

**MANIPAL ACADEMY OF HIGHER EDUCATION**  
**M.Ch. (NEURO SURGERY) DEGREE EXAMINATION – JULY 2020**  
**SUBJECT: PAPER I: BASIC SCIENCES**

Wednesday, July 01, 2020

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

☞ **All questions are compulsory.**

☞ **Long essay:**

1. Spinal Neural tube defects – embryology and pathogenesis.

(20 marks)

2. Deep venous system of the brain.

(20 marks)

3. **Short notes:**

3A. Visual pathway and corresponding field deficits

3B. Neural plasticity

3C. Craniopharyngioma – pathogenesis, classification and hormonal implications

3D. Calcium channel blockers

3E. Vasospasm – etiopathogenesis

3F. Neurofibromatosis

(10 marks × 6 = 60 marks)



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**M.Ch. (NEURO SURGERY) DEGREE EXAMINATION – JULY 2020**  
**SUBJECT: PAPER II: CLINICAL NEUROLOGY AND NEUROSURGERY**

Thursday, July 02, 2020

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

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✍ **All questions are compulsory.**

✍ **Long Essay:**

1. Describe the etiopathogenesis, clinical features, grading and management guidelines for cerebral AVMs.

(20 marks)

2. Diagnosis of spinal instability and basic principles of spinal instrumentation.

(20 marks)

3. **Short Notes:**

3A. Discuss the anatomy, pathophysiology, radiology and management issues in cervical spondylosis.

3B. Diffuse axonal injuries

3C. Post traumatic epilepsy

3D. Grade II Meningiomas

3E. Cushings disease

3F. Medulloblastoma – prognostic indicators & current management policies.

(10 marks × 6 = 60 marks)



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**M.Ch. (NEURO SURGERY) DEGREE EXAMINATION – JULY 2020**  
**SUBJECT: PAPER III: CLINICAL NEUROSURGERY**

Friday, July 03, 2020

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

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✍ **All questions are compulsory.**

✍ **Essay:**

1. Discuss in details about microsurgical anatomy of tentorial incisura.

(20 marks)

2. Discuss in detail about pathophysiology, diagnosis, non operative percutaneous procedures and surgical management of trigeminal neuralgia.

(20 marks)

3. **Short Essays:**

3A. Anatomy and biomechanics of CV junction

3B. Unusal gliomas

3C. Growing skull fractures

3D. Spondylolisthesis

3E. Traumatic CSF fistulas

3F. Cerebral vasospasm

(10 marks × 6 = 60 marks)



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**M.Ch. (NEURO SURGERY) DEGREE EXAMINATION – JULY 2020**  
**SUBJECT: PAPER IV: RECENT ADVANCES, NEURORADIOLOGY**

Saturday, July 04, 2020

Time: 14:00 – 17:00 Hrs.

Max. Marks: 100

✍ **Answer ALL the questions.**

✍ **Essay:**

1. Surgery for movement disorders.

(20 marks)

2. Minimal access spinal surgical techniques.

(20 marks)

3. **Short Notes:**

3A. Functional MRI

3B. Surgical procedures for pain

3C. Gliomatosis cerebri

3D. Endoscopic third ventriculostomy – indications, limitations and complications

3E. Solitary cerebral metastasis- management strategy

3F. Prof. B Ramamurthi

(10 marks × 6 = 60 marks)

