

**Zoology (P.G.)**

**[CBCS]**

**M.Sc. First Semester End Examination-2023**

**(Regular & Supplementary Paper)**

**PAPER-102**

**Full Marks: 40**

**Time: 02 Hrs**

*The figures in the right-hand margin indicate marks.*

*Candidates are required to give their answers in their own words as far as practicable.*

*Illustrate the answers wherever necessary.*

**Group 102.1**

**Full Marks 20**

**[ Histochemistry ]**

1. **Answer any two questions of the following:** **2x2= 4**
    - a. What is metachromasia?
    - b. What do you mean by vital staining? Give an example.
    - c. Explain that hematoxylin is a natural dye.
    - d. Why do you prefer to use Bouin's fixative for preservation? State its composition.
  
  2. **Answer any two questions of the following:** **2x4= 8**
    - a. What is mordanting ? Give an example of mordant. Mention the advantage of the used of mordant. 4
    - b. Write down any two name of fluroscent labelling reagents.
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(2)

- Mention the significance of cross-reactivity in immunohistochemistry. 2+2
- c. Write a short note on –“Enzyme conjugation” for Enzyme-Labelled antibody methods. 4
- d. Briefly describe the fixation mechanism taking an example of formaldehyde and Osmium tetraoxide. 2+2
- 3. Answer any one question of the following: 1x8=8**
- a. Explain the ‘ABC’ method with proper diagram. Discuss the colloidal gold method and mention its importance in immunohistochemistry. 4+4
- b. Briefly describe the Gomori’s lead phosphate method for identifying acid phosphate activity. State any two name of acid phosphatase inhibitors. 6+2

**Group 102.2**

**Full Marks 20**

**[Animal Physiology]**

- 4. Answer any two questions of the following: 2x2= 4**
- a. What is torpor?
- b. What are thermo conformers?
- c. What is hyperbarism.
- d. Write on positive feedback control with suitable example.

(3)

- 5. Answer any two questions of the following: 2x4= 8**
- a. Differentiate between “homeothermic endotherm and poikilothermic ectotherm”
- b. Describe the events in intrauterine hematopoiesis.
- c. Explain the significance of elongated QRS wave in ECG. Draw the ECG curves of the person suffering from a) Bradycardia b) AV block
- d. Write on free radicals and how antioxidants prevent their action?
- 6. Answer any one question of the following: 1x8=8**
- a. Write a short note on –
- i) Regulation of blood volume by renal excretion of water and sodium.
- ii) Counter current heat exchange system with proper example.
- b. Define stress. Explain in detail the “General Adaptation Syndrome.

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