

NEUROSURGERY (FINAL / PART 2)

PAPER – I

Time : 3 hours
Max. Marks : 100

NS2/D/12/21/I

Attempt all questions in order.
Each question carries 10 marks.

Write short notes on:

1. a) Discuss the substrates for energy metabolism in the brain. (5)
b) Cerebral auto-regulation. (5)
2. a) Microsurgical anatomy of cavernous sinus. (7)
b) Pneumatisation of sphenoid sinus. (3)
3. a) Diagrammatic representation of floor of IVth ventricle. (6)
b) Blood supply of brain stem. (4)
4. a) Anatomical basis of visual field defects. (7)
b) Optokinetic nystagmus. (3)
5. a) Physiology of normal micturition. (5)
b) Bladder dysfunction in spinal cord & cauda diseases. (5)
6. a) Neuropeptides. (5)
b) Lacosamide. (5)
7. a) Embryological basis of craniostenosis. (5)
b) Embryology of intracranial vascular malformation. (5)
8. a) MR spectroscopy: principle and techniques. (5)
b) Magneto-encephalography: principle and technique. (5)
9. a) Discuss the anatomical basis of cerebral herniations. (6)
b) Persistent vegetative state. (4)
10. a) Programmed cell death. (5)
b) Phacomatosis. (5)

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PAPER – II

Time : 3 hours
Max. Marks : 100

NS2/D/12/21/II

Attempt all questions in order.
Each question carries 10 marks.

Write short notes on:

1. a) Describe epidemiology, causes and various factors responsible for head injury in India. (7)
b) Post traumatic hydrocephalus: causes and its management in brief. (3)
2. a) Describe grades, causes and clinical features of Chiari malformation along with long term outcome. (7)
b) Relationship and grade-wise association of Chiari malformation with spinal dysraphism. (3)
3. a) Describe various approaches to posterior third ventricle. (7)
b) Describe endoscopic removal of colloid cyst of third ventricle. (3)
4. a) Myelocystocele (5)
b) Management of odontoid fractures (5)
5. a) Xenon computed tomography and its clinical application. (5)
b) Intra-operative monitoring in intra-medullary tumors with outcome following treatment. (5)
6. a) Orbito-fronto-zygomatic craniotomy and its clinical application. (5)
b) Awake craniotomy: indications and techniques. (5)
7. Discuss etiology, clinical features, diagnostic localization and timing of surgery in brachial plexus injury. (10)
8. a) Clinico-radiological classification and salient features of brain stem glioma. (6)
b) Various approaches to foramen magnum lesions. (4)
9. a) Causes and endovascular management of carotico-cavernous fistula (6)
b) Stereotactic biopsy of thalamic mass lesion. (4)
10. a) Psychosurgery for obsessive compulsive neurosis. (5)
b) Dynamic stabilization of lumbar spine. (5)

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PAPER – III

NS2/D/12/21/III

Time : 3 hours

Max. Marks : 100

**Attempt all questions in order.
Each question carries 10 marks.**

Write short notes on:

1. a) Discuss merits and demerits of different positions for surgery of cerebello pontine schwannoma. (6)
b) Discuss current prospective for hearing preservation in acoustic Schwannoma surgery. (4)
2. a) Classify split cord malformation and Pang's theory of embryogenesis. (5)
b) Surgical management of intraspinal lipomas according to their location in spinal axis. (5)
3. a) Patho-physiology and natural history of cervical spondylotic disease. (5)
b) Role of cord signals (on MRI) and relation with outcome in cervical disc disease. (5)
4. a) Role of neurosurgery in the management of chronic pain. (6)
b) Vagus nerve stimulation in the treatment of epilepsy. (4)
5. a) Minimally invasive neurosurgery. (5)
b) Current status of stem cell transplant and confounding factors in neurosurgery. (5)
6. a) Discuss pituitary apoplexy. (5)
b) Management options for Cushing's disease. (5)
7. a) Evidence based management of subarachnoid hemorrhage. (6)
b) Classification & age-wise management of vein of Galen aneurysm. (4)
8. a) Pathophysiology and natural history of hydatid disease of brain. (6)
b) Fungal lesions of brain in an immuno-compromised patient. (4)
9. a) Functional imaging in neurosurgery. (6)
b) Clinical applications of transcranial Doppler in neurosurgery. (4)
10. a) Recent advances in molecular genetics of brain tumors. (6)
b) Gene therapy in gliomas. (4)
