

2024

**ANATOMY AND PHYSIOLOGY****Course : CC-102****Full Marks : 70***The figures in the margin indicate full marks.**Candidates are required to give their answers in their own words as far as practicable.*

1. Discuss the organization of human body. Draw a diagram of cell and label it. Write the functions of Mitochondria, Ribosome and Endoplasmic Reticulum (ER). 4+5+6

*Or,*

Classify human bones with example. Enlist the functions of skeletal system. List the bones of appendicular skeleton. 4+5+6

2. Discuss the different types of muscle with example. Describe the process of carbohydrate and protein digestion. 5+10

*Or,*

Discuss the composition and functions of blood. Draw a diagram of the Heart and describe blood circulation process inside the heart. 5+10

3. Draw a diagram of Respiratory system and describe the function of Lungs. Describe the mechanism of respiration. (5+4)+6

*Or,*

Draw a diagram of excretory system and label it. Describe the composition of urine. How is urine formed by the Nephron? 5+4+6

4. Write notes on the following (*any two*) : 7½×2
- (a) Effects of exercise on heart & cardiovascular system
  - (b) Anatomical sex difference
  - (c) Effects of sports training on skeletal muscles
  - (d) Exercise effects on Respiratory system.

5. Answer the following MCQs by selecting the correct option given below and write the answer on your answer script (*any ten*) : 1×10

(a) Stomach is made up of

- |                      |                     |
|----------------------|---------------------|
| (i) Skeletal muscle  | (ii) Smooth muscle  |
| (iii) Cardiac muscle | (iv) None of these. |

**Please Turn Over****(0660)**



- (b) Lysosome is known as
- (i) Suicidal bag of the cell
  - (ii) Powerhouse of the cell
  - (iii) Osmotic membrane of the cell
  - (iv) Genetic material of the cell.
- (c) A suture is a type of
- (i) Synovial joint
  - (ii) Cartilaginous joint
  - (iii) Fibrous joint
  - (iv) Pivot joint.
- (d) Statement - I : Ulna is stronger bone than the Radius.  
Statement - II: Humerus is longer than the Femur.  
Choose the correct option from the following :
- (i) Statement-I is True but Statement-II is False
  - (ii) Statement-II is True but Statement-I is False
  - (iii) Statement-I is True and Statement-II is also True
  - (iv) Statement-I is False and Statement-II is also False.
- (e) The main respiratory muscle is
- (i) Internal intercostals
  - (ii) Pectoralis major
  - (iii) The Diaphragm
  - (iv) Rectus Abdominis.
- (f) The nerve that transports stimulus from brain to the muscles is
- (i) Sensory nerve
  - (ii) Motor nerve
  - (iii) Efferent nerve
  - (iv) All of these.
- (g) Saliva is secreted from
- (i) Pituitary gland
  - (ii) Thyroid glands
  - (iii) Pineal glands
  - (iv) Parotid glands.
- (h) The food that is considered as source of amino acids is
- (i) Carbohydrate
  - (ii) Fat
  - (iii) Protein
  - (iv) Vitamins.
- (i) Krebs Cycle is associated with the process
- (i) Anaerobic metabolism
  - (ii) Aerobic metabolism
  - (iii) Phosphagen system
  - (iv) None of these.
- (j) Which blood pressure increases most during intense exercise?
- (i) Systolic blood pressure
  - (ii) Diastolic blood pressure
  - (iii) Mean blood pressure
  - (iv) None of these.

(k) The insulin that controls blood sugar level is secreted from

- |                     |                     |
|---------------------|---------------------|
| (i) Pituitary gland | (ii) Thyroid glands |
| (iii) Pancreas      | (iv) Adrenal gland. |

(l) The average value of Stroke volume is

- |             |              |
|-------------|--------------|
| (i) 50 ml   | (ii) 70 ml   |
| (iii) 90 ml | (iv) 100 ml. |
-