

APRIL - 2001

[KD 039]

Sub. Code : 1584

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

Branch II — Neurosurgery

(Revised Regulations for 2 year course)

Paper IV — RECENT ADVANCES IN  
NEUROSURGERY

Time : Three hours

Maximum : 100 marks

All questions to be answered.

1. Discuss the various indications, advantages and disadvantages of neuroendoscopy. (30)
2. Discuss stereotactic and functional neurosurgery. (30)
3. Write short notes on : (4 × 10 = 40)
  - (a) Neuro Prostheses
  - (b) Boron Neutron Capture therapy of Brain Tumors
  - (c) Functional MRI
  - (d) Brain protection.

**NOVEMBER - 2001**

**[KE 039]**

**Sub. Code : 1584**

**M.Ch. DEGREE EXAMINATION**

**(Higher Specialities)**

**(Revised Regulations for 2 Years Course)**

**Branch II — Neurosurgery**

**Paper IV — RECENT ADVANCES IN  
NEUROSURGERY**

**Time : Three hours**

**Maximum : 100 marks**

**All questions to be answered.**

1. Discuss endovascular treatment for intracranial aneurysms. (30)
2. Discuss the various modern neurosurgical approaches to the skull base. (30)
- 3 Write short notes on : (4 × 10 = 40)
  - (a) Functional radiosurgery
  - (b) Neurosurgery and the internet
  - (c) Use of fibrin glue in neurosurgery
  - (d) Gene therapy in neurological diseases.

**MARCH - 2002**

**[KG 039]**

**Sub. Code : 1584**

**M.Ch. DEGREE EXAMINATION.**

**(Higher Specialities)**

**(Revised Regulations for 2 years course)**

**Branch II — Neuro Surgery**

**Paper IV — RECENT ADVANCES IN NEURO  
SURGERY**

**Time : Three hours**

**Maximum : 100 marks**

**ALL questions to be answered.**

1. Discuss the role of radio surgery. (30)
2. Discuss the management of chronic intractable pain. (30)
3. Write Short notes on : (4 × 10 = 40)
  - (a) Spect.
  - (b) Current status of Psychosurgery
  - (c) Gene Therapy.
  - (d) Giant Aneurysm.

SEPTEMBER - 2002

[KH 039]

Sub. Code : 1584

**M.Ch. DEGREE EXAMINATION**

*(Higher Specialities)*

*(Revised Regulations for 2 Year Course)*

**Branch II — Neurosurgery**

**Paper IV — RECENT ADVANCES IN  
NEUROSURGERY**

**Time : Three hours**

**Maximum : 100 marks**

**All questions to be answered**

1. Discuss the present status and future directions in surgery for Parkinson's disease. (30)
  2. Discuss the current status and recent advances in epilepsy surgery. (30)
  3. Write short notes on : (4 × 10 = 40)
    - (a) Neurogenetic surgery
    - (b) Radiosurgery
    - (c) Endoscopic spine surgery
    - (d) Brain trauma monitoring.
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FEBRUARY - 2005

[KM 039]

Sub. Code : 1584

**M.Ch. DEGREE EXAMINATION.**

(Higher Specialities)

(Revised Regulations for 3 years course)

Branch II — Neuro Surgery

Paper IV — RECENT ADVANCES

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 recent advances in surgery for Parkinson's disease.

(2) What are the treatment options for cerebral A.V. Ms. with indication for each?

II. Short questions : (10 × 5 = 50)

(a) Robotics in neurosurgery

(b) Monitoring in Neurosurgical I.C.U.

(c) Endoscopic assisted neurosurgery

(d) MR Spectroscopy

(e) Transcranial Doppler (TCD) in Neurosurgery

(f) Current status of Carotid endarterectomy

(g) Visual evoked potentials

(h) Baloon angioplasty

(i) Neuroneavigation

(j) Radiosurgery.

[KO 039]

Sub. Code : 1584

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations for 3 years course)

Branch II — Neuro Surgery

Paper IV — RECENT ADVANCES

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 : (2 × 15 = 30)

(1) A 40 year old man is admitted with a posterior fossa predominantly cystic mass. There is family history of similar illness. Discuss investigation and management. Include a short note on screening measures.

