[KM 125]

Sub. Code: 2022

M.D. DEGREE EXAMINATION.

(Revised Regulations)

Branch V - Physiology

Paper III — NERVOUS SYSTEM AND SPECIAL SENSES

Time: Three hours

Maximum: 100 marks

Theory: Two hours and

Theory: 80 marks

forty minutes

M.C.Q.: Twenty minutes

M.C.Q.: 20 marks

Answer ALL questions.

Draw suitable diagrams wherever necessary.

. Essay:

 $(2 \times 15 = 30)$

- Describe the nuclear arrangement of the hypothalamus. Explain the physiological role of hypothalamus in mediating bodily functions.
- (2) (a) What do you mean by photochemistry of vision? What are the photochemical changes normally accompanied during vision?
- (b) What is visual acquity? What are the applications of opthalmoscopy? (9 + 2 + 4)

Write short notes on :

 $(10 \times 5 = 50)$

- (a) Astereognosis.
- (b) Phantom-limb syndrome.
- (c) Neural pathways for olfaction.
- (d) What is rem sleep? What are the EEG changes during rem sleep?
 - (e) Describe muscle spindle and its functions.
- (f) What is parkinson's disease? What are the basis of clinical features and different types of treatment?
 - (g) Types of inhibition.
 - (h) Physiological basis of glaucoma.
- (i) Erlanger-garser and lloyd classification of nerve fibres.
- (j) Describe the physiological basis of neuromuscular blockers.

[KP 125]

Sub. Code: 2022

M.D. DEGREE EXAMINATION.

Branch V - Physiology

Paper III — NERVOUS SYSTEM AND SPECIAL SENSES

Time: Three hours

Maximum: 100 marks

Theory: Two hours and

Theory: 80 marks

forty minutes

M.C.Q.: Twenty minutes

M.C.Q. : 20 marks

Answer ALL questions.

Draw suitable diagrams wherever necessary.

I. Essay Questions:

- (1) Describe the pain pathways and the endogenous analgesic systems. (20)
- (2) Write in detail the properties of sensory receptors. (15)
- (3) Explain the organisation of neural elements of retina and the neural pathway for the visual cortex.

(15)

II. Write Short notes on :

 $(6 \times 5 = 30)$

- (a) Presbyopia.
- (b) Implicit memory.

- (c) Mass reflex.
- (d) GABA (Gamma Amino Butyric Acid).
- (e) Reciprocal innervation.
- (f) Suprachiasmatic nucleus.

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[KQ 122]

Sub. Code: 2022

M.D. DEGREE EXAMINATION.

Branch V - Physiology

NERVOUS SYSTEM AND SPECIAL SENSES

Common to:

Paper III - (Old/New/Revised Regulations)

(Candidates admitted from 1988-89 onwards)

and

Paper III — (for candidates admitted from 2004–2005 onwards)

Time: Three hours

Maximum: 100 marks

Theory: Two hours and

Theory: 80 marks

forty minutes .

M.C.Q.: Twenty minutes

M.C.Q. : 20 marks

Answer ALL questions.

Draw suitable diagrams wherever necessary.

- I. Essay:
- Discuss the role of various reflexes integrated at the levels of spinal cord and medulla in the regulation posture and movement. (20)

- Describe various properties of receptors. With the help of a suitable diagram, explain how the sensation of crude touch is projected from the receptor to the cortex.
- Discuss the connections and functions of brainstem Reticular Activating System (RAS). Explain the role of RAS in the genesis of EEG waves. (15)
- II. Write short notes on :

 $(6 \times 5 = 30)$

- (a) Mechanism of hearing.
- (b) Visual cortex.
- (c) Hair cells of vestibular apparatus.
- (d) Parkinsonism.
- (e) Cortical plasticity.
- (f) Concept of categorization of cerebral hemisphere.

MARCH 2008

[KS 123] Sub. Code : 2020

M.D. DEGREE EXAMINATION.

Branch V - Physiology

NERVOUS SYSTEM AND SPECIAL SENSES

(Common to all candidates)

Q.P.Code: 202020

Time: Three hours Maximum: 100 marks

Draw diagrams wherever necessary.

Answer ALL questions.

I. Essay questions:

 $(2 \times 20 = 40)$

- 1. Describe the posture regulating mechanisms in the body.
- 2. Mention the afferent and efferent connections of Hypothalamus and explain its functions.
- II. Write Short notes on:

 $(10 \times 6 = 60)$

- 1. Sleep.
- 2. Final common pathway.
- 3. Memory.
- 4. Intrinsic analgesic system.
- 5. Colour vision.
- 6. Cochlea.
- 7. Cholinergic projections to cerebal cortex from basal forebrain.
- 8. Huntington's disease.
- 9. Taste receptors and signal transduction.
- 10. Supra chiasmatic nuclei

M.D. DEGREE EXAMINATION

Branch V – Physiology

Paper III - NERVOUS SYSTEM AND SPECIAL SENSES

(Common to all candidates)

O.P. Code: 202020

Time: Three hours Maximum: 100 marks

Draw suitable diagram wherever necessary.

Answer ALL questions.

I. Essay questions:

 $(2 \times 20 = 40)$

Sub. Code: 2020

- 1. Describe nuclei afferent and efferent connections and functions of cerebellum. Add a note on cerebellar lesions.
- 2. Describe visual pathway and effects of lesions at various levels.

II. Write short notes on:

 $(10 \times 6 = 60)$

- 1. Endo cochlear potentials.
- 2. Renshaw cell inhibition.
- 3. Role of nervous system in the behavioural functions of the body.
- 4. Neural mechanisms of REM sleep.
- 5. Pain perception.
- 6. Speech audiometry.
- 7. Nucleus tractus solitarius.
- 8. Neurotropins and their use in various disease
- 9. Memory.
- 10. Role of Hypothalamus in food intake.