

APRIL - 2001

[KD 036]

Sub. Code : 1581

M.Ch. DEGREE EXAMINATION

(Higher Specialities)

Branch II — Neurosurgery

(Revised Regulations for 2 Years Course)

Paper I — NEURO BASIC SCIENCES

Time : Three hours

Maximum : 100 marks

ALL questions to be answered.

1. Discuss the role of various Neuro Transmitters (30)
2. Discuss the microsurgical anatomy of the Cerebello Pontine Angle. (30)
3. Write short notes on : (4 × 10 = 40)
 - (a) Pathology of Haemangioblastoma
 - (b) Neurochemistry of parkinsonism
 - (c) EEG
 - (d) Role of free radicals in spinal trauma

NOVEMBER - 2001

[KE 036]

Sub. Code 1581

M.Ch. DEGREE EXAMINATION

(Higher Specialities)

(Revised Regulations for 2 Years Course)

Branch II — Neurosurgery

Paper I — NEUROBASIC SCIENCES

Time : Three hours

Maximum : 100 marks

Answer ALL questions

1. Discuss the morphology, vascular anatomy and connections of the insular cortex. (30)
 2. Discuss the various modalities of intraoperative neurophysiologic monitoring and their indications. (30)
 3. Write short notes on : (4 × 10 = 40)
 - (a) Meckel's cave
 - (b) Motor evoked potentials
 - (c) Bridging veins on the tentorial surface of the cerebellum
 - (d) Jean Martin Charcot.
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MARCH - 2002

[KG 036

Sub. Code 1581

M.Ch. DEGREE EXAMINATION

Higher Specialities)

(Revised Regulations for years course

Branch II Neurosurgery

1: per NEURO BASIC SCIENCES

Time Three hours Maxim 100 marks

ALL questions to be answered.

Classificati and pathology of pituitary tumorn. 30)

Discuss the microanatomy of th ventricle. 30

Write short notes 40

PNET

(b BLOOD BRAIN BARRIER.

PATHOLOGY OF PINEAL TUMORS

ANTIFUNGAL DRUGS

SEPTEMBER - 2002

[KH 036]

Sub. Code : 1581

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations for 2 Year Course)

Branch II — Neurosurgery

Paper I — NEURO BASIC SCIENCES

Time : Three hours

Maximum : 100 marks

All questions to be answered.

1. Describe the microsurgical anatomy of foramen magnum. (30)

2. Discuss the biology and neuropathology of Gliomas. (30)

Write short notes on : (4 × 10 = 40)

(a) Sturge Weber's disease

(b) Cerebral blood flow monitoring

(c) Radiobiology

(d) Third ventricle.

FEBRUARY - 2005

[KM 036]

Sub. Code : 1581

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations for 3 years course)

Branch II — Neuro Surgery

Paper I — NEURO BASIC SCIENCES

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 pathophysiology, pathogenesis and management of traumatic brain oedema.

(2) Anatomy of Cerebral cisterns and their role in various microsurgical approaches.

II. Short Questions : (10 × 5 = 50)

(a) Physiology of spasticity.

(b) Genetics in Neurosurgery.

(c) Pathogenesis of syringomyelia.

(d) Subdural empyema.

(e) Low grade Glioma.

(f) Tumor markers in neurosurgery.

(g) Hippocampus.

(h) Diffuse axonal injury.

(i) The middle cerebral artery – anatomy.

(j) 3rd N. Nucleus.

FEBRUARY - 2006

[KO 036]

Sub. Code : 1581

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations for 3 years course)

Branch II — Neuro Surgery

Paper I — NEURO BASIC SCIENCES

Time : Three hours

Maximum : 100 marks

Theory : Two hours and

Theory : 80 marks

forty minutes

M.C.Q. : Twenty minutes

M.C.Q. : 20 marks

Answer ALL questions.

Draw suitable diagrams wherever necessary.

I. Essay questions : (2 × 15 = 30)

(1) Describe the functional anatomy of cerebellum.

(2) Describe the physiology of stretch reflex.

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

(a) Neurocytomas

(b) Mannitol.

(c) Diphenyl hydantoin.

(d) Hamer-Wright rosettes.

(e) Grading of meningiomas.

(f) Biochemical markers of neuronal injury.

(g) Cross section of medulla at the level of obex.

(h) Pathogenesis of saccular intracranial aneurysms.

(i) Glycoprotein hormones of anterior pituitary.

(j) Pathology of craniopharyngeomas.

AUGUST - 2006

[KP 036]

Sub. Code : 1581

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulation for 3 Years Course)

Branch II — Neurosurgery

Paper I — NEURO BASIC SCIENCES

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 diagrams wherever necessary.

I. Essay questions :

**(1) Discuss the pathophysiology of Traumatic
Brain Injury. (20)**

**(2) Discuss the aetiopathogenesis and diagnosis
of CNS Tuberculosis. (15)**

**(3) Describe Neural tube defects. Elaborate on
occult dysraphic states. (15)**

II. Write short notes on :

(6 × 5 = 30)

(a) Tumor invasion in gliomas

(b) Anatomy of third ventricle

**(c) Pharmacotherapy of growth hormone
secreting pituitary adenoma**

(d) Chromosomes in neurosurgical problems.