(2) Discuss Neuroimaging of Lumbar disc prolapse.

II. Short notes : (10 × 5 = 50)

(a) Enumerate the differences between a cervical intramedullary ependymoma and astrocytoma on contrast MRI scan.

(b) List the methods of determining the motor cortex on MRI scan of the brain. Add a note on intraoperative localisation of the motor cortex.

(c) Name a few Nobel Prize winning scientists who have contributed to Neuroradiology and briefly mention their contributions.

(d) Outline the steps involved in clipping a posterior communicating artery aneurysm.

(e) Discuss general principles involved in positioning a patient for intracranial microsurgery.

(f) Split cord malformation.

(g) Non germinomatous germ cell tumors.

(h) Chemotherapy in Oligodendroglioma.

(i) Discuss the Prognosis of a 45 year old man with a left frontal glioblastoma.

(j) Perioperative management of a patient with non-functioning pituitary adenoma.

**AUGUST - 2006**

**[KP 039]**

**Sub. Code : 1584**

**M.Ch. DEGREE EXAMINATION.**

**(Higher Specialities)**

**(Revised Regulations for 3 years course)**

**Branch II — Neuro Surgery**

**Paper IV — RECENT ADVANCES IN  
NEURO SURGERY**

**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.**

**I. Essay questions :**

**(1) Discuss various strategies for cerebral protection during temporary arterial occlusion in aneurysm surgery. (20)**

**(2) Discuss the pathology, clinical characteristics and management of paediatric temporal lobe tumors. (15)**

**(3) Neurosurgical management of Parkinsonism. (15)**

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

**(a) Imaging in hippocampal sclerosis**

**(b) Early ischaemic changes on non contrast CT**

**(c) Hemostatic therapy for hypertensive intracerebral haemorrhage.**

**(d) Hypertonic saline in critical care management**

**(e) Evaluation and management of dissecting aneurysms of vertebral artery**

**(f) Genetic aberrations in pituitary tumors**

FEBRUARY - 2007

[KQ 039]

Sub. Code : 1584

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations for 3 years course)

Branch II — Neuro Surgery

Paper IV – RECENT ADVANCES IN NEURO  
SURGERY

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 diagram wherever necessary.

I. Essay questions :

1. How will you manage a unconscious patient suspected to have head injury. What are the treatment options for acute intracranial hematomas following trauma. (20)

2. What are the advantages in doppler studies in stroke. Describe the evolution of surgical management of stroke with its present status. (15)

3. What are the indications and surgical options for intractable epilepsy?

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

1. Deep brain stimulation.

2. Brain Oximetry.

3. Genetics in Neurosurgery.

4. Brain computer interphase.

5. Brainstem auditory evoked potential.

6. Monitoring in Neurosurgical I.C.U.



[KR 039]

Sub. Code : 1584

M.Ch. DEGREE EXAMINATION.

(Higher Specialities)

(Revised Regulations for 3 years course)

Branch II — Neuro Surgery

Paper IV — RECENT ADVANCES IN NEURO  
SURGERY

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.

I. Essay questions :

(1) Describe briefly microsurgical anatomy of lateral ventricle with appropriate diagrams. Discuss the merits and demerits of endoscopic versus microneurosurgical approach to common trigonal lesions. (20)

(2) Discuss the pathogenesis, clinical features relevant investigations and management of Dandy-Walker malformation. (15)

(3) Discuss the different hypothesis for syringomyelia and discuss the merits and disadvantages of presently practiced surgical procedures. (15)

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

(a) Discuss general principles involved in positioning a patient for intracranial microsurgery

(b) Surgical treatment for intractable epilepsy

(c) Neuro prosthesis

(d) Merits and demerits of endoscopic disc surgery

(e) Current controversies in the treatment of intracranial aneurysms

(f) Evaluate the advantages and disadvantages of radio frequency lesion versus posterior fossa M.V.D. for trigeminal neuralgia.

