

S. No. Q. P. - 13571

29  
(11)

Unique paper Code: 3184002003  
Name of the Paper: GE – 1 : Understanding the Human Body Systems  
Name of the Course: Common Program Group (B.Sc. (H) Biomedical Sciences)  
Semester: I (NEP-UGCF)  
Duration: 3 Hrs  
Maximum Marks: 90

**Instructions for candidates:**

1. Question No.1 is compulsory.
2. Attempt five questions in all.
3. Subparts of the questions should be attempted together.
4. Write your roll no on the top immediately on receipt of the question paper.
5. Draw illustrations or diagrams wherever necessary.

Q.1.

- (a) Define (any 4) (2x4=8)
- (i) Renal threshold
  - (ii) Menarch
  - (iii) Keratinization
  - (iv) Neuromuscular junction
  - (v) Leukocytosis
- (b) Differentiate between (3x4=12)
- (i) Absolute and relative refractory period
  - (ii) Endocrine and exocrine glands
  - (iii) Peristalsis and segmentation
  - (iv) Arteries and veins
- (c) State true or false and justify (any 4) (2.5x4=10)
- (i) Blood is a connective tissue
  - (ii) Insulin and thyroxine arrive at an organ at the same time. Thyroxine causes an effect on the organ but insulin does not.
  - (iii) There is a fool proof contraceptive.
  - (iv) Serous membrane of the abdominal cavity is the pleura.
  - (v) Asynchronous activation of motor units allow smooth and continuous muscle contractions.

Q.2. Write short notes on

(5,5,5)

- (a) Lymphatic circulation
- (b) Functions of the skin
- (c) Positive and negative feedback systems in the body

Q.3.

(5,5,5)

- (a) What are the functions of the large intestine? Discuss.
- (b) How does oxygen and carbon dioxide transport take place in the body?
- (c) Discuss the process of oogenesis.

Q.4.

(5,10)

- (a) Discuss the classification of hormones. Why is vitamin D considered a hormone?
- (b) Give one word for
  - (i) Region of the GIT that secretes most mucus
  - (ii) Type of WBC that are found to be increased in allergies
  - (iii) Cardiac rate more than 100 beats per minute
  - (iv) Muscle contraction during which muscle length does not change
  - (v) Painful menstruation
  - (vi) Depolarization that does not lead to action potential
  - (vii) Cells that surround the blood vessels inside the glomerulus
  - (viii) Enzyme present in the RBC that help in CO<sub>2</sub> transport
  - (ix) Term used for hormone that is present in its inactive form and has to be processed in order to become fully active

(x) Plane that divides the body into upper and lower regions

Q.5.

(5,10)

- (a) Which are the different types of muscles in the body? Why is it that skeletal muscles contract longitudinally and smooth muscles in a cork-screw fashion?
- (b) Give the location and function of
  - (i) Meissner's plexus
  - (ii) Juxtamedullary nephrons
  - (iii) SA node
  - (iv) Vas deferens
  - (v) Myelin

Q.6.

(6,9)

- (a) What role do the proximal convoluted tubule, loop of Henle and distal convoluted tubule play in urine formation? Discuss.
- (b) Draw a well labelled diagram of
  - (i) Pancreas
  - (ii) Electrocardiogram
  - (iii) Types of taste buds on the tongue