

KATHMANDU UNIVERSITY  
End Semester Examination  
June/July, 2023

Marks Scored:

Level : B.Sc.

Year : III

Exam Roll No. :

Time: 30 mins.

Course : ESEE 306

Semester : II

F. M. : 20

Registration No.:

Date

03 JUL 2023

SECTION "A"

[10 Q. × 0.5 = 10 marks]

Mark [X] in the most appropriate option.

- Informal settlements in Indonesia is called as  
 Slum  Kampung  
 Moon shine houses  Katchi abadi
- Population growth was ..... during early industrial period.  
 Rapid  Very slow  Slowing  Very slow
- Informal settlement also referred to as  
 Residential  Shanty towns  Infrastructure  Towns
- UCL refers to  
 Urban Canopy Layer  Urban City Layer  
 Urbanization Canopy Layer  Urbanization City Layer
- The average life span of a society's population.  
 Infant mortality rate  Fertility  
 Mortality  Life expectancy
- Out of 100% precipitated water, \_\_\_\_\_% goes to ground water system.  
 40%  10%  50%  60%
- Carbon dioxide has atmospheric residence time of.  
 100 years  120 years  500 years  350 years
- The degree of urbanization is  
 U/T  T/U  T=U+R  U/U+R
- Nitrous oxide has....times more effective than CO<sub>2</sub> at trapping heat in the atmosphere.  
 20  25  300  200
- Rice field is a major source of  
 CH<sub>4</sub>  N<sub>2</sub>O  O<sub>3</sub>  N<sub>2</sub>
- The ratio of males to females in the population  
 Gender ratio  Growth ratio  Sex ratio  Adult ratio

12. Population theory believes that population increased geometrically, while food could only increase arithmetically is known as  
 Malthusian theory  Robert theory  
 Ghana theory  Survival theory
13. World Summit on Sustainable Development was held in  
 2000  2002  1999  1995
14. Which of the gas is coming from volcano?  
 Sulfur dioxide  Chlorine  Fluorine  Nitrogen
15. Pashupati Area Development Trust Act was developed in  
 1987  1984  1990  2005
16. Anatolia is regarded as the world's first substantial town with \_\_\_\_\_ inhabitants  
 6000  4000  5000  7000
17. The number of live births per thousand persons in a given area for a particular year is called  
 Crude birth rate  Crude death rate  
 Survival  Growth rate
18. The first formal definition of an urban area in Nepal came about during the \_\_\_\_\_ census.  
 1971  1961  1981  1991
19. Out of 37 health indicators, \_\_\_\_\_ are primary indicators.  
 11  12  13  14
20. Probably the single most dangerous pollutant in surface water supplies according to UNICEF (2000) is  
 Nitrogen  Phosphorous  Faecal waste  BOD

SECTION "B"

[20 Q. × 0.5 = 10 marks]

**Fill in the blanks.**

21. The process of population concentration is \_\_\_\_\_.
22. Sum total of nature's resources is \_\_\_\_\_ capital.
23. The number of people under age 15 and over age 64 to the number between 15 and 64 is \_\_\_\_\_.
24. Kyoto Protocol deal with \_\_\_\_\_.
25. Brundtland Commission published the report called \_\_\_\_\_.
26. The atmospheric residence time of Nitrous oxide \_\_\_\_\_ years.

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27. Nitrous oxide has \_\_\_\_\_ times more effective than CO<sub>2</sub> at trapping heat in the atmosphere.
28. The term used to describe a prominent commercial settlement in Kathmandu valley during the 10<sup>th</sup> century is \_\_\_\_\_.
29. In Nepal, the trusted revenue collectors were given a parcel of tax-free land as salary or remuneration which was called as \_\_\_\_\_.
30. A temperature difference between urban areas and their rural surroundings where the city temperature is higher is called \_\_\_\_\_.
31. UCL and UBL heat islands are called \_\_\_\_\_ heat islands.
32. Landfill type that is located on the side of the slope and then covered with dirt is \_\_\_\_\_ method.
33. Every ecological component, subsystems, species and physical stock must be preserved is \_\_\_\_\_.
34. Manufactured capital of equal value can take the place of natural capital is \_\_\_\_\_ sustainability
35. Particulate matter less than 10 microns in diameter is called \_\_\_\_\_.
36. Rachel Carson in 1962 wrote a book called \_\_\_\_\_.
37. Ecologically based storm water management approach is called \_\_\_\_\_.
38. The World Health Day theme for 2010 was \_\_\_\_\_.
39. The science dealing with the size, distribution, composition, and changes in population is called as \_\_\_\_\_.
40. The difference between incoming solar radiation and outgoing infrared radiation is called as \_\_\_\_\_.

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Time : 2 hrs. 30 mins.

Course : ESEE 306  
Semester : II  
F. M. : 55

SECTION "C"

[3Q. × 7 = 21 marks]

Attempt *ANY THREE* questions.

1. How urbanization will have implications on human health? Describe.
2. In what ways agricultural land and production are under pressure due to urbanization?
3. Describe on various methods of storm water management with an example of a city which is flooded frequently.
4. Explain in detail about contribution of urbanization on global warming and climate change.

SECTION "D"

[34 marks]

5. Write short notes on (*ANY FOUR*) [4Q × 4 = 16 marks]
  - a. Key challenges to urban health services
  - b. Characteristics of informal settlement
  - c. Urban planning
  - d. Social consequences of urbanization
  - e. Haber-bosch process
6. Justify the following statements. [4Q × 3 = 12 marks]
  - a. Urbanization reduces methane sink.
  - b. Urbanization leads to formation of urban heat island.
  - c. Urban flooding has been a major problem.
  - d. Global warming is increasing with urbanization.
7. Differentiate between [2Q × 3 = 6 marks]
  - a. Urban canopy layer and urban boundary layer.
  - b. Rain garden and riparian garden.