



Seat No. \_\_\_\_\_

**HA-003-1016022**

**T. Y. B. Sc. (Sem. VI) Examination**

**April - 2023**

**Zoology : Z-602**

***(Cardiovascular System, Respiration and  
Muscular System, Endocr. & Reprod., Immunology)***

**Faculty Code : 003**

**Subject Code : 1016022**

Time :  $2\frac{1}{2}$  / Total Marks : 70

**Instructions :**

- (1) Illustrate your answers with neat and labelled diagram.
- (2) Figures to the right side indicate full marks for the question.

- 1**
- (a) Attempt the following questions : **4**
    - (1) Define Cardiac cycle.
    - (2) What is Blood Pressure?
    - (3) Write name of valves present in heart.
    - (4) Give the function of SA node.
  - (b) Answer in brief (any one out of two) : **2**
    - (1) Write short note on ECG.
    - (2) Describe systemic circulation.
  - (c) Answer in detail (any one out of two) : **3**
    - (1) Short note on cardiac cycle.
    - (2) Explain regulation of heart rate.
  - (d) Write a note on (any one out of two) : **5**
    - (1) Explain internal structure of heart with diagram.
    - (2) Explain physiology of blood clotting.
- 2**
- (a) Attempt the following questions : **4**
    - (1) Define respiration.
    - (2) Function of muscle.
    - (3) What is gas exchange ?
    - (4) Write the name of four important classes of respiratory pigments.
  - (b) Answer in brief (any one out of two) : **2**
    - (1) Short note on Hb.
    - (2) Classification of respiratory pigments.

- (c) Answer in detail (any one out of two) : **3**  
 (1) Describe Actin and Myosin.  
 (2) Write a short note on transport of carbon dioxide.
- (d) Write a note on (any one out of two) : **5**  
 (1) Explain exchange of gases.  
 (2) Describe molecular structure of sarcomere.
- 3** (a) Attempt the following questions : **4**  
 (1) Write the name of 4 endocrine glands.  
 (2) Define hormone.  
 (3) Which gland secretes “Calcitonin” ?  
 (4) Define menstrual cycle.
- (b) Answer in brief (any one out of two) : **2**  
 (1) Describe adrenal gland.  
 (2) Short note on oestrous cycle.
- (c) Answer in detail (any one out of two) : **3**  
 (1) Explain Hormones of ovary.  
 (2) Short note on thymus.
- (d) Write a note on (any one out of two) : **5**  
 (1) Explain structure and function of adrenal glands.  
 (2) Give a note on functions of endocrine glands.
- 4** (a) Attempt the following questions : **4**  
 (1) Define Antigen.  
 (2) Define immunity.  
 (3) Write the name of primary taste.  
 (4) What is Phagocytes ?
- (b) Answer in brief (any one out of two) : **2**  
 (1) Classification of antibody.  
 (2) Describe auditory pathways.
- (c) Answer in detail (any one out of two) : **3**  
 (1) Describe gustatory pathway.  
 (2) Short note on adaptive immunity.
- (d) Write a note on (any one out of two) : **5**  
 (1) Explain structure and function of Antibody.  
 (2) Describe physiology of hearing.

- 5** (a) Attempt the following questions : **4**
- (1) What is histology ?
  - (2) Write the name of dealcoholizing agents.
  - (3) Define microtomy.
  - (4) Write the name of chemicals used in preparation of Bouins fluids.
- (b) Answer in brief (any one out of two) : **2**
- (1) Short note on single staining.
  - (2) Describe fixation.
- (c) Answer in detail (any one out of two) : **3**
- (1) Explain any two cytological stains.
  - (2) Write a note on Histological structure of testis.
- (d) Write a note on (any one out of two) : **5**
- (1) Describe histology of adrenal glands.
  - (2) Give a detailed account on basic steps of histology.
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