

104

SEAT No. _____

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SARDAR PATEL UNIVERSITY
M. Sc. (IV Semester) Examination - March 2019
Subject: BOTANY
Course Code: PS04EBOT23
Course Title: (Phytoresource Utilization & Conservation)

Date: 23/03/2019, Saturday
Time: 2.00 to 5:00 pm

Total marks: 70

Q.1 Choose the most appropriate answers to the following:

(08)

1.1. The height and width of rays can be measured in the wood section of:

- (a) Tangential plane (b) Radial plane
(c) Transverse plane (d) All the three planes

1.2. Tensile strength and durability of Wood derives its due to the arrangement of:

- (a) Axial elements (b) Radial elements
(c) Both (a) & (b) (d) Neither (a) nor (b)

1.3. Gymnosperm wood is composed of:

- (a) Xylem vessels and fibres (b) Xylem vessels and tracheids
(c) Tracheids and fibres (d) Only tracheids

1.4. The second most important reason for biodiversity loss is:

- (a) Habitat pollution (b) Habitat destruction
(c) Exotic species (d) Over exploitation

1.5. The term 'Ethnobotany' was coined by:

- (a) E.O. Wilson (b) G.J. Martin
(c) Janki Ammal (d) John Harshberger

1.6. Which of the following is over exploited wild plants of Gujarat?

- (a) Sarpagandha (b) Aswagangha
(c) Guggal (d) All the three

1.7. Edible fatty oil, popularly known as "bran oil" is obtained from:

- (a) Oryza (b) Triticum
(c) Zea (d) All the three

1.8. The main source of curcusone A ,B,C,D is:

- (a) Atropa (b) Curcuma
(c) Jatropha (d) Zingiber

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(PTO)

Q.2 Attempt any seven of the following:

(14)

- 2.1. What are little known phytoresources? What is their significance?
- 2.2. Define germplasm. What are different types of it?
- 2.3. Is on farm cultivation of local land races of crop plants an ex-situ or in-situ mode of conservation? Justify your answer.
- 2.4. Give the botanical names of any two edible plants found wild in Gujarat but not sold in markets. Add a brief note on their uses.
- 2.5. What are the major cellular elements of angiosperm wood? How do they differ from each other?
- 2.6. What is timber? How do you differentiate it from wood?
- 2.7. What are botanical dyes? Give botanical names of any six plants which yield such dyes. For each plant, give the morphology of dye yielding part.
- 2.8. Enlist the precautions to be taken for longtime preservation of voucher specimens?
- 2.9. Is ethnobotany, a recognized subject in India? Justify your answer.

Q.3A. In spite of having a wide diversity of phytoresources, majority of this wealth is remained unexplored or poorly explored and therefore, we are dependent only on a minor proportion to satisfy our daily needs. Justify the statement with adequate examples. **(6)**

3B. Describe the medicinal properties and uses of any six botanical drugs. **(6)**

OR

3 B. Enlist any six botanical sources of essential oils. Describe the mode of their extraction and list the important uses of essential oils. **(6)**

Q.4A. What do mean by seasoning of wood? How is it done? Why certain woods require chemical treatment while others do not require? How is wood chemically treated? **(6)**

4B. Differentiate between soft wood from hard wood and sap wood from heart wood. **(6)**

OR

4B. What is carbon sequestration? Describe the role of forests in sequestering atmospheric carbon. **(6)**

Q.5A. Recalling the experiences gained from your botanical tour; explain the principles, modes and role of protected areas in phytoresource conservation. **(6)**

5B. Explain how (i) Sacred groves and (ii) Botanical Gardens play a significant role in phytoresource conservation. **(6)**

OR

5B. Write short notes on the following: **(6)**

(i) Herbal cosmetics

(ii) Important criteria for selection of avenue trees

Q.6A. What are multipurpose trees? Give botanical names of any four such trees. Choosing any one of the listed species, justify how is it be considered a multipurpose species. **(6)**

OR

6B. Give an elaborative account on how ' Validation, Value addition, and ' Benefit sharing' issues are tackled in popularizing ethnobotanical practices. **(6)**

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