

12425

03 Hours / 80 Marks



20114

Seat No.

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- 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.
  - (6) In case student has attempted sub-question of question no. 3 more than once, only first attempt should be considered for assessment.

**Marks**

**1. Attempt any SIX of the following:**

**30**

- a) Classify bones based on their shapes. Describe the structure of a typical synovial joint with diagram.
- b) Describe the process of blood clotting.
- c) Explain conduction system of the heart with neat diagram.
- d) Describe the structure and functions of Liver.
- e) Explain the functional areas of the cerebrum with diagram. Give the functions of cerebrospinal fluid.
- f) Draw a neat and labelled diagram of T.S. of eyeball. Give the functions of skin.
- g) Explain the process of urine formation with neat and labelled diagram of nephron.

**2. Attempt any TEN of the following:**

**30**

- a) State the functions of the following:
  - i) Ribosome
  - ii) Mitochondria
  - iii) Plasma membrane
- b) Write an account of simple epithelial tissue.
- c) Enlist different types of blood cells with their normal values.
- d) Enlist the components of the lymphatic system. Give the functions of the lymphatic system.
- e) Write an account of basics of electrocardiogram.
- f) Name the upper and lower parts of respiratory system. Give the functions of respiratory system.
- g) Write the physiology of carbohydrate digestion.
- h) Write the effect of parasympathetic stimulation on following body parts
  - i) Eye
  - ii) Cardiac muscles
  - iii) Salivary glands
- i) Write the principal actions of anterior pituitary hormones.
- j) Describe the phases of menstrual cycle.
- k) Write the functions of insulin and thyroid hormones.

P.T.O.

**3. Attempt ALL of the following:**

- a) Define the term Physiology.
- b) State the meaning of medial plane.
- c) Define the term cardiac output.
- d) \_\_\_\_\_ present in the respiratory system helps in voice production.
- e) Name the salivary glands.
- f) Name any two cranial nerves.
- g) Name the two types of photoreceptors present in the retina.
- h) If a muscle is frequently stimulated contract, its response to the stimulus progressively decreases. Such a conditions is called \_\_\_\_\_ .
- i) State the composition of urine.
- j) Name the accessory reproductive glands in the males.
- k) Voluntary muscles are present in the
  - i) Heart
  - ii) Liver
  - iii) Limb
  - iv) Lungs
- l) The first vertebra or G, that supports the skull present at the top of the spine is
  - i) Hyoid
  - ii) Atlas
  - iii) Axis
  - iv) Mandible
- m) The shortest bone in the human body is
  - i) Stapes
  - ii) Incus
  - iii) Malleus
  - iv) Patella
- n) The plasma protein responsible for blood clotting is
  - i) Fibrinogen
  - ii) Serum amylase
  - iii) Globulin
  - iv) Albumin
- o) The amount of air that moves in or out of the lungs with each normal respiratory cycle is \_\_\_\_\_ .
- p) When a nerve impulse reaches the neuromuscular junction, acetylcholine is released into the \_\_\_\_\_ .
- q) Coughing and Sneezing are controlled by which part of brain?
- r) The \_\_\_\_\_ membranes separates the external ear and middle ear.
- s) Which receptor is present in the nose?
  - i) Photoreceptor
  - ii) Olfactory receptor
  - iii) Gustatory receptor
  - iv) Adrenoreceptor
- t) The primary sex organ of female reproductive system is \_\_\_\_\_ .
  - i) Uterus
  - ii) Ovaries
  - iii) Cervix
  - iv) Fallopian tubes