

KATHMANDU UNIVERSITY
End Semester Examination
February, 2025

Marks Scored:

Level : B.Sc.

Year : III

Exam Roll No. :

Time: 30 mins.

Registration No.:

Course : ESEE 306

Semester : II

F. M. : 20

Date

8 FEB 2025

SECTION "A"

[20 Q. × 0.5 = 10 marks]

Choose and mark [X] the most appropriate option from each set of choices

1. A country is considered to urbanized when over _____ of its population live in the urban areas.
[] 30 % [] 50% [] 60% [] 80%
2. The incidence of death in a society's population
[] Infant mortality rate [] Fertility
[] Mortality [] Life expectancy
3. The incidence of childbearing in a society's population is
[] Fertility [] Life expectancy [] Mortality [] Infant mortality
4. Nitrous oxide has atmospheric residence time of _____ years.
[] 140 to 190 [] 170 to 180 [] 150 to 170 [] 120 to 140
5. The sensible heat is denoted as
[] Q_F [] Q_E [] Q_H [] Q_A
6. Methane has atmospheric residence time of _____ years.
[] 6 to 10 [] 7 to 15 [] 7 to 10 [] 3 to 5
7. "Right to life" of other species is
[] Deep ecology [] Weak sustainability
[] Strong sustainability [] Ecology
8. UN conference on Environment and Development was held in
[] Rio de Janeiro [] Stockholm [] Sweden [] Kyoto
9. Brundtland Commission published the report called "our common future" in
[] 1897 [] 1987 [] 1990 [] 1985
10. "The Silent Spring" book was written by
[] Brut Parcel [] Rachel Carson [] Smith Roy [] Robinson Cary
11. Anatolia, the world's first substantial town covered an area of .
[] 13 ha [] 14 ha [] 12 ha [] 15 ha
12. Detention pond is suitable for area greater than
[] 20 acres [] 17 acres [] 10 acres [] 5 acres

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13. If the consumption of renewable resources is equal to nature's ability to replenish, the state of environment is called as
[] Environmental equilibrium [] Environmental renewal
[] Environmental degradation [] Environmental pollution
14. Brundtland Commission Report focuses on
[] Carbon [] GHG
[] Sustainable development [] REDD
15. Transfers pollution to another site but not metabolizes pollutants
[] Hard engineering [] Soft engineering
[] Mixed engineering [] LID
16. World Summit on Sustainable Development was held in.
[] 2000 [] 2002 [] 1999 [] 1995
17. Kyoto Protocol deal with
[] Carbon trading [] GHG reduction
[] Poverty reduction [] Methane trading
18. Manufactured capital of equal value can take the place of natural capital is
[] Deep ecology [] Eco-centric
[] Strong sustainability [] Weak sustainability
19. The study of human populations is called as
[] Demography [] Population
[] Population momentum [] Birth rate
20. No nation was urbanized prior to
[] 1880 [] 1860 [] 1850 [] 1830

SECTION "B"

[20 Q. × 0.5 = 10 marks]

Fill in the blanks:

21. Anatolia is regarded as the world's first substantial town with _____ inhabitants.
22. The "slums" in Ethiopia are called _____.
23. The difference between incoming solar radiation and outgoing infrared radiation is called as _____.
24. Landfill type that is located on the side of the slope and then covered with dirt is _____ method.
25. Particulate matter less than 10 microns in diameter is called _____.

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26. The term used to describe a prominent commercial settlement in Kathmandu valley during the 10th century was called _____.
27. The full form of EPA _____.
28. The number of deaths in a given year for every thousand people in a population is called _____.
29. The study of ecosystems that includes humans living in cities and urbanizing landscapes is _____.
30. Greenhouse gases are transparent to shortwave but absorb _____ radiation.
31. The UHI phenomenon was first discovered in the early 1800s in _____.
32. In natural watershed, _____ % of total precipitation is infiltrated as ground water.
33. Ecologically based storm water management approach is called _____.
34. Population theory that believes that population increased geometrically, while food could only increase arithmetically is known as _____.
35. Storm water basins designed to intercept storm water runoff for temporary impoundment and gradual release to water body is called _____.
36. A visual representation of sex and dependency ratios is called _____.
37. The process of transition from rural to a more urban society is _____.
38. Ratio of the total reflected to total incoming solar radiation is _____.
39. The ratio of males to females in the population _____.
40. Temperature difference between urban areas and their rural surroundings where the city temperature is higher is defined as _____.

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SECTION "C"

[3 Q. × 7 = 21 marks]

Attempt ANY THREE questions.

1. What is Urban Heat Island (UHI)? Describe urban air pollutants and their implications on animal and plant health.
2. Describe the implications of green revolution on agriculture. Critically analyze the future we might face.
3. How urbanization could impact on mental health? Describe.
4. Explain the major sources of river pollution. What kinds of pollutants are common in such river systems.

SECTION "D"

5. Write short notes on (**ANY FOUR**) [4Q × 4=16]
 - a. Urbanization in Nepal
 - b. Economic consequences of urbanization
 - c. Urban slums
 - d. Retention pond
 - e. Urban drainage system
6. Justify the following statements [4Q × 3=12]
 - a. Most nitrogen that enters to agro-ecosystem is released to environment.
 - b. Urban surfaces get much hotter than surfaces covered with vegetation.
 - c. Urbanization process is faster in Nepalese context.
 - d. Groundwater contamination due to urbanization
7. Differentiate between [2Q × 3=6]
 - a. Push and pull factors
 - b. Slums and squatters