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SEAT No. _____

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SARDAR PATEL UNIVERSITY**M. Sc. (IV Semester) Examination: November 2017****Subject: Biotechnology****PS04EBIT01-Phytoresource Utilization & Conservation****Friday, November 10, 2017****Time: 10.00 a.m to 1.00 p.m****Total Marks: 70****Q.1 Choose the correct options and make a tick to the following:****(8)**

1.1. E.O. Wilson is known for his contributions in the area of.

- (a) Biodiversity (b) Ethnobotany
(c) Ethnomedicine (d) Ecosystem Diversity

1.2. Gymnosperm wood is composed of:

- (i) Tracheids (ii) Parenchyma
(iii) Fibers (iv) Vessels

Ans: (a) i & ii (b) ii & iii (c) i, ii & iii (d) i, ii, iii & iv

1.3. Which of the following plants has/have narcotic effects?

- (i) Sarpagandha (ii) Poppy
(iii) Ashwagandha (iv) Anantmul

Ans: (a) i (b) ii (c) i & iii (d) ii & iv

1.4. Which of the following plants grows wild in Gujarat?

- (a) Isabgol (b) Guggal
(c) Kokam (d) Sarpagandha

1.5. What is the second most serious threat to biodiversity?

- (a) Exotic species (b) Habitat loss
(c) Pesticides (d) Tourism

1.6. We derive the major part of energy from:

- (e) A wide variety of plants and animals
(f) A wide variety of fruits and vegetables
(g) A few variety of cereals and millets
(h) All the above

1.7. The term Ethnobotany is coined by:

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

1.8. Cryopreservation of genetic materials is an example of:

- (a) ex-situ conservation (b) in-situ conservation
(c) Both (a) and (b) (d) Neither (a) nor (b)

(PTO)

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

- 2.1. State the role of botanical gardens in phytoresource conservation.
- 2.2. What is wood? Why is heartwood more durable than sapwood?
- 2.3. What is DMAPR (NRCMAP)? What are its prime objectives and contributions?
- 2.4. Give any two examples of monocot plants which can be used for making furniture.
List the major uses of these plants.
- 2.5. What are the advantages of on-farm conservation of little known crops?
- 2.6. What are sacred groves? How are they linked with biodiversity conservation?
- 2.7. What are bio-fuels? Mentioning any two botanical sources of bio-fuels, write the advantages of bio-fuels.
- 2.8. What are wild relatives? How are they important?
- 2.9. What are botanical pesticides? How are they significant? List scientific names of any two plants which can be a source of botanical pesticides.

Q.3A. "As compared to the vast diversity of the plant kingdom, we could explore only a small portion for utilization". Justify the statement with adequate examples. (6)

3B. Define biodiversity. Give an explanatory note on different levels of Biodiversity.
List any four very significant values of biodiversity with suitable examples. (6)

OR

3B. What are different causes and consequences of Biodiversity loss? (6)

Q.4A. Describe various aspects of documentation of traditional knowledge on phytoresources. (6)

4B. What is voucher specimen? What is its significance? How is it prepared? (6)

OR

4B. What are multipurpose trees? Listing botanical names of any four such trees, give a brief note on their uses. (6)

Q.5A. List any four medicinally important plants of India having high market demand.
Make a note on the uses of the listed species (6)

5B. Write in detail about origin, cultivation, useful products and uses of any two food crops studied by you. (6)

OR

5B. Write in detail about origin, cultivation and uses of any two oil yielding plants studied by you. (6)

Q.6A. Of the two types of conservation methods whether *ex-situ* or *in-situ* method is more effective? Justify your answer with reasons. Add the limitations of the method chosen by you. (6)

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

- iii. Field gene banks
- iv. Parameters used for wood identification

OR

6B. Differentiate the following: (6)

- iii. Hard wood and sap wood
- iv. Economic botany and ethnobotany