

KATHMANDU UNIVERSITY
End Semester Examination
February/March, 2018

Marks Scored:

Level : B. Sc.
Year : IV

Course : ENVS 413
Semester: I

Exam Roll No. :

Time: 30 mins.

F. M. : 20

Registration No.:

Date **MAR 12 2018**

SECTION "A"

[10 Q. × 0.5 = 5 marks]

Mark "X" in the appropriate box.

1. If a population of a country grows at a rate of 5% a year, how many years will it take for the population to double?
 13 14 15 16
2. Agenda 21 is an action plan of the United Nations (UN) related to.....
 Urbanization Sustainable development
 Demographic processes Climate change
3. The model that was the first to explain distribution of social groups within urban areas is:
 Burgess model Hoyt model
 The Multiple Nuclei Model Urban Realms Model
4. Based on (UN DESA, 2014) for the period 2014- 2050, Nepal will remain amongst the top ten fastest urbanizing countries in the world with a projected annual urbanization rate of per cent:
 1.6 2.9 1.9 3.9
5. Which of the following street system simply lay out a series of streets at right angles, forming either square or rectangular blocks:
 Gridiron Organic Radial Suburban
6. Which of the following statement is true?
 Urban watersheds have high Bowen ratio and high rates of evapotranspiration
 Urban watersheds have high Bowen ratio and low rates of evapotranspiration
 Urban watersheds have low Bowen ratio and low rates of evapotranspiration
 Urban watersheds have low Bowen ratio and high rates of evapotranspiration
7. The World Health Day theme for the yearwas"Urbanization and Health".
 2013 2012 2011 2010
8. Which of the following statement is false?
 Fine grained alluvium aquifer needs shorter time to get recharged.
 Fine grained alluvium aquifer has high attenuation capacity.
 Fractured aquifer type has low attenuation capacity.
 Fractured aquifer needs shorter time to get recharged.
9. Urn shaped population pyramid indicates:
 Expanding population Stationary population
 Declining population Indicates neutrality to population
10. Agriculture intensification is characterized by:
 a high fallow ratio with intensive use of inputs
 a high fallow ratio with minimal use of inputs
 a low fallow ratio with intensive use of inputs
 a low fallow ratio with minimal use of inputs

SECTION "B"
[10 Q. × 1 = 10 marks]

Fill in the blanks with appropriate word/words.

11. Quintessentially, urbanization is a phenomenon.
12. is the ability of a population of living species to increase under ideal environmental conditions – sufficient food supply, no predators, and a lack of disease.
13. According to Hobsbawm (2005) urban development in our period [1789–1848] was a gigantic process of
14. Among various urbanization models, stresses the importance of transportation corridors.
15. Urban heat island phenomenon describes urban and suburban temperatures that are (°F or °C) hotter than nearby rural areas.
16. is related to changes in temperature of a gas or object with no change in phase.
17. Storm water runoff is the portion of rainfall that does not into the soil.
18. Consistently observed ecological degradation of streams draining the urban land is termed as
19. With urbanization, countries shift from largely agrarian to economies and rising income.
20. is the measure of diffusive reflection of solar radiation out of the total solar radiation received by a body, for example a planetary body such as Earth.

SECTION "C"
[5 Q. × 1 = 5 marks]

Define the following in one sentence.

21. Urban canopy layer:
.....
.....
22. Sky view factor (SVF):
.....
.....
23. Central business district (CBD):
.....
.....
24. Replacement-level fertility:
.....
.....

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SECTION "D"

[3 Q. × 7 = 21 marks]

Attempt *ANY THREE* questions.

1. What is urban heat island (UHI)? Explain measure causes of UHI.
2. How storm water effects on hydrograph? How does hydrograph look in pre-urbanized and urbanized conditions? Explain with figure.
3. Highlight the five principles of urban sustainability.
4. What are various types of street systems in practice? Explain them with schematic diagrams.

SECTION "E"

5. Write short notes on (*ANY FOUR*). [4Q. × 4= 16]
 - a. Sectoral model.
 - b. Environmental impacts of Urbanization.
 - c. Urban stream syndrome.
 - d. Role of migration dynamics contributing urbanization.
 - e. Population age structures
6. Justify the following statements [4Q. × 3 = 12]
 - a. Urbanization is a process of radiation whereby ideas and practices spread out from the urban center into surrounding areas.
 - b. Urbanization supports in expanding international trade, enhanced international travel and communication.
 - c. Health indicators are better for urban when compared to rural.
 - d. Over time species may increase their carrying capacity by developing adaptations.
7. Differentiate between. [2Q. × 3= 6]
 - a. Push and pull factors of migration
 - b. Smart cities and prosperous cities.

