| 4. Intra cranial sarcomas. | 4 | 10 | 7 |
| 5. Lipoma of spinal cord. | 4 | 10 | 7 |
| 6. Anti – oxidants. | 4 | 10 | 7 |
| 7. Biochemical changes in traumatic brain injury. | 4 | 10 | 7 |
| 8. Neuro transmitters of basal ganglia. | 4 | 10 | 7 |
| 9. Pathophysiology of brain abscess. | 4 | 10 | 7 |
| 10. Nerve regeneration. | 4 | 10 | 7 |

[LC 032]

FEBRUARY 2013

Sub.Code:1562

M.Ch-NEUROSURGERY

THREE YEARS COURSE – PART –I

Paper – II NEUROCHEMISTRY& NEUROPATHOLOGY

Q.P. Code:181562

**Time: 3 hours
(180 Min)**

Maximum :100 marks

I .Elaborate on:

(2x15marks=30marks)

1. Describe the Pathophysiology of Tuberculous meningitis. Mention the complications of Tuberculosis meningitis and their management.
2. Chiari Malformations. Mention the various theories for Formation of Syringomyelia in the presence of Chiari malformation.

II .Write short notes on:

(10x7marks=70marks)

1. Wallerian degeneration
2. Rathke's Cleft Cyst
3. Subacute combined Degeneration of the Spinal Cord
4. Colloid Cyst of Third Ventricle
5. Acetyl Choline
6. Epidermoid
7. Dopamine
8. Glioblastoma Multiforme
9. GABA
10. Haemangioblastoma

(LD 032)

AUGUST 2013

Sub. Code: 1562

M.Ch. – NEURO SURGERY
THREE YEARS/FIVE YEARS/SIX YEARS COURSE – PART – I/PART – II
Paper – II NEUROCHEMISTRY AND NEUROPATHOLOGY
Q.P.Code: 181562

Time: Three Hours

Maximum: 100 marks

I. Elaborate on:

(2X15=30)

1. Classify tumours of the posterior third ventricle. Enumerate the role of tumour markers in arriving at a diagnosis of posterior third ventricle region tumours.
2. Describe the biochemical changes at the cellular level following trauma to the brain.

II. Write notes on:

(10X7=70)

1. Dopamine.
2. Phenytoin.
3. Melatonin.
4. Vasogenic oedema.
5. Histopathological classification of pituitary adenoma.
6. Aseptic meningitis.
7. Epidermoid tumours.
8. Rathke's cyst.
9. Pathophysiology of tuberculous meningitis.
10. Tonsillar herniation.

(LE 032)

FEBRUARY 2014

Sub. Code: 1562

M.Ch. – NEURO SURGERY
THREE YEARS/FIVE YEARS/SIX YEARS COURSE – PART – I/PART – II
Paper – II NEUROCHEMISTRY AND NEUROPATHOLOGY
Q.P.Code: 181562

Time: Three Hours

Maximum: 100 marks

I. Elaborate on:

(2X15=30)

1. Pathology of posterior third ventricular tumors.
2. Cellular events during a seizure.

II. Write notes on:

(10X7=70)

1. Describe the pathology of medulloblastoma.
2. Describe the pathology of primary CNS lymphoma.
3. The role of proliferative indices in the management of meningiomas.
4. Describe the mechanism of action and side effects of phenytoin.
5. Describe the pathology of Alzheimer's disease.
6. Describe the pathology of fungal granulomas.
7. Describe the pathology of dysembryoplastic neuroepithelial tumors.
8. The role of p53 and EGFR in gliomas.
9. The production and action of dopamine in the CNS.
10. Describe the pathology of radiation necrosis.

[LF 032]

AUGUST 2014

Sub. Code: 1562

M.Ch. – NEURO SURGERY

THREE YEARS / FIVE YEARS / SIX YEARS COURSE

PART – I / PART – II

Paper II – NEUROCHEMISTRY AND NEUROPATHOLOGY

Q. P. Code: 181562

Time: Three Hours

Maximum: 100 Marks

Answer ALL questions in the same order.

I. Elaborate on:

(2 x 15 = 30)

1. Discuss the WHO classification of astrocytomas and the role of immunocytochemistry in these tumours.
2. Discuss the various types and pathophysiology of cerebral edema.

