

FINAL EXAM  
DECEMBER 2016

NATIONAL BOARD OF EXAMINATIONS

**PHYSIOLOGY****PAPER – III**

PHY/D/16/36/III

Time : 3 hours

Max. Marks : 100

**Important instructions:**

- Attempt all questions in order.
- Each question carries 10 marks.
- Read the question carefully and answer to the point neatly and legibly.
- Do not leave any blank pages between two answers.
- Indicate the question number correctly for the answer in the margin space.
- Answer all the parts of a single question together.
- Start the answer to a question on a fresh page or leave adequate space between two answers.
- Draw table/diagrams/flowcharts wherever appropriate.

Write short notes on:

1. Pathophysiology of Alzheimer's disease. 10
2. Compare and contrast the following: 5+5
  - a) Tremors of cerebellar and basal ganglia lesion.
  - b) Akinesia and rigidity of Parkinson's disease.
3. Olfactory pathway and physiological basis of olfaction. 4+6
4. a) Differentiate between the specific features of action potential recorded in nerve, skeletal muscle, smooth muscle and cardiac muscle. 6+4  
b) Role of ions involved in them.
5. a) Photochemistry of vision. 6+4  
b) Physiological basis of night blindness.
6. a) Neural substrate of speech. 6+4  
b) Pathophysiology of language disorders.
7. a) Define neurotransmitter. 2+5+3  
b) Site of synthesis, storage and mechanism of its removal.  
c) Give examples of excitatory and inhibitory neurotransmitter operating in central nervous system.
8. a) Physiological basis of genesis of receptor potential. 5+3+2  
b) Explain the phenomenon of receptor recruitment.  
c) Sensory coding.
9. a) Give an account of the body's response to rotational acceleration and linear acceleration. (4+4)+2  
b) Meniere disease.
10. a) Functional anatomy of the blood brain barrier. 5+5  
b) Its functions and clinical implications.

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