(e) Fluoresis

(f) HIV and Brain Tumors.

FEBRUARY - 2007

[KQ 036]

Sub. Code : 1581

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulation for 3 Years Course)

Branch II — Neuro Surgery

Paper I — NEURO BASIC SCIENCES

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 diagrams wherever necessary.

I. Essay questions:

1. Discuss the microsurgical anatomy of Pineal region. (20)

2. Discuss the pathophysiology of Congenital Hydrocephalus. Mention the treatment options for the same. What is slit ventricle syndrome. (15)

3. Describe the pathogenesis diagnosis and management of chronic subdural haematoma. What are the causes of recurrent subdural haematoma. (15)

II. Write short notes on: (6 × 5 = 30)

1. Pathology of Diffuse axonal Injury.

2. Tumour Markers.

3. Types of Ependymomas and their grading.

4. Benign Intracranial Hypertension.

5. Vein of Galen Aneurysm.

6. Low grade Glioma.

[KR 036]

Sub. Code : 1581

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulation for 3 Years Course)

Branch II — Neuro Surgery

Paper I — NEURO BASIC SCIENCES

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 diagrams wherever needed.

I. Essay Questions :

1. Discuss the anatomy of optic chiasma and its relation to adjoining neuro-vascular structures from the view point of clinical and surgical importance. Illustrate with suitable diagrams. (20)

2. Describe the micro surgical anatomy of cerebello-pontine angle including the neural and vascular structures contained in that area. (15)

3. Describe the formation, circulation and absorption of cerebro spinal fluid. Illustrate the answer with proper diagrams. (15)

II. Write short notes on :

(6 × 5 = 30)

- (a) Pathology of brain abscess.
 - (b) Microsurgical anatomy of sylvian fissure.
 - (c) Pathology of choroid plexus tumours.
 - (d) Circle of willis.
 - (e) Intracranial hydatid cyst - Aetio pathogenesis.
 - (f) Fascial nerve.
-

February-2008

[KS 036]

Sub. Code : 1581

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulation for 3 Years Course)

Branch II — Neuro Surgery

Paper I — NEURO BASIC SCIENCES

Q.P. Code : 171581

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

Draw suitable diagrams wherever necessary.

I. Write essay questions :

1. Discuss the microsurgical anatomy of intracranial venous sinuses. (20)

2. Discuss patho-physiology of autonomic disturbances in cervical cord injury. (20)

II. Write short notes on : (10 × 6 = 60)

(1) Nodes of Ranvier.

(2) SPSS in statistics.

(3) Embryonal applied aspect for neurological health.

(4) Pathophysiology of Dystonia.

(5) Clinical importance of various skull fractures.

(6) Atherosclerosis.

(7) Environmental electronic waves and human health.

(8) 'Ia' fibers in spinal reflex.

(9) Abdominal superficial reflex.

(10) Holoprosencephaly.

FEBRUARY – 2009

[KU 036]

Sub. Code: 1581

**M.CH DEGREE EXAMINATIONS
(Higher Specialities)
(Revised Regulations for 3 years course)
Branch II – Neuro Surgery
Paper I – NEURO BASIC SCIENCES
Q.P. Code: 171581**

Time: Three hours

Maximum: 100 Marks

ANSWER ALL QUESTIONS

Draw suitable diagrams wherever necessary.

I. Essays: 2 x 20 = 40 Marks

1. Describe the Neuroanatomy of cerebral cisterns and surgical importance of sylvan fissure.
2. Classification of Astrocytoma – Discuss.

II. Write short notes on: 10 X 6 = 60 Marks

1. Neuro transmitters.
2. Terratogenicity of antiepileptics.
3. Cortical Blindness.
4. Dorsal root entry zone and its importance.
5. Afferent and efferent connections of cerebellum.
6. Secretion of CSF.
7. Embryology of vertebral body.
8. Calcium antagonists in vasospasm.
9. Anatomical landmarks of skull and their use in Neurosurgery.
10. Central pontine and extra pontine myeliuosis.

August 2009

[KV 036]

Sub. Code: 1581

M.Ch. DEGREE EXAMINATIONS

**(Super Specialities)
(New and Revised Regulations)
(Common to all candidates)**

**Branch II – Neuro Surgery
Paper I – NEURO BASIC SCIENCES
*Q.P. Code: 181581***

Time: Three hours

Maximum: 100 Marks

ANSWER ALL QUESTIONS

Draw suitable diagrams wherever necessary.

