

SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI  
PRACTICAL EXAMINATION: M.Sc. II Botany, Semester- III (CBCS NEW)  
**PRACTICAL V: (Systematics and Taxonomy of Angiosperms and Paleobotany,  
Evolution and Diversity of Gymnosperms)**  
**TIME: 6 Hrs. Maximum Marks:80 + 20 = 100**

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|---|--------|
| Q. 1 Systematic description of given Angiospermic plant (2 plant).                      | 20     |
| Q. 2 Prepare botanical key at generic level by locating key characters.                 | 10     |
| Q. 3 Identify and comment on medicinal utility of any two plant.                        | 10     |
| Q. 4 Identify, describe and make double stained permanent slide of gymnosperm material. | 20     |
| Q. 5 Spotting (Angiosperm, Paleobotany, Evolution, Gymnosperm)                          | 10     |
| Q. 6 Viva Voce  | 10     |
| <br><b>Internal Marks:</b>  | <br>20 |
| a) Student overall performance  | 05     |
| b) Practical Record   | 05     |
| c) Viva voce  | 05     |
| d) Activity/ Visit  | 05     |

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SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI  
ELECTIVE BASED ON DSE- I & II  
**PRACTICAL EXAMINATION M.Sc. II Botany, Semester- III (CBCS NEW)**  
**PRACTICAL VI: (Angiosperm Taxonomy, Phytochemistry and Pharmacognosy DSE-I&II)**  
**TIME: 6 Hrs. Maximum Marks:80 + 20 = 100**

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|   |        |
|---|--------|
| Q.1 Systematic description of two Angiospermic plants (one from Dicotyledons and one from Monocotyledons) | 20     |
| Q.2 Preparation of Artificial Key   | 10     |
| Q.3 Karyotype studies   | 10     |
| Q.4 Detection of secondary plant metabolites from given plant material                                    | 10     |
| Q.5 Morphological and analytical characterization and uses of given drug plant material                   | 10     |
| Q.6 Spotting (Taxonomy, Phytochemistry & Pharmacognosy)   | 10     |
| Q.7 Viva voce   | 10     |
| <br><b>Internal Marks:</b>  | <br>20 |
| a) Student overall performance  | 05     |
| b) Practical Record   | 05     |
| c) Viva voce  | 05     |
| d) Activity/ Visit  | 05     |

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SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI  
PRACTICAL EXAMINATION M.Sc. II Botany, Semester- III (CBCS NEW)  
PRACTICAL VI: (Molecular Systematics of Plants- DSE-I & II)

TIME: 6 Hrs.

Maximum Marks: 80 + 20 = 100

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|     |   |    |
|-----|---|----|
| Q.1 | Setting and Working on any one major experiment.        | 25 |
| Q.2 | Setting and Working on any one minor experiment.        | 15 |
| Q.3 | Setting and Working on any one computational experiment | 15 |
| Q.4 | Spotting  | 15 |
| Q.5 | Viva Voce   | 10 |

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|--------------------------------|----|
| <b>Internal Marks:</b>         | 20 |
| a) Student overall performance | 05 |
| b) Practical Record            | 05 |
| c) Viva voce                   | 05 |
| d) Activity/ Visit             | 05 |

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SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI  
PRACTICAL EXAMINATION M.Sc. II Botany, Semester- III (CBCS NEW)  
PRACTICAL VI: (Plant Tissue Culture -DSE-I&II)

TIME: 6 Hrs.

Maximum Marks:80 + 20 = 100

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|     |   |    |
|-----|---|----|
| Q.1 | Study of organogenesis using various explants | 10 |
| Q.2 | Study of Anther/ Pollen Culture               | 10 |
| Q.3 | Prepare artificial / Synthetic seed           | 10 |
| Q.4 | Isolation and viability test of protoplast    | 10 |
| Q.5 | Comment on the given experiment               | 10 |
| Q.6 | Instrumentation                               | 10 |
| Q.7 | Spotting                                      | 10 |
| Q.8 | Viva Voce                                     | 10 |

|                                |    |
|--------------------------------|----|
| <b>Internal Marks:</b>         | 20 |
| a) Student overall performance | 05 |
| b) Practical Record            | 05 |
| c) Viva voce                   | 05 |
| d) Activity/ Visit             | 05 |

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SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI  
 PRACTICAL EXAMINATION M.Sc. II Botany, Semester- III (CBCS NEW)  
 PRACTICAL VI: (Advanced Plant Physiology- DSE-I&II)

TIME: 4 Hrs.

