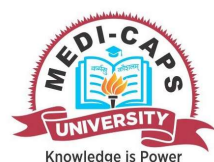


Enrolment No.....



## Faculty of Agriculture

End Sem (Even) Examination May-2022

AG3CO33

Introductory Agro-Meteorology &amp; Climate Change

Programme: B.Sc. (Hons.) Branch/Specialisation: Agriculture

Duration: 3 Hrs.

Maximum Marks: 50

Note: All questions are compulsory. Internal choices, if any, are indicated. Answers of Q.1 (MCQs) should be written in full instead of only a, b, c or d.

- Q.1 i. Meteorology is a combination of- **1**  
 (a) Physics (b) Chemistry  
 (c) Geology (d) Physics & Geography
- ii. Long term regime of atmospheric variables of a given place is called- **1**  
 (a) Weather (b) Climate (c) Both (a) & (b) (d) None of these
- iii. Heat transfer through matter without the actual movement of the substances or matter is called- **1**  
 (a) Conduction (b) Convection  
 (c) Radiation (d) All of these
- iv. The amount of radiant energy emitted, received, transmitted across a particular area is known as- **1**  
 (a) Radiation flux density (b) Radiation flux  
 (c) Solar radiation (d) Emissive power
- v. \_\_\_\_\_ is traditionally an atmospheric phenomenon. **1**  
 (a) Smog (b) Fog (c) Haze (d) Mist
- vi. Sun's halo is produced by the- **1**  
 (a) Refraction of light (b) Reflection of light  
 (c) Diffraction of light (d) Emission of light
- vii. The tropical cyclones of Hurricane force in the western North Pacific are known as- **1**  
 (a) Cyclone (b) Hurricanes (c) Typhoons (d) None of these
- viii. The word monsoon is derived from- **1**  
 (a) Latin (b) Greek (c) Arabic (d) French
- ix. Which types of weather forecasting helps in determining cropping pattern? **1**  
 (a) Short weather forecast (b) Medium weather forecast  
 (c) Long weather forecast (d) All of these

- x. Full Form of IMD- **1**  
 (a) Indian Meteorology Department  
 (b) India Meteorological Department  
 (c) India's Meteorological Department  
 (d) Indian's Meteorology Department

- Q.2 i. Define agricultural meteorology. **1**  
 ii. What is atmosphere? Write down their composition. **2**  
 iii. Differentiate the meteorology and agricultural meteorology with their importance to crop production. **5**
- OR iv. Explain atmosphere with vertical layers of atmosphere based on temperature. **5**
- Q.3 i. Define solar radiation. **1**  
 ii. Write short note on following: **3**  
 (a) Conduction (b) Albedo (c) Lapse rate  
 iii. Define temperature. Explain the factors affecting air temperature. **4**
- OR iv. Differentiate heat and cold injuries. **4**
- Q.4 i. Define condensation and evaporation. **2**  
 ii. What is a cloud? Explain formation and classification of clouds. **6**
- OR iii. Define artificial rain making. Explain seeding of cold clouds with their different ways. **6**
- Q.5 i. Define drought and floods with their types. **2**  
 ii. Define heat and cold waves. **2**  
 iii. Explain mechanism and importance of monsoon in Agriculture. **4**
- OR iv. Explain modification of crop microclimate in relation to Agriculture. **4**
- Q.6 Attempt any two: **4**  
 i. Explain weather forecasting with their types and uses **4**  
 ii. Differentiate climate change and climate variability. **4**  
 iii. Define global warming. Explain its impact on regional and national Agriculture. **4**

\*\*\*\*\*

**Marking Scheme AG3CO33**  
**Introductory Agro-Meteorology & Climate Change**

Q.1	i.	Meteorology is a combination of-	1
		(d) Physics & Geography	
	ii.	Long term regime of atmospheric variables of a given place is called-	1
		(b) Climate	
	iii.	Heat transfer through matter without the actual movement of the substances or matter is called-	1
		(a) Conduction	
	iv.	The amount of radiant energy emitted, received, transmitted across a particular area is known as-	1
		(b) Radiation flux	
	v.	_____ is traditionally an atmospheric phenomenon.	1
		(c) Haze	
	vi.	Sun's halo is produced by the-	1
		(a) Refraction of light	
	vii.	The tropical cyclones of Hurricane force in the western North Pacific are known as-	1
		(c) Typhoons	
	viii.	The word monsoon is derived from-	1
		(c) Arabic	
	ix.	Which types of weather forecasting helps in determining cropping pattern?	1
		(c) Long weather forecast	
	x.	Full Form of IMD-	1
		(b) India Meteorological Department	

Q.2	i.	Define agricultural meteorology.	1 Mark	1
	ii.	What is atmosphere	1 Mark	2
		Write down their composition.	1 Mark	
	iii.	As per the explanation	5 Marks	5
OR	iv.	As per the explanation	5 Marks	5

Q.3	i.	Define solar radiation.	1 Mark	1
	ii.	(a) Conduction	1 Mark	3
		(b) Albedo	1 Mark	
		(c) Lapse rate	1 Mark	
	iii.	Define temperature.	1 Mark	4
		Explain the factors affecting air temperature.	3 Marks	

OR	iv.	Differentiate heat	2 Marks	4
		Cold injuries.	2 Marks	

Q.4	i.	Define condensation	1 Mark	2
		Evaporation.	1 Mark	
	ii.	What is a cloud	1 Mark	6
		Explain formation of clouds	2.5 Marks	
		Classification of clouds.	2.5 Marks	
OR	iii.	Define artificial rain making	1 Mark	6
		Explain seeding of cold clouds	2.5 Marks	
		Different ways of seeding of cold clouds	2.5 Marks	

Q.5	i.	Define drought	1 Mark	2
		Floods with their types.	1 Mark	
	ii.	Define heat	1 Mark	2
		Cold waves.	1 Mark	
	iii.	Explain mechanism of monsoon in Agriculture.	2 Marks	4
		Importance of monsoon in Agriculture	2 Marks	
OR	iv.	As per the explanation	4 Marks	4

Q.6		Attempt any two:		
	i.	As per the explanation	4 Marks	4
	ii.	As per the explanation	4 Marks	4
	iii.	As per the explanation	4 Marks	4

\*\*\*\*\*