M.Sc. 3rd Semester Examination, 2022

BOTANY

(*Cellbiology, Genetics and Biotechnology*)

PAPER – BOT-395.1

(Practical)

Full Marks : 25

Time : 2 hours

The figures in the right hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

1. Answer the tick marked question (√) of the following :   9

   (*a*) Make a suitable squash preparation of the supplied **specimen A** and work out the metaphase and pro-metaphase. Illustrate the characteristics of phases with drawings.

(b) Make a smear preparation with the supplied specimen **B**. Show two divisional stages in one of which chromatid separation will be taking place and in the other chromosomal separation will be taking place.

(c) Workout Karyotype for the supplied **specimen C**. Comment on the karyotype.

2. Perform the suitable statistical analysis for the supplied problem of inheritance.   8

3. Laboratory notebook   3

4. Viva voce.   5

M.Sc. 3rd Semester Examination, 2022

BOTANY

(Plant Physiology, Biochemistry and Molecular Biology)

PAPER — BOT-395.2

(Practical)

Full Marks : 25

Time : 2 hours

The figures in the right hand margin indicate marks

Candidates are required to give their answers in their own words as far as practicable

1. Answer any *two* from the following marked with tick (√) :　　　　　　　　　　　　　8 × 2

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

   [Requisition 2, Result 4, Comment 2]

(b) Extract and compare the levels of total chlorophyll in the supplied **specimens F, G** and **H**. Graphically present 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 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 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 standard curve.
[Requisition 2, Result 4, Comment 2] 2 + 4 + 2

2. Laboratory note book.   4

3. Viva-voce.   5

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