

**UNIVERSITY OF MUMBAI**  
**T Y B Sc BOTANY SEMESTER V**  
**PLANT DIVERSITY III**  
**PRACTICAL I**

**Duration: 3 hours**

**Max.Marks: 50**

- |  |           |
|--|-----------|
| Q.1 Perform the given microbiology experiment A  | <b>12</b> |
| Q.2 Identify, classify and describe specimens B, C and D. Sketch neat labelled diagrams of morphological/microscopic structures seen in the specimens. | <b>24</b> |
| Q.3 Identify and describe slides/specimens E and F   | <b>08</b> |
| Q.4 Journal  | <b>06</b> |

**UNIVERSITY OF MUMBAI**  
**T Y B Sc BOTANY SEMESTER V**  
**PLANT DIVERSITY IV**  
**PRACTICAL II**

**Duration: 3 hours**

**Max.Marks: 50**

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|--|-----------|
| Q1. A. Classify specimens A upto its family giving reasons. Give floral formula. Sketch and label L.S. of flower and T.S. of ovary | <b>10</b> |
| Q1. B. Identify the genus and species of specimen B using flora  | <b>05</b> |
| Q2. Make a temporary double stained preparation of T.S. of specimen C and comment on the type of secondary growth                  | <b>10</b> |
| Q3. Perform the Palynology experiment allotted to you  | <b>07</b> |
| Q4. Identify and describe slide /specimen E and F  | <b>08</b> |
| Q5. Field Report   | <b>05</b> |
| Q6. Viva voce  | <b>05</b> |

**UNIVERSITY OF MUMBAI**  
**T Y B Sc BOTANY SEMESTER V**  
**FORM AND FUNCTION III**  
**PRACTICAL III**

**Duration: 3 hours**

**Max.Marks: 50**

- Q.1 Make a smear preparation of material A and show the slide to the examiner. Comment on your observations / Expose the giant chromosomes from the salivary glands of *Chironomus* larva. **12**
- Q.2 Perform the experiment B allotted to you (Physiology) **10**
- Q.3 Perform the experiment C allotted to you (Ecology) **10**
- Q.4 From the given data/material D determine test of significance using student's *t*-test/ Regression Analysis/ ANOVA **12**
- Q.5 Journal **06**

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**CURRENT TRENDS IN PLANT SCIENCE II**  
**PRACTICAL IV**

**Duration: 3 hours**

**Max.Marks: 50**

- Q.1 Describe macroscopic/microscopic characters with the help of neat and labelled sketches of specimens A and B. Perform the chemical tests to identify the active constituents. **16**
- Q.2 Perform the experiment C allotted to you (Seed sterilization/Callus induction/Encapsulation of axillary buds) **10**
- Q.3 Perform experiment D allotted to you **10**
- Q.4 Identify and explain the specimens/photographs E and F **08**
- Q.5 Viva voce **06**

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PLANT DIVERSITY III  
PRACTICAL I**

**Duration: 3 hours**

**Max. Marks: 50**

- Q.1 Identify, classify and describe specimens A and B. Sketch neat labelled diagrams of morphological/microscopic structures seen in the specimens. **16**
- Q.2 Perform growth curve of *E. coli* / Isolate plasmid DNA and separate using AGE **10**
- Q.3 Perform DNA barcoding of plant material using given data **09**
- Q.4 Identify and describe slides/specimens C, D and E **09**
- Q.5 Journal **06**

**UNIVERSITY OF MUMBAI  
T Y B Sc BOTANY SEMESTER VI  
PLANT DIVERSITY IV  
PRACTICAL II**

**Duration: 3 hours**

**Max. Marks: 50**

- Q.1 Identify, classify and describe specimen A. Sketch neat labelled diagrams of morphological/microscopic structures seen in the specimens. **08**
- Q.2 A. Classify specimen B upto its family giving reasons. Give floral formula. Sketch and label LS of flower and TS of ovary **10**
- Q.2 B. Identify the genus and species of specimen C using flora **05**
- Q.3 Make a stained preparation of specimen D and comment on its ecological anatomy **10**
- Q.4 Identify and describe slides /specimens E, F, G and H **12**
- Q.5 Viva voce **05**

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**T Y B Sc BOTANY SEMESTER VI**  
**FORM AND FUNCTION III**  
**PRACTICAL III**

**Duration: 3 hours**

**Max. Marks: 50**

- |   |           |
|---|-----------|
| Q.1 Perform the experiment A allotted to you (Physiology)                                       | <b>10</b> |
| Q.2 Make a squash preparation so as to show the stages of mitosis from the pretreated root tips | <b>10</b> |
| Q.3 Construct a chromosome map from the given data/Identify the type of mutation and comment    | <b>10</b> |
| Q.4 Perform the given analysis using computer (Bioinformatics)                                  | <b>08</b> |
| Q.5 Prepare the herbal cosmetic   | <b>06</b> |
| Q.6 Journal   | <b>06</b> |

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**CURRENT TRENDS IN PLANT SCIENCE II**  
**PRACTICAL IV**

**Duration: 3 hours**

**Max. Marks: 50**

- |  |           |
|--|-----------|
| Q.1 Arrange the material A aesthetically                                     | <b>10</b> |
| Q.2 Estimate Sulphate/ Phosphate/ Copper/ Lead from the given water sample B | <b>08</b> |
| Q.3 Perform the experiment C allotted to you (Economic Botany)               | <b>08</b> |
| Q.4 Prepare the squash from the given material D                             | <b>10</b> |
| Q.5 Identify specimens E, F, G and H   | <b>08</b> |
| Q.6 Viva voce  | <b>06</b> |