

1620

4

3. Write short notes on the following (any three) :
(3×5=15)

- Agarose Gel Electrophoresis
- Laboratory safety symbols
- Autoclave
- Replica plating

4. (a) Define resolution. Describe different factors that influence the resolution and resolving power of a microscope. (8)

(b) What is a biological database? Explain different types of databases with examples. (7)

5. (a) The length in cm of 10 Vernonia plants is given below. Calculate the standard deviation, standard error and coefficient of variation. (10)

S. No.	1	2	3	4	5	6	7	8	9	10
Length (cm)	20	22	27	30	31	32	35	40	45	48

(b) Draw a bar diagram of the given data : (5)

Year	2016	2017	2018	2019	2020	2021	2022
Production of wheat (Tons)	320	360	440	880	680	850	550

(1000)

[This question paper contains 4 printed pages.]

08.01.2024(M)
Your Roll No.....

Sr. No. of Question Paper : 1620

G

Unique Paper Code : 2162011103

Name of the Paper : Basic Laboratory and Field Skills in Plant Biology

Name of the Course : B.Sc. (Hons.) Botany

Semester : I

Duration : 2 Hours

Maximum Marks : 60

Instructions for Candidates

- Write your Roll No. on the top immediately on receipt of this question paper.
- Attempt **four** questions in all.
- All questions carry equal marks.
- Question No. 1 is compulsory.
- All parts of a question must be answered together.

P.T.O.

1. (a) Expand the following (any five): (5×1=5)

- (i) HPLC
- (ii) BLAST
- (iii) BOD
- (iv) HEPA
- (v) EDTA
- (vi) TEM

(b) Define the following (any five): (5×1=5)

- (i) Catalogue
- (ii) Mordant
- (iii) Central tendency
- (iv) Buffer
- (v) Serial dilution
- (vi) Microtome

(c) Fill in the blanks (any five): (5×1=5)

- (i) _____ nm is the wavelength range of a visible range spectrophotometer.
- (ii) SDS-PAGE is used for the separation of _____ molecules.

(iii) An electric device used to measure hydrogen-ion activity (acidity or alkalinity) in solution is called _____.

(iv) The chemical molecules that have the ability to absorb light of a certain wavelength and then re-emit light at a longer wavelength is called _____.

(v) YEB media is used for culturing _____.

(vi) 1 ml solution is equal to _____ microliters.

2. Differentiate between the following (any five): (5×3=15)

- (i) Fluorescence microscope and Electron microscope
- (ii) Primary data and Secondary data collection
- (iii) MS Excel and MS PowerPoint
- (iv) Molarity and Normality
- (v) Sample mean vs population mean
- (vi) Pour plate vs spread plate method