Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. Neuro Science Technology Degree Examination – 16-May-2023

Time: Three Hours **Max. Marks: 80 Marks**

ADVANCED NEURO SCIENCES TECHNOLOGY - I
Q.P. CODE: 2845

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

LONG ESSAYS (Answer any Two) **2 x 10 = 20 Marks**

1. Define blink reflex explain about the procedure and add a short note on abnormal patterns of blink reflex
2. Discuss about neuromuscular junction and the test protocol used in finding out NMJ disorders
3. Describe the stimulation and recording parameters for evaluation visual evoked potential and add note on visual pathway with suitable diagram. Discuss in detail about the factors affecting VEP

SHORT ESSAYS (Answer any Six) **6 x 5 = 30 Marks**

4. Cervical Spondylosis
5. Normal median SSEP
6. Cerebral infraction
7. Normal CMCT measurement
8. Normal waveforms of BAER with their generators and normal values
9. Abnormalities of CMCT
10. Wilson's disease
11. Sacral plexus

SHORT ANSWERS (Answer any Ten) **10 x 3 = 30 Marks**

12. Posterior cutaneous nerve of thigh
13. Meralgia paresthesia
14. CTS
15 Autonomic neuropathy
16. Factors affecting BEAR
17. Collision technique
18. Decrement response
19. Types of axonal neuropathy
20. Latency and conduction velocity
21. Inter peak latency values
22. Generators of tibial SSEP
23. Types of VEP

Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. Neuro Sciences Technology Degree Examination – 16-May-2023

Time: Three Hours **Max. Marks: 100**

ADVANCED TECHNIQUE- I (RS-3)
Q.P. CODE: 3311

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

LONG ESSAYS (Second Question Choice) **2 x 10 = 20 Marks**

1. Essay on somatosensory evoked potentials. Describe the test protocols and its normative data.
2. Describe the recording technique , normative data & pit falls in the Blink reflex study
   OR
   Describe on sacral plexus and Add a note on its clinical conditions

SHORT ESSAYS (Question No 5 & 10 choice) **10 x 5 = 50 Marks**

3. Radial Nerve
4. CIDP
5. Facial Nerve
   OR
   Deep brain Stimulation
6. Neuropathy associated with AIDS
7. Spinal cord Injury
8. Visual Evoked potential (VEP)
9. Cervical spondylosis
10. Lumbar plexus
    OR
    Lumbar disc prolapsed
11. Movement disorders
12. Clinical conditions in MEP

SHORT ANSWER **10 x 3 = 30 Marks**

13. Miller fisher syndrome
14. Sural Nerve
15. Signal to noise ratio
16. Axonal reflex
17. Posterior cutaneous nerve of thigh
18. AIDP & its Signs & Symptoms
19. Temporal dispersion
20. Neurotransmitters
21. Limitations of NCS
22. Sapheneous Nerve

Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. Neuro Sciences Technology Degree Examination – 18-May-2023

Time: Three Hours **Max. Marks: 100**

ADVANCED TECHNIQUE- II (RS-3)

Q.P. CODE: 3312

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

LONG ESSAYS (Second Question Choice) **2 x 10 = 20 Marks**

1. Describe EMG in detail and its types
2. Discuss in detail about paediatric PSG
   OR
   Discuss stages of sleep in detail and sleep disorders

SHORT ESSAYS (Question No 5 & 10 choice) **10 x 5 = 50 Marks**

3. Sensory Aphasia
4. Fasiculations and fibrillations
5. Anton's syndrome
   OR
   Muscular dystrophy
6. Deep tendon reflex
7. Video EEG
8. Rapid Eye Movement sleep disorder
9. Surface EMG
10. Capnography
    OR
    Computer application in EMG
11. Explain various disorders of speech and language
12. Stages of sleep

SHORT ANSWER **10 x 3 = 30 Marks**

13. Positive sharp waves
14. Arousal seizures
15. Biocalibrations in pediatric PSG
16. R-R interval
17. Posts waveform in PSG
18. Gastroesophageal reflux
19. Cone waves
20. Motor Unit Potential
21. Types of needles in EMG
22. Patient safety in EMG

Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. Neuro Sciences Technology Degree Examination – 20-May-2023

Time: Three Hours **Max. Marks: 100 Marks**

SYSTEMIC DISEASES (RS-3)

Q.P. CODE: 3313

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary

LONG ESSAYS (Second Question Choice) **2 x 10 = 20 Marks**

1. Gullian Barre syndrome, etiology, pathogenesis, clinical features, diagnosis and management.

2. Explain in detail about Hydrocephalus and its signs and symptoms, clinical features.
   OR
   Classify sleep disorders; make a note on role of polysomnography in diagnosis of narcolepsy.

