

KATHMANDU UNIVERSITY
End Semester Examination
May/June, 2022

Level : B.Sc.

Year : II

Time : 2 hrs. 30 mins.

Course : ENVS 202

Semester : II

F.M. : 55

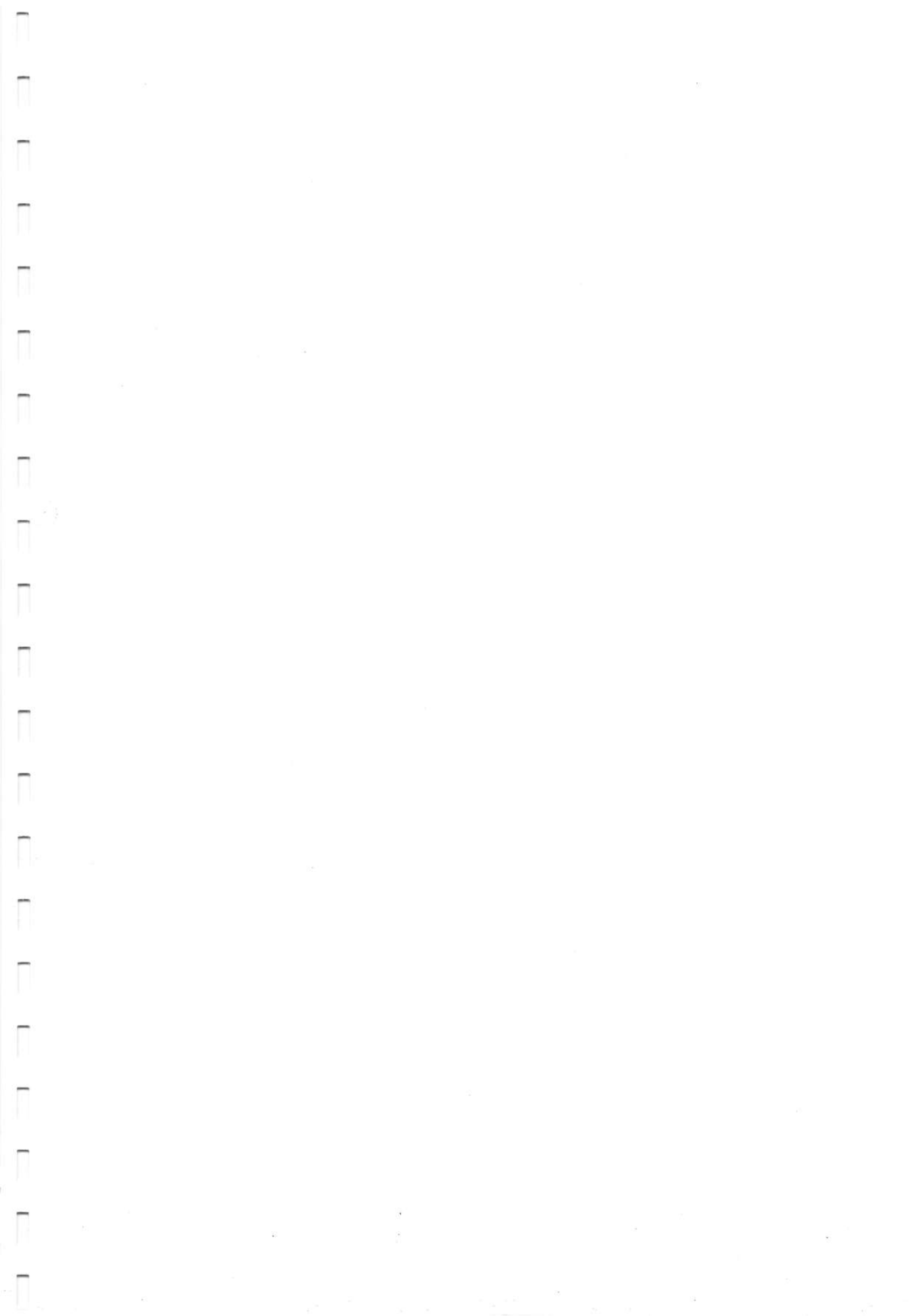
SECTION "C"

[3Q × 7 = 21 marks]

1. Define species discovery curve. Explain the two methods for bird survey. Describe two species richness method used in analyzing birds survey data.
2. Explain the theory involved in pellet count method in deer census. Ten plots, each 1/100 acre in size are cleared of Pellets. 100 days later, plots are revisited and pellet groups located on plots are counted. Assume that a total of 13 groups are counted on 10 plots and defecation rate established is 13/day. Determine deer density.
3. Define generation time. Explain the theory involved in distance sampling in wildlife census. 20 Kilometers of transect lines have been laid randomly in a study area: an enumerator walks along the lines and counts 30 barking deer within 20 meters on either side of transect line. Estimate the population density.

