

[Time: Three Hours]

[Marks:80]

Please check whether you have got the right question paper.

- N.B:
1. All question are compulsory.
 2. Figure to the right indicate full marks.
 3. Draw neat, labelled diagrams wherever necessary.

- Q.1** (a) Answer the following: **(16)**
- i. Write down the effect of sympathetic and parasympathetic nervous system on the heart and eyes.
 - ii. Give the functions of : a) Pharynx b) Alveoli
 - iii. Enlist the hormones secreted by thyroid gland with functions.
 - iv. What is cellular atrophy?
 - v. Give the cardinal symptoms of Graves' disease.
 - vi. Comment on auditory ossicle.
 - vii. Define emphysema & bronchitis.
 - viii. Match the following:

Disease	Pathological event
1. Alzheimers disease	a. Degeneration of dopaminergic neurons
2. Parkinson's disease	b. Imbalance between excitatory & inhibitor neurotransmitter
3. Depression	c. Deposition of B-amyloid plaque
4. Epilepsy	d. Low serotonin level

- (b) Answer the following: **(4)**
- i. _____ hormone is responsible to decrease blood calcium level.
 - ii. Myelin sheath around CNS axons is formed & maintained by _____ neuroglial cells.
 - iii. What is rhodopsin?
 - iv. State true or false:
Inspiratory Capacity is the maximum volume of air which can be moved into and out of the lungs.

- Q.2** (a) Answer the following: **(4)**
- i. Differentiate between apoptosis & necrosis. **(4)**
OR
 - i. Discuss the causes of cells injury. **(4)**
OR
 - ii. Discuss the pathogenesis of cancer. **(4)**
OR
 - ii. Explain the phenomenon of metastasis.
- (b) Write down the biological effects of (any one) **(4)**
1. Nuclear radiation
 2. X-ray radiation

- Q.3** (a) Answer the following (**any two**) (8)
- Draw & explain the internal structure of spinal cord.
 - Discuss the functions of hypothalamus.
 - Explain the phases involved in generation of action potential.
- (b) Discuss the pathophysiology of (**any one**) : (4)
- Alzheimer's disease
 - Parkinson's disease
- Q.4** (a) Answer the following (**any two**) : (8)
- Draw a neat, labelled diagram of respiratory system.
 - Discuss the factors affecting respiration.
 - Outline the location & functions of following in respiration : 1. Larynx 2. Trachea
- (b) Write a short note on (**any one**) : (4)
- Pneumonia
 - Asthma
- Q.5** (a) Answer the following (**any two**) : (8)
- Give the physiological roles of gonadal hormones.
 - Describe the anatomy of pancreas. How is blood glucose level maintained?
 - Discuss the structure of adrenal gland. Give the functions of its hormones.
- (b) Write a short note on (**any one**) : (4)
- Hyperthyroidism
 - Pituitary dwarfism & gigantism
- Q.6** (a) Answer the following (**any two**) : (8)
- Enlist the accessory organs of the eye with physiological functions.
 - Draw a neat, labelled diagram of internal ear.
 - Give the physiology of gustation.
- (b) Answer the following (**any one**) : (4)
- Differentiate between cholinergic & adrenergic nervous system.
 - Discuss the neurotransmitters & receptors of ANS.