

2008

ZOOLOGY

PAPER—Z-302

Full Marks : 40

Time : 2 hours

Answer **all** questions

The figures in the right-hand margin indicate marks

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

GROUP — A

(*Biotechnology*)

1. Answer any *two* questions from the following : 2×2

(a) What do you mean by hybrid vector ? Give example.

(b) Distinguish between plasmid and cosmid.

(c) What are the optimum physicochemical parameters for microbial degradation ?

(*Turn Over*)

(d) Name the microorganism involved in the production of

(i) Vinegar

(ii) Gibberellin

(iii) Protease

(iv) Bread.

$$2 + 2 + 2 + \left(\frac{1}{2} \times 4\right)$$

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

(a) Mention different biotechnological tools for the conservation of biodiversity.

(b) What is phytodegradation ? Write notes on oil eating bug or superbug.

(c) (i) Write down the mechanism of function of a pH probe.

(ii) What are the advantages of a biosensor ?

(d) (i) Distinguish between Type I and Type II restriction nuclease.

(ii) Mention the significance of biopesticide.

$$4 + (1 + 3) + (2 + 2) + (2 + 2)$$

(3)

3. Answer any *one* question from the following : 8×1

(a) What is bioremediation ? Briefly describe the In situ bioremediation process.

Mention the advantages of bioremediation.

(b) (i) Describe the process of gene cloning with setematic diagram.

(ii) Mention one clinical application of biosensor. $(1 + 4 + 3) + (7 + 1)$

GROUP - B

(*Environmental management & biodiversity*)

1. Answer any *two* questions : 2×2

(a) What is 'Environment Kuznets Curve' ?

(b) What is sustainable use of resource ?

(c) What is 'Green Bench' ?

(d) Explain accumulator and exploiter species with suitable examples .

2. Distinguish between (any *two*) 4×2

(a) Extirpation and Pseudoextinction.

(4)

- (b) Mass extinction and Anthropogenic extinction.
- (c) Economic growth and Economic development.
- (d) Impact sensitive and Impact insensitive species.

3. Answer any *one* from the following questions : 8 × 1

(a) Write a brief account on the 12 steps followed in EIA process as has been suggested by UNEP (1996). Add a brief note on EIA notification of the Government of India.

(b) Write notes on :

(i) Biodiversity Hotspots

(ii) IUCN Red List Categories.

(6 + 2) + (4 + 4)
