

M.Sc 1st Semester Examination, 2013

ZOOLOGY

PAPER – ZOO- 103

Full Marks : 40

Time : 2 hours

*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

**Write the answers to Questions of each Group
in separate books**

GROUP – A

(Wildlife and Adaptation)

1. Answer any two questions of the following : 2 × 2

- (a) Enlist different threatened wild animals of
Midnapore (West) District of West Bengal,
India.**

(Turn Over)

- (b) State the harmful impacts of ROS.
- (c) What is wildlife crime ?
- (d) What is the Schedule-I of wildlife (Protection) Act. 1972 ?
2. Answer any *two* questions of the following : 4×2
- (a) How wildlife crimes can be detected by molecular techniques ? 4
- (b) Briefly discuss different laws and acts pertaining to Wildlife Conservation. 4
- (c) (i) Elucidate the activation states of Oxygen.
- (ii) State the strategy of osmoregulation in Stenohaline and Euryhaline fishes. 2 + 2
- (d) Explain general 'Adaptive Syndrome'. 4
3. Answer any *one* question of the following : 8×1
- (a) (i) State the steps how oxidative stress induces Alzheimer's disease.
- (ii) Explain homeostatic control mechanism.

- (iii) Discuss how saltwater fishes control iono-osmoregulation. 2 + 4 + 2
- (b) (i) Briefly discuss the necessity and objectives of wildlife conservation.
- (ii) Explain salient features of Man-Elephant conflict in South of West Bengal.
- (iii) Enlist different techniques for wildlife census. 3 + 3 + 2

GROUP – B

(*Microbiology*)

4. Answer any *two* questions of the following : 2×2
- (a) Write the importance of bacterial pill.
- (b) What are Growth factors ? State their major classes.
- (c) Write the chemical structure of peptidoglycan.
- (d) What is the special relationship between microorganisms and Rhizosphere ?

5. Answer any *two* questions of the following : 4×2

(a) Draw and label the ultrastructure of a bacterial flagella. What are the different flagellar arrangements on a cell ?

(b) Compare the important features of Bacteria and Archeae.

(c) Write the different principles for formulating culture media.

(d) Explain the role of Bacteria in Fossil fuel formulation.

6. Answer any *one* question of the following : 8×1

(a) (i) With what three major criteria did Whittaker divide organisms into five Kingdoms ? Schematically represent 5-kingdoms system.

(ii) Classify Bacteria on the basis of influence of oxygen. 4 + 4

(5)

(b) (i) What do you mean by Benchtop tests ?
Give the names of the basic types.

(ii) Briefly write down the important characteristics of Protozoa and Fungi.

4 + 4
