



Enrollment No.....

Faculty of Agriculture

End Sem (Even) Examination May-2022

AG3CO28 Problematic Soils & their Management

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. Characteristics of a healthy soil are: **1**
 (a) Good soil tilth (b) High weed pressure
 (c) Sufficient depth (d) Both (a) and (c)
- ii. Total geographical area of India is- **1**
 (a) 327 M.ha (b) 328 M.ha (c) 329 M.ha (d) 325 M.ha
- iii. Saline soils are also called as: **1**
 (a) Solonetz (b) Solonchalks
 (c) Soloth (d) Szik
- iv. Muddy run-off from the field is an indication of: **1**
 (a) Splash erosion (b) Sheet erosion
 (c) Rill erosion (d) Ravines
- v. The osmotic potential of soil water is affected by: **1**
 (a) Salt content (b) Barometric pressure
 (c) Clay content (d) All of these
- vi. What is the pH of pure water? **1**
 (a) 6.0 (b) 6.5 (c) 7.0 (d) 7.5
- vii. Which of the following radiation is used in passive remote sensor? **1**
 (a) Sun (b) Vapour light
 (c) Flashlight (d) All of these
- viii. GIS function in remote sensing is to: **1**
 (a) Data acquisition (b) Mapping
 (c) Display (d) All of these
- ix. LCC (Land capability class) 4 is denoted by which colour? **1**
 (a) Light green (b) Yellow
 (c) Red (d) Blue

- x. How many agro-ecological zones in India? **1**
 (a) 20 (b) 25 (c) 15 (d) 16

- Q.2 i. Define soil health. **1**
 ii. Write any eight causes formation of wastelands. **2**
 iii. Explain the soil health report with sections. **5**
 OR iv. What is wasteland? Describe its classification in detail. **5**

- Q.3 i. Define flooded soil. **1**
 ii. What is soil erosion? What are the different causes of soil erosion? **3**
 iii. What do you mean by soil pollution? Describe in detail the types of soil pollution. **4**
 OR iv. What is acid soils? Describe the management of acid soils. **4**

- Q.4 i. Describe any two factors that are lacking in the yield of plants when irrigated with saline water. **2**
 ii. Explain the utilization of saline water in agriculture. **6**
 OR iii. Which parameters are taken into consideration for evaluating the quality of irrigation water? **6**

- Q.5 i. What are the different types of remote sensing based on the source of energy? **2**
 ii. Write the components of G.I.S. **2**
 iii. What is remote sensing? How does it used in agriculture? **4**
 OR iv. What do you mean by G.I.S.? Describe the advantage and disadvantage of G.I.S. **4**

- Q.6 Attempt any two: **4**
 i. Describe in detail the land suitability classification. **4**
 ii. How are the Bio-remediation of soil by MPTs? **4**
 iii. Describe the any four agro-ecological zones of India. **4**

Marking Scheme
AG3CO28 Problematic Soils & their Management

Q.1	i.	Characteristics of a healthy soil are: (d) Both (a) and (c)	1
	ii.	Total geographical area of India is- (c) 329 M.ha	1
	iii.	Saline soils are also called as: (b) Solonchalks	1
	iv.	Muddy run-off from the field is an indication of: (b) Sheet erosion	1
	v.	The osmotic potential of soil water is affected by: (a) Salt content	1
	vi.	What is the pH of pure water? (c) 7.0	1
	vii.	Which of the following radiation is used in passive remote sensor? (a) Sun	1
	viii.	GIS function in remote sensing is to: (d) All of these	1
	ix.	LCC (Land capability class) 4 is denoted by which colour? (d) Blue	1
	x.	How many agro-ecological zones in India? (a) 20	1

Q.2	i.	Define soil health.	(As per explanation)	1
	ii.	Each causes formation of wastelands.	(0.25 Marks*8)	2
	iii.	Soil health report with sections	(As per explanation)	5
OR	iv.	Definition	1 Mark	5
		Classification	(1 Mark*4)	

Q.3	i.	Define flooded soil.	(As per explanation)	1
	ii.	Definition	1 Mark	3
		Causes of soil erosion	2 Mark	
	iii.	Definition of soil pollution	1 Mark	4
		Types of soil pollution	3 Marks	
OR	iv.	Definition of acid soils	1 Marks	4
		Management of acid soils.	3 Marks	

Q.4	i.	Each Factors	(1 Mark*2)	2
	ii.	Utilization of saline water in agriculture.	(As per explanation)	6
OR	iii.	Parameters are taken into consideration	(As per explanation)	6

Q.5	i.	Different types of remote sensing	(As per explanation)	2
	ii.	Components of G.I.S.	(As per explanation)	2
	iii.	Definition of remote sensing	1 Mark	4
		How does it used in agriculture	3 Marks	
OR	iv.	Definition of G.I.S.	1 Mark	4
		Advantage	1.5 Marks	
		Disadvantage of G.I.S.	1.5 Marks	

Q.6		Attempt any two:		
	i.	Each Class	(1 Mark*4)	4
	ii.	Bio-remediation of soil by MPTs	(As per explanation)	4
	iii.	Each zones of India.	(1 Mark*4)	4
