Mark Scored:

KATHMANDU UNIVERSITY
End Semester Examination
August/September, 2017

Level : B. Sc. | Course : ENVS 328
Year : III | Semester : II
Exam Roll No. : | Time: 30 min | F. M. : 20
Registration No.: | Date : SEP 13 2017

SECTION "A"
[40 Q × 0.5 = 20 marks]

Multiple choice questions:

1. Which is the correct option?
   a. There is chance in Natural selection in evolution process due to alpha biodiversity
   b. There is chance in Natural selection in process of evolution due to genetic diversity
   c. There is chance in Natural selection in process of evolution due to Ecosystem biodiversity
   d. There is chance in Natural selection in process of due to bio-community diversity

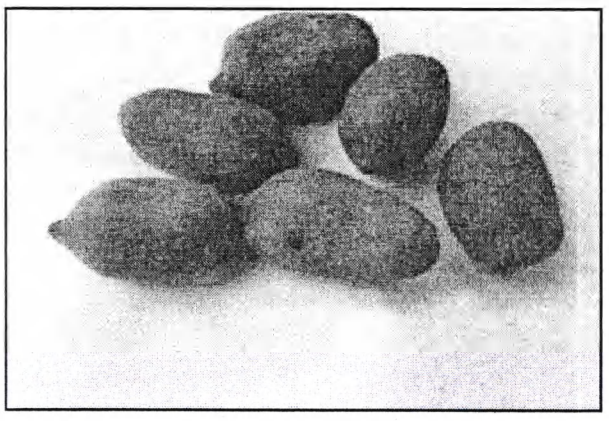
2. Which scientist has classified species diversity?
   a. Thoeprestus b. Lineus c. Whittaker d. Treshaw

3. Which of the following regions have maximum biodiversity?
   a. mangrove b. temperate rain forest
   c. taiga d. coral reefs

4. According to IUCN Red List, what is the status of Red Panda (*Ailurus fulgens*)
   a. Critically endangered b. Extinct
   c. Vulnerable d. Endangered

5. Which group of vertebrates comprises the highest number of endangered animals?
   a. Mammals b. Fishes c. Reptiles d. Birds

6. Whose droppings/pellets are these?
   a. Swamp Deer b. Barking Deer c. Spotted Deer d. Hog Deer



7. Darwin's finches are a good example of
   a. Convergent evolution
   b. Industrial melanism
   c. Connecting link
   d. Adaptive radiation

8. Which one of the following is example of ex-situ conservation?
   a. National park
   b. Wildlife sanctuary
   c. Seed bank
   d. Sacred grooves

9. Which one of the following is not observed in biodiversity hotspots?
   a. Species richness
   b. Endemism
   c. Accelerated species loss
   d. Lesser inter-specific competition

10. The term Alpha diversity refers to
   a. Genetic diversity
   b. Community and ecosystem diversity
   c. Species diversity
   d. Diversity among the plants

11. Which two extinction risks may be a direct result of the pet trade?
   a. climate change and exotic species introduction
   b. habitat loss and overharvesting
   c. overharvesting and exotic species introduction
   d. habitat loss and climate change

12. Exotic species are especially threatening to what kind of ecosystem?
   a. deserts
   b. marine
   c. islands
   d. tropical forests

13. Dung count is very useful in
   a. low density population
   b. high density population
   c. migratory species
   d. prey areas

14. Line transect count is an example of
   a. Incomplete count sampling
   b. Complete count sampling
   c. Invasive sampling
   d. Quadrate sampling

15. Difference between the expected value of a population estimate and the true population size;
   a. Accuracy
   b. Expected value
   c. Bias
   d. Index

16. NPWCA category of *Antelope cervicapra*:
   a. Critical
   b. Endangered
   c. Extinct
   d. Rare

17. The most important factor to enhance the tiger population in Nepal is
   a. Enhancing habitat management for tiger and prey, and restoring habitat connectivity
   b. Control of illegal hunting and trade
   c. Mitigating the impacts of infrastructure development including upstream hydropower and irrigation
   d. Reducing traffic accidents with wildlife

18. Over 2008-2013, tiger population in Nepal was increased by
   a. 45%
   b. 58%
   c. 63%
   d. 70%

19. United nations Conference on Human Environment 1972 was held in
   a. Vienna
   b. Montreal
   c. Stockholm
   d. Rio De Zenero

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20. World's largest conservation organization by membership
a. WWF b. IUCN c. UNEP d. NTNC

21. An organism/s that come to be found in a given place by anthropogenic causes:
a. Exotic species b. Endemic Species c. Invasive species d. Humane species

22. Where are most taxa threatened with extinction:
a. Mangroves
b. Tropical/subtropical grassland, savanna and shrub land
c. Montane grassland and shrub land
d. Tropical sub tropical moist broadleaved forest

