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B.Sc. RNLK-/Zoology/DSE2/22

2022

Zoology

[Fifth Semester]

Paper - DSE2 (Animal Biotechnology)

Full Marks : 40

Time : 2 hours

The figures in the right-hand margin indicate marks.

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

Illustrate the answers wherever necessary.

1. Answer any five from the following : $5 \times 2 = 10$

- a) Write down the difference between euchromatin & heterochromatin. 2
- b) Differentiate between southern blot & western blot. 2
- c) What is DNA microinjection? 2

(Turn Over)

(2)

- d) State the origin of Hela and CHO cell line? 1+1
- e) What is knock out mice? 2
- f) What is cosmid? Write down its significance. 1+1
- g) What do you mean by lipofection? 2
- h) What is selectable marker in cloning vector? 2

2. Answer any four from the following : 4×5=20

- a) Write a comparative discussion of A-DNA, B-DNA and Z-DNA. 5
- b) Describe about nuclear transfer in the production of transgenic animals. 5
- c) Write a short note on cystic fibrosis. 5
- d) What is cell line? Write down the applications of animal cell culture. 2+3
- e) Differentiate between normal and transformed cells. 5
- f) What is the reason for such naming of Restriction Endonuclease? Write down the difference between Type-I, Type-II & Type-III Restriction endonuclease. 2+3

(3)

3. Answer any one from the following : 1×10=10

- a) Write down the principle, technique and application of polymerase chain reaction. (PCR) 2+4+4
- b) How transgenic animals are used in Biotechnology? State with five aspects. 5×2