

ATAL BIHARI VAJPAYEE VISHWAVIDYALAYA BILASPUR (C.G.)

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

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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