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**Question Paper Code: 96A03**

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2023

Fourth semester

Agriculture Engineering

19UAG403- Soil and Water Conservation Engineering

(Regulation 2019)

Duration: Three hours

Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. Large gullies and their network are called \_\_\_\_\_ CO1- U  
(a) detachment (b) rills (c) ravines (d) ditches
2. The removal of soil, from small but well defined channel or streamlets when there CO2- App  
(a) hill erosion (b) rill erosion (c) stream erosion (d) soil erosion
3. Crop management factor in USLE has maximum value \_\_\_\_\_ CO1- U  
(a) infinity (b) 1 (c) 2 (d) 3
4. USLE computes \_\_\_\_\_ CO2- U  
(a) sheet erosion (b) rill erosion (c) gully erosion (d) a & b both
5. The horizontal distance of bund depends on CO3- App  
(a) VI of bund (b) soil type (c) land slope (d) both (a) and (c)
6. The agronomical measures are used for the control of soil erosion in CO1- U  
(a) medium deep soil (b) sandy loam soil  
(c) black cotton soil (d) alluvial deep soil
7. The 'contour stone bunds' are used for CO1- U  
(a) sheet water harvesting (b) rill flow harvesting  
(c) run off harvesting (d) water spreading

8. Which of the following is the in-situ rainwater harvesting method? CO1- U  
 (a) conservation tillage (b) conventional tillage (c) conservation farm (d) all the above
9. The reservoir sedimentation does not get affected due to \_\_\_\_\_ CO1- U  
 (a) watershed land use (b) wind direction  
 (c) rainfall pattern (d) watershed topography
- 10 The movement of saltation load is in the form of CO1- U  
 (a) rolling or sliding (b) bouncing (c) suspension (d) hopping

PART – B (5 x 2= 10 Marks)

- 11 Explain Drop inlet spillway? CO1- U
- 12 Enumerate the characteristics of Precipitation CO3- App
- 13 Define Strip cropping? CO1- U
- 14 Describe Principles of Water harvesting CO1- U
- 15 Describe about Sedimentation? CO1- U

PART – C (5 x 16= 80 Marks)

- 16 (a) Describe the stages and classification of gully development? CO2- App (16)  
 Or  
 (b) Briefly explain Temporary gully control structures CO2- App (16)
- 17 (a) Briefly explain Components of Runoff and Precipitation Characteristics? CO2- U (16)  
 Or  
 (b) Estimation of CN & Limitations of SCS CN Method CO2- U (16)
- 18 (a) Design a grassed waterway of parabolic shape to carry a flow of 2.6 m<sup>3</sup>/s down a slope of 3 percent. The waterway has a good stand of grass and a velocity of 1.75 m/s can be allowed. Assume the value of *n* in Manning's formula as 0.04. CO3- App (16)  
 Or  
 (b) Briefly explain Grassed waterways Construction Procedure and Purpose? CO1- U (16)
- 19 (a) Briefly explain about Types of Water Harvesting CO2- App (16)  
 Or  
 (b) Briefly Illustrate design about Flood Water Harvesting CO3- App (16)

- 20 (a) Briefly explain methods Reservoir Sedimentation Control? CO2- App (16)  
Or  
(b) Describe the Types of Sediments Transported Along with Streams? CO2- App (16)

