

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

(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.