I. Essays:

2 x 20 = 40 Marks

1. Discuss the pathophysiology of diffuse axonal injury.
2. Discuss the pharmacological management of cerebral edema.

II. Write short notes on:

10 X 6 = 60 Marks

1. Neuron specific enolase.
2. Amitriptyline.
3. H-reflex.
4. Polymerase chain reaction.
5. Sodium channels.
6. Neural transplantation.
7. Immunohistochemistry.
8. Brain biopsy.
9. Radio-surgery.
10. Mini mental status examination.

February 2010

[KW 036]

Sub. Code: 1581

**M.Ch. DEGREE EXAMINATIONS
(Super Specialities)
(New and Revised Regulations)
(Common to all candidates)**

**Branch II – Neuro Surgery
Paper I – NEURO BASIC SCIENCES
*Q.P. Code: 181581***

Time: Three hours

Maximum: 100 Marks

**ANSWER ALL QUESTIONS
Draw suitable diagrams wherever necessary.**

I. Essays:

2 x 20 = 40 Marks

1. Classification of pituitary adenomas and their therapeutic implication.
2. Microsurgical anatomy of CP angle with emphasis on landmarks for facial nerve identification.

II. Write short notes on:

10 X 6 = 60 Marks

1. Pain pathways.
2. Sodium channels.
3. Radiation injury to CNS.
4. Embryology of vertebral body.
5. WHO grading of meningioma.
6. Immunotherapy for gliomas.
7. Cortical malformations.
8. Pathophysiology of lumbar disc.
9. Phenytoin.
10. Fungal granulomas.

August 2011

[KZ 036]

Sub. Code: 1581

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

BRANCH II – NEURO SURGERY

NEURO BASIC SCIENCES

Q.P. Code: 181581

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 development of neural tube and the embryological basis for Neural Tube defects. | 11 | 35 | 15 |
| 2. Enumerate the various Neurotransmitters, their distribution and functions. | 11 | 35 | 15 |

II. Write notes on :

- | | | | |
|--|---|----|---|
| 1. Immuno histo chemistry. | 4 | 10 | 7 |
| 2. Blood supply of internal capsule. | 4 | 10 | 7 |
| 3. Pathophysiology of cerebral vaso spasm. | 4 | 10 | 7 |
| 4. Grading system for Gliomas. | 4 | 10 | 7 |
| 5. Autoregulation of cerebral blood flow. | 4 | 10 | 7 |
| 6. Tumour markers in the diagnosis of pineal tumours. | 4 | 10 | 7 |
| 7. Cross-section of medulla at the level of olive. | 4 | 10 | 7 |
| 8. Classification of nerve fibres. | 4 | 10 | 7 |
| 9. Subarachnoid cisterns in the posterior cranial fossa. | 4 | 10 | 7 |
| 10. Capases and Calpains. | 4 | 10 | 7 |

[LB 036]

AUGUST 2012

Sub. Code: 1581

**M.Ch – NEURO SURGERY
FIVE YEAR COURSE-PART II
PAPER – I NEURO BASIC SCIENCES
Q.P. Code: 181581**

**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. Gross and microscopic anatomy of the pituitary gland with its relevance to classification of pituitary adenomas. | 16 | 35 | 15 |
| 2. Deep venous drainage system of the brain. | 16 | 35 | 15 |

II. Write notes on:

- | | | | |
|---|---|----|---|
| 1. Anatomical relationships of the Foramen of Monro and its relevance to surgery. | 4 | 10 | 7 |
| 2. Microsurgical anatomy of cerebellopontine angle cistern. | 4 | 10 | 7 |
| 3. Factors determining cerebral blood flow. | 4 | 10 | 7 |
| 4. Normal electroencephalogram. | 4 | 10 | 7 |
| 5. Dopamine. | 4 | 10 | 7 |
| 6. Intracranial pressure wave. | 4 | 10 | 7 |
| 7. Blood supply of the spinal cord. | 4 | 10 | 7 |
| 8. Role of tumour markers in diagnosis of posterior third ventricular tumours. | 4 | 10 | 7 |
| 9. Brain stem auditory evoked potential. | 4 | 10 | 7 |
| 10. Phenytoin. | 4 | 10 | 7 |

(LD 036)

AUGUST 2013

Sub. Code: 1581

**M.Ch. – NEURO SURGERY
FIVE YEARS COURSE – PART – II
Paper – I NEURO BASIC SCIENCES
*Q.P.Code: 181581***

Time: Three Hours

Maximum: 100 marks

I. Elaborate on:

(2X15=30)

1. What are the bony and ligamentous anatomical relationships of the atlanto axial joint? Mention their relevance to maintaining atlanto axial stability.
2. Describe the anatomy of the cavernous sinus and add a note on its relevance to the surgical approaches to lesions within the cavernous sinus.

II. Write notes on:

(10X7=70)

1. Mannitol.
2. Microscopic pathology of astrocytomas and their WHO classification.
3. Recesses of the third ventricle.
4. Acetazolamide.
5. Blood brain barrier.
6. Foramen magnum.
7. Pathway for conduction of pain sensation.
8. Motor evoked potential.
9. Innervation of urinary bladder.
10. Acetyl choline.