SHORT ESSAYS (Question No 5 & 10 choice) **10 x 5 = 50 Marks**

3. Japanese encephalitis – clinical features, diagnosis and management.
4. Bell's palsy.
5. Describe process of cerebrospinal production and drainage.
   OR
   Make a note Macrocephaly.
6. Rabies – pathophysiology and clinical features.
7. Congenital myasthenia syndrome.
8. Subarachnoid hemorrhage.
9. Make a note on multiple sclerosis.
10. Status epileptics.
    OR
    REM sleep disorders.
11. Trigeminal neuralgia.
12. Botulism.

SHORT ANSWER **10 x 3 = 30 Marks**

13. Name three causes for microcephaly.
14. Name three anti-seizure drugs.
15. Classify inflammatory myopathies.
16. Complications of Lumbar puncture.
17. Muscular dystrophy and its types.
18. Clinical features of Thiamine deficiency.
19. Name three causes of dementia.
20. Bells phenomenon.
21. Name three anti-platelet drugs.
22. CIDP and its types.

Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. Neuro Science Technology Degree Examination – 18-May-2023

Time: Three Hours **Max. Marks: 80 Marks**

ADVANCED NEURO SCIENCES TECHNOLOGY - II
Q.P. CODE: 2846

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

LONG ESSAYS (Answer any Two) **2 x 10 = 20 Marks**

1. What is needle electromyography and explain in detail about the spontaneous activity recorded
2. Discuss in detail about any three autonomic function test
3. Explain the stages of sleep and list down the sleep disorders in brief

SHORT ESSAYS (Answer any Six) **6 x 5 = 30 Marks**

4. SFEMG
5. Patient preparation for PSG
6. DBS
7. Autosomal dominant disorder
8. CPAP
9. Types of dystrophies
10. Short note on MUP
11. Myogenic pattern in EMG

SHORT ANSWERS (Answer any Ten) **10 x 3 = 30 Marks**

12. Define endplate potential
13. JITTER
14. Hypopnea
15 Video EEG uses
16. Dystonia
17. DMD
18. Sleep terrors
19. Deep tendon reflex
20. Sympathetic nervous system
21. Short note fasciculation and positive sharp waves
22. Concentric needle
23. Short note on apnea

Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. Neuro Science Technology Degree Examination – 20-May-2023

Time: Three Hours **Max. Marks: 80**

SYSTEMIC DISEASES

Q.P. CODE: 2847

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

LONG ESSAYS (Answer any Two) **2 x 10 = 20 Marks**

1. Describe etiology, pathogenesis, clinical features and management of tubercular meningitis
2. Pathophysiology, clinical features and management of myasthenia gravis. Add a note on its complications
3. Define Seizure and Epilepsy. Describe about recent classification of epilepsy

SHORT ESSAYS (Answer any Six) **6 x 5 = 30 Marks**

4. Bell's palsy
5. Regulation of BP
6. Management of Parkinsonism
7. Status epilepticus
8. Types CUDP and its diagnosis
9. Traumatic head injury
10. Trigeminal neuralgia
11. Make a short note on multiple sclerosis

SHORT ANSWERS (Answer any Ten) **10 x 3 = 30 Marks**

12. Draw a transverse section of spinal cord at cervical level
13. Types of aphasia
14. Name three diseases with autosomal dominant pattern of inheritance
15 Name three causes for hydrocephalus
16. Subarachnoid hemorrhage – cause and clinical features
17. Name three drugs used in migraine
18. Name three causes for low backache
19. Clinical features of niacin deficiency
20. Name three deficiency disorders
21. Name three causes of muscle cramps
22. Clinical features of peripheral neuropathy
23. Braches of trigeminal nerve

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Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. Neuro Science Technology Degree Examination – 24-Nov-2023