**[KS 039]**

**Sub. Code : 1584**

**M.Ch. DEGREE EXAMINATION.**

**(Higher Specialities)**

**(Revised Regulations for 3 years course)**

**Branch II — Neuro Surgery**

**Paper IV — RECENT ADVANCES IN NEURO  
SURGERY**

**Q.P. Code : 171584**

**Time : Three hours**

**Maximum : 100 marks**

**Draw suitable diagram wherever necessary.**

**Answer ALL questions.**

**I. Write essay questions :**

**1. Write an essay on radio-surgery. (20)**

**2. Discuss the management of incidental findings on MRI of brain and spine. (20)**

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

**(1) Window period in HIV.**

**(2) Medical treatment of neurogenic bladder.**

**(3) Nosocomial infection.**

**(4) Spinal fixation.**

**(5) Physiological changes in astronauts.**

**(6) Aspirin in neurosurgical practice.**

**(7) DBS.**

**(8) Stem cells.**

**(9) Chemotherapy for gliomas.**

**(10) Write abstract of your dissertation/research paper of M.Ch. for submission to J. of Neurological Society of India.**

**FEBRUARY – 2009**

**[KU 039]**

**Sub. Code: 1584**

**M.CH DEGREE EXAMINATIONS  
(Higher Specialities)  
(Revised Regulations for 3 years course)  
Branch II – Neuro Surgery  
Paper IV –RECENT ADVANCES IN NEURO SURGERY  
*Q.P. Code: 171584***

**Time: Three hours**

**Maximum: 100 Marks**

**ANSWER ALL QUESTIONS**

**Draw suitable diagrams wherever necessary.**

**I. Essays: 2 x 20 = 40 Marks**

1. Describe the aetiopathology of vasospasm and its management.
2. Real time Neuro Navigation.

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

1. Baclofen pump for spasticity.
2. Intra operative MRI.
3. Artificial disc replacement.
4. Alternative modes of treating prolapsed disc.
5. Neurosurgical investigative armamentarium of intensive care.
6. Coiling of aneurysm, its merits and demerits.
7. Management of osteoporotic fractures.
8. BEAR.
9. Trans cranial Doppler.
10. Prognosticating factors of growth and recurrence of glioma.

**August 2009**

[KV 039]

**Sub. Code: 1584**

**M.Ch. DEGREE EXAMINATIONS  
(Super Specialities)  
(New and Revised Regulations)  
(Common to both 5 years and 3 years course)**

**Branch II – Neuro Surgery  
Paper IV –RECENT ADVANCES IN NEURO SURGERY  
*Q.P. Code: 181584***

**Time: Three hours**

**Maximum: 100 Marks**

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

**I. Essays:**

**2 x 20 = 40 Marks**

1. Describe the blood supply of spinal cord. Enumerate the types of intra-medullary tumors and discuss the management of common intra-medullary tumors.
2. Discuss the management of extra-cranial carotid vascular disease. Enumerate the various trials conducted. Also evaluate the merits/demerits of stenting v/s endarterectomy.

**II. Write short notes on:**

**10 X 6 = 60 Marks**

1. Artificial implants used in disc surgery.
2. Deep brain stimulation.
3. Management of spontaneous ICH.
4. Endoscopy assisted microneurosurgery.
5. Newer antiepileptic drugs.
6. Vertebroplasty.
7. Materials used in endovascular procedure.
8. EC-IC bypass.
9. WHO classification of meningioma.
10. Management of cerebral cavernoma.

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February 2010

[KW 039]

Sub. Code: 1584

**M.Ch. DEGREE EXAMINATIONS**  
**(Super Specialities)**  
**(New and Revised Regulations)**  
**(Common to both 5 years and 3 years course)**

**Branch II – Neuro Surgery**  
**Paper IV –RECENT ADVANCES IN NEURO SURGERY**  
***Q.P. Code: 181584***

**Time: Three hours**

**Maximum: 100 Marks**

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

**I. Essays:**

**2 x 20 = 40 Marks**

1. Alternative therapeutic modalities for gliomas.
2. Management of a head injury patient in ICU – recent advances.

**II. Write short notes on:**

**10 X 6 = 60 Marks**

1. Surgery for intractable epilepsy.
2. HIV in a neurosurgery patient.
3. Growing fracture.
4. Molecular neuropathology.
5. Recent advances in radiotherapy.
6. Recent advances in embolisation procedures.
7. Neurosurgical management of pain.
8. Neuronavigation.
9. Endoscopic versus microscopic pituitary tumour excision
10. Endoscopic repair of CSF leak.

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