KATHMANDU UNIVERSITY
End Semester Examination
January/February 2024

Marks Scored:

Level : B.Sc.
Year : II

28 JAN 2024

Course : ENVS 202
Semester : II

Exam Roll No. :

Time: 30 mins.

F. M. : 20

Registration No.:

Date :

SECTION "A"
[17Q. × 0.5 = 8.5 marks]

Choose and mark [X] the most appropriate answer.

1. Kailash Sacred Landscape is recognized for its
[ ] iconic megafauna
[ ] strategic politics
[ ] spiritual significance
[ ] aquatic flora and fauna

2. Which of the following is wrong about Conservation Biology?
[ ] It is a crisis oriented discipline
[ ] It is a mission-oriented discipline
[ ] It is a multi-disciplinary science
[ ] It is a pure science

3. Wildlife corridors maintain genetic diversity by
[ ] promoting gene flow
[ ] allowing evolutionary forces to act independently
[ ] increasing edge effect
[ ] increasing inbreeding

4. The basic unit of conservation is/are
[ ] individuals [ ] species [ ] population [ ] communities

5. Which of the following is incorrect about the Allee effect?
[ ] It is seen in large populations
[ ] It affects survival of populations
[ ] It is seen in small population
[ ] It affects the genetic diversity of a population

6. Which of the following is **CORRECT**?
[ ] Effective population size is equal to minimum viable population
[ ] Effective population size is less that minimum viable population
[ ] Effective population size is larger than minimum viable population
[ ] Effective population size is equal to non-breeding female individuals

7. Which of the following represents transition between the mountains and the sub-tropical ecosystems?
[ ] Shuklaphanta National Park
[ ] Shey Phoksundo National Park
[ ] Sagarmatha National Park
[ ] Shivapuri Nagarjun National Park

8. A species when given protection ensures the protection of other species is referred to as
[ ] keystone species
[ ] umbrella species
[ ] indicator species
[ ] flagship species

9. Conservation value of wildlife attributed to association with supernatural belief/ deity/creation, is referred to as
[ ] negativistic value
[ ] dominionistic value
[ ] theistic value
[ ] moral value

10. Which of the following is a Protected Area as well as a World Heritage site?
[ ] Sagarmatha National Park [ ] Dhorpatan Hunting Reserve
[ ] Chitwan National Park [ ] Koshi Tappu Wildlife Reserve

11. The first country to double tiger population is
[ ] Nepal [ ] India [ ] Pakistan [ ] Bhutan

12. Which of the following is appropriate for bird survey?
[ ] quadrat method [ ] walked transect [ ] point count [ ] water hole count

13. Which of the following is the foundation for the higher levels of biodiversity?
[ ] genetic diversity [ ] species diversity
[ ] ecosystem diversity [ ] landscape diversity

14. CHAL in Nepal illustrates
[ ] river biodiversity conservation [ ] forest biodiversity conservation
[ ] lake biodiversity conservation [ ] grassland biodiversity conservation

15. Development of Species Action Plans (SAPs) in Nepal comes under the jurisdiction of
[ ] WWF, Nepal [ ] Nepal Army [ ] DNPWC, Nepal [ ] UNDP

16. Which of the following is used for cryopreservation?
[ ] Ice [ ] liquid nitrogen
[ ] 70 % Ethanol [ ] Rectified spirit

17. TX2 award is associated with
[ ] tiger conservation [ ] elephant conservation
[ ] rhino conservation [ ] cheetah conservation

SECTION "B"

[3Q. × 0.5 = 1.5 marks]

Look at the following equation and answer the question:

$$F = \frac{(He - H0)}{He}$$

18. The equation is used to calculate
[ ] Inbreeding coefficient [ ] number of homozygotes
[ ] number of heterozygotes [ ] effective population size

19. F = 0 means
[ ] complete inbreeding [ ] non-breeding
[ ] 50 % heterozygotes [ ] 50 % homozygotes

20. F= 1 means
[ ] complete inbreeding [ ] non-breeding
[ ] 50 % heterozygotes [ ] 50 % homozygotes

SECTION "C"

[20 Q × 0.5 = 10 marks]

Fill in the blanks.

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21. Three categories of animal translocations are _____, _____ and _____.

22. Operation Oryx was started for the conservation of _____.

23. The IUCN category DD denotes _____

24. Three iconic Mammalian megafauna found in TAL are _____, _____ and _____.

25. _____is defined as spatially heterogeneous land area composed of a cluster of interacting ecosystems that is repeated in similar form throughout.

26. _____.is the largest Protected Area in Nepal.

27. 'Chimeki Chara' App in Nepal was initiated by _____.

28. The four 'R's crucial for protected area design are _____, _____, _____ and _____.

29. _____is also known as 5 methyluracil.

30. The number of species on an island represents a balance between _____ and _____.

31. PCR amplifies _____.

32. The phenomenon where declining populations undergo further shrinks and driven towards extinction is referred to as _____ .

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SECTION "D"

[3 Q. × 7 = 21 marks]

Attempt *ANY THREE* questions.

1. Give and account of the different IUCN categories of Protected Areas with appropriate examples.

2. What is a species action plan? Give an account of at least four species action plan in Nepalese context. [1+6]

3. Define MVP. What are the consequences of failure to retain MVPs? [1+6]

4. What is sign survey? Give an account of different animal signs used in sign surveys. Add a note on the advantages and disadvantages of sign surveys. [1+3+3]

SECTION "E"

5. Differentiate between (*ANY FOUR*). [4Q × 2 = 8]
   a. Vulnerable and Threatened IUCN categories
   b. Instrumental and Intrinsic values in conservation
   c. Habitat and landscape
   d. Keystone species and Umbrella species
   e. Schnabel method and Petersen method of CMR

6. Give an account of (*ANY FOUR*). [4Q × 4=16]
   a. Compassionate conservation
   b. Citizen science
   c. Scatology
   d. Environmental enrichment strategies for zoo animals
   e. Wildlife disease

7. Give reasons for the following statements. [5Q × 2=10]
   a. Effective population size is smaller than the minimum viable population
   b. Corridors are crucial for biodiversity conservation
   c. Aerial survey is not possible for all species
   d. Large protected areas have small Edge effects
   e. Invasive species management is important for biodiversity conservation