

March-1990

161

M.D. DEGREE EXAMINATION, MARCH 1990.

Branch V — Physiology

NERVOUS SYSTEM, SPECIAL SENSES

Time : Three hours

Answer ALL the questions.

1. Discuss the functional organisation of the Basal Ganglia including an account of its connections and functions.
  2. Discuss the current concepts and theories related to Colour vision.
  3. Write short notes on :
    - (a) Decerebrate rigidity.
    - (b) Functional histology of the cerebellar cortex.
    - (c) Ascending reticular activating systems (ARAS).
    - (d) Generator potential.
    - (e) Dark adaptation.
    - (f) Cerebrospinal fluid (CSF).
-

## M.D. DEGREE EXAMINATION, MARCH 1991.

## Branch V — Physiology

## Paper III — NERVOUS SYSTEM AND SPECIAL SENSES

Time : Three hours.

Answer ALL the questions.

1. Diagrammatically depict the neuronal circuitry of the cerebellum. Discuss the role of cerebellum in control of voluntary movements. What kind of deficits are seen in patients with cerebellar disease ?
  2. Discuss the mechanisms of signal transmission and perception of pain. Give the differences between visceral and somatic pain.
  3. Write short notes on :
    - (a) Function of organ of corti.
    - (b) Photochemistry of colour vision.
    - (c) Paradoxical sleep.
    - (d) Conditioned reflexes.
    - (e) Functions of Neuroglia.
-

September-1991

265

M.D. DEGREE EXAMINATION, SEPTEMBER 1991.

Branch V — Physiology

Paper III — NERVOUS SYSTEM, SPECIAL SENSES

Time : Three hours.

Maximum : 100 marks.

Answer ALL questions.

1. Give a labelled diagram of the electronmicroscopic picture of a central synapse. Discuss the mechanism of transmission of nerve impulse across a synapse. Give a brief account of the various types of central excitatory and inhibitory neurotransmitters. (25 marks)
  2. Discuss the role of brainstem reticular formation in the control of motor function. (25 marks)
  3. Write short notes on :
    - (a) Function of utricle and saccule
    - (b) Mechanism of accommodation in the eye.
    - (c) Blood-brain barrier.
    - (d) Mechanisms of short and long term memory.
    - (e) Higher intellectual functions of the prefrontal association area. (5 × 10 = 50 marks)
-

September-1992

[ 265 ]

M.D. DEGREE EXAMINATION, SEPTEMBER 1992.

Branch V— Physiology

Paper III — NERVOUS SYSTEM AND SPECIAL SENSES

Time : Three hours.

Maximum : 100 marks.

Answer ALL the questions.

1. Discuss the role of cerebellum in the regulation of motor activity.
  2. Discuss the physiology of Reticular formation.
  3. Write briefly on :
    - (a) Dissociated anesthesia.
    - (b) Electrophysiology of Photoreceptors.
    - (c) Frequency discrimination by auditory system.
    - (d) Pupillary reflexes in CNS disorders.
    - (e) Evoked potentials.
-

March-1993

[ 1165 ]

M.D. DEGREE EXAMINATION, MARCH 1993.

Branch V — Physiology

Paper III — NERVOUS SYSTEM AND SPECIAL SENSES

Time : Three hours.

Maximum : 100 marks.

Answer ALL the questions.

1. Discuss the central regulation of Visceral Functions.
  2. Discuss the Physiology of cutaneous pain.
  3. Write briefly on :
    - (a) Organization of Visual Cortex.
    - (b) Neural Plasticity.
    - (c) Cochlear Potentials.
    - (d) Endogenous opioid peptides.
    - (e) Experimental neurosis.
-

November-1993

[PR 365]

M.D. DEGREE EXAMINATION.

Branch V — Physiology

(Old/New Regulations)

Paper III — NERVOUS SYSTEM AND SPECIAL SENSES

Time : Three hours.

Maximum : 100 marks.

Answer ALL questions.

