



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



Master of Science (Semester 3) Internal Examination - 2025
PS03MAZOO02 (HISTOLOGY & HISTOCHEMISTRY)

Date: 23/09/2025

Time: 10:45 A.M To 12:15 P.M

Total marks :30

Q-1 Multiple choice question

(6Marks)

1. Zenker's fixative is commonly used for which type of tissue?
A) Nervous tissue B) Muscle tissue C) Bone D) Connective tissue
2. Which microtome is best for paraffin sectioning?
A) Sliding microtome B) Rotary microtome C) Ultramicrotome D) Cryostat microtome
3. Which cell is responsible for producing collagen fibers?
A) Macrophages B) Mast cells C) Adipocytes D) Fibroblasts
4. Which layer in the stomach contains gastric glands?
A) Mucosa B) Submucosa C) Muscularis externa D) Serosa
5. The muscular layer of the ureter consists mainly of
A) Skeletal muscle B) Cardiac muscle
C) Smooth muscle arranged in layers D) No muscle present
6. The Alcian blue stain is best used to identify:
A) Neutral mucopolysaccharides C) Proteins
B) Acid mucopolysaccharides D) Lipids

Q-2 Explain the principle and methods of staining paraffin sections, focusing on the Hematoxylin and Eosin stain.

(6Marks)

OR

Q-2 Discuss the different types of fixatives used in histology, their chemical basis and specific applications.

(6Marks)

Q-3 Explain the types of fibres found in connective tissue with their functions.

(6Marks)

OR

Q-3 Compare the histological features of the cerebral cortex and cerebellar cortex.

(6Marks)



Q-4 Explain the histological features of the respiratory epithelium.

(6Marks)

OR

Q-4 Explain the histological features of the urinary bladder that allow it to expand and contract. (6Marks)

Q-5 Discuss the Performic acid-Schiff and Performic acid-Alcian Blue methods for detection of -SS groups in proteins

(6Marks)

OR

Q-5 Explain the principle behind histochemical methods for lipid localization and give an example

(6Marks)

No of printed pages: 01

Supervisor sign

Seat No.:



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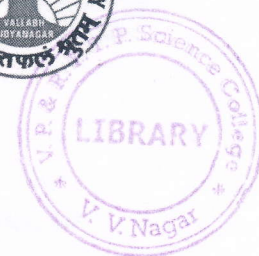
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MSC (Semester 3) Quiz - 2025

PS03MAZOO02 (HISTOLOGY & HISTOCHEMISTRY)



Date: 23/09/2025 Day: Tuesday

Time: Maximum 20 minutes

Total marks :15

Q-1 Fill in the blanks with appropriate answer given in the bracket.

[08]

- (i) A compound fixative used to preserve delicate soft tissue structures is _____. (Zenker's fluid, Bouin's solution).
- (ii) Before embedding, tissues are rendered transparent using _____ agents. (Clearing, Dehydrating)
- (iii) Stratified squamous epithelium is _____ in the skin. (keratinized/non-keratinized)
- (iv) Calcium ions bind to _____ during muscle contraction to initiate filament interaction. (tropomyosin, troponin)
- (v) The mucosa of the small intestine contains _____ to increase the surface area for absorption. (Plicae circulares, Submucosal folds)
- (vi) The ureter is lined by _____ epithelium. (Pseudostratified columnar, Transitional epithelium).
- (vii) General proteins are localized by the _____ method using an acidic dye. (Bromophenol blue, Alcian blue)
- (viii) The _____ method detects free amino (-NH₂) groups in proteins by reacting amino groups with ninhydrin and Schiff reagent. (Ninhydrin-Schiff, Performic acid - Schiff)

Q-2 Whether the following statement is true or false. Write your answer in the box

[07]

- (i) Autolysis refers to tissue breakdown by bacterial action. []
- (ii) Silver stain is used to demonstrate reticular fibers in histology. []
- (iii) The outer layer of the cerebrum responsible for higher brain functions is called the cerebellar cortex. []
- (iv) Elastic fibers provide great tensile strength to connective tissue. []
- (v) The liver produces insulin. []
- (vi) The respiratory epithelium is pseudostratified ciliated columnar. []
- (vii) Periodic acid Schiff (PAS) method uses a basic dye to stain proteins. []