Time: Three Hours **Max. Marks: 80**

ADVANCED NEURO SCIENCES TECHNOLOGY - I
Q.P. CODE: 2845

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

LONG ESSAYS (Answer any Two) **2 x 10 = 20 Marks**

1. Describe the physiology of auditory pathway and discuss about Brainstem auditory evoked potential
2. Describe anatomy, course and function of facial nerve. Add a note on Bell's palsy
3. What are somatosensory sensor evoked potentials? Describe test protocol, normative data and pitfalls

SHORT ESSAYS (Answer any Six) **6 x 5 = 30 Marks**

4. Trigeminal neuropathy
5. Motor evoked potential
6. Tibial nerve
7. Visual evoked potential – recording techniques
8. Use of computers in evoked potentials
9. Blink reflex
10. Guillian Barre Syndrome (GBS)
11. Frequency responses

SHORT ANSWERS (Answer any Ten) **10 x 3 = 30 Marks**

12. Meralgia Paresthetica
13. Temporal dispersion
14. Axonal Reflex
15 S1 radiculopathy
16. Wrist drop
17. Tarsal Tunnel syndrome
18. Signal to noise ratio
19. N 20 in SSEP
20. Treatment for CIDP
21. Causes for spinal cord Injury
22. Diabetic neuropathy
23. Wallerian degeneration

Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. Neuro Science Technology Degree Examination – 27-Nov-2023

Time: Three Hours **Max. Marks: 80 Marks**

ADVANCED NEURO SCIENCES TECHNOLOGY - II

Q.P. CODE: 2846

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

LONG ESSAYS (Answer any Two) **2 x 10 = 20 Marks**

1. Discuss the principle, procedures, protocols and recording techniques used in EMG.
2. Bell's palsy and the anatomy of 7^{th} Nerve.
3. Discuss in detail autonomic function studies.

SHORT ESSAYS (Answer any Six) **6 x 5 = 30 Marks**

4. Computer application in EMG.
5. End plate potentials.
6. Quantitative-EMG
7. Types of needles used in EMG and uses.
8. Motor Unit Potential.
9. Jaw jerk and its clinical importance.
10. Myopathic patterns.
11. Anton's Syndrome

SHORT ANSWERS (Answer any Ten) **10 x 3 = 30 Marks**

12. R-R Interval.
13. Patient safety in EMG.
14. Define neurogenic and myogenic patterns.
15. Biocalibrations
16. 6 uses of EMG.
17. Deep tendon Reflex
18. Mention four brainstem disorders.
19. End tidal capnography
20. Polyphasics.
21. Insertional activity.
22. Sympathetic skin response.
23. What is an electrodes used in EMG?

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Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. Neuro Science Technology Degree Examination – 29-Nov-2023

Time: Three Hours **Max. Marks: 80 Marks**

Systemic Diseases

Q.P. CODE: 2847

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

LONG ESSAYS (Answer any Two) **2 x 10 = 20 Marks**

1. Etiology, clinical features and management of peripheral neuropathy.
2. Classification, clinical features, management of inflammatory myopathies.
3. Describe the clinical features, management and vaccination for rabies.

SHORT ESSAYS (Answer any Six) **6 x 5 = 30 Marks**

4. Management of Alzheimer's disease.
5. CSF-Formation and drainage.
6. Viral meningitis.
7. Describe the types of epilepsy/seizures.
8. Carpal tunnel syndrome.
9. Treatment for parkinsonism.
10. Imaging in neurological disease.
11. **Botulism**

SHORT ANSWERS (Answer any Ten) **10 x 3 = 30 Marks**

12. Vitamin B12 and CNS.
13. Three causes for toxic neuropathy.
14. Blood brain barrier.
15. Circle of Willis.
16. **Parkinsonism**
17. Three reversible causes for dementia.
18. **Physiology of Myasthenia Gravis**
19. Three side effects of valproate.
20. Dysphonia.
21. Write briefly about stages of sleep.
22. Three causes for microcephaly.
23. Three causes of dementia.

Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. Neuro Sciences Technology Degree Examination – 22-Nov-2024

Time: Three Hours **Max. Marks: 100**

ADVANCED TECHNIQUE- I (RS-3)

Q.P. CODE: 3311

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

LONG ESSAYS (Second Question Choice) **2 x 10 = 20 Marks**

1. What is Evoked potential? Principles of averaging / recording techniques. Put a note on Evoked potential instrumentation
2. Lumbar Radiculopathies, Lumbar plexus. Add a note on Lumbar spinal stenosis
   OR
   What is Bell's palsy? Discuss the pathway and branches of facial nerve

SHORT ESSAYS (Question No 5 & 10 choice) **10 x 5 = 50 Marks**

3. Neuropathies associated with AIDS
4. Spinal cord injury
5. Saphenous nerve
   OR
   Computer application in evoked potentials
6. Sacral plexus
7. Cervical Spondylosis and Myelopathy surgical monitoring of SSEP
8. Gullian Barre syndrome
9. Temporal dispersion
10. Signal to noise ratio
    OR
    Blink reflex
11. Tarsal tunnel syndrome
12. Tibial SSEP

SHORT ANSWER **10 x 3 = 30 Marks**

13. Conduction block
14. Axonotmesis
15. Clinical signs of carpal tunnel syndrome
16. VEP in paediatrics
17. Normal median SSEP
18. CIDP
19. Branches of trigeminal nerve
20. Ulnar nerve
21. Abnormalities in CMCT
22. Autonomic neuropathy

Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. Neuro Sciences Technology Degree Examination – 27-Nov-2023

Time: Three Hours **Max. Marks: 100**

ADVANCED TECHNIQUE - II (RS-3)

Q.P. CODE: 3312

Your answers should be specific to the questions asked
Draw neat labeled diagrams wherever necessary

LONG ESSAYS (Second Question Choice) **2 x 10 = 20 Marks**

1. Discuss about the principle, procedure ,protocols & recording techniques used in EMG
2. Explain in detail about Paediatric PSG.
   OR
   Describe in detail about the therapeutic. AIDS for neurological disorder

SHORT ESSAYS (Question No 5 & 10 choice) **10 x 5 = 50 Marks**

3. Fasciculation's & Fibrillations.
4. Explain in detail about apnea & its types.
5. Explain about Narcolepsy & Capinography.
   OR
   Jitter & Blocking.
6. Aphasia & its types
7. Video EEG
8. Parkinson's disease
9. Stages of sleep
10. Muscular dystrophy & its types
    OR
    Macro EMG
11. MUP & End Plate Potential
12. Computer application in EMG

SHORT ANSWER **10 x 3 = 30 Marks**

13. Mytonia
14. Sympathetic nervous system
15. Types of EMG needles
16. Deep tendon reflex
17. K-Complex
18. Define Polysomnography
19. Sleep spindles
20. Polymyocitis
21. REM sleep disorder
22. Autosomal dominant disease

Rajiv Gandhi University of Health Sciences, Karnataka

III Year B.Sc. Neuro Sciences Technology Degree Examination – 29-Nov-2023

Time: Three Hours **Max. Marks: 100 Marks**

SYSTEMIC DISEASES (RS-3)

Q.P. CODE: 3313

Your answers should be specific to the questions asked.
Draw neat labeled diagrams wherever necessary

LONG ESSAYS (Second Question Choice) **2 x 10 = 20 Marks**

1. Describe pathophysiology, clinical features and management of Myasthenia Gravis. Add a note on high frequency nerve stimulation.

2. Define seizure and epilepsy. Describe about recent classification of Epilepsy.
   OR
   Describe etiology, pathology, classification and management of ischemic stroke.

SHORT ESSAYS (Question No 5 & 10 choice) **10 x 5 = 50 Marks**

3. **Myotonia**
4. Thoracic outlet syndrome.
5. Classify types of aphasia.
   OR
   CNS auto-regulation.
6. Leprosy.
7. Botulism.
8. Muscular dystrophy and its types.
9. Classify sleep disorders.
10. Subdural hematoma.
    OR
    Alzheimer's disease.
11. Describe various stages of sleep.
12. Childhood absence epilepsy.

SHORT ANSWER **10 x 3 = 30 Marks**

13. Name three autosomal dominant inherited disorders.
14. Name the causes for hydrocephalus.
15. Signs and symptoms of Parkinson's disease.
16. Name three causes for muscle cramps.
17. Name three causes for low backache.
18. Measurement to prevent bedsores in bedridden patients.
19. Define syncope and its types.
20. Name some toxic and metabolic disorders.
21. Name three drugs used in migraine.
22. Causes of epilepsy.