

19001709



Reg. No.....

Name.....

M.Sc. DEGREE (C.S.S.) EXAMINATION, JUNE 2019

Second Semester

Faculty of Science

Branch VI : Botany

PC 6—CELL AND MOLECULAR BIOLOGY

(2012 Admission onwards)

Time : Three Hours

Maximum Weight : 30

I. Answer any *six* of the following in not less than 50 words (Weight 1 each) :

- 1 What is the structure and function of membrane proteins ?
- 2 Mention the genetic system in chloroplast.
- 3 Write notes on G. protein coupled receptors.
- 4 What is programmed cell death ?
- 5 What are molecular motors ?
- 6 Explain myosins.
- 7 What is replication fork ?
- 8 What are split genes ?

(6 × 1 = 6)

II. Answer any *seven* of the following in not less than 100 words (Weight 2 each) :

- 9 Explain the molecular mechanism and control of programmed cell death.
- 10 Explain endosymbiont hypothesis on the evolution of mitochondria.
- 11 Give an account of cell surface receptors.
- 12 Briefly explain the regulation of plant cell cycle.
- 13 Explain tautomeric forms of bases.
- 14 Differentiate direct repair and excision repair of DNA.
- 15 Describe the structure and role of sigma factors.
- 16 Mention the function of 5' cap and 3' tail of mRNA.

Turn over





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- 17 Describe ribosome recycling.
- 18 Give an account of activators and repressors.

(7 × 2 = 14)

III. Answer any *two* of the following in not less than 250 words (Weight 5 each) :

- 19 Give an account of bacterial and plant two component signaling system.
- 20 Explain the general principles of cell communication.
- 21 Mention the role of small RNA in heterochromatization and gene silencing.

(2 × 5 = 10)

