

**2022**

**ANATOMY AND PHYSIOLOGY**

**Paper: CC – 102**

**Full Marks: 70**

*The figures in the margin indicate full marks.  
Candidates are required to give their answer in their own words  
as far as practicable.*

***Answer the following questions.***

1. Specify the structure of a cell with neat diagram. Enlist the functions of following cell organelles: Mitochondria, Ribosome and Endoplasmic Reticulum. 6+9

***Or***

Enlist different types of bone with example. Make a list of bones of axial and Appendicular skeleton of human body. 6+9
  
2. What are the digestive enzymes? Elaborate the process of carbohydrate, fat and protein digestion in human body. 3+12

***Or***

Discuss the composition and function of blood. Draw a diagram of human heart and label it. Enlist the function of the heart. 6+5+4
  
3. Discuss the task of different organs of the respiratory system with simple diagram. Write the role of haemoglobin in respect of respiration. 10+5

***Or***

Draw a neat diagram of the Nephron and label it. Enlist the function of pituitary hormones in human body. 6+9
  
4. Write short notes on following (***any two***): 7.5x2
  - a) Types of muscular contraction
  - b) Synovial joints and its movements
  - c) Aerobic and anaerobic metabolism
  - d) Cardiac output and athletic heart

5. Answer following MCQs by selecting the correct option and writing the same on your answer script (*any ten*): 1x10

- a) Cartilage is an example of:
  - (i) Connective tissue
  - (ii) Epithelium tissue
  - (iii) Muscular tissue
  - (iv) Nervous tissue
  
- b) Which of the following is a fibrous joint? :
  - (i) Spine
  - (ii) Sutures
  - (iii) Shoulder
  - (iv) Scapula
  
- c) Which element is essential for producing Thyroxin hormone?
  - (i) Iron
  - (ii) Magnesium
  - (iii) Iodine
  - (iv) Cobalt
  
- d) The main fuels for muscular activity is supplied from:
  - (i) Fat & Protein
  - (ii) Protein & Carbohydrate
  - (iii) Carbohydrate & Fat
  - (iv) Vitamins & Minerals
  
- e) Which of the following muscle is a part of the Hamstring muscles group?
  - (i) Rectus femoris
  - (ii) Sartorius
  - (iii) Trapeziums
  - (iv) Biceps femoris
  
- f) The energy system responsible to supply the ATPs for very short duration of activity is:
  - (i) Phosphagen system
  - (ii) Lactic acid system
  - (iii) Aerobic system
  - (iv) All the above
  
- g) The blood corpuscle that transports oxygen from the lungs to the working muscle is:
  - (i) RBC
  - (ii) WBC
  - (iii) Platelets
  - (iv) None of the above

- h) Which of the following endocrine glands secretes Insulin hormone?  
(i) Thyroid gland  
(ii) Adrenal gland  
(iii) Pituitary gland  
(iv) None of the above
- i) Membrane covering the lungs is called:  
(i) Perioesteum  
(ii) Pleura  
(iii) Pericardium  
(iv) Plasmodium
- j) Increase in size and shape of the muscle due to exercise is termed as:  
(i) Hyperplasia  
(ii) Hypertrophy  
(iii) Hypertension  
(iv) Hypothalamus
- k) The average stroke volume of a sedentary adult male is:  
(i) 30 ml  
(ii) 70 ml  
(iii) 100 ml  
(iv) 120 ml
- l) The normal values of systolic and diastolic blood pressure are:  
(i) 120/80 mmHg  
(ii) 80/120 mmHg  
(iii) 120/180 mmHg  
(iv) 180/120 mmHg
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