



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

(AUTONOMOUS) (Grant-in-Aid)

Affiliated to Sardar Patel University

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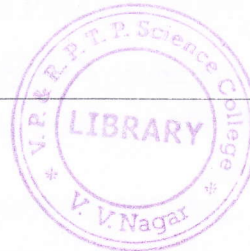


Master of Science (Semester- III) External Examination – 2025
(PS03MAZOO02) HISTOLOGY & HISTOCHEMISTRY

Date: 07-10-2025, (TUESDAY)

Time: 02:00 PM to 04:30 PM (2.5 hrs)

Total marks: 50



Q-1 Write the most appropriate answer from the following multiple-choice questions. [10]

1. The most commonly used routine fixative in histology is:
(a) Carnoy's fluid (b) Mercuric chloride.
(c) Glutaraldehyde. (d) 10% Neutral Buffered Formalin
2. The process of saturating the tissue with the molten embedding medium is called:
(a) Clearing (b) Embedding.
(c) Dehydration. (d) Infiltration
3. In the gray matter of the spinal cord, the ventral (anterior) horns primarily contain the cell bodies of:
(a) Sensory (b) Motor
(c) Interneurons. (d) Neuroglial cells.
4. Which of the following is the most abundant protein fiber found in most connective tissues, providing high tensile strength?
(a) Elastin (b) Reticular fibers
(c) Fibrillin (d) Collagen
5. The neuroglia cells responsible for forming the myelin sheath around axons in the Central Nervous System (CNS) are the:
(a) Schwann cells (b) Microglia
(c) Astrocytes (d) Oligodendrocytes
6. Where are the Brunner's glands located?
(a) Jejunum (b) Duodenum
(c) Ileum (d) Stomach
7. Which layer of the oesophagus contains blood vessels and nerves?
(a) Muscularis externa (b) Adventitia
(c) Submucosa (d) Mucosa
8. Which type of epithelial cell lines the alveoli of the lungs?

- 8 Which type of epithelial cell lines the alveoli of the lungs?
 (a) Stratified cuboidal (b) Simple cuboidal
 (c) Simple squamous (d) Stratified columnar
- 9 Which staining technique is best for distinguishing glycoproteins with carboxyl and O-sulphate groups?
 (a) PASP (b) Alcian blue
 (c) Sudan black B (d) Bromophenol blue
- 10 Which method detects free amino ($-NH_2$) groups in proteins?
 (a) Nihydrin-Schiff method (b) PAS method
 (c) Sudan Black B method (d) Silver impregnation

- Q-2 (A) Explain the process of tissue processing with special reference to dehydration, clearing, and embedding. [06]
 (B) Describe the types of fixatives with suitable examples. [04]

OR

- Q-2 Write short notes on: [10]
 (A) Microtomy
 (B) Haematoxylin and Eosin stain

- Q-3 Describe the structure, types, and functions of epithelial tissues with suitable diagrams. [10]

OR

- Q-3 [A] Write the types of connective tissue cells with examples. [05]
 [B] Differentiate between histological organization of: cerebral cortex and cerebellar cortex. [05]

- Q-4 Compare the histology of the small intestine, large intestine, and stomach. [10]

OR

- Q-4 Describe the histological structure of the urinary bladder & Kidney. [10]

- Q-5 Explain the principle and procedure of Periodic Acid-Schiff (PAS) method for the demonstration of glycogen and glycoproteins. Discuss its applications in histology. [10]

OR

- Q-5 Explain the principle and procedure of Performic acid-Schiff and Performic acid-Alcian blue methods for SS-groups. [10]