

2022**M.Sc.****4th Semester Examination (CCAEE)****ZOOLOGY****PAPER—ZOO-403***Full Marks : 40**Time : 2 Hours**The figures in the margin indicate full marks.**Candidates are required to give their answers in their own words as far as practicable.**Illustrate the answers wherever necessary.***SPECIAL PAPER : ECOLOGY****ZOO-403B.1 SYSTEMS ECOLOGY****1. Answer any two questions : 2×2**

- (a) State the difference between Deterministic and stochastic model.

(Turn Over)

- (b) Classify Tropical Forests.
- (c) Distinguish between monomictic and dimictic lakes.
- (d) State the difference between α and β -diversity.

2. Answer any *two* questions : 2×4

- (a) Name the lakes formed through gradual natural processes.
- (b) How many categories of Ecosystem Services are commonly known ? State merits and demerits of Ecotourism. 1+3
- (c) Differentiate between Species Diversity and Evenness index.
- (d) What are the restoration planning steps as per SER ?

3. Answer any one question : 1×8

- (a) (i) State the necessary conditions for any metapopulation. What are the different types of metapopulation models ?

- (ii) What is leaf litter ? Write down in brief the importance of earthworm in leaf litter decomposition. 4+4
- (b) (i) How is landscape one of the foundations for restoration ecology ?
- (ii) Write a note on Fragmentation of habitat.
- (iii) Write a note on stratification of aquatic ecosystem. 3+2+3

ZOO-403B.2 HUMAN ECOLOGY

4. Answer any *two* questions : 2×2

- (a) State the effects of thermal inversion.
- (b) What are biomedical wastes ?
- (c) Discuss the impact of indoor pollution on human health.
- (d) What is ecomark ?

5. Answer any *two* questions : 2×4
- (a) Write a note on carbon sequestration.
 - (b) State the location of ozone layer. Mention the causes of depletion of ozone layer. 2+2
 - (c) Discuss the effects of urbanization on biodiversity.
 - (d) Discuss the problems involved with bioinvasion.
6. Answer any *one* question : 1×8
- (a) Define EIA. Discuss the process and methodologies of EIA. 4+4
 - (b) Write notes on :
 - (i) Significance of wasteland restoration ;
 - (ii) Effects of climate change on agriculture. 4+4

SPECIAL PAPER : PARACITOLOGY**ZOO-403D.1****VECTOR BIOLOGY AND VECTOR BORNE PARASITES**

1. Answer any *two* questions : 2×2
- (a) What do you mean by transovarian transmission? Explain with example.
 - (b) What do you mean by primary kinetes and cytomeres?
 - (c) Write the medical importance of black flies.
 - (d) What is Maggot Debrident therapy (MDT)?
2. Answer any *two* questions : 2×4
- (a) What is Myiasis? Mention the major classifications of Myiasis.
 - (b) Distinguish between Ixodidae and Argasidae families of tick with *example*.

(c) Describe the morphological features of flea.
What is PKDL? 3+1

(d) Write notes on 'Q' fever.

3. Answer any *one* question : 1×8

(a) Describe the life cycle, clinical features and treatment of *Babesia* sp.

5+2+1

(b) Write short notes (any *two*) : 2×4

(i) Relapsing fever ;

(ii) Classical and occult filariasis ;

(iii) Tick control ;

(iv) Impact of climatic change on Vector Borne Disease (VBD's).

ZOO-403D.2

MOLECULAR DIAGNOSIS & CLINICAL PARASITOLOGY

4. Answer any *two* questions : 2×2
- (a) Write the difference between direct and indirect ELISA.
 - (b) What do you mean by Dot-ELISA ?
 - (c) Write the clinical features of hook worm anaemia.
 - (d) What is amaebic pericarditis ?
5. Answer any *two* questions : 2×4
- (a) Write the principle of S-ELISA with pictorial presentation.
 - (b) How do you prepare the standard curve in RIA ?
 - (c) Write the clinical features of Toxoplasmosis.
 - (d) Comment on the mode of infection of *Enterobius Vermicularis*. What is autoinfection ? 3+1

6. Answer any one question : 1×8
- (a) Write the steps of antibody coating in Microwells of ELISA plate. Why S-ELISA preferred over C-ELISA ? 5+3
- (b) Describe the life cycle, pathogenecity and propphylaxis of *Hymenolepis nana*. 5+2+1
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