A **Reg. No. :** | | | | | | | | | | |

Question Paper Code: 54A04

B.E. / B.Tech. DEGREE EXAMINATION, NOV 2019

Fourth Semester

Agriculture Engineering

15UAG404- SOIL AND WATER CONSERVATION ENGINEERING

(Regulation 2015)

Duration: Three hours Maximum: 100 Marks

Answer ALL Questions

PART A - (10 x 1 = 10 Marks)

1. The sequence of water erosion is CO1- R

   (a) Splash, sheet, rill, gully (b) Sheet, gully, rill

   (c) Rill, Splash, sheet (d) Gully erosion, Splash, sheet, rill

2. The particles detachment is more in CO1- R

   (a) Sandy soil (b) Forest lands (c) Clay soil (d) Hill face

3. Movement of excess precipitation water over the land surface is called as_____ CO2- R

   (a) overland flow (b) run-off (c) sheet flow (d) all the above

4. A runoff plots consist of CO2- R

   (a) Multi slot divisor (b) Sediment sampler (c) Measuring cylinder (d) All above

5. If the rain occurs after a long dry spell then _____ is more , hence it contribute less runoff . CO3- R

   (a) Infiltration rate (b) Evaporation (c) Transpiration (d) Percolation

6. The H.D(horizontal distance) of bund depends on CO3- R

   (a) VI of bund (b) Soil type (c) Land slope (d) Both (a) and (c)

7. The height of contour bund generally ranges from 0.30 to CO4- R

   (a) 0.5 m (b) 1.0 m (c) 1.5 m (d) 2.0 m

8. In cantilever type retaining wall the key can be fixed CO4- R

(a) Near the toe (b) Middle of base (c) Near the heel (d) All above

9. Which of the following is the source of sediment yield from a watershed? CO5- R

(a) Soil erosion from forests (b) Occurrence of flood

(c) Mining excavation (d) All above

10. A low area where the land is saturated with water is_____ CO5- R

(a) irrigated land (b) semi wet land (c) wet land (d) par wet land

PART – B (5 x 2= 10 Marks)

11. List the factors affecting soil erosion? CO1- R

12. Describe the crop management practices factor CO2- R

13. Discover the Contour bund and Graded bund. CO3- R

14. Define farm pond and write its importance CO4- R

15. What are the types of sediment load? CO5- R

PART – C (5 x 16= 80 Marks)

16. (a) What are different types of erosion? Explain in detail. CO1- U (16)

Or

(b) Explain the temporary and permanent gully control structures with suitable diagrams. CO1- U (16)

17. (a) Explain about the land use capability classification in detail CO2-U (16)

Or

(b) Explain the universal soil loss equation for predicting soil loss CO2-U (16)

18. (a) Explain in detail about the Agronomical and Mechanical measures of water erosion control. CO3-U (16)

Or

(b) What are the purpose, construction and maintenance of Grassed waterways? CO3-U (16)

19. (a) What are the components, design principles, construction and protection of Check dam and earthen dam? CO4- U (16)

Or

(b) Describe the design details for pond construction CO4- U (16)

20. (a) What are the sources of sediments? Explain the layers of sediment load present in the Reservoir sedimentation. CO5- U (16)

Or

(b) What are the methods of estimation of different loads from samples CO5- U (16)