

Roll No. : (in figure) _____ (in words) _____

Student Index No. _____ Regn. No. _____ of _____

Time : Two Hours

Full marks : 50

Questions are of value as indicated in the margin

Part - I
(Objective and Short Answer Type)
(Use only ball point pen)

Time : 30 minutes

Full marks : 20

- Note:** 1. Answer in question paper itself.
2. Striking, rewriting or overwriting are not allowed in the objective type questions.

1. **Tick (✓) the correct alternatives :** 0.5×10=5
- a) The condition of atmosphere at given place and time is termed as
i) Weather ii) Climate iii) Disaster iv) All of these
 - b) The type of rains on the slopes of Western Ghats is
i) Cyclonic ii) Conventional iii) Orographic iv) None
 - c) The sphere which contain more than 75% of gaseous mass is
i) Ionosphere ii) Troposphere iii) Stratosphere iv) Mesosphere
 - d) *Albedo* is called as _____ radiation.
i) Diffused ii) Direct iii) Reflected iv) None of these
 - e) The thermal conductivity into the soil depends on
i) Texture ii) Moisture iii) Organic matter content iv) All of these
 - f) In troposphere the temperature i) Increase with altitude ii) Decreases with altitude
iii) Remain constant iv) None
 - g) Chemical used for control transpiration i) Kaolin ii) Mobileaf iii) PMA iv) All of these
 - h) The clouds associated with rains in middle and high altitude is
i) Cirrus ii) Stratus iii) Cumulus iv) Cumulo-nimbus
 - i) The diurnal variation of temperature is less at i) Costal areas ii) Equator iii) Inlands
iv) Higher altitudes
 - j) An adiabatic change of temperature is caused by i) Increase in the moisture content of an air
parcel ii) Increasing amount of dust particles in the air parcel iii) Expansion or compression of
an air parcel iv) Horizontal movement of an air parcel
2. **Name the instruments used to measure :** 0.5×5=2.5
- a) Wind velocity : _____
 - b) Evoparation : _____
 - c) Sunshine hours : _____
 - d) Relative humidity : _____
 - e) Wavelength of light : _____

3. Match the column A with B :

0.5×5=2.5

A		B	
1	Isobars	a	Imaginary lines connecting points of equal temperature
2	Isohels	b	A line of equal wind speed
3	Isohyets	c	Line connecting points of equal rainfall
4	Isotach	d	Imaginary lines joining points of equal sunshine hours
5	Isotherm	e	Lines of equal pressure

4. Give one word for the following :

0.5×5=2.5

- Thunderstorms are generally caused by _____ type of clouds.
- The sphere of earth which is called as seat of photochemical reaction _____.
- Plants roots fail to absorb water and nutrients from soil due to increased concentration of soil solution leading to _____ drought.
- The weather forecasted for 3 to 10 days is example for _____ range of weather forecasting.
- _____ is the only form of moisture transfer from land and ocean into atmosphere.

5. Give the units of measurements for the following :

0.5×5=2.5

- Temperature : _____
- Atmospheric pressure : _____
- Cloud cover : _____
- Wind speed : _____
- Relative humidity : _____

6. Answer the following in one or two sentences (any five) :

1×5=5

- Mention Planck's law of radiation
- What do you mean by PAR?
- What is wind vane and mention its significance?
- Define cyclones and anti-Cyclones.
- What is a rainy day?
- What are lysimeters and where they are used?
- What are thunder storms?

B.Sc. (Honours) Agriculture Examination, 2019
Semester-IV
Course No: ARG-223
(Agricultural Meteorology and Climate Change)

Part - II
(Descriptive Type)

Time : 90 Minutes

Full marks : 30

Questions are of value as indicated in the margin

Answer any three questions

7. Give reasons for the following statements (**any five**) : 2×5=10
- a) The amount of organic matter content in the soil is more under lower temperature than higher temperatures.
 - b) Chill treatment is very important in some crops like winter wheat.
 - c) Sandy soils warm up more quickly than clay soils.
 - d) Higher temperature occurs in stratosphere region.
 - e) Soil protected by good vegetative cover does not undergo rapid changes in temperature as compared to bare soil.
 - f) Water absorption by plants is decreased at low temperature.
 - g) Dehydration is seen in cells during freezing injury.
8. Write short notes on the following (**any five**) : 2×5=10
- a) Synoptic charts
 - b) Green house effect
 - c) *Albedo*
 - d) Cloud seeding
 - e) Soil temperature
 - f) Drought
 - g) North-east (winter) monsoon
9. Answer the following in six or seven sentences (**any four**) : 2.5×4=10
- a) Mention the important applications of Agro-meteorology.
 - b) Give an account of physical process involved in formation of clouds.
 - c) Briefly discuss the Global warming and its impacts of Agriculture and Environment.
 - d) Enlist the applications of remote sensing in agriculture.
 - e) Write a note on El-Nina and La-Nina.
10. Answer the following detail (**any two**) : 5×2=10
- a) What is drought and explain the technological effects to mitigate drought effects.
 - b) Explain the importance of weather forecasting in food grain production of the country.
 - c) What do you understand by the term climate change? Mention the impacts of climate change in present agricultural situation.
 - d) What are the monsoons? Mention the two important types of monsoons of India? Write a brief note on south west monsoons.
-