

SEAT No. _____

[90]

SARDAR PATEL UNIVERSITY
M. Sc. (I-semester) Examination-October2018
Subject: Biochemistry
PS01EBIC23: Phytoresource Utilization & Conservation

Monday, October 29, 2018.

Time: 10.00 a.m to 1.00 p.m

Total Marks: 70

Q.1 Choose the correct options to the following:**(8)**

- 1.1. Habitat diversity over a large landscape or geographical area is referred as:
 (a) Alfa diversity (b) Beta diversity
 (c) Gamma diversity (d) genetic diversity
- 1.2. Which of the following factors is the most responsible for threatened Biodiversity?
 (a) Habitat loss (b) Over exploitation
 (c) Pollution (d) None of the above
- 1.3. The terms 'Biodiversity and Ethnobotany' are coined by ____ and ____ respectively.
 (a) E. O. Wilson and Gary Martin (b) R.F. Dasman and S.K. Jain
 (c) Rachel Carson and Janki Ammal (d) W.G. Rosen and John Harshberger
- 1.4. Which of the following medicinal plants is not found wild in Gujarat?
 (a) *Commiphora wightii* (Guggal) (b) *Plantago ovata* (Isabgol)
 (c) *Withania somnifera* (Aswaganda) (d) *Tribulus terrestris* (gokru)
- 1.5. Water conduction in gymnosperms wood is primarily carried out by:
 (a) Xylem vessels (b) Tracheids (c) Parenchyma cells (d) Fibers
- 1.6. Growth rings are distinctly seen in the trees of:
 (a) Monocots (b) Dicots (c) Conifers (d) None of these
- 1.7. The main source of gum karaya is:
 (a) *Acacia arabica* (b) *Astragalus gummifer*
 (c) *Commiphora wightii* (d) *Sterculia urens*
- 1.8. Which of the following is not a good source of botanical dye?
 (a) *Acacia nilotica* (b) *Bixa orellana*
 (c) *Curcuma longa* (d) *Indigofera tinctoria*

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(PTO)

Q.2 Write short answers for any seven of the following: (14)

- 2.1. What are little known crops? Why are they called so? What is their significance?
- 2.2. Write a brief note to explain the relationship between Ethnobotany and Ayurveda?
- 2.3. Give botanical names of any two medicinal plants commercially grown in Gujarat. What are different constraints in marketing such crop products?
- 2.4. What is biodiesel? Give a brief note on the potential plants for biodiesel production.
- 2.5. What is soft wood? How does it differ from hard wood? What are its functions?
- 2.6. Citing suitable examples, explain the need for conservation of wild relatives of crop plants.
- 2.7. Give any two examples of phytoresources which can be used as nutraceuticals. List the major advantages of these plants.
- 2.8. What is cryopreservation? What are its advantages over on farm conservation?
- 2.9. "Traditional knowledge on utility of phytoresources is being eroded faster than the resources". Do you agree or disagree with the statement. Give reasons in either case.

Q.3A. "Nature can satisfy the basic needs of everyone, but can't satisfy the greed of anyone." What is the relevance of this statement in the context of today's course title? Elaborate your answer with suitable examples. (6)

B. Selecting any millet of your choice, write a descriptive note on its origin, cultivation and useful products. (6)

OR

B. Write a descriptive note on origin, cultivation and uses of any five fiber yielding plants. (6)

Q.4A. Listing any four medicinally important plants found in Gujarat, give a brief note on the extent of their cultivation and uses. Draw a strategy for sustainable utilization of the listed resources. (6)

B. What is ethnobotanical voucher specimen? What is its significance? How do you make and preserve voucher specimens? (6)

OR

B. Explain different steps involved in exploration and validation of ethnobotanical information. (6)

Q.5A. Explore different parameters used in determination the quality of wood. With the help of suitable diagrams, describe each parameter in brief. (6)

B. "Forests are not mere the source of timber yielding plants. It is a bank of a wide variety of bioresources." Elaborate the statement with adequate examples. (6)

OR

B. What are avenue trees? What are different criteria for species selection for various sites? Explain your answer with suitable examples. (6)

Q.6A. Explain the concept of *ex-situ* conservation. What are the advantages and limitations of this method over its counterpart? (6)

B. Write short notes on: (6)

- (i) Gums and resins of botanical origin and (ii) Role of seed banks in germplasm conservation

OR

B. Write short notes on: (6)

- (i) Contributions of NBPGR in phytoresource documentation and conservation.
 (ii) Role of sacred groves in phytoresource conservation

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