Total No. of Questions: 6 *Total No. of Printed Pages:2*

Enrollment No.....

Faculty of Agriculture

End Sem (Even) Examination May-2019

AG3CO09 Soil and Water Conservation Engineering

Programme: B.Sc. (Ag.) 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. Removal by rain of a very thin layer of soil from the entire surface of large area is called **1**
(a) Splash erosion (b) Sheet erosion
(c) Rill erosion (d) Ravines

ii. The word erosion is derived from which language **1**
(a) Latin (b) Greek (c) Arabic (d) None of these

iii. Which is not a types of water erosion **1**
(a) Splash erosion (b) Sheet erosion
(c) Suspension (d) Ravines

iv. In Universal soil loss equation 'K' stands for: **1**
(a) Slope length-gradient factor
(b) Soil erodibility factor
(c) Support practice factor
(d) Crop/vegetation and management factor

v. Erosion resisting crops is **1**
(a) Grasses (b) Legumes (c) Cereals (d) Both (a) and (b)

vi. Bench terraces can be laid in slopy land ranges from: **1**
(a) 10 to 20 % (b) 8 to 14 %
(c) 16 to 32 % (d) 2 to 5 %

vii. Of the total water on earth, only _____ constitutes fresh water. **1**
(a) 2.5 % (b) 4.0 % (c) 10 % (d) 99 %

viii. Grassed waterways are used outlets to prevent _____ **1**
(a) Gully formation (c) Rill formation
(c) Both (a) and (b) (d) None of these

P.T.O.

ix. Dominant type of wind erosion in soil is **1**
(a) Saltation (b) Surface Creep
(c) Suspension (d) All of these

x. Size range of soil Particles in surface creep type of wind erosion **1**
(a) < 0.1 mm (b) 0.1 - 0.5 mm
(c) 0.5 – 2.0 mm (d) 4 mm

Q.2 i. Write the definition of soil erosion. **1**
ii. Write the causes of soil erosion. **2**
iii. What is soil and water conservation? write the principles of soil erosion. **5**
OR iv. Describe the causes of soil erosion in details. **5**

Q.3 i. What is water erosion? **1**
ii. Explain the soil loss measurements techniques. **3**
iii. Describe the forms of water erosion in detail. **4**
OR iv. Describe the gully classification and write the control measures. **4**

Q.4 i. Write the principle of erosion control. **2**
ii. Explain the contour cultivation and strip cropping. **6**
OR iii. Define the graded bund and bench terracing. **6**

Q.5 i. What is grassed water ways. **2**
ii. Explain the water harvesting. **2**
iii. Explain the method of water harvesting in semi-arid areas. **4**
OR iv. Explain the method of water harvesting in arid areas in detail. **4**

Q.6 Attempt any two:
i. Describe the types of water erosion in detail. **4**
ii. Describe the types of soil movements. **4**
iii. Write the principles of wind erosion control and its control measures. **4**

******

Marking Scheme
AG3CO09 Soil and Water Conservation Engineering

Q.1	i.	Removal by rain of a very thin layer of soil from the entire surface of large area is called (b) Sheet erosion		**1**
	ii.	The word erosion is derived from which language (a) Latin		**1**
	iii.	Which is not a types of water erosion (a) Splash erosion (b) Sheet erosion (c) Suspension (d) Ravines		**1**
	iv.	In Universal soil loss equation 'K' stands for: (b) Soil erodibility factor		**1**
	v.	Erosion resisting crops is (d) Both (a) and (b)		**1**
	vi.	Bench terraces can be laid in slopy land ranges from: (c) 16 to 32 %		**1**
	vii.	Of the total water on earth, only _____ constitutes fresh water. (a) 2.5 %		**1**
	viii.	Grassed waterways are used outlets to prevent _____ (c) Both (a) and (b)		**1**
	ix.	Dominant type of wind erosion in soil is (a) Saltation		**1**
	x.	Size range of soil Particles in surface creep type of wind erosion (c) 0.5 – 2.0 mm		**1**
Q.2	i.	Definition of soil erosion.		**1**
	ii.	Causes of soil erosion. Any four points 0.5 mark for each point	(0.5 mark * 4)	**2**
	iii.	Soil and water conservation Principles of soil erosion	2 marks 3 marks	**5**
OR	iv.	Causes of soil erosion Any five points 1 mark for each point	(1 mark * 5)	**5**
Q.3	i.	Water erosion		**1**
	ii.	Soil loss measurements techniques. Any three techniques 1 mark for each	(1 mark * 3)	**3**
	iii.	Forms of water erosion Any four forms 1 mark for each	(1 mark * 4)	**4**
OR	iv.	Gully classification Control measures.	2 marks 2 marks	**4**
Q.4	i.	Principle of erosion control Any four points 0.5 mark for each point	(0.5 mark * 4)	**2**
	ii.	Contour cultivation Strip cropping	3 marks 3 marks	**6**
OR	iii.	Graded bund Bench terracing	3 marks 3 marks	**6**
Q.5	i.	Grassed water ways Any two points 1 mark for each	(1 mark * 2)	**2**
	ii.	Water harvesting. Any two points 1 mark for each	(1 mark * 2)	**2**
	iii.	Method of water harvesting in semi-arid areas Any Four points 1 mark for each	(1 mark * 4)	**4**
OR	iv.	Method of water harvesting in arid areas Any four points 1 mark for each	(1 mark * 4)	**4**
Q.6		Attempt any two:		
	i.	Types of water erosion Any four types 1 mark for each	(1 mark * 4)	**4**
	ii.	Types of soil movements. Any four types 1 mark for each	(1 mark * 4)	**4**
	iii.	Principles of wind erosion control Any four points (0.5 mark* 4) Its control measures. Any four points (0.5 mark* 4)	2 marks 2 marks	**4**

******