

**CARMEL COLLEGE OF ARTS, SCIENCE & COMMERCE FOR WOMEN,
NUVEM-GOA**

SEMESTER END EXAMINATION (ONLINE MODE), AUGUST 2020

Semester: **VI B.Sc.** Course name & Code: **BOTANY (BOC109: Molecular Biology and Genetic Engineering)**

Max. Marks: **30** Date: **05/08/2020** Duration: **2 Hours** Total no. of pages: **01**

- Instructions:** 1) *All questions are compulsory.*
2) *Figures to the right indicate maximum marks allotted to the question.*
3) *Draw labelled diagrams wherever necessary.*

Q.I. Answer **any FIVE** of the following in brief: (5 x 2 Marks = 10)

- a) List two features of each of the bacterial strains used in Griffith's experiment.
- b) Give two points of difference between prokaryotic and eukaryotic promoters.
- c) What are chaperones? State their importance.
- d) Give the role of the enzymes DNA ligase and topoisomerase.
- e) List the steps in Genetic Engineering.
- f) List the characteristics of T-DNA of Ti plasmid.
- g) What is a cDNA library?
- h) Comment on the characteristics of Golden Rice.

Q.II. Answer **any FOUR** of the following. (4 x 5 Marks=20)

- 1) Describe the salient features of Watson and Crick's model of DNA.
- 2) Give the characteristics of 'The Genetic Code'.
- 3) Explain the processing of eukaryotic mRNA.
- 4) Write briefly on the development of insect-pest resistant cotton.
- 5) Explain briefly the dideoxy method of DNA sequencing.
- 6) Explain the mechanism of basic PCR.