# 2 0 1 8

## ZOOLOGY

( Major )

Paper : 2·2

### ( Ecology, Wildlife Conservation and Management )

*Full Marks* : 60

*Time* : 3 hours

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

1. Choose the correct answer of the following :

    1×7=7

    (a) Which of the following is not correct for a natural ecosystem?

    (i) Exchange both matter and energy with their environment

    (ii) Thermodynamically    not    in equilibrium

(iii) Thermodynamically in a dynamic steady state

(iv) Exchange energy but not matter

(b) Hoolock Gibbon is confined to which part of Assam?

   (i) Northern part of the river Brahmaputra

   (ii) Southern part of the river Brahmaputra

   (iii) Entire Assam

   (iv) Chakrashilla Wildlife Sanctuary

(c) Feral horse is found to which of the following?

   (i) Kaziranga National Park

   (ii) Manas National Park

   (iii) Orang National Park

   (iv) Dibru-Saikhuwa National Park

(d) For a biosphere reserve, which of the following is not true?

   (i) Ecosystem oriented

   (ii) Human beings are integral part of the system

   (iii) Under the sovereign jurisdiction of National Government

   (iv) Sustainable use of the natural resources of the sites

(e) The ecological study of individual organism or species is called

   (i) autoecology

   (ii) community ecology

   (iii) synecology

   (iv) population ecology

(f) Which of the following is correctly matched?

  (i) Kaziranga—Pigmy Hog

  (ii) Manas—Pigmy Hog

  (iii) Pabitora—Pigmy Hog

  (iv) Dibru–Saikhuwa—Pigmy Hog

(g) If the total population of mature individuals of a species is 49 individuals, then which of the following threatened categories will fall?

  (i) Vulnerable

  (ii) Endangered

  (iii) Critically endangered

  (iv) Least concern

**2.** Answer the following :                    2×4=8

(a) "Detritus and grazing food chain cannot operate independently." Justify with suitable examples.

( Continued )

(b) "The pyramid of energy is always upright." Explain.

(c) "The flow of energy in the ecosystem is always unidirectional." What would it have been if it was 'bidirectional'?

(d) Why does the number of trophic level seldom exceed six?

3. Answer any *three* of the following : 5×3=15

(a) Differentiate between the *in-situ* conservation and *ex-situ* conservation of wildlife.

(b) What are the two criteria of the Kaziranga National Park that it could achieved the status of world heritage site by UNESCO?

(c) Write briefly the man and biosphere programme of UNESCO.

(d) List the national parks of North-East India with their States.

(e) Write a short note on Savana biome.

**4.** What is the IUCN category? Write a note on how a species is assayed in the category of critically endangered (CR) by the IUCN.     10

*Or*

Define hunting according to the Wildlife Protection Act, 1972. Write the salient features of the Wildlife Protection Act, 1972.

2+8=10

**5.** Distinguish between the ecological carrying capacity and economical carrying capacity. Explain the ecological carrying capacity in the light of different limiting factors and their impacts on the wildlife population and its habitats.                    2+4+4=10

*Or*

What are the different air pollutants? Write briefly the different sources of air pollution and their harmful effects on living organisms.                 2+4+4=10

*( Continued )*

**6.** Enumerate the different roles for the care and attention to maintain the different levels of family ties in the light of morphological and sexual dimorphism of the individual members of non-human primates.     10

*Or*

What do you mean by ecosystem? Explain the energy flow in the ecosystem follows the second law of thermodynamics.     10

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