

# 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 – I]

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*

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### Section - A

**1. Answer the following questions in brief. 2 X 10 = 20**

- i. What do you mean by Melbourne code? Point out its important features.
- ii. What is buffering agent? Write its importance citing an example.
- iii. Define the Molarity? How do you make a 5M molar solution of NaCl?
- iv. What is magnification? How do you calculate magnification of light microscope?
- v. What is Microtome? Point out its application.
- vi. Briefly comment on BG 11 media with its importance.
- vii. What do you mean by Growth regulators? Point out its significance.
- viii. What do you understand by Weed Indices and Weed index?
- ix. Write the Beer-Lambers Law and its importance
- x. What do you mean by Radioisotope? Write its application.

### Section - B

**12 X 5 = 60**

#### UNIT – I

**2. What is the principle of ICBN? Briefly discuss its major rules, recommendation and valid publication .**

**3. Give a concise account of physico-chemical properties and analysis of water.**

#### UNIT – II

**4. What is Chromatography? Discuss the principle, protocol and applications of TLC.**

**5. Comment on the application of - (i) Centrifugation (ii) Electrophoresis (iii) Colony counter**

#### UNIT – III

**6. What do you mean by Continuous culture? Write a brief account of the Isolation and culture of Bacteria from air.**

**7. What is Micrometry? Write its techniques and application of Micrometry in research.**

#### UNIT – IV

**8. What do you mean by Ethno-botany? Discuss scope and status of ethno-botanical studies in Chhattisgarh.**

**9. Write a brief account of the role of microbes in the production of alcohol and antibiotics.**

#### UNIT – V

**10. What is Micro propagation? How you established a model laboratory for micro propagation.**

**11. Write a critical account of the application of Biotechnology in agriculture and crop improvement.**

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