MBBS Nervous System – Physiology Chapter Wise Previous Exam Questions conducted by KUHS (Kerala University of Health Sciences)

Name the components of the enteric nervous system and outline its functions

1. List any four functions of hypothalamus and explain any one/ Name the nuclei of hypothalamus. Enumerate the functions of hypothalamus and describe any one in detail.
2. Role of hypothalamus in temperature regulation
3. Role of hypothalamus in feeding behavior
4. Functions of Cerebellum/ Draw the functional divisions of cerebellum. Explain the functions of these divisions with referring to their connections.
5. Features of cerebellar lesions
6. Role of the cerebellum in motor control
7. Cerebellum in voluntary activity
8. Denervation hypersensitivity
9. Pathway of pain from the face
10. Descending analgesic system
11. Gate control theory of pain
12. Role of nigrostrial pathway in regulating cortical activity
13. Parkinsonism
14. Types of EEG wave forms/ Waves in EEG
15. Mention the stages of sleep
16. Differences between REM and NREM sleep
17. Paradoxical sleep.
18. Conditioned reflex
19. Disynaptic reflex
20. Decelerate rigidity
21. Sensory homunculus
22. Brown-sequard syndrome
23. Aphasia
24. Functions of thalamus/ Describe connections and functions of thalamus
25. Functions of limbic system

Explain the Physiological basis

1. Clasp knife rigidity
2. Cogwheel rigidity
3. Patients with sensory ataxia lose balance on closing their eyes
4. Diaphragmatic pain is felt at the tipoff the shoulder
5. Pain in the arm during cardiac angina
6. Pain disappears by rubbing the affected area Babinski's sign in new born
7. Phantom limb
8. Abnormal plantar reflex in neurological diseases
9. Left internal capsule lesion produces right hemiplegia
10. Blood brain barrier
11. Lumbar puncture is done at L2-L3 level

Draw and Label

1. Pain pathway from origin to termination
2. Pathway of stretch reflex
3. Cortico spinal tract/ Corticospinal tracts from it's orgin to termination
4. Lateral spinothalamic tract
5. Multipolar Neuron
6. Functional areas of cerebral cortex

Cases

1. A 60 year old man was brought to the casualty with the complaints of sudden onset of inability to move his right upper limb and lower limb. He gave a history of treatment for hypertension since 10 years. On examination he presented with-Hemiplegia with UMN facial nerve palsy of the right side

- Name the tract affected in this patient
- Mention the most probable site of lesion
- Trace the affected pathway with the help of a diagram
- State the differentiating features of Upper Motor Neurons and Lower Motor Neuron lesions
- Comment on the tone of the muscles of the affected side (1+1+4+2+2=10 marks)

2. A 50 yrs old male comes with the history of difficulty to walk. On examination there is rigidity and resting tremors. His gait is abnormal.
What is your diagnosis?

- How do you describe this rigidity and the resting tremor and explain their physiological basis.
- Name the parts of the brain involved.
- Describe the important functional connections. (1+3+2+4=10)

3. A 50 year old patient of hypertension suddenly developed weakness of right upper and lower extremities and difficulty in speaking following a brief episode of loss of consciousness. On examination motor tone of is right extremities was found to be increased. Answer the following question based on your knowledge in physiology:

- What would an examination of power and deep tendon reflexes of the patient reveal?
- What would examination of the plantar reflex of the patient most likely reveal?
- Explain the physiologicalbasisof the findings of deep tendon reflexes in the patient
- What is the most likely clinical diagnosis of this condition?

4. A 40 years old man came to the OPD with a gait characterized by raising his feet unnecessarily high and bringing it down in a stamping manner (stamping gait). He also stood with his feet wide apart and tended to fall to the right with eyes closed. Answer the following questions based on your knowledge in physiology:

- Where is the lesion in this patient?
- Describe the neural tract involved in this patient with the help of a diagram
- What are the sensations carried by this tract
- What is dissociated anesthesia (1+5+2+2=10)

5. A 70 year old hypertensive male has come to the hospital with complaints of inability to use the right upper and lower limb. Physical examination revealed hypertension + and exaggerated deep tendon reflexes on the right side. Babinski's sign was positive on the right side. Answer the following questions based on your knowledge in physiology

- Name the clinical condition
- Explain the physiological basis of the above finding
- Differentiate between upper and lower motor neuron lesion
- Why Babinski's sign is positive (1+5+3+1=10)

6. An elderly man was admitted to the hospital with complaints of intense central chest pain with radiation to left arm. Answer the following questions based on your knowledge in physiology:

- What is the cause of the pain in the left arm and explain its mechanism.
- Describe the pain pathway in detail.
- Mention gate control theory of pain sensation (3+5+2=10)