SECTION "D"

4. Give an account on: [4Q × 3 = 12]
 - a. Population-Species: Composition, structure and function
 - b. Occupancy modeling in wildlife study
 - c. Island Biogeography theory
 - d. Conservation genetics
5. Differentiate: [4Q × 2 = 8]
 - a. Induced and Inherent Edge
 - b. EOO and AOO
 - c. Loafing and Refuge cover
 - d. Homerange and Territory
6. Give reasons: [4Q × 2 = 8]
 - a. The calculation of transect width requires complex mathematics and assumption in wildlife census.
 - b. Landscape level of approach of biodiversity is an important strategy to protect biological diversity.
 - c. Edge, is regarded as measure of diversity.
 - d. Conservation biology is considered as crisis discipline.
7. List the following: [3Q × 2 = 6]
 - a. Criterias used in selecting protecting areas
 - b. Spatial scale of measurement of biodiversity
 - c. IUCN four criteria for Red list assessment of the species



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Registration No.:

Date :

SECTION "A"

[20Q × 0.5 = 10 marks]

Mark [√] for the right option in a bracket.

1. Cover used by animals for resting purpose
 Refuge Ambush Loafing Roosting
2. Territories used for mating and pairing of animals
 Type A Type B Type C Type D
3. Any event or activity which affects the quality of habitat
 Qualifier Pinch period Territory Rarefaction
4. Study of animal behavior in relation to ecology
 Autecology Synecology Ethology Limnology
5. Mistnet sampling is related with census operations for
 Deer Elephant Crocodile Birds
6. Species, close to the threatened threshold or would be threatened without ongoing conservation measures are
 Critically endangered Near threatened
 Extinct Vulnerable
7. Simpsons index of diversity is given as
 $D = \sum Pi^2$ $N = e^H$ $2C/A+B$ $Cj = a/a+b+c$
8. Which character does not belong to population composition in biodiversity?
 Density Basal area Cover Sex ratio
9. Annotating a species list with index of relative abundance based on the number of encounters with species per weighted block of time is
 Mackinon List Time series count
 Species discovery curve Encounter rate
10. IUCN category of National park is
 I II IV III

11. Which one is not the criterion when selecting protected areas?
 Size Richness Population Typicalness
12. Imagine that new biogeographical studies are conducted on a species that was previously poorly understood, one goal of which is to produce new maps of its EOO and AOO. Imagine further that very few new locations are found, but distributions maps for the species can now be produced with much greater accuracy. For this species, the newly estimated AOO most likely will be _____ compared to the old one.
 Equal in size Smaller Larger All of these
13. Large regions within which ecosystem share broadly similar biota
 Realms Biomes Ecoregions Community
14. Which one of the following method is Population Estimation by Indirect observation?
 Roadside Count Drive Count
 Aerial Survey Camera trapping
15. There are _____ biogeographic realms.
 6 7 8 9
16. According to _____ rule, temperature along with moisture and light effects the coloration of some animals.
 Jordans Glogers Allens Bergman
17. Droppings of carnivore are called
 Bolus Scats Dung Pellets
18. Herd counts are used for _____ survey.
 Deer Tiger Birds Rhino
19. Complete count of animals over a specified interval of time at specified point in an area
 Census Index Estimator Sample census
20. Burrow count method are widely used in _____ survey.
 Pangolin Tiger Birds Rhino

SECTION "B"

[20Q × 0.5 = 10 marks]

Fill in the blanks.

21. Space, which is defended by animal is _____.
22. In Wildlife management, sex ratio is always expressed as males per _____ females.
23. One of the unit used in IUCN Red List _____.

24. A _____ count is one where predetermined portion of the reserve area is searched in number of small distinct areas.
25. One of the spatial scale of measurement of biodiversity _____.
26. Halliday formula, for determining density of river bird species _____.
27. The number of individuals of each species observed divided by the number of man hours spent in searching is _____.
28. Formula for determining Shannon Weiner index in biodiversity assessment _____.
29. Formula of Habitat Preference Index (HPI), used in birds' study and computed as in Mishra (1982) is _____.
30. CITES represent _____.
31. One of the effects of photoperiods on animals is _____.
32. One of the instrument used for measuring tree canopy during wildlife survey _____.
33. Annotating a species list with an index of relative abundance based on the number of encounters with species per weighted block of time _____.
34. One of the criteria for consideration when selecting protected areas is _____.
35. One of the methods for birds' survey is _____.
36. Nepal lies in _____ and _____ realms.
37. MaxENT, used for wildlife modeling studies stands for _____.
38. One of the bioclimatic variables used in MaxENT is _____.
39. Groups of interbreeding individuals with reproductively isolated population are defined as _____.
40. One of the example of Critically endangered mammal species in Nepal is _____.

