

C 63021

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Name.....

Reg. No.....

SECOND SEMESTER M.Sc. DEGREE EXAMINATION, JUNE 2019

(CUCSS)

Botany

BO 02 CT 05—CELL BIOLOGY, MOLECULAR BIOLOGY, AND BIOPHYSICS

(2010 Admissions)

Time : Three Hours

Maximum : 36 Weightage

I. Answer the questions very briefly ($14 \times 1 = 14$ weightage, Grades : A, B, C, D, E) :

- 1 What are Chaperons ?
- 2 Comment on C value paradox.
- 3 What are hnRNA ?
- 4 Write notes on Nucleosomes.
- 5 Comment on Satellite DNA.
- 6 What is meant by Lyophilisation?
- 7 Define pH.
- 8 What are Oncogenes ?
- 9 State the significance of Metastasis.
- 10 Define Beer Lambert's Law.
- 11 What is RIA ?
- 12 Write notes on Silencers.
- 13 Define an operon.
- 14 Write a note on Autoradiography.

II. Answer any *seven* questions in not more than 100 words each ($7 \times 2 = 14$ weightage, Grades : A, B, C, D, E) :

- 15 Differentiate euchromatin and heterochromatin.
- 16 Explain primosome and replisome.
- 17 Explain molecular mechanism of cellular differentiation.
- 18 What is the principle of chromatography ?
- 19 Write a brief account on the applications of molecular phylogenetics.

Turn over

- 20 Describe the structure of IgG.
 - 21 Explain agarose gel electrophoresis.
 - 22 What are the functions of buffers in biological system ?
 - 23 What are the different stages of interphase ?
 - 24 What is crossing over ? During which phase of meiosis does this event occur ?
- III. Answer any *two* questions in not more than 300 words each ($2 \times 4 = 8$ weightage, Grades : A, B, C, D, E) :
- 25 Write an account on the gene regulation. Illustrate your answer with lac operon.
 - 26 What are mutations ? Classify the different types of mutations.
 - 27 Define Centrifugation. What are the different types of centrifuges ? Mention its applications.
 - 28 Explain cell cycle. Mention its significance.