

(3 Hours)

[Total Marks: 80]

- N.B.: 1) All questions are compulsory  
2) Figures to the right indicate full marks  
3) Draw neat, labeled diagrams wherever necessary.

**Q.1. A) Answer the following: -**

**16**

- i. What is decussation of pyramids? Give its location.
- ii. Name the releasing and inhibiting hormone for human growth hormone.
- iii. Give the functions of Type I and Type II cells of respiratory membrane.
- iv. Enlist any four causes of cerebral hypoxia.
- v. Justify: Olfaction is a chemical sense.
- vi. What is diabetes insipidus?
- vii. Define metaplasia and give one example of the same.
- viii. Define: Respiratory alkalosis

**Q1. B) Answer the following: -**

**4**

- i. \_\_\_\_\_ is a region of retina responsible for visual acuity.
- ii. Weight gain is a symptom of \_\_\_\_\_. (Hyperthyroidism / Hypothyroidism)
- iii. Spinothalamic tract is \_\_\_\_\_. (Ascending sensory/ Descending Motor)
- iv. Enlist the gas laws governing exchange of gases during respiration.

**Q.2. A) Answer the following: -**

**8**

- i. What is Hyperplasia? Explain the mechanism and give one example of the same.

**or**

Write a short note on cellular adaptation.

- ii. Write a short note on pathogenesis of cancer.

**or**

Explain the cytomorphological differences between Benign and Malignant tumour cells

**Q.2.B) Answer any one the following**

**4**

- i. Explain the biological effects of X rays.
- ii. Write a short note on the different types of nuclear radiations and explain their effects on human body.

**Q.3.A) Answer any two the following:**

8

- i. Give an account of the neuroglia in the central nervous system.
- ii. Write a note on function of cerebrospinal fluid and blood brain barrier.
- iii. Discuss the structure and the function of the cerebellum.

**Q.3.B) Discuss the pathophysiology of (any one)**

4

- i. Epilepsy
- ii. Depression

**Q.4.A) Answer any two the following:**

8

- i. Draw neat and labeled diagram of terminal bronchiole showing the alveolar sac.
- ii. Explain process of inhalation and exhalation.
- iii. Discuss transport of carbon dioxide in blood.

**Q.4.B) Discuss the pathophysiology of (any one)**

4

- i. Respiratory acidosis
- ii. Emphysema

**Q.5.A) Answer any two the following:**

8

- i. Explain the physiological effects of glucocorticoids.
- ii. Describe the role of thyroid and parathyroid gland in calcium homeostasis.
- iii. Explain in detail hormones of pancreatic islets.

**Q.5.B) Discuss the pathophysiology of (any one)**

4

- i. Thyrotoxicosis
- ii. Gigantism and Dwarfism

**Q.6.A) Answer any two the following:**

8

- i. Give an account of the taste buds on the tongue.
- ii. Write a note on glands associated with the skin.
- iii. Discuss the structure and the function of the retina.

**Q.6.B) Answer any one the following**

4

- i. State the effect of adrenaline on the following: bronchi, heart, salivary gland, pupil of the eye
- ii. Discuss adrenergic and cholinergic receptors.