



(Following Paper ID and Roll No. to be filled in your Answer Book)

PAPER ID : 180613

Roll No.

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B. Tech.

(SEM. VI) THEORY EXAMINATION, 2014-15
SOIL & WATER CONSERVATION ENGINEERING

Time : 2 Hours]

[Total Marks : 50

Note: The question paper is divided into three sections. Attempt each section. Assume missing data if any.

SECTION-A

- 1 Attempt each short answer type question: (2×5=10)
- (a) What are the factors affecting wind erosion?
 - (b) Enumerate the sediment delivery ratio.
 - (c) What is a strip cropping?
 - (d) List the temporary structures for water erosion control?
 - (e) What do you mean by soil erosion?

SECTION-B

- 2 Attempt any three parts of the following: (3×5=15)
- (a) What do you mean by water harvesting"? Explain any one technique for it.
 - (b) Define contour and describe their characteristics.

- (c) Explain the design and layout procedures for bench terraces.
- (d) Describe the wind break & shelter belts. Also show the area protected from wind erosion.
- (e) Describe the causes, types and agents of soil erosion.

SECTION-C

3 Attempt all parts of the following: (5×5=25)

- (a) Calculate the volume of earth work for a 100 ha catchment which has a land slope of 3%. The following parameters of contour bund was calculated:
V.I. =1.3 m.; Base width = 2.25 m; Top width = 0.45 m; height of bund = 0.90 m. Also determine the percentage area lost due to bunding?

OR

- (a) Write short notes on:
 - (i) 'Land use capability classification,
 - (ii) Trap efficiency
- (b) Explain the following agronomical measures for erosion control:
 - (i) Contour cropping.
 - (ii) Mulching.

OR

- (b) What are the principles of gully control? Briefly describe the vegetative measures.

- (c) Discuss the modified soil loss equation? How will you determine various parameters?

OR

- (c) Write short note on sand dune stabilization? What are the related benefits?
- (d) Discuss the rational method to estimate runoff from a watershed of sandy-loam soil?

OR

- (d) Classify bunds. Derive the design of a narrow based bund?
- (e) Why sedimentation is responsible to water quality deterioration and related pollution?

OR

- (e) How will you proceed for the design of grassed waterway design?