II. Write notes on:

(10 x 7 = 70)

1. Anti oedema measures.
2. Growth hormone secreting adenoma.
3. Signalling pathways in medulloblastoma.
4. Aseptic meningitis.
5. Hydatid cyst.
6. Sodium valproate.
7. Transtentorial herniation.
8. Encephaloceles.
9. Cerebral Venous infarct.
10. Methyl prednisolone.

[LH 032]

AUGUST 2015

Sub. Code: 1562

M.Ch. – NEURO SURGERY

SIX YEARS COURSE

PART – II

PAPER II – NEUROCHEMISTRY AND NEUROPATHOLOGY

Q.P. Code: 181562

Time : Three Hours

Maximum : 100 marks

Answer ALL questions

I. Elaborate on:

(2 x 15 = 30)

1. Histopathology and grading of Gliomas.
2. Electrochemical changes in brain during epileptic attack.

II. Write notes on :

(10 x 7 = 70)

1. CNS manifestations of HIV.
2. Histopathology of pineal region tumors.
3. Dopamine.
4. CSF picture in meningitis.
5. Carbamazepine.
6. Pathology of haemangioblastomas.
7. Hydatid cyst of brain.
8. Chemical events in synaptic transmission.
9. Neurohumoral control of blood sugar.
10. Spinal intramedullary tumors.

(LJ 032)

AUGUST 2016

Sub. Code: 1562

M.Ch. – NEURO SURGERY

SIX YEARS COURSE

PART – II

Paper II – NEUROCHEMISTRY AND NEUROPATHOLOGY

Q.P.Code: 181562

Time: Three Hours

Maximum: 100 Marks

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

1. Pathophysiology and disease progression of intracranial arachnoid cyst.
2. Discuss the pathophysiology of traumatic diffuse axonal injury.

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

1. Syndrome of Inappropriate Anti diuretic hormone secretion.
2. Prolactinoma.
3. Vasospasm.
4. Tumor markers in pineal gland tumors.
5. Neurocysticercosis.
6. Neurological manifestations of malignant melanoma.
7. Transtentorial herniation.
8. Spinal epidural metastasis.
9. Mannitol.
10. Neurenteric cyst.

(LL 032)

AUGUST 2017

Sub. Code: 1562

M.Ch. – NEURO SURGERY

SIX YEARS COURSE

PART – II

Paper II – NEUROCHEMISTRY AND NEUROPATHOLOGY

Q.P.Code: 181562

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Discuss the lipid metabolism in the brain. Write on Lipid disorders of the brain.
2. Classify tumours of the pituitary gland and the role of immunocytochemistry in diagnosing these tumours.

II. Write notes on:

(10 x 7 = 70)

1. Bromocriptin.
2. Adrenocorticotrophic hormone.
3. Carcinomatous meningitis.
4. Neuromuscular junction.
5. Levitracetam.
6. Tonsillar herniation.
7. Lipomyelomeningocele.
8. Stem cell culture of glioma cells.
9. Toxoplasmosis.
10. Desmoplastic infantile ganglioglioma.

(LM 032)

FEBRUARY 2018

Sub. Code: 1562

**M.Ch. – NEURO SURGERY
SIX YEARS COURSE**

PART – II

Paper II – NEUROCHEMISTRY AND NEUROPATHOLOGY

Q.P.Code: 181562

Time: Three Hours

Maximum: 100 Marks

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

1. Histopathology of meningioma and classification based on that.
2. Immuno histochemistry of gliomas.

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

1. Acetyl Choline.
2. Phenytoin sodium.
3. Substance P.
4. Biochemistry of cerebrospinal fluid.
5. Pathology of Chordoma.
6. Thyroid function tests.
7. Pathology of Craniopharyngiomas.
8. Dysembryoblastic neuroectodermal tumors.
9. Tuberculomas.
10. Biochemistry of Parkinsonism.

