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SARDAR PATEL UNIVERSITY
M. Sc. (II Semester) Examination-2015
Subject: Biochemistry/Microbiology
Title of the Paper: PS02EBIC01/PS02EMIC01-Phytoresource Utilization & Conservation

Tuesday, **April 28, 2015.**
Time: 10:30 am to 01:30 pm **Total Marks: 70**

Note: Figures on the right in bracket indicate maximum marks.

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

1.1. Water conduction in angiosperm wood is carried out by
(a) tracheids (b) xylem parenchyma
(c) xylem fibers (d) vessels

1.2. Ripen mango is a rich source of
(a) Riboflavin (b) Carotene
(c) Folic acid (d) Calcium

1.3. Conifer wood is mostly composed of:
(a) Vessel elements (b) Tracheids
(c) parenchyma (d) bast fibers

1.4. Which of the following plants has narcotic effects?
(a) Sarpgandha (b) Poppy
(c) Ashwagandha (d) Anantmul

1.5 Which of the following is/are belonging to forage crop?
(a) Alfa-alfa (b) Clover
(c) Both (a) and (b) (d) Neither (a) nor (b)

1.6. Which of the following is considered to be the best suited for urban avenue plantation?
(a) *Azadirachta indica* (Neem) (b) *Moringa olifera* (Drumstick)
(c) *Acacia nilotica* (Babul) (d) *Phyllanthus emblica* (Indian goose berry)

1.7. Habitat diversity over a large landscape or geographical area is referred as:
(a) Alfa diversity (b) Beta diversity
(c) Gamma diversity (d) genetic diversity

1.8. Ethnopharmacognosy deals with the:
(a) preparation and medicinal uses of ethnobotanical products
(b) source and composition of ethnobotanical materials
(c) effect of various plant drugs on human body
(d) traditional uses of plants

(PTO)

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

2.1. Compare and contrast between early wood and late wood.

2.2. Mention any two important sources of bio-fuels.

2.3. Enlist the important criteria for selection of avenue trees.

2.4. Enlist the major consequences of genetic erosion of phytoresources.

2.5. What is IUCN? What is the prime role of it?

2.6. Sketch an outline of oil extraction from aromatic plants

2.7. Highlight the need for conservation of wild relatives of crop plants

2.8. Enlisting any four plants best suited for indoors, give their pros and cons from the point of their maintenance.

2.9. Give the classification of various vegetable oils.

Q.3 A. "Of late, it is realized that as compared to the vast diversity existing in the plant kingdom, we could explore only a small portion of it for our utilization". Justify the statement with adequate examples. Explore different innovative ideas to maximize the utility of phytoresources to meet various demands of growing population (6)

B. Define the medicinal plant. Enlist the botanical name of one plant for each case where the roots/bark/ seeds/ leaves are having medicinal properties. Write the important uses of each selected species. (6)

OR

B. Define Biodiversity. What are different levels of biodiversity? What are the major threats and suitable solutions for the loss of phytoresources? (6)

Q.4 A. Define ethnobotany? In what way it differs from economic botany or pharmacognosy? Give a comprehensive account on ethnobotanical data collection. (6)

B. What is voucher specimen? What is its role in ethnobotanical studies? Explain how voucher specimens are prepared and preserved?

OR

B. "Ethnobotany plays an important role in conservation of little known and wild phytoresources". Justify the statement with suitable examples. (6)

Q.5.A. What are fiber crops? Write a brief note on origin, cultivation and uses of any four fiber yielding plants. (6)

B. "What do you understand by 'NTFP'? Enlisting various NTPFs studied by you, give the botanical source and uses of any four of them. (6)

OR

B. Write a note on the important source and uses of any four botanical dyes. (6)

Q.6 A. Write short notes on the following:

(i) Principle, advantages and disadvantages of cryopreservation (3)

(ii) Major objectives of NBPGR (3)

B. Write notes on the following with adequate reasoning:

(i) "Role of Botanical gardens in conservation of threatened phytoresources". (6)

OR

(ii) "Role of protected areas in conservation of wild plant genetic resources.". (6)

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