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RNLKWC/M.Sc.-CBCS/IS/ZOO-102/P.G./22

2022

Zoology

[P.G.]

(CBCS)

(M.Sc. First Semester End Examination-2022)

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

[Use separate Answer Script for each Group]

Group A

Marks 20

(Histochemistry)

1. Answer any two questions of the following: 2x2= 4
 - a) What is Vital staining? 2
 - b) Why do you prefer to use Bouin's fixative? Write its composition. 2
 - c) Difference between auxochrome and chromophore. 2
 - d) Justify whether haematoxyline is a dye or not. 2

2. Answer any two questions of the following: 2x4 = 8
 - a) (i) Write down any two name of fluroscnt Labelling reagents.
 - (ii) What is secondary antiserum?

(2)

- b) Write a short note on – ‘Mordant’ briefly.
- c) Explain briefly indirect fluorescence technique method for detection of an antigen.
- d) What is streptavidin? What are the stains used for staining mitochondria and nerve fibres?

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) Discuss the Gomori’s Lead phosphate method for identifying acid phosphatase activity. Mention any two name of acid phosphate activity. Mention any two name of acid phosphatase inhibitor. 6+2

Group – B

Marks 20

(Animal Physiology)

4. Answer any two questions of the following: 2x2= 4

- a) What is oxidative stress. 2
- b) Define cardiac output. 2
- c) What is torpor? 2
- d) What do you mean by estivation? 2

5. Answer any two questions of the following: 2x4 = 8

- a) What is erythropoietin? Explain the feature for left ward shift of ODC.

(3)

- b) Explain the roles of Ca^{+2} channels of SA node.
- c) Difference between shivering and nonshivering thermo genesis
- d) Explain counter current heat exchange process of aquatic mammals.

6. Answer any one question of the following: 1x8 = 8

- a) Explain the role of counter current heat exchanges of birds. Explain the role of different enzymes in combating oxidative stress. 4+4
- b) Explain the ODC of adult haemoglobin (HbA), foetal haemoglobin (HbF) and myoglobin. What is the role of 2,3 BPG in formation of oxyhaemoglobin. What is joint diastole of heart? 4+2+2