1. How is pain perceived? How does visceral pain differ from somatic pain? Discuss briefly the descending pain control mechanisms. (25)
  2. Discuss the role of the cerebellum in the control of motor functions. (25)
  3. Write short notes on :
    - (a) Dark adaptation.
    - (b) Functions of neuroglia.
    - (c) Aphasia.
    - (d) Cochlear microphonus.
    - (e) Role of the hypothalamus in the control of food intake. (5 × 10 = 50)
-

April-1994

[ V M 1 0 6 5 ]

M.D. DEGREE EXAMINATION.

Branch V — Physiology

(Old/New Regulations)

Paper III — NERVOUS SYSTEM AND SPECIAL SENSES

Time : Three hours.

Maximum : 100 marks.

Answer ALL questions.

1. Discuss in detail the biomechanics of Hearing. (25)
  2. Discuss the role of nervous system in the behavioural functions of the body. (25)
  3. Write briefly on :
    - (a) Renshaw cell inhibition.
    - (b) Chorea.
    - (c) Hemianopia.
    - (d) Wernicke's area.
    - (e) Visual Acuity. (5 × 10 = 50)
-

April-1995

[SB 165]

M.D. DEGREE EXAMINATION.

Branch V — Physiology

(Old/New Regulations)

Paper III — NERVOUS SYSTEM AND SPECIAL SENSES

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

1. Describe a monosynaptic reflex response. Discuss the mechanism of synaptic transmission. Compare and contrast the characteristic features of neurotransmitters and neuromodulators. (25)
  2. Discuss the functions of cerebral hemispheres with special reference to Sperry's work. (25)
  3. Write short notes on : (5 × 10 = 50)
    - (a) REM sleep.
    - (b) Photoreceptors.
    - (c) Vestibulospinal and spinovestibular reflexes.
    - (d) Micturition reflex.
    - (e) Mechanisms of memory.
-



October-1996

PK 124

M.D. DEGREE EXAMINATION

Branch V - Physiology

(Old/New Regulations)

Paper III - NERVOUS SYSTEM AND SPECIAL  
SENSES

Time: Three hours

Max. marks:100

Answer All Questions

1. Discuss the role of the Neocerebellum in the control of voluntary motor activity, giving its important neural connections. List the effects of Neocerebellar disease outlining the underlying basis of each. (25)
2. Discuss the mechanisms concerned with the maintenance of Equilibrium. (25)
3. Write briefly on:
  - (a) Eyemovements and their control
  - (b) Peripheral mechanisms of hearing
  - (c) Differences between voluntary & involuntary fixation mechanisms and the feed back mechanism that causes involuntary fixation, and function of saccadic movements of the eyes during reading.
  - (d) The taste bud and its function
  - (e) Neural pathway for transmission of olfactory signals.

April-1997

File 125

M.D. DEGREE EXAMINATION  
Branch V - Physiology  
(New/Revised Regulations)

Paper III - NERVOUS SYSTEM AND SPECIAL  
SENSES

Time: Three hours

Max.marks:100

Answer All Questions

1. What are the types of memory? Discuss the physiological basis of memory. (25)
2. Draw diagrams showing cross section of cochlea and the organ of Corti. Discuss the mechanism of hearing. (25)
3. Write briefly on:
  - (a) Adaptation
  - (b) Phantom limb
  - (c) Evoked potentials
  - (d) Mass reflex
  - (e) Hypothalamic obesity.

(5x10=50)

October-1997

MS 123

M.D. DEGREE EXAMINATION

Branch V - Physiology

(Revised Regulations)

Paper III - NERVOUS SYSTEM AND SPECIAL SENSES

Time: Three hours

Max.marks:100

Answer All Questions

1. What are the functions of cerebellum? (25)
2. Describe, with the help of diagrams, the mechanism of coding of intensity and frequency of sound by the internal ear.(25)
3. Write briefly on:
  - (a) Functions of ventromedial hypothalamus
  - (b) Renshaw cells
  - (c) EEG changes during sleep
  - (d) Glutamate receptors
  - (e) Neural control of sex behaviour.

