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Pre Ph. D. Course work Examination 2019-20

**BOTANY**

PAPER II: CW – 02 (TOOLS AND TECHNIQUES)

**Model question paper**

**[Set – II]**

Duration - 3.00 Hrs

Max. Marks - 80

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*Note: Section - A is Compulsory. Answer one question from each unit of Section - 'B' carrying equal marks*

**Section - A**

1. Answer the following questions in brief.

2 X 10 = 20

- i. What are major rules of ICBN?
- ii. How would prepare a Molal solution?
- iii. What is the principle of Chromatography?
- iv. Briefly comment on Colony counter?
- v. What do you mean by *in-vitro* and *in-situ* culture?
- vi. How would identify the collected sample of Cyanobacteria?.
- vii. What do you mean by PGR? Point out its significance with examples.
- viii. Differentiate the Primary and Secondary metabolites.
- ix. What do you mean by Chimeric DNA? Point out its significance.
- x. What is Callus? Write the principle of callus formation.

**Section - B**

12 X 5 = 60

**UNIT – I**

2. What are improved crops? How would you improve the crops carrying cross pollination.
3. Briefly comment on - a. Typification b. Microbial staining technique c. Herbarium

**UNIT – II**

4. What is Spectrophotometry? Discuss the principle and applications of NMR.
5. Comment on the application of - (i) Microtome (ii) Turbid meter (iii) Colony counter

**UNIT – III**

6. What do you mean by Synchronous culture? Write a brief account of the Isolation and culture of Cyanobacteria.
7. Give a brief account of Isolation and screening of fungi for production of antibiotic.

**UNIT – IV**

8. What do you mean by Biofertilizer? Give a concise account of the preparation and application of Algal and Bacterial fertilizer.
9. Comment briefly on - a. Weed index b. Biodiesel c. Ethnobotany

**UNIT – V**

10. What is Recombinant DNA? How would you prepare the Clone of a Plantlet.
11. What do you mean by Gene amplification? Briefly discuss the gene amplification by PCR.

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