 PG/IIIS/BOT/395.1/24(Pr.)

M.Sc. 3rd Semester Examination, 2024

BOTANY

(Cell Biology and Genetics)

(Practical)

PAPER – BOT-395 1

Full Marks 25

Time 3 hours

Answer **all** question

The figures in the right hand margin indicate marks

A. Perform the tick marked problem of the following. 10

1. Workout the **Sample A**, **show** (*i*) Early Prophase, (*ii*) Prometaphase, (*iii*) Late Anaphase and (*iv*) Late Telophase **or** Interphase, **draw** as shown under microscope and describe each stage (as worked out) $2\frac{1}{2}+2\frac{1}{2}+2\frac{1}{2}+2\frac{1}{2}$

2. Workout the **Sample B, show any two** divisional stages and describe each of them with the appropriate figure as shown under microscope 5 + 5

3. Workout karyotype from the **Sample C** and comment on it ?

4. Mention two unique features of nucleolus of plant cells

B. Workout the following problem 8

5. Perform the Chi square test for the given problem in **Sample D** and comment on the inheritance pattern of the assumed one 8

6. Laboratory note book 2

7. Viva-voce 5

PG/IIIS/BOT/395.2/24(Pr.)

M.Sc. 3rd Semester Examination, 2024

BOTANY

(*Plant Physiology Biochemistry and Molecular Biology*)

(Practical)

PAPER – BOT-395 2

Full Marks : 25

Time : 3 hours

Answer **all** question

The figures in the right hand margin indicate marks

1. Answer any *two* from the following 8 × 2

   (*a*) Determine the percentage of seed viability in the supplied specimens A, B, C, D and E Graphically represent and comment on the result 2 + 4 + 2

   [Requisition 2, Result 4, Comment 2]

(Turn Over)

(*b*) Extract and compare the levels of total chlorophyll in the supplied specimens F, G and H Graphically represent and comment on the result 2 + 4 + 2

[Requisition 2, Result 4, Comment 2]

(*c*) Determine the concentration of amino acid present in supplied samples I and J using ninhydrin reagent with the help of a standard curve 2 + 4 + 2

[Requisition 2, Result 4, Comment 2]

(*d*) Determine the concentration of carbohydrate present in supplied samples K and L using anthrone reagent with the help of a standard curve 2 + 4 + 2

[Requisition 2, Result 4, Comment 2]

(*e*) Determine the concentration of protein present in supplied samples M and N by Lowry's method with the help of a standard curve 2 + 4 + 2
[Requisition 2, Result 4, Comment 2]

2. Laboratory note book 4

3. Viva-voce 5
