WEST BENGAL STATE UNIVERSITY

B.Sc. Honours Part-II Examination, 2020

BOTANY

PAPER: BOTA-V

Time Allotted: 2 Hours   Full Marks: 50

The figures in the margin indicate full marks.
Candidates should answer in their own words and adhere to the word limit as practicable.
All symbols are of usual significance.

Two marks will be awarded for neatness

Answer any three questions from the following   16×3 = 48

1. What is middle lamella? Write the chemical composition of plant cell wall. Draw and give a brief account on the ultrastructure of plant cell wall. Classify different types of protostele with example.   2+5+ (2+2)+5

2. Define shoot apex and root apex. Draw and describe the Tunica Corpus and Korper Kappe theory. Classify stomatal types according to Metcalfe and Chalk.   2+(4+4)+6

3. Briefly describe the process of development of embryo sac in *Capsella bursapastoris*. Discuss with suitable examples the different types of endosperm development in angiosperm.   8+8

4. Define cofactor, coenzyme, prosthetic group and apoenzyme. Give an outline of enzyme classification (up to class) as proposed by IUBMB. Describe Lock and key and Induced fit hypothesis of enzyme action.   4+ 6+ (3+3)

5. What is peptide bond? Define Quaternary structure of protein. Classify amino acids on the basis of the R groups. Draw and describe the α-helix and β-pleated sheet structure of protein.   2+2+6+ (3+3)

6. Define glyosidic and phosphodiester bond. Name the purine and pyrimidine bases of DNA. Write the difference between B and Z DNA. Briefly describe the structure of tRNA.   4+2+5+5

   N.B. : *Students have to complete submission of their Answer Scripts through E-mail / Whatsapp to their own respective colleges on the same day / date of examination within 1 hour after end of exam. University / College authorities will not be held responsible for wrong submission (at in proper address). Students are strongly advised not to submit multiple copies of the same answer script.*

——×——