



Name :
Roll No. :
Invigilator's Signature :

CS / M.Sc. (GE) / SEM-2 / MSGEN-204 / 2011

2011

GENETIC BIODIVERSITY AND TAXONOMY

Time Allotted : 3 Hours

Full Marks : 70

The figures in the margin indicate full marks.

*Candidates are required to give their answers in their own words
as far as practicable.*

GROUP – A

(Multiple Choice Type Questions)

1. Choose the correct alternatives for any *ten* of the following :

10 × 1 = 10

- i) Which of the following is called β -diversity ?
 - a) Ecological diversity b) Genetic diversity
 - c) Forest diversity d) Species diversity.
- ii) The first National Park of India was
 - a) Jim Corbett National Park
 - b) Kaziranga National Park
 - c) Gir National Park
 - d) Panna National Park.

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[Turn over



- iii) A weed which has invaded many forest lands of India is
- a) *Parthenium hysterophorus*
 - b) *Lantana Camara*
 - c) *Chenopodium alba*
 - d) *Eichornia crassipes*.
- iv) Which one of the following is the notable hotspots of India ?
- a) Thar desert
 - b) Sunderbans
 - c) Eastern Ghats
 - d) Eastern Himalayas.
- v) MAB stands for
- a) Man and Biosphere
 - b) Man and biotic community
 - c) Mayer, Anderson and Bisby
 - d) none of these.
- vi) Red Data Book was produced by
- a) IBWL
 - b) MAB
 - c) WWF
 - d) IUCN.
- vii) Best method for conserving genetic material of plants is
- a) Cold storage
 - b) Tissue culture
 - c) Seed storage
 - d) Growing in natural habitat.
- viii) An example of overexploiting animal species through over hunting is
- a) Lion
 - b) Whale
 - c) Rhino
 - d) Shark.



- ix) Black Buck (*Antilope cervicapra*) is an example of
- Endangered species
 - Extinct species
 - Vulnerable species
 - Conservation dependant species.
- x) Conservation and maintenance of wild life within the natural ecosystem is
- Ex situ* conservation
 - Botanical garden
 - In situ* conservation
 - All of these.
- xi) Robert Whittaker proposed 5 kingdoms of organisms in the year
- 1949
 - 1959
 - 1969
 - 1979.
- xii) The number of amino acids in human cytochrome is
- 90
 - 104
 - 160
 - 200.

GROUP – B

(Short Answer Type Questions)

Answer any *three* of the following. $3 \times 5 = 15$

- Name five major threats to biodiversity and explain them in brief.
- What do you mean by values of biodiversity ? Explain.
- Describe the patterns of species diversity.
- Discuss how the technique of DNA-DNA hybridization help in comparing the genomes of different species.
- Write a short note on chromosomes painting.



GROUP – C

(Long Answer Type Questions)

Answer any *three* of the following. $3 \times 15 = 45$

7. Name two exotic plants or animals of India introduced from Australia. Discuss about the detrimental effects in aquatic ecosystem due to exotic species. Exotic species as alien invasion in Sunderban. Justify. $2 + 6 + 7$
8. What is IUCN ? Mention the history of IUCN in brief. How Mace and Stuart, 1994 categorize threatened and other species ? What are the functions of IUCN ? $2 + 2 + 6 + 5$
9. Why is conservation of biodiversity needed ? What are the main strategies of conservation ? Mention the main differences between national park, wildlife sanctuaries and biosphere reserve. $2 + 7 + 6$
10. What do you mean by biodiversity hotspot ? Discuss the biodiversity hotspots in India. Discuss US Endangered Species Act. $5 + 5 + 5$
11. What do you mean by taxonomy ? What are the 5 kingdoms proposed in Whittaker and their features ? What are the differences between Linnean, Cladistic and Phenetic classification ? $1 + 5 + 9$

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