

Enrollment No.....



Faculty of Agriculture
 End Sem (Odd) Examination Dec-2018
 AG3CO04 Fundamentals of Soil Science
 Programme: B.Sc. (Ag.) Branch/Specialisation: Agriculture

Duration: 3 Hrs.**Maximum Marks: 60**

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. Study of soil properties in relation to crop production is called as. **1**
 (a) Edaphology (b) Geology
 (c) Pedology (d) Soil taxonomy
- ii. A vertical section cut downwards through the soil is called as. **1**
 (a) Soil sample (b) Soil column
 (c) Soil horizon (d) Soil profile
- iii. Total number of soil order are. **1**
 (a) 10 (b) 12 (c) 11 (d) 13
- iv. Which of the following is called flesh of soil? **1**
 (a) Sand (b) Silt (c) Clay (d) None of these
- v. A pH value of 6.0 indicates that the soil reaction is. **1**
 (a) Acidic (b) Alkaline (c) Neutral (d) Highly Alkaline
- vi. Gypsum is commonly used for reclamation of. **1**
 (a) Saline soil (b) Alkaline soil
 (c) Acidic soil (d) All of these
- vii. Percentage of carbon content in humus is around. **1**
 (a) 50% (b) 35% (c) 5% (d) None of these
- viii. The smallest mineral particle is. **1**
 (a) Sand (b) Silt (c) Clay (d) None of these
- ix. Which of the followings is soil micro fauna? **1**
 (a) Bacteria (b) Fungi
 (c) Actinomycetes (d) Nematodes

- x. Earth worms present in the soil. **1**
 (a) Reduce soil fertility (b) Increase soil fertility
 (c) Harm plants (d) Cause plant disease

- Q.2 i. Define soil. Discuss the function of soil. **2**
 ii. Describe major components of soil. How these components influence the soil properties? **3**
 iii. Define soil science and describe the active and passive factors of soil formation. **5**
 OR iv. What is the soil profile? Explain the various horizons of a soil profile with the help of diagram. **5**

- Q.3 i. Write the difference between particle and Bulk density of soil. **2**
 ii. Explain various soils of India. **8**
 OR iii. Write classifications of soil structure with example. **8**

- Q.4 i. Define pH scale. **3**
 ii. Explain problematic soils and write how to reclaim it chemically. **7**
 OR iii. How pH of soil affects the availability of soil nutrients? **7**

- Q.5 i. Define cation exchange capacity of soil. **4**
 ii. Give the classifications of silicate clays minerals. **6**
 OR iii. Explain the soil organic matter, composition and properties. **6**

- Q.6 Attempt any two: **5**
 i. What are the sources of soil pollution? **5**
 ii. What is the role of Bacteria, Fungi Actinomycetes and Algae in soil productivity? **5**
 iii. Define soil pollution and preventive measure of soil pollution. **5**

Marking Scheme
AG3CO04 Fundamentals of Soil Science

Q.1	i.	Study of soil properties in relation to crop production is called as. (a) Edaphology	1
	ii.	A vertical section cut downwards through the soil is called as. (d) Soil profile	1
	iii.	Total number of soil order are. (b) 12	1
	iv.	Which of the following is called flesh of soil? (c) Clay	1
	v.	A pH value of 6.0 indicates that the soil reaction is. (a) Acidic	1
	vi.	Gypsum is commonly used for reclamation of. (b) Alkaline soil	1
	vii.	Percentage of carbon content in humus is around. (a) 50%	1
	viii.	The smallest mineral particle is. (c) Clay	1
	ix.	Which of the followings is soil micro fauna? (d) Nematodes	1
	x.	Earth worms present in the soil. (b) Increase soil fertility	1
Q.2	i.	Any four function of soil. 0.5 mark for each point	2 (0.5 mark *4)
	ii.	Any three Components of soil. 0.5 mark for each point	3 (0.5 mark *3)
	iii.	Soil science Active and passive factors of soil formation.	5 2 marks 3 marks
OR	iv.	Soil profile Various horizons of a soil profile	5 2 marks 3 marks
Q.3	i.	Difference between particle and Bulk density of soil. 0.5 mark for each point	2 (0.5 mark *4)
	ii.	Various soils of India.	8
OR	iii.	Classifications of soil structure	8 6 marks

		Example.	2 marks
Q.4	i.	Define pH scale (any three) 1 mark for each point	3 (1 mark *3)
	ii.	Any 5 problematic soils 1 mark for each point (1 mark * 5) How to reclame it chemically.	7 5 marks 2 marks
OR	iii.	Any seven pH of soil affects the availability of soil nutrients 1 mark for each point	7 (1 mark *7)
Q.5	i.	Cation exchange capacity of soil (any 4 points) 1 mark for each point	4 (1 mark *4)
	ii.	Classifications of silicate clays minerals	6
OR	iii.	Soil organic matter, composition and properties.	6
Q.6		Attempt any two:	
	i.	Sources of soil pollution (any five) 1 mark for each point	5 (1 mark *5)
	ii.	Role of Bacteria, Fungi Actinomycetes and Algae (any five) 1 mark for each point	5 (1 mark *5)
	iii.	Soil pollution and preventive measure (any five) 1 mark for each point	5 (1 mark *5).
