Instructions:

(1) All Questions are compulsory.

(2) Answer each next main Question on a new page.

(3) Illustrate your answers with neat sketches wherever necessary.

(4) Figures to the right indicate full marks.

(5) Mobile Phone, Pager and any other Electronic Communication devices are not permissible in Examination Hall.

1. Attempt any EIGHT of the following: 8 × 2 = 16

(a) Define the terms:
   (i) Menninges
   (ii) GFR (Glomerular Filtration Rate)

(b) ‘Mitochondria is called power house of cell’ State reason.

(c) Classify synovial joints with example.

(d) State the composition of blood.

(e) Define Suture. Name any two sutures and bones involved in it.

(f) Draw and label reflex arc.

(g) Write the changes occur in male at puberty.

(h) Name the bones of upper limb.
(i) Define plasma and serum.

(j) Enlist the muscles of mastication.

(k) Explain terms: (i) Medial (ii) Lateral.

(l) Write functions of Lymphatic system.

2. **Attempt any FOUR of the following:** $4 \times 3 = 12$

(a) State the differences between smooth muscle and skeletal muscle.

(b) Explain the mechanism of respiration.

(c) Draw a well-labelled diagram of internal structure of heart showing blood flow.

(d) Define Skeleton. State its functions.

(e) Explain in short:

   (i) Rheumatoid arthritis

   (ii) Gout

(f) Explain formation and composition of Lymph.

3. **Attempt any FOUR of the following:** $4 \times 3 = 12$

(a) Explain portal circulation. Give its importance.

(b) State the functions of Liver.

(c) Draw a well-labelled diagram of female reproductive system.

(d) Write the effects of sympathetic and parasympathetic nerve stimulation on

   (i) Heart (ii) Blood vessels and (iii) Pupil.

(e) ‘Pancreas is called as exo-endocrine gland.’ State reason.

(f) Define and explain neuromuscular junction.
4. Attempt any FOUR of the following : \[4 \times 3 = 12\]
   (a) Explain the three phases of menstrual cycle.
   (b) Draw a well-labelled diagram of sagittal section of an eye.
   (c) Mention the digested end products and enlist the enzymes involved in
       (i) carbohydrate (ii) protein digestion
   (d) Define hormone. Enlist the hormones secreted by anterior and posterior
       pituitary gland.
   (e) Explain the functions of skin.
   (f) Explain terms and write normal value :
       (i) Vital capacity
       (ii) Tidal volume

5. Attempt any FOUR of the following : \[4 \times 3 = 12\]
   (a) What is auditory Ossicle? Name the bones involved in it. Explain its function.
   (b) Explain the process of urine formation.
   (c) Explain the process of micturition.
   (d) Draw labelled diagram of cerebrum showing functional areas.
   (e) State the composition and functions of gastric juice.
   (f) Name any six cranial nerves with function.

6. Attempt any FOUR of the following : \[4 \times 4 = 16\]
   (a) Classify primary tissues in detail.
   (b) Write anatomy and physiology of thyroid gland.
(c) Differential between arteries and veins.

(d) Write the mechanism of blood coagulation.

(e) Explain conducting system in heart.

(f) Define the terms:

(i) Myopia

(ii) Bronchitis

(iii) Menopause

(iv) Stenosis