

**1<sup>st</sup> SEMESTER**

**TDC (CBCS) 1<sup>st</sup> Semester Examination, 2020**

Name of the Paper: **Phycology and Microbiology (Practical)**

Paper No: **BOTHCC- I**

Full Marks: **30**

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Answer the following questions (any three):

**3 X 10= 30**

1. Describe the vegetative and reproductive structures of Chara or Ectocarpus.
  2. Describe the Gram staining method with a suitable diagram of bacteria with identifying characters.
  3. Describe various types of bacteria with examples.
  4. Describe lytic and lysogenic cycle of bacteriophage
  5. Describe the vegetative and reproductive structures of Chlamydomonas or Polysiphonia.
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**TDC (CBCS) 1<sup>st</sup> Semester Examination, 2020**

Name of the Paper: **Biomolecules and Cell Biology (Practical)**

Paper No: **BOTHCC- II**

Full Marks: **30**

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Answer the following questions (any three):

**3 X 10 = 30**

1. Study of plant cell structure with the help of epidermal peel of onion; write the characteristics of plant cell.
2. Describe the phenomenon of plasmolysis and de-plasmolysis.
3. Describe the different stages of mitosis with labeled diagram in plant cell and mention its significance.
4. Give an account on first stage of meiotic (meiosis I) cell division.
5. Mention various qualitative tests for carbohydrates, reducing sugars, non-reducing sugars, lipids and proteins.

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**3<sup>rd</sup> SEMESTER**

**TDC (CBCS) 3<sup>rd</sup> Semester Examination, 2020**

Name of the Paper: **Anatomy of Angiosperm (Practical)**

Paper No: **BOTHCC- V**

Full Marks: **30**

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Answer the following questions (any three):

**3 X 10= 30**

1. Describe various theories of shoot apical meristem with diagrams.
2. What is vascular cambium? Describe various types of cambium, origin and their functions.
3. Write various adaptive features of Xerophytes with labeled diagrams.
4. Give an account on distribution and structures of parenchyma, collenchyma and sclerenchyma in an angiospermic plant.
5. Describe with a labeled diagram of dicotyledonous stem of an angiosperm mentioned in your syllabus (Cucurbita / Sunflower).

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**TDC (CBCS) 3<sup>rd</sup> Semester Examination, 2020**

Name of the Paper: **Economic Botany (Practical)**

Paper No: **BOTHCC- VI**

Full Marks: **30**

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Answer the following questions (any three):

**3 X 30= 30**

1. Write the origin, morphology, method of cultivation and habit sketch of rice plant.
2. Describe origin, process of cultivation, method of harvesting and preparation of Tea.
3. Describe in brief the cultivation process, method of collection and preparation of rubber (*Hevea brasiliensis*).
4. Write the scientific name, family, alkaloids of *Digitalis*, *Papaver* and *Cannabis*.
5. Write the scientific name, family and uses of Teak and Pine.

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**TDC (CBCS) 3<sup>rd</sup> Semester Examination, 2020**

Name of the Paper: **Genetics (Practical)**

Paper No: **BOTHCC- VII**

Full Marks: **30**

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Answer the following questions (any three):

**3 X 10= 30**

1. Describe meiotic cell division with labeled diagram and mentioned its significance.
2. Write Mendal's Laws with crosses and examples.
3. Write short notes on the following: (i) Translocation Ring (ii) Laggards and Inversion bridge.
4. Write short notes on the following: (i) Down's syndrome (ii) Klinefelter's syndrome (iii) Turner's syndrome (iv) Albinism.
5. Describe in brief about Pedigree analysis for dominant and recessive traits.

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**5<sup>th</sup> SEMESTER**

**TDC (CBCS) 5<sup>th</sup> Semester Examination, 2020**

Name of the Paper: **Reproductive Biology of Angiosperm (Practical)**

Paper No: **BOTHCC- XI** Full Marks: **30**

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Answer the following question (any three):

**3 X 10= 30**

1. Describe various types of ovules with labeled diagram.
2. Give an account on structure and development of female gametophyte with labeled diagram.
3. Describe various types of endosperms with labeled diagram.
4. Give an account on structure and development of monocot and dicot embryo.
5. Describe the process of microsporogenesis with diagrams and mention the function of tapetum.

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**TDC (CBCS) 5<sup>th</sup> Semester Examination, 2020**

Name of the Paper: **Plant Physiology (Practical)**

Paper No: **BOTHCC- XII** Full Marks: **30**

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Answer of the following question (any three):

**3 X 10= 30**

1. Determination of osmotic potential of plant cell by plasmolytic method.
2. Calculation of stomatal index and stomatal frequency from the two surfaces of a leaf of mesophytic plant.
3. Determination of water potential of potato tuber by weight method.
4. To study the phenomenon of seed germination and also mention the effect of different factors.
5. Describe the phenomenon of transpiration in plants with diagrams.

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**TDC (CBCS) 5<sup>th</sup> Semester Examination, 2020**

Name of the Paper: **Analytical Techniques in Plant Science (Practical)**

Paper No: **DSE-I** Full Marks: **30**

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Answer the following question (any three):

**3 X 10= 30**

1. Study of different blotting techniques and DNA fingerprinting.
2. Describe the discovery, principle and applications of PCR
3. Describe various types of chromatographic method used in plant science.
4. Give an account on preparation of permanent slides (double stain).
5. Give an account on principle, method and techniques of DNA sequencing.

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**TDC (CBCS) 5<sup>th</sup> Semester Examination, 2020**

Name of the Paper: **Plant Breeding (Practical)**

Paper No: **DSE-II** Full Marks: **30**

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Answer the following question (any three):

**3 X10= 30**

1. Write the objectives and achievements of plant breeding.
2. Give an account on emasculation, bagging and tagging in plant breeding.
3. Give an account on genetic basis of inbreeding depression and heterosis.
4. What is acclimatization and hybridization? Describe in brief about the centers of origin and domestication of crop plants.
5. Describe various types of mutations and its role in evolution.

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