647510 **BSc5BotC502x** **Seat No :_____**

B.Sc. Semester - 5 (Remedial) (*CBCS*) Examination
March/April-2023 (NEW COURSE)
Ecology (Core)

Time: 2:30 Hours **Marks: 70**

Instructions:

1. All questions are compulsory.
2. Figures to the right indicate marks.

Q-1(A) Answer in very short: **(04)**

(i) **Define**: Holism

(ii) **Fill in the blank**: Relationship between two organisms in which one obtains some benefit at the cost of other is.....

(iii) **True or false**: That organisms with wide tolerance limit for environmental factors show wide distribution with high population.

(iv) Which colour of visible light is plant absorbed during photosynthesis?

Q-1(B) Answer in brief (any one): **(03)**

(i) Write an account of effect of temperature on distribution of plant.

(ii) **Explain:** Shelford's law of tolerance.

Q-1(C) Answer in detail (Any one): **(07)**

(i) What is positive interaction? Discuss various types of positive interactions among organisms.

(ii) What is biological clock? Explain the phenological event with seasonal variations.

Q-2(A) Answer in very short: **(04)**

(i) **Fill in the blank:** External appearance of community is called.....

(ii) **Give the term:** Species found exclusively in ecotone.

(iii) In Raunkiaer's life form, which term is used for annual plants lacking perennating buds?

(iv) In which types of quadrat the position of all members is grouped properly on the basis of Specific scale?

Q-2(B) Answer in brief (Any one): **(03)**

(i) What is transect method? Explain line-transect and belt-transect.

(ii) Discuss; Cover and basal area of community.

Q-2(C) Answer in detail (Any one): **(07)**

(i) What is stratification? Describe vertical and horizontal stratification in forest and grassland.

(ii) Explain: The Raunkiaer (1934) life forms based on position of perennating buds.

Q-3(A) Answer in very short: **(04)**

(i) **Fill in the blank:** The pioneer species in xerarch and hydrarch succession are respectively..... and .....

(ii) What is called for the entire sequence of development stages from pioneer to climax community in succession?

(iii) **Give the term:** The ratio of births to deaths with in a population during given time.

(iv) **Complete the statement:** Functional aspects of a species with reference to its place of occurrence is called.....

Q-3(B) Answer in brief (Any one): **(03)**

(i) Explain the trophic niche with example.

(ii) **Discuss**: Causes of succession

Q-3(C) Answer in detail (Any one): **(07)**

(i) Give an account of general process of succession in nature.

(ii) What is Age distribution? Describe the types of age pyramid.

Q-4(A) Answer in very short: **(04)**

(i) State what does standing crop of a trophic level represent.

(ii) What is the annual net primary productivity of whole biosphere?

(iii) **Justify the statement:** Man can be a primary as well as a secondary consumer

(iv) Why is the pyramid of biomass inverted in pond ecosystem?

Q-4(B) Answer in brief (Any one): **(03)**

(i) Citing lake as an example of a simple aquatic ecosystem interpret how various functions of this ecosystem are carried out. Make a food chain that is functional in this ecosystem.

(ii) Discuss the pyramid of biomass in forest and pond ecosystems.

Q-4(C) Answer in detail (Any one): **(07)**

(i) **Write notes on:** 2 (two) – channel energy flow model in ecosystem.

(ii) What is productivity? Describe types of productivity.

Q-5(A) Answer in very short: **(04)**

(i) **Fill in the blank:** The conservation of species takes place away from their natural habitat, these species are shifting and protected in new ecosystem is called as ..... biodiversity Conservation.

(ii) **True or false**: Keystone species are exceptionally important species which help in the survival of their species in an ecosystem.

(iii) What do you mean by richness of species?

(iv) Which phytogeographic region is located in the tropical belt?

Q-5(B) Answer in brief (Any one): **(03)**

(i) **Write notes on:** Keystone species

(ii) Give the differences between western Himalayas and eastern Himalayas as phytogeographic regions.

Q-5(C) Answer in detail (Any one): **(07)**

(i) What is biodiversity? Discuss the levels of biodiversity.

(ii) Explain: National Park as Biodiversity conservation

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