23. Which factor is most threatening to biodiversity?
a. Habitat loss and degradation b. Pollution
c. Invasive species d. Overexploitation

24. Value that nature has as a means to another's end
a. Intrinsic b. Instrumental c. Climate d. Conservation

25. Most species are
a. Rare b. Endangered c. Common d. Threatened

26. The most vulnerable species are:
a. Threatened b. Endangered c. Rare d. Common

27. Earliest Hominids evolved in the period
a. Cenozoic b. Triassic c. Paleozoic d. Mesozoic

28. High rate of speciation is not favored by:
a. Mass extinction b. Major land separation
c. Types of competition d. Emigration

29. Savanna biome is found in
a. alpine b. cold temperate c. warm temperate d. tropical climate

30. The number of known species:
a. 1.8 million b. 1.5 million c. 1.2 million d. 1 million

31. Identify the highest taxonomic level:
a. Class b. Order c. Family d. Phylum

32. Organismal diversity does not include:
a. Domain b. Family c. Genera d. Population

33. According to Millennium Ecosystem Assessment (2003), ecosystem service provided by all biodiversity globally is:
a. Ecosystem goods b. Aesthetic, cultural c. Climate stability d. Purification of air

34. With 0.1% of global land area, Nepal's share of global mammalian diversity is
a. 9.3 b. 4.5 c. 1.0 d. 2.7

35. Nepal has established breeding center for
a. *Gyps tenuirostris and Gyps bengalensis* *b. Rhinocerous unicornis*
c. Antelope cervicapra *d. Bubalus bubalis*

36. Central Zoo of Nepal was established by late Rana Prime Minister
a. Juddha Shamser b. Chandra Shamser c. Mohan Shamser d. Padma Shamser

37. During 1950-1966, Population of *Rhinoceros* in Nepal decreased to
a. 80-100 b. 50-60 c. 120-140 d. Less than 50

38. Highest proportion of area allocated in Nepal for conservation is under
a. National park b. Wildlife reserve c. Hunting reserve d. Conservation area

39. Newest national park of Nepal is
a. Shivapuri NP b. Banke NP c. Suklaphanta NP d. Parsha NP

40. "On the small scale the tragedy is often avoided by cooperation among the commons". Whose statement is this?
a. Michael Soule b. R. A. Fisher c. E. O. Wilson d. Elinor Ostrom

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SECTION "B"
(Long answer questions)
[3Q × 7 = 21 marks]

Answer *ANY THREE* questions.

1. Explain why there is greater diversity in tropical/sub tropical regions than temperate region. Give reasons for unique and very rich biodiversity in Nepal.

2. Though the conflicts between human and wildlife started with the evolution of man, the intensity of conflict and threats has increased due to the activities of modern man. Justify your answer with suitable examples.

3. Describe the values of biodiversity with suitable examples.

4. Define landscape conservation. How do you characterize landscape approach of conservation and its advantages? How TAL has contributed to biodiversity conservation in Nepal?

SECTION "C"
(Short answer questions)
[5Q × 2 = 10 marks]

5. What could have triggered mass extinction of species in the past?

6. Why genetic variation is important for conservation?

7. A species area curve is drawn by plotting the number of species against area. How it is that when a very large area is considered the slope is steeper than that for smaller areas?

8. How climate change impacts biota?

9. Why conservation biology is considered as "crisis discipline"?

10. In a strip census, an observer walks a transect through a representative section of habitat and records the distances at which animal flush to either side. The population size, P, is estimated to be

$$P=AZ/XY$$

What are A, Z, X and Y in this equation?

11. Write notes on (*ANY ONE*) [4]
    a. IUCN's Red list of threatened species-Classification of species according to their extinction risk
    b. Major conservation related conventions

SECTION "D"

12. Match the followings: [1 × 5=5]

	Group A		Group B
1	Intrinsic value	A	Alodo Leopold
2	Evolutionary ecological land ethics	B	Garret Hardin
3	Silent Spring	C	Elinor Ostrom
4	Tragedy of the commons	D	E. O. Wilson
5	First woman to win Nobel prize in Economics in 2009	E	Rachel Carson

13. Differentiate between (*ANY TWO*) [2Q × 4 = 8]
    a. Alpha biodiversity and Beta biodiversity
    b. Introduction and reintroduction
    c. In situ conservation and Ex situ conservation

14. Define the followings (*ANY SEVEN*) [7Q × 1 = 7]
    a. Meta-population
    b. Ecosystem Engineers
    c. Umbrella species
    d. Genetic accommodation
    e. Pug mark
    f. Disturbance
    g. Non-invasive methods of sampling
    h. PCR
    i. Index of population