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SEAT No. _____

SC
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SARDAR PATEL UNIVERSITY
M.Sc. III Semester Examination-October 2018
Subject: BOTANY
PS03CBOT23: Environmental and Ecological principles

Friday, October 26.

Max. Marks: 70
2.00 to 5.00 p.m

1. Tick the most appropriate answer to the following: (8)

1.1. The terms 'Biosphere' and 'Ecology' were coined by _____ and _____ respectively.

- (a) Ernst Haeckel and Arthur Tansley (b) Eduard Suess and Carl Zimmer
(c) Eduard Suess and Ernst Haeckel (d) Eduard Suess and Rachel Carson,

1.2. February 2nd, March 22nd, June 5th and September 16th are globally celebrated as world's ----, ----, ---- and ---- day respectively.

- (a) environment, ozone, water and wetlands
(b) ozone, water, environment and wetlands
(c) ozone, wetlands, environment and water
(d) wetlands, water, environment and ozone

1.3. Methenoglobinemia is caused due to:

- (a) Arsenic (b) Benzene (c) DDT (d) Nitrates

1.4. According to the competitive exclusion principle:

- a) Two species cannot occupy the same habitat
b) Two species cannot occupy the same niche
c) Two species cannot occupy the same tropic level
d) When two species occupy the same ecosystem, one species tries to exclude the other

1.5. Which toxic gas was responsible for Bhopal tragedy?

- (a) Methyl cyanide (b) Methyl chloride
(c) Methyl iso-nitrite (d) Methyl iso-cyanide

1.6. Gross primary productivity is more than net primary productivity by the:

- a) Energy fixed by photosynthesis
b) Energy contained in the standing crop
c) Energy used by autotrophs in respiration
d) Energy used by autotrophs and heterotrophs in respiration

1.7. Which of the following States has the second longest coastline?

- (a) Andhra Pradesh b) Gujarat c) Maharashtra d) West Bengal

1.8. Environmental protection is one of the fundamental duties of citizens of India under the article:

- (a) 21-A (b) 47-A (c) 48-A(G) (d) 51-A(G)

(1)

(PTO)

2. Write short answers to any seven of the following:

(14)

- 2.1. What is carrying capacity? How is it maintained in different ecosystems?
- 2.2. What are estuaries? How are they different from other types of ecosystems?
- 2.3. Name the biodiversity hotspots prevailing in India. Give the salient features of each.
- 2.4. What are different kinds of food chains? Explain each one in brief.
- 2.5. What is ecological restoration? How is it different from afforestation?
- 2.6. What is cold desert? What are the prominent ecological features of it?
- 2.7. Arrange the following words in ascending order in respect of their complexity. Define each word.
"Community, Ecosystem, Population, and Species".
- 2.8. What would be the possible implication, if all human societies turn to vegetarians?
- 2.9. Define biotic community. How is it different from biome and biosphere?

Q.3A. Enlist the major biomes of the world. Explain in brief the salient features of each. (6)

3B. Explain in brief the functional aspects of Ecosystem. (6)

OR

3B. "Forest is not a mere source of timber, but it is a complex ecosystem which performs several never-ending ecological processes". Giving suitable examples, justify the statement. (6)

Q.4A. What are the pros and cons of modern agriculture in the context of ecological scenario? (6)

4B. What are the major causes and consequences of air pollution? What measures do you recommend to mitigate? (6)

OR

4B. "Pollution can't be avoided, but can be minimized to a great extent" Giving adequate examples, justify the statement. (6)

Q.5A. Write an elaborative note on the pros and cons of Indian customs, traditions and festivals in the context of Environment. (6)

5B. Discuss on different initiatives taken by the GOI towards environmental education. (6)

OR

5B. On successful completion of your present course, how best you can serve your nation/society to make it an ecological paradise? (6)

Q.6A. Enlist renewable energy resources. Explain the scope and limitations of each. (6)

6B. Write a short note on: (6)

Invasive species and Endemic species

OR

Environmental Impact assessment and Environmental Management.

—X—

(2)