

KATHMANDU UNIVERSITY  
End Semester Examination  
July/August, 2024

Marks Scored:

Level : B.Sc.

Year : III

Exam Roll No. :

Time: 30 mins.

Registration No.:

Course : ESEE 306

Semester : II

F. M. : 20

Date **05 AUG 2024**

SECTION "A"

[20 Q. × 0.5 = 10 marks]

**Choose and encircle in the most appropriate option from each set of choices**

1. Population growth was \_\_\_\_\_ during early industrial period.  
 Rapid                       Very slow                       Slowing                       Very slow
2. The incidence of death in a society's population  
 Infant mortality rate                       Fertility  
 Mortality                       Life expectancy
3. Sky view factor is \_\_\_\_\_, when long wave solar radiation is trapped within the cities due to canopy effect.  
 High                       Low                       Medium                       No change
4. Degree of urbanization is (T= total population, U= Urban population, R= Rural Population).  
 U/T                       T/U                       U+R/T                       U/R
5. Which is a trace gas?  
 O<sub>2</sub>                       Water vapour                       O<sub>3</sub>                       Argon
6. Carbon dioxide has atmospheric residence time of.  
 100 years                       120 years                       500 years                       350 years
7. Urban sustainability has basically \_\_\_\_\_ principles  
 8                       5                       16                       15
8. Attractive and pleasant living environment is one of the benefits of urban planning  
 Amenity                       Health                       Environmental                       Convenience
9. Brundtland Commission published the report called.  
 Our Common Future                       Agenda 21  
 Sustainable Development                       None
10. "The Silent Spring" book was written by  
 Brut Parcel                       Rachel Carson                       Smith Roy                       Robinson Cary
11. Nitrous oxide has \_\_\_\_\_ times more effective than CO<sub>2</sub> at trapping heat in the atmosphere.  
 20                       25                       300                       200



26. The continued growth of a population even if birth rates per couple drop because the number of women of child bearing age is still very high \_\_\_\_\_.
27. The ratio of males to females in the population \_\_\_\_\_.
28. The "slums" in Ethiopia are called \_\_\_\_\_.
29. The difference between incoming solar radiation and outgoing infrared radiation is called as \_\_\_\_\_.
30. Landfill type that is located on the side of the slope and then covered with dirt is \_\_\_\_\_ method.
31. Greenhouse gases are efficient in absorbing \_\_\_\_\_ light.
32. In natural watershed, \_\_\_\_\_ % of total precipitation is infiltrated as ground water.
33. The \_\_\_\_\_ full \_\_\_\_\_ form \_\_\_\_\_ of EPA \_\_\_\_\_.
34. Particulate matter less than 10 microns in diameter is called \_\_\_\_\_.
35. UCL refers to \_\_\_\_\_.
36. The UHI phenomenon was first discovered in the early 1800s in \_\_\_\_\_.
37. Ecologically based storm water management approach is called \_\_\_\_\_.
38. Changes in food and behavior may lead to \_\_\_\_\_ IQs.
39. Storm water basins designed to intercept storm water runoff for temporary impoundment and gradual release to water body is called \_\_\_\_\_.
40. Ratio of the total reflected to total incoming solar radiation is \_\_\_\_\_.



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Semester : II  
F. M. : 55

05 AUG 2024

SECTION "C"  
[3 Q. × 7 = 21 marks]

Attempt *ANY THREE* questions.

1. What is Urban Heat Island (UHI)? What are its effects? What are various factors affecting UHI? Explain.
2. Write critically on the shift from largely agrarian to industrial economics and the future we might face.
3. How urbanization could impact on air quality. Describe.
4. What is storm water? How storm water effects on urban drainage system? What could be possible measures to manage urban drainage system?

SECTION "D"  
[34 marks]

5. Write short notes on (*ANY FOUR*)
  - a. Urban planning.
  - b. Social consequences of urbanization
  - c. Double burden of diseases.
  - d. Factors involved in negative impact of urban sites on water quality
  - e. Mental health of urban population[4 Q. × 4 = 16]
6. Justify the following statements
  - a. Squatters have better lifestyle than slums.
  - b. Urban surfaces get much hotter than surfaces in rural areas.
  - c. Urbanization in Terai areas is faster.
  - d. Health of slum dwellers is always at risk.[4 Q. × 3 = 12]
7. Differentiate between
  - a. Push and pull factors
  - b. Detention pond and Retention pond[2 Q. × 3 = 6]

100 000 000

