Total No. of Printed Pages—4

5 SEM TDC DSE BOT (CBCS) 1 (H/NH)

2021

(Held in January/February, 2022)

BOTANY

(Discipline Specific Elective)

(For Honours and Non-Honours)

Paper : DSE–1

(Analytical Techniques in Plant Science)

Full Marks : 53
Pass Marks : 21

Time : 3 hours

The figures in the margin indicate full marks for the questions

1. *(a)* Choose the correct answer of the following : 1×3=3

(i) If the average of a series of values is 10 and their variance is 4, then the coefficient of variance is 10% / 40% / 20% / 80%.

(ii) Millimeter / Nanometer / Centimeter / Decimeter is the smallest unit of measurement.

(iii) The PAGE stands for Poly-acrylamide Gel Electrophoresis / Polymerization and Genetic Engineering / Post Application of Genetic Engineering / Poor Adaptation of Genetic Engineering.

(b) Fill in the blanks : 1×2=2

(i) _____ unit is used for sedimentation of coefficient gradient in centrifuge.

(ii) The technique to distinguish the individual based on their DNA print pattern is called _____.

2. Write short accounts on any *three* of the following : 4×3=12

(a) Marker enzymes

(b) Autoradiography

(c) Ultracentrifugation

(d) GLC

(e) X-ray crystallography

3. What is electrophoresis? Write on the different types of electrophoresis. Also describe on western blotting. 2+7+3=12

Or

What is resolving power? How will you calculate the magnification of a compound microscope? Also mention the components of dark-field microscope. 1+8+3=12

4. What are radioisotopes? Write briefly the application of radioisotopes in biological sciences. 2+10=12

Or

Write notes on the following : 6+6=12

(a) Mass spectrometry

(b) FISH

5. What is chromatography? Write briefly on different types of chromatography and their utility. 2+5+5=12

Or

What is standard deviation? Calculate mean, median and mode of the data given below :

3+3+3+3=12

Class Interval	*Frequency*
15–25	4
25–35	11
35–45	19
45–55	14
55–65	0
65–75	2

★ ★ ★