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H-7223

M.Sc. (Semester-II) Examination, 2022

ENVIRONMENTAL SCIENCE

(Basics on Conservation Biology)

Time Allowed : Three Hours

Maximum Marks : 70

Minimum Passing Marks : 25

Note : This question paper is divided into **four** Sections. Attempt questions of all four sections as per direction. Distribution of marks is given in each section.

SECTION-A

(Objective Type Questions)

Note : Attempt **any ten** questions. Each question carries **1** mark. [10×1=10]

1.(A) Fill in the blanks :

(i) Species found in a particular area is known as ____.

(ii) Full form of PVA is _____.

(iii) "No two species can have same niches" was mentioned by scientist _____.

(iv) Flying fo in the old world tropics is an example of _____species.

(v) Full form of MVP is _____.

(B) Multiple choice type questions :

(vi) Which of these is the most effective means of conserving Biodiversity?

(a) Preserve habitats

(b) Get rid of predators

(c) Census species during the breeding season

(d) Vaccinate species against diseases.

(vii) Sacred groves are useful in :

(a) Preventing soil erosion

(b) Conserving endangered and rare species

(c) Spreading environmental awareness

(d) Ensuring sustainable flow of water in rivers.

(viii) When the last individual in a particular species dies, it is known as :

(a) Speciation

(b) Extinction

(c) Phylogenetic diversity

(d) Adaptation

(ix) Which of these has the most genetic diversity in India?

(a) Teak

(b) Tea

(c) Mango

(d) Potato

(x) The key criteria for determining a hot spot are :

(a) biological augmentation

(b) disruption of interaction network

(c) number of endemic species and degree of threat

(d) habitat destruction

(xi) Which of the following factors does not play role in increasing biodiversity?

(a) Complex population interaction

(b) A higher degree of habitat heterogeneity

(c) Narrower niches

(d) Introduced species

(xii) The term 'Hot spots' for high diversity ecological region was coined by :

(a) IUCN

(b) Myer

(c) Odum

(d) Kormandy

SECTION-B

(Very Short Answer Type Questions)

Note: Attempt **any five** questions. Each question carries **2** marks. (word limit **25-30** words) [5×2=10]

2. (i) What is Red data book?

(ii) Define the term 'Effective population size'.

(iii) Write down two differences between exotic and invasive species.

(iv) What is Crowding effect?

(v) What is Ecological niche?

(vi) What is Restoration ecology?

(vii) Define the term 'Colonization'.

SECTION-C

(Short Answer Type Questions)

Note: Attempt **any five** questions. Each question carries **4** marks. (word limit **250** words) [5×4=20]

3. Write short notes on the following :

(i) Ecotone and edge effect.

(ii) Adaptive Radiation.

(iii) Forest Tribal Bill.

(iv) Plant Genetic Resources.

(v) Limiting factor.

(vi) Ecological invasion.

(vii) Green data book.

SECTION-D

(Essay Type Questions)

Note: Attempt **any three** questions. Each question carries **10** marks. (word limit more than **500** words) [3×10=30]

4. (i) Define the term 'Population'. Give a short account on population viability analysis. [2+8=10]

(ii) Define the term 'Meta population'. Briefly explain Levin's model of Meta population dynamics. [2+8=10]

(iii) What do you mean by the term 'Ecological restoration'? Explain displacement and resettlement problems in India with a suitable case study. [10]

(iv) What is Habitat fragmentation? Write down the effects of habitat fragmentation. Suggest some suitable measures to combat habitat fragmentation. [2+4+4=10]

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