Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

BE - SEMESTER–IV(New) EXAMINATION – SUMMER 2016

Subject Code:2141309 **Date:10/06/2016**

Subject Name:Soil and Water Conservation Engineering

Time:10:30 AM to 01:00 PM **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks.**

MARKS

Q.1 Short Questions **14**

1 Soil Conservation means:
(a) prevention of Spread of desert (b) to check soil erosion by wind & rains (c) to check soil erosion by afforestation
(d) all of these

2 Soil erosion can be prevented by
(1) deforestation (b) heavy rains (c) afforestation
(d) over grazing

3 Sheet Erosion is caused by
(a) fast running rivers (b) wind (c) heavy rains (d) Glaciers

4 If whole of top soil is washed down, erosion is said to be
(a) sheet erosion (b) gully erosion (c) shelter wash off (d) wind erosion

5 Which one of the following sets shows the correct soil order in sequence of increasing age
(a) alfisol,ultisol,entisol,mollisol (b) entisol,alfisol,ultisol,mollisol,
(c) entisol,ultisol, mollisol,alfisol (d) entisol,mollisol,alfisol,ultisol

6 Crop logging is a method of
(a) Soil fertility evaluation (b) plant analysis for assessing requirement of nutrients for crop production (c) assessing Crop damage (d) testing Suitability of fertilizer

7 A PH value of 6.0 indicates that the soil reaction is
(a) Acidic (b) Alkaline (c) Neural (d) Highly alkaline

8 A vertical section of Soil body, which shows different layer, is known as
(a) Soil horizons (b) Soil Profile (c) Regolith (d) parent material

9 Universal soil loss equation used to predict
(a) soil fertility (b) Soil nutrients (c) Rainfall (d) rate of erosion

10 Universal Soil loss equation depends on
(a) Soil type & tropograph (b) weather condition (c) rain fall & run off factor (d) all of above

11 Which of the following can contaminate an aquifer
(a) landfill (b) gas station (c) agricultural activity (d) all of above

12 World water day is celebrated on
(a) march 22 nd (b) July 1 st (c) June 5 th (d) September 22 nd

13 Water is lost from soil by
(a) transpiration through leaves of plants (b) downward movement of drainage (c) both (a & b) (d) none of above

14 Agricultural practices increase the concentration of _____ in water as a pollutants
(a) colour (b) nitrogen & phosphorous (c) both (a & b) (d) hardness

Q.2	**(a)**	Explain different types of water losses.	**03**
	(b)	Explain water harvesting.	**04**
	(c)	What is water Conservation? Enlist the different conservation methods.	**07**
		OR	
	(c)	What is soil Conservation? Explain the scope of Soil Conservation in detail.	**07**
Q.3	**(a)**	Define the terms: (1) Aquifer (2) Infiltration (3) Reservoir	**03**
	(b)	Explain the food plain Zone management.	**04**
	(c)	Write a short note on Check dams along with a neat sketch.	**07**
		OR	
Q.3	**(a)**	Define the terms: (1) Evaporation (2) Rain fall (3) Run off	**03**
	(b)	Explain Grass land management.	**04**
	(c)	Write down the Universal Soil loss Equation" and explain it.	**07**
Q.4	**(a)**	What is Strip Cropping? Discuss.	**03**
	(b)	Explain Soil erosion due to wind.	**04**
	(c)	Enlist the different soil erosion control methods. How can soil erosion be control by using biological method?	**07**
		OR	
Q.4	**(a)**	Explain causes of soil erosion.	**03**
	(b)	Discuss the contamination of water quality due to agricultural practices.	**04**
	(c)	Write a brief note on ground water recharge through wells.	**07**
Q.5	**(a)**	What is rill erosion? Explain.	**03**
	(b)	Explain why "need of planned utilization of water resource "is necessary.	**04**
	(c)	Write a short note on reducing the impact of flooding.	**07**
		OR	
Q.5	**(a)**	What is gully erosion? Explain.	**03**
	(b)	Explain how the aquifers are useful for water conservation.	**04**
	(c)	Write a short note on Economics of water resource utilization.	**07**

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