

KATHMANDU UNIVERSITY
End Semester Examination
January/February 2024

Level : B.Sc./B.Tech.
Year : III
Time : 2 hrs. 30mins.

Course : ESEE 301
Semester : I
F. M. : 55

04 FEB 2024

SECTION "C"

[3Q × 7 = 21 marks]

Attempt *ANY THREE* questions.

1. Describe the main processes of rain drop formation. Also, explain main liquid types of precipitation.
2. Explain the main branches of Indian Summer Monsoon and characteristics of summer monsoon precipitation in Nepal. How does it affects economy of Nepal?
3. What is climate classification and why it is necessary? Explain in detail Thornwaites' 1931 climatic classification.
4. What do you understand by climate change? Explain in brief causes of climate change?

SECTION "D"

5. Differentiate between *ANY FOUR* [4 Q. × 4 = 16]
 - a. Middle and high clouds
 - b. Polar air masses and Tropical air masses
 - c. Cold front and warm front
 - d. Cyclonic and anti-cyclonic flows
 - e. Tropical wet climate (Ar) and tropical dry and wet climate (Aw)
6. Write short notes on *ANY FOUR* [4 Q. × 3 = 12]
 - a. Low cloud
 - b. Milankovitch cycle
 - c. Sea and land breeze
 - d. Tropical wet climate (Ar)
 - e. Trewartha's climate classification
7. Give reasons why [2 Q. × 3 = 6]
 - a. Eastern Nepal is more humid (wet) than western Nepal.
 - b. Temperature at the earth's surface is a function of latitude.

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Marks Scored:

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Registration No.:

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SECTION "A"

[20Q. × 0.5 =10 marks]

Mark [X] the most appropriate option from the given choices.

1. The depth of the atmospheric layer above which all climatic condition of the earth determined is
 20 km 30 km 40 km 50 km
2. The percentage of water vapor in the atmosphere ranges from
 1-4 2-6 3-7 5-10
3. In the stratosphere, the air temperature normally
 decreases with increasing height
 increasing with increasing height
 both increases and decreases depending on the season
 does not change with height
4. When the earth is near to the sun then the position is termed as
 equinox aphelion perihelion solstice
5. Which of the following is the unit of wind direction?
 millibar kg/m² m/s degree
6. Which of the following is most likely associated with good weather?
 high pressure area low pressure area
 a cold front a warm front
7. Heat is surplus in the
 tropics poles mid latitudes extra tropical latitudes
8. Electromagnetic radiation with wavelengths up to 0.4 micrometers is called
 ultraviolet light visible light infrared light microwaves
9. Increasing air temperature with increasing height is termed as
 inversion lapse rate adiabatic environment lapse rate
10. Evaporation will be minimum when
 raining the wind is calm
 the air hot and windy the air is violent

25. Anticyclone
26. High cloud
27. Inter Tropical Convergence Zone
28. Saturation vapor pressure
29. Isobar
30. Mountain breeze