(LN 032)

AUGUST 2018

Sub. Code: 1562

**M.Ch. – NEURO SURGERY
SIX YEARS COURSE**

PART – II

Paper II – NEUROCHEMISTRY AND NEUROPATHOLOGY

Q.P.Code: 181562

Time: Three Hours

Maximum: 100 Marks

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

1. Pathology and classification of intracranial meningiomas.
2. Neurotransmitter pathways in Parkinson's disease.

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

1. Receptors and afferent pathways of pain.
2. MIB-1 labelling index.
3. Neurogenic pulmonary edema.
4. Brain death.
5. Pathology of ganglioglioma
6. Phenytoin sodium.
7. Hydatid cyst of brain.
8. Fungal meningitis.
9. Brainstem glioma.
10. Idiopathic intracranial hypertension.

(LP 032)

AUGUST 2019

Sub. Code: 1562

**M.Ch. – NEURO SURGERY
SIX YEARS COURSE**

PART – II

Paper II – NEUROCHEMISTRY AND NEUROPATHOLOGY

Q.P. Code: 181562

Time: Three Hours

Maximum: 100 Marks

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

1. Role of tumor markers in central nervous system tumors.
2. Hypoxic injury to the brain.

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

1. Levetiracetam.
2. Pathology and classification of arachnoid cyst.
3. Pathological changes in Chronic subdural haematoma.
4. Neuroblastoma.
5. Vasopressin.
6. Acidosis.
7. Thermoregulation.
8. Dermoid cyst.
9. Neurocysticercosis - pathology.
10. Pathophysiology of normal pressure hydrocephalus.

(LQ 032)

FEBRUARY 2020

Sub. Code: 1562

**M.Ch. – NEURO SURGERY
SIX YEARS COURSE**

PART – II

Paper II – NEUROCHEMISTRY AND NEUROPATHOLOGY

Q.P. Code: 181562

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Discuss the pathogenesis of cerebral oedema.
2. Discuss the distribution of Neurotransmitters in Basal ganglia and their role in the pathogenesis of movement disorders.

II. Write notes on:

(10 x 7 = 70)

1. Pituitary function tests.
2. Neurotransmitters in pain pathways.
3. Primitive Neuro – ectodermal tumours.
4. Grading of Gliomas.
5. Pathology of chordoma.
6. Dopaminergic pathways.
7. Classify meningiomas.
8. Pathology of tuberculoma and tuberculosis abscess.
9. Glioblastoma multiforme.
10. Pathology of diffuse axonal injury.

(MCH 0821)

AUGUST 2021

Sub. Code: 1562

**M.Ch. – NEURO SURGERY
SIX YEARS COURSE**

PART – II

Paper II – NEUROCHEMISTRY AND NEUROPATHOLOGY

Q.P. Code: 181562

Time: Three Hours

Maximum: 100 Marks

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

1. Classify pituitary tumours and discuss their pathology.
2. Discuss in detail the etiopathogenesis of coma pertaining to Head Injury.

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

1. Lacosamide.
2. Sodium dyselectrolytemia in neurosurgery.
3. The 2016 World Health Organization classification of gliomas.
4. Rosettes and pseudorosettes in neuropathology.
5. Diabetes insipidus.
6. Mannitol.
7. Pathology of fungal granulomas.
8. Pathogenesis of the Kernohan's notch.
9. Neurochemical basis of symptoms and signs in Parkinson's disease.
10. Glial fibrillary acidic protein.

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

[MCH 0222]

FEBRUARY 2022

Sub.Code :1562

M.Ch. – NEURO SURGERY

SIX YEARS COURSE

PART – II

Paper II – NEUROCHEMISTRY AND NEUROPATHOLOGY

Q.P. Code: 181562

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Mechanism of action, receptors, inactivation mechanism of Catecholamines and Acetylcholine.
2. CRANIOPHARINGIOMA – Pathology and Management.

II. Write notes on:

(10 x 7 = 70)

1. Hypothermia.
2. Split Cord Malformations.
3. Pinealoma.
4. Polymerase Chain Reaction.
5. LACOSAMIDE.
6. Internuclear Ophthalmoplegia.
7. Western Blot.
8. Synaptic Transmission.
9. Medulloblastoma.
10. Cerebral Salt Wasting Syndrome.

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

(MCH 0822)

AUGUST 2022

Sub. Code: 1562

M.Ch. – NEURO SURGERY

SIX YEARS COURSE

PART – II

Paper II – NEUROCHEMISTRY AND NEUROPATHOLOGY

Q.P. Code: 181562

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Pineal tumors-histopathology and classification.
2. Pathophysiology of increased intracranial pressure.

