

D 91609

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Name.....

Reg. No.....

**THIRD SEMESTER M.Sc. DEGREE EXAMINATION, DECEMBER 2015**

(CUCSS)

Zoology

Z03 CT 07—CELL AND MOLECULAR BIOLOGY

Time : Three Hours

Maximum : 36 Weightage

I. Answer all *fourteen* questions :

- 1 What are Okazaki fragments ?
- 2 Explain a frame shift mutation.
- 3 What is a TATA box ?
- 4 Explain genetic code.
- 5 What is immunotherapy ?
- 6 Explain sexduction.
- 7 Outline pseudo genes.
- 8 What are *p*-elements ?
- 9 Write on selfish DNA.
- 10 What are temperate phages ?
- 11 What are siRNA and miRNA ?
- 12 Explain oncogenes.
- 13 What are interrupted genes ?
- 14 Write the role of topoisomerases.

(14 × 1 = 14 weightage)

II. Answer any *seven* questions :

- 15 Write on tumor suppressor genes.
- 16 Explain Holliday model of DNA recombination.
- 17 Write on fidelity of DNA replication.
- 18 Provide an account on transcription factors.
- 19 Describe transformation in bacteria.
- 20 Explain the experiments of Barbara Mc.Clintock on transposons.

Turn over

- 21 Write on globin genes.
- 22 Discuss the organization of human genome.
- 23 Explain suppressor mutation and suppressor genes.
- 24 Describe biogenesis in *Xenopus laevis*.

(7 × 2 = 14 weights)

III. Answer any *two* questions :

- 25 Provide an account on major kinds of DNA damage and its repair.
- 26 Discuss extra nuclear genes and its inheritance pattern.
- 27 Explain gene regulation in eukaryotes.
- 28 Describe rolling circle and looped rolling circle models of DNA replication.

(2 × 4 = 8 weight)