

KERALA AGRICULTURAL UNIVERSITY
B.Sc. (Hons.) Agriculture – 2009 Admission
1st Semester Final Examination - March 2010

Cat. No. : Agmt 1101

Max. marks: 80

Title : Agricultural Meteorology (1+1)

Time : 3 hours

I. Fill up the blanks

12 x 0.5 = 6.0

1. The mixing layer of the atmosphere which is subject to frequent change is _____
2. Summation of weather condition over a given region during comparatively longer period is called as _____
3. The atmosphere contains _____ per cent of CO₂
4. Most important green house gas responsible for global warming is _____
5. _____ light is more favourable for crop growth.
6. _____ is a rain bearing cloud.
7. The unit used to express cloud cover is _____
8. Southwest monsoon period is from _____ to _____
9. Cold phase of the sea is known as _____
10. Lysimeter is used to measure _____
11. The water vapour content of the atmosphere is _____
12. Dew is a type of _____

II. Match the following

12 x 0.5 = 6.0

- | | |
|-------------------------------|-------------------------------------|
| 1. Maximum thermometer | a. Global radiation |
| 2. Minimum thermometer | b. Dump bell shaped Index |
| 3. Wet & dry bulb thermometer | c. Constriction in the bulb |
| 4. Wind vane | d. Direct radiation |
| 5. Anemometer | e. Lux |
| 6. USWB open pan evaporimeter | f. Sunshine hours |
| 7. Whirling psychrometer | g. Relative humidity |
| 8. Pyranometer | h. Wind direction |
| 9. Pyrheliometer | i. Wind speed |
| 10. Light intensity | j. Isohyte |
| 11. Sunshine recorder | k. Evaporation |
| 12. Rainfall | l. RH under microclimatic condition |

III. State true or false

12 x 0.5 = 6.0

1. The recent estimate of solar constant value is $1.94 \text{ cal cm}^{-2} \text{ min}^{-1}$
2. The average rainfall of India is 1150 mm
3. Frost is the commonly occurring weather phenomena during winter season in South India.
4. Long wave radiation is emitted from the sun where a short wave radiation is re-radiated back to surface.
5. Heat transfer through movement of particles (part of mass) in fluids and gases is called as conduction.
6. Heaving is a type heat injury.
7. Diurnal variation of soil temperature is maximum in deeper layers as compared to surface layer.
8. Normal atmospheric station pressure is 1013.2 mbar.
9. Silver iodide is used for seeding the cold clouds.

10. PET is expressed in percentage.
11. Rainfall of 1.5 mm or more referred ~~as~~ a rainy day.
12. Air mass moving from East to West is called as westerly winds.

IV. Write answers in a word or sentence

12 x 0.5 = 6.0

1. Name a country having more than one standard time
2. Expand ITCZ
3. What is the average distance between the sun and earth?
4. Name the line connecting the places having equal temperature?
5. Write the normal lapse rate of atmosphere?
6. Name the unit measurement of wavelength?
7. Give the one example for long day plant.
8. Give the unit of expression of wind speed.
9. Classify the January and February month according to IMD classification of seasons.
10. Name the any main two weather parameters modified by wind break and shelter belt.
11. Which method is useful for long range weather forecasting?
12. Give the time of occurrence of maximum temperature in most of the places during the diurnal cycle?

V. Write short notes/answers etc on any eight

8 x 2 = 16

1. Remote sensing
2. Global cooling
3. Micro climate
4. Photomorphogenesis
5. Growing Degree Day (GDD)
6. Plank's law
7. Sea breeze
8. Crop weather calendar
9. Radiation
10. Define PET

VI. Answer any four of the following

4 x 5 = 20

1. Write in brief about the scope of agricultural meteorology in agriculture?
2. Write an account of factors influencing air temperature?
3. Describe in brief about the effect of duration of light on crop plants.
4. Write in detail about the role of temperature in crop production.
5. Define: weather forecasting and its uses in agriculture.

VII. Answer any two of the following

2 x 10 = 20

1. Describe in detail about the different wind systems of world with neat diagram.
2. Give in detail description, the artificial rain making techniques.
3. Differentiate the climate change and climate variability. Write in detail about different green house gases responsible for global warming.