



A Charutar Vidya Mandal's Institution
V.P. & R.P.T.P. SCIENCE COLLEGE

(AUTONOMOUS) (Grant-in-Aid)
Affiliated to Sardar Patel University
VALLABH VIDYANAGAR-388120



Bachelor of Science (Semester- 4) External Examination – 2026
US04MAZOO02, PHYSIOLOGY

DATE: 25-03-2026, WEDNESDAY

MARKS: 50

TIME: 1:45PM TO 4:15 PM

Q-1 Write the most appropriate answer from the following multiple-choice questions.

[10]

1. **Oxygen binding protein found only in muscle fibers is known as**
(a) Haemoglobin (b) Tropomyosin
(c) Myoglobin (d) Troponin
2. **Which of the following muscle gets into fatigue very early?**
(a) Skeletal muscle (b) Smooth muscle
(c) Cardiac muscle (d) All of these
3. **Z- line is a myofibril which separates to adjacent**
(a) H- zones (b) I- bands
(c) A-bands (d) Sarcomere
4. **Each kidney contains approximately how many nephrons?**
(a) 10,000 (b) 1 million
(c) 100,000 (d) 10 million
5. **The kidney helps maintain**
(a) Acid-base balance (b) Blood pressure
(c) Osmoregulation (d) All of the above
6. **Testosterone is secreted by**
(a) Germ cells (b) Epididymal cells
(c) Leydig cells (d) Sertoli cells
7. **The fertilized egg is known as**
(a) Morula (b) Zygote
(c) Embryo (d) Fetus
8. **hCG hormone is secreted by**
(a) Ovary (b) Pituitary
(c) Hypothalamus (d) Placenta
9. **Which of the following is NOT a function of the lymphatic system?**
(a) Drainage of tissue fluid (b) Oxygen transport
(c) Transport of fats (d) Defense against infection
10. **Antibodies are produced by**
(a) Plasma cells (b) Macrophages
(c) RBCs (d) T-cells



Q-2. [A] Describe the types of proteins present in skeletal muscle fiber. [6]

[B] Write a note on microscopic structure of smooth muscle fiber. [4]

OR

Q-2. [A] Explain the production of ATP by energy molecule in skeletal muscles. [6]

[B] Explain the neuromuscular junction (NMJ) with labeled diagram. [4]

Q-3. Describe the mechanism of urine formation in Human kidney. [10]

OR

Q-3. [A] Write a note on urine transportation, storage and elimination in Human. [5]

[B] Explain the Polycystic kidney disease and Renal failure. [5]

Q-4. [A] Describe the Human female reproductive system with labelled diagram. [7]

[B] Write about AIDS in brief. [3]

OR

Q-4. [A] Describe the female reproductive cycle with labeled diagram. [7]

[B] Explain the any two birth control methods. [3]

Q-5. [A] Describe the structure & function of primary lymphoid organs. [5]

[B] Explain the antibody mediated immunity in detailed. [5]

OR

Q-5. [A] Explain the maturation of T-cells. [5]

[B] Write about Rheumatoid arthritis and multiple sclerosis. [5]


