

**U.G. 5th Semester Examination - 2021****ZOOLOGY****Course Code : BZOODSHC1 [DSE 1]****Course Title : Animal Biotechnology**

Full Marks : 30

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.*1. Answer any **ten** questions from the following:

1×10=10

- a) What is Phasmid?
- b) What is RT-PCR?
- c) What is the difference between cDNA library and genome library?
- d) Write the advantage of nylon membrane over nitrocellulose membrane in Southern Blotting.
- e) From which organism Taq polymerase is isolated?
- f) What do you mean by gene knockout?

- g) Name two blocking agents in Western blot.
- h) What do you mean by R factor?
- i) What is VNTR?
- j) What is RFLP?
- k) What is biolistics?
- l) What is YAC?
- m) Why ddNTPs are used in Sangers method?
- n) Why serum is used in culture media?
- o) Which type of cell is Hela?

2. Answer any **five** questions from the following:

2×5=10

- a) Mention two differences between BAC and MAC.
- b) Write down two application of DNA microarray.
- c) Write two application of transgenic animals.
- d) What is plaque hybridization?
- e) What is the cos site in  $\lambda$  phage? Write the advantages of cosmid as a vector.
- f) What are the main characteristics of cloning bacteria?
- g) How staggered end is transformed into sticky end?

h) What do you mean by a Probe? What is its role in gene cloning?

3. Answer any **two** questions from the following:

$5 \times 2 = 10$

a) Describe the steps of DNA fingerprinting as used for a paternity case.

b) What do you mean by contact inhibition? Describe different phases in the growth pattern of an established cell line.  $2 + 3 = 5$

c) What do you mean by cDNA Library? Show the diagrammatic steps in the formation of double stranded cDNA from an mRNA.  $1 + 4 = 5$

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