(5x10=50)

April-1998

SV 125

M.D. DEGREE EXAMINATION

Branch V - Physiology

(New/Revised Regulations)

Paper III - NERVOUS SYSTEM AND SPECIAL  
SENSES

Time: Three hours

Max.marks:100

Answer All Questions

1. How are the receptors of vestibular apparatus stimulated? Write the central connections of the receptors. Discuss their functional significance. (25)
2. How does pain from viscera reach consciousness? What are the special characteristics of visceral pain? Why do we often fail to feel pain when we are emotionally disturbed? (25)
3. Write briefly on:
  - (a) Electroretinogram
  - (b) Middle ear functions and their impairment
  - (c) Dopamine as a neurotransmitter
  - (d) Neuronal plasticity
  - (e) Dysmetria seen in cerebellar disease.

(5x10=50)

April-1999

**[SG 125]**

**Sub. Code : 2023**

**M.D. DEGREE EXAMINATION.**

**Branch V — Physiology**

**(New/Revised Regulations)**

**Paper III — NERVOUS SYSTEM AND  
SPECIAL SENSES**

**Time : Three hours**

**Maximum : 100 marks**

**Answer ALL questions.**

1. Describe the origin, course and termination of Pyramidal tracts. What is the effect of their lesions. (25)
  2. Describe the photo chemistry of vision and the mechanism of Dark adaptation. (25)
  3. Write briefly on : (5 × 10 = 50)
    - (a) Reticular formation.
    - (b) Muscle spindle.
    - (c) Taste Blindness.
    - (d) Conditioned Reflex.
    - (e) Tests for hearing and deafness.
-

October-1999

[KA 125]

Sub. Code : 2028

M.D. DEGREE EXAMINATION.

(New/Revised Regulations)

Branch V — Physiology

Paper III — NERVOUS SYSTEM AND SPECIAL  
SENSES

Time : Three hours

Maximum : 100 marks

Answer ALL questions.

1. Describe the Stretch Reflex and give its physiological importance. (25)
  2. Describe structure and functions of middle ear and tests for assessment of middle ear function. (25)
  3. Write briefly on : (5 × 10 = 50)
    - (a) Taste blindness
    - (b) Function of vestibular apparatus
    - (c) Dark adaptation
    - (d) Brown Sequard syndrome
    - (e) Tests for cerebellar dysfunction.
-

April-2000

**[KB 125]**

**Sub. Code : 2022**

**M.D. DEGREE EXAMINATION.**

**(New/Revised Regulations)**

**Branch V — Physiology**

**Paper III — NERVOUS SYSTEM AND SPECIAL  
SENSES**

**Time : Three hours                                  ; Maximum : 100 marks**

**Answer ALL questions.**

**Draw diagrams wherever necessary.**

1. Discuss the Neurotransmitters and their role in the body. (25)
  2. Describe the mechanism of Coding Intensity and frequency of sound by the Internal Ear. (25)
  3. Write briefly on : (5 × 10 = 50)
    - (a) Referred pain
    - (b) Internal capsule
    - (c) Synaptic inhibition
    - (d) Errors of Refraction and their corrections
    - (e) Taste Blindness.
-

October-2000

[KC 125]

Sub. Code : 2022

M.D. DEGREE EXAMINATION.

(New/Revised Regulations)

Branch V — Physiology

Paper III — NERVOUS SYSTEM AND SPECIAL  
SENSES

Time : Three hours                      Maximum : 100 marks

Answer ALL questions.

1. Describe the role of the autonomic nervous system. (25)
  2. Explain the basis of muscle tone. Discuss how it is influenced by different parts of the nervous system. (25)
  3. Briefly explain mechanism/basis of
    - (a) Endogenous analgesia
    - (b) Adaptation in pacinian corpuscles
    - (c) Referral of pain
    - (d) Stimulation of taste receptors
    - (e) Endocochlear potentials. (5 × 10 = 50)
-