

(3 Hours)

(Total marks: 70)

N.B.: 1) All questions are compulsory

2) Figures to the right indicate full marks

3) Draw neat, labelled diagrams wherever necessary.

Q 1 A. Answer the following:

12 M

- i) Define: (1)Tidal Volume (2) Cellular Respration.
- ii) Enlist the hormones secreted by Gonadotrophs.
- iii) Enlist the different symptoms of Hypothyroidism.
- iv) Write the location of synthesis and composition of Cerebrospinal fluid.
- v) Enlist the symptoms of Anxiety.
- vi) Write the location of photoreceptors and classify them.

Q 1 B. Answer the following:

3 M

- i) _____ is known as secondary tympanic membrane.
- ii) Sympathetic stimulation causes _____ of pupil.
- iii) Alpha cells of Pancreas secrete _____.

Q 2 A. Answer any one of the following

4 M

- i) Define necrosis and apoptosis and differentiate between them.
- ii) Write a short note on causes of cell injury.

Q 2 B. Answer any one of the following

4 M

- i) Write a short note on etiology of cancer.
- ii) Describe each of the following with their role in pathogenesis of cancer:
(1) Proto-oncogene (2) Oncogene (3) Pro-apoptotic gene

Q 2 C. Answer any one of the following:

3 M

- i) Write a short note on the biological effects of overexposure to X rays.
- ii) Describe the factors affecting the biological effects of radiation.

Q 3 A. Answer any two of the following:

8 M

- i) Discuss the functions the hypothalamus.
- ii) Describe the structure of a neuron.
- iii) Write a note on the blood brain barrier.

Q 3 B. Write a short note on any one of the following:

3 M

- i) Parkinson's disease
- ii) Stroke

Q 4 A. Answer any two of the following:

8 M

- i) Draw neat and labelled diagram of bronchial tree.
- ii) Explain the mechanism of internal respiration.
- iii) Explain factors affecting pulmonary ventilation .

Q 4 B. Write a short note on any one of the following:

4 M

- i) Explain pathophysiology of pneumonia.
- ii) Explain emphysema.

Q 5 A. Answer any two of the following:

8 M

- i) Explain Renin, Angiotensin, Aldosterone Pathway.
- ii) Write on formation, storage and functions of thyroid hormones.
- iii) Explain the role of hormones of adenoypophysis.

Q 5 B Write a short note on any one of the following:

4 M

- i) Write a note on Grave's disease.
- ii) Diabetes Mellitus.

Q 6 A. Answer any one of the following:

4 M

- i) Discuss the physiology of equilibrium.
- ii) Write a note on photoreceptors and photopigments.

Q 6 B. Answer any one of the following:

4 M

- i) Differentiate between sympathetic and parasympathetic nervous system.
- ii) Give the effect of Acetyl Choline on : heart, pupil of eye, salivary gland and bronchi.

Q 6 A. Answer any one of the following:

3M

- i) Draw a labelled diagram of the skin.
 - ii) Discuss the physiology of olfaction.
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