

2008

HUMAN PHYSIOLOGY

PAPER—IV

Full Marks : 40

Time : 2 hours

The figures in the right-hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

Illustrate the answers wherever necessary

UNIT—07

Answer any *two* questions

1. (a) Describe the generalised Thalamo-cortical system.
- (b) What are recruiting response and augmenting phenomenon? 6 + 4
2. (a) What is lead pipe rigidity? Describe the clinical symptoms of Parkinson's disease.

(Turn Over)

- (b) Discuss the neuropathology of Parkinson's disease. What are Lewy bodies?
- (c) Describe in brief the molecular basis of pathogenesis in heritable Parkinson's disease. (1 + 2) + 2 + 5
3. (a) Describe the anatomical co-relates of the limbic system.
- (b) What role does the hypothalamus play in Fear and Rage Response. 5 + 5
4. Describe the structure of the muscle spindle. How is muscle tone maintained in response to a small stretch? 4 + 6

UNIT—08

Answer any *two* questions

1. What is regeneration of nerve fibre? Describe the chemical changes accompanying a 'Regenerating Fibre'. 3 + 7
2. (a) What are association Cortices?
- (b) Give a brief account of the specific-features of association cortices in relation to their connectivity. 2 + 8

3. (a) Compare the structure of type I and type II synapses. What is pre-synaptic grid ?

(b) What do you mean by 'reserve' and 'releaseable group of synaptic vesicles ? How are 'reserve' vesicles transferred to releaseable group ?

(3 + 2) + (3 + 2)

4. (a) Write a note on the mechano-chemical interaction during the action based muscular contraction with diagram.

(b) Give an experimental evidence to support the mechanism of shortening of muscle fibre during contraction.

7 + 3