II. Write notes on:

(10 x 7 = 70)

1. SIADH.
2. Brain abscess.
3. Carbonic anhydrase.
4. Schwannoma vs. Neurofibroma.
5. Sodium Valproate.
6. Syringomyelia.
7. Pain Neurotransmitters.
8. Hydrostatic edema.
9. Dopamine
10. Ganglioglioma.

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

(MCH 0223)

FEBRUARY 2023

Sub. Code: 1562

M.Ch. – NEURO SURGERY

SIX YEARS COURSE

PART – II

PAPER II – NEUROCHEMISTRY AND NEUROPATHOLOGY

Q.P. Code: 181562

Time: Three Hours

Maximum: 100 Marks

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

1. Classify tumours of the pineal region and discuss their pathology.
2. Discuss in detail the etiopathogenesis of Cervical spondylotic myelopathy and the pathological changes occurring in the spinal column and the spinal cord.

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

1. Pregabalin.
2. Biochemical changes in head injury.
3. The 2016 World Health Organization classification of Medulloblastoma.
4. Etiopathogenesis of Syringomyelia in Chiari malformation.
5. Cysts of the sellar, parasellar region.
6. Hypertonic saline in Neurosurgery.
7. Intracranial calcifications.
8. IDH mutations in gliomas.
9. Neurotropic drugs.
10. Froin's syndrome.

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

(MCH 0124)

JANUARY 2024

Sub. Code: 1562

M.Ch. – NEURO SURGERY

SIX YEARS COURSE

PART – II

PAPER II – NEUROCHEMISTRY AND NEUROPATHOLOGY

Q.P. Code: 181562

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Pathophysiology of Diffuse Axonal Injury.
2. Write a detailed note on cerebral metabolism.

II. Write notes on:

(10 x 7 = 70)

1. GABA receptors.
2. Levetiracetam.
3. Axoplasmic flow.
4. Crook's tumour.
5. Germ cell tumor markers.
6. Primary CNS lymphoma.
7. IDH mutations in glioma.
8. Difference between schwannoma and neurofibroma.
9. Fluorescence in situ hybridization (FISH) test.
10. Dopamine.

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

(MCH 0225)

FEBRUARY 2025

Sub. Code: 1562

M.Ch. BRACH II – NEURO SURGERY

SIX YEARS COURSE

PART – II

PAPER II – NEUROCHEMISTRY AND NEUROPATHOLOGY

Q.P. Code: 181562

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Discuss the pathology of nerve injury and nerve degeneration and regeneration.
2. Discuss the various types and pathophysiology of cerebral edema.

II. Write notes on:

(10 x 7 = 70)

1. Parasitic infections of the brain.
2. The role of proliferative indices in the management of meningiomas.
3. Pathology of radiation necrosis.
4. Methyl prednisolone.
5. Dopaminergic receptors in the brain.
6. Rosettes and pseudorosettes.
7. Pathophysiology of intracranial arachnoid cyst.
8. Inhibitory Neurotransmitters in the CNS.
9. Prolactinoma.
10. HIV associated brain lesions.

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

(MCH 0825)

AUGUST 2025

Sub. Code: 1562

M.Ch. BRANCH II – NEURO SURGERY

SIX YEARS COURSE

PART – II

PAPER II – NEUROCHEMISTRY AND NEUROPATHOLOGY

Q.P. Code: 181562

Time: Three Hours

Maximum: 100 Marks

I. Elaborate on:

(2 x 15 = 30)

1. Describe in detail about mechanism of Ischemic Brain damage and characteristics of cell death.
2. Discuss in detail about pathways and neurotransmitter mechanisms underlying Parkinson's disease.

II. Write notes on:

(10 x 7 = 70)

1. NMDA receptors and its significance.
2. Synthesis and function of Acetylcholine.
3. Pharmacokinetics of Levetiracetam.
4. Hypothalamo Pituitary Adrenal Axis.
5. Tumour markers in brain tumours.
6. One and half syndrome.
7. Classification of intracranial meningioma.
8. Pathophysiology of cerebral arterio venous malformations.
9. Primitive Neuro ectodermal tumours.
10. Diffuse axonal injury.
