

(Theory Paper)

Paper Code : ZOO 402(W)

(Wildlife Ecology Special
Conservation Biology)

Full Marks – 80

Time – Three hours

The figures in the margin indicate full marks
for the questions.

1. Answer the following multiple choice questions
(all six questions are compulsory) : $1 \times 6 = 6$

(a) Most workers in ant colony are shows
dimorphism (Large and dwarfs) known as

- (i) Fighters and Sitters
- (ii) Macregates and Micregates
- (iii) Gyne and Aners
- (iv) Ergates and Attendants

(b) Bioindicators are used for

- (i) Oxygen demand (ii) Air pollution
- (iii) Mineral present (iv) All of the above

(c) Butterflies that feed on few specific kinds of
food plants are known as

- (i) Polyphagous (ii) Oligophagous
- (iii) Monophagous (iv) None of these

(d) Population of a group of individuals belonging
to same

- (i) Genus (ii) Species
- (iii) Family (iv) Order

(e) One adult male, more than one adult female
group is seen in which primate species ?

- (i) Hoolock Gibbon
- (ii) Assamese Macaque
- (iii) Golden Langur
- (iv) All of the above

(f) Two animal species inhabits in a tree ; however, feed on different food items. What particular niche they are maintaining between them ?

(i) Spatial niche

(ii) Trophic niche

(iii) Multidimensional niche

(iv) None of the above.

2. Answer the following very short type of questions (All five questions are compulsory) : $2 \times 5 = 10$

(a) How group living is beneficial for the mammals ?

(b) Mention the major differences between moths and butterflies.

(c) Mention the basic difference between home range and territory in animals.

(d) In which population growth curve, density reaches the upper limit, remains at that level for a time, then declines suddenly, indicating catastrophic conditions ?

(e) Define migration of animals.

3. Answer the following short type of questions (any six out of nine questions) : $5 \times 6 = 30$

(a) What do you mean by wildlife-livestock interface ? Explain why it is a major threat for biodiversity. $2+3=5$

(b) What do you mean by zoonotic disease ? Explain how it spread from wildlife to human. $2+3=5$

(c) What is the significance of mudpuddling in Lepidopteran insects ? 5

(d) State the difference between crude density and ecological density. 5

(e) What is climate change ? Explain briefly about the impact of climate change on the biology of insect with a suitable example. $2+3=5$

(f) Differentiate between learned and innate behaviour with suitable examples. 5

(g) What is a bioindicator species ? Briefly discuss about the role of a bioindicator species in grassland ecosystem. $2+3=5$

(h) Define carrying capacity with suitable diagram. 5

(i) Differentiate between polygyny and polyandry with suitable examples in birds. 5

4. Answer any *one* of the following long answer type questions :

10×2=20

(a) What do you mean by social organization ? Describe briefly the social organization in any of the hymenopteran insects.

3+7=10

(b) Name two endangered primates species in Assam. Discuss eco-biology of one of the species in detail.

2+8=10

(c) What is the different between habitat and niche ? Describe different niche theories have been propounded with suitable examples and illustration.

2+8=10

5. Answer any *one* of the following very long answer type questions :

14×1=14

(a) Describe briefly about the life cycle of a butterfly species belonging to Papilionidae family. Mention how host plants and nectaring plants are associate with their life cycle.

7+7=14

(b) What is parental care ? Narrate parental care in birds with suitable examples.

2+12=14