Maximum Marks:80 + 20 = 100

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|     |   |    |
|-----|---|----|
| Q.1 | Conduct the given experiment and interpret the results – (A)          | 20 |
| Q.2 | Conduct the given experiment and present the results– (B)             | 20 |
| Q.3 | Minor experiment- (C)   | 10 |
| Q.4 | Minor experiment- (D)   | 10 |
| Q.5 | Identify and write critical notes on the following<br>(E, F, G, H, I) | 10 |
| Q.6 | Viva-Voce   | 10 |

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|--------------------------------|-----------|
| <b>Internal Marks:</b>         | <b>20</b> |
| a) Student overall performance | 05        |
| b) Practical Record            | 05        |
| c) Viva voce                   | 05        |
| d) Activity/ Visit             | 05        |

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SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI  
 PRACTICAL EXAMINATION M.Sc. II Botany, Semester- III (CBCS NEW)  
 PRACTICAL VI: (Applied Mycology and Plant Pathology- DSE-I&II)

Time: 4 Hrs

Maximum Marks: 80 + 20 = 100

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|     |   |    |
|-----|---|----|
| Q.1 | Identify and describe any two fungal plant diseases   | 20 |
| Q.2 | Identify and give salient features of two fungi from the mix culture  | 20 |
| Q.3 | Identify, classify and describe any two fungi. from given seed borne mycoflora /soil mycoflora/ Rhizosphere mycoflora                 | 10 |
| Q.4 | Demonstrate Koch’s postulate/pure culture technique.  | 10 |
| Q.5 | Spotting (Specimen/Slide) (01 - bacterial disease; 01-viral diseases, 01- Phytoplasmal disease, 01- Fungal disease, 01- Spore slide). | 10 |
| Q.6 | Viva-Voce   | 10 |

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|--------------------------------|-----------|
| <b>Internal Marks:</b>         | <b>20</b> |
| a) Student overall performance | 05        |
| b) Practical Record            | 05        |
| c) Viva voce                   | 05        |
| d) Activity/ Visit             | 05        |

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SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI  
PRACTICAL EXAMINATION M.Sc. II Botany, Semester- III (CBCS NEW)

PRACTICAL VI: (Molecular Biology, Biotechnology and Plant Breeding- DSE-I&II)

TIME:8 Hrs.

Maximum Marks:80 + 20 = 100

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|  |    |
|--|----|
| Q. 1. Setting and working of any one major Molecular Biology experiment. | 20 |
| Q. 2. Perform one major Biotechnology experiment.                        | 20 |
| Q. 3. Perform one Plant Breeding experiment.                             | 10 |
| Q. 4. Comment on principle and working of analytical instrument.         | 10 |
| Q. 5. Spotting (Molecular Biology, Biotechnology and Plant Breeding)     | 10 |
| Q. 6. Viva-Voce  | 10 |

|                                |           |
|--------------------------------|-----------|
| <b>Internal Marks:</b>         | <b>20</b> |
| a) Student overall performance | 05        |
| b) Practical Record            | 05        |
| c) Viva voce                   | 05        |
| d) Activity/ Visit             | 05        |

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SANT GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI  
PRACTICAL EXAMINATION M.Sc. II Botany, Semester- IV (CBCS NEW)

PRACTICAL VII: DSC XI, XII, XIII & SEC-I

(Applied Botany, Plant Ecology, Environmental Ecology and  
Plant Biotechnology and Genetic Engineering)

TIME: 6 Hrs.

Maximum Marks: 80 + 20 = 100

|  |    |
|--|----|
| Q.1. Setting and description any one experiment from Applied Botany.     | 10 |
| Q.2. Setting and working of any one experiment on Environmental Ecology. | 10 |
| Q.3. Setting and working of any one experiment on Plant Ecology.         | 10 |
| Q.4. Setting and working of any one experiment on Plant Biotechnology.   | 10 |
| Q.5. Comment on the given experiment from Genetic Engineering.           | 10 |
| Q.6. Comment on the given experiment from Environmental Ecology.         | 10 |
| Q.7. Spotting  | 10 |
| Q.8. Viva voce   | 10 |

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|--------------------------------|-----------|
| <b>Internal Marks:</b>         | <b>20</b> |
| a) Student overall performance | 05        |
| b) Practical Record            | 05        |
| c) Viva voce                   | 05        |
| d) Activity/ Visit             | 05        |

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GADGE BABA AMRAVATI UNIVERSITY, AMRAVATI  
PRACTICAL EXAMINATION M.Sc. II Botany, Semester- IV (CBCS NEW)  
PRACTICAL – VIII Practical Based on Project

**Time:** 1 Hr

**Max. Marks:** 100

**Evaluation Criteria:**

|  |    |
|--|----|
| 1. Application to Real-World Problems    | 10 |
| 2. Research Quality                      | 20 |
| 3. Project Design and Methodology        | 20 |
| 4. Analysis and Interpretation of Data   | 10 |
| 5. Innovation and Originality            | 10 |
| 6. Presentation and Communication Skills | 10 |

**Internal Marks:**

20

|  |    |
|--|----|
| a) Student overall performance                       | 05 |
| b) Improvisation of the Objectives and Methodologies | 05 |
| c) Project Report                                    | 05 |
| d) Viva voce   | 05 |

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