Roll No. | | | | | | | | | | | | | Total No. of Pages : 02

Total No. of Questions : 18

B.Tech (Civil Engineering) (2012 to 2017) (Sem.–7)

REINFORCED EARTH AND GEOTEXTILES

Subject Code : BTCE-813

M.Code : 71872

Time : 3 Hrs. Max. Marks : 60

INSTRUCTIONS TO CANDIDATES :

1. **SECTION-A is COMPULSORY consisting of TEN questions carrying TWO marks each.**
2. **SECTION-B contains FIVE questions carrying FIVE marks each and students have to attempt any FOUR questions.**
3. **SECTION-C contains THREE questions carrying TEN marks each and students have to attempt any TWO questions.**

SECTION-A

Write briefly :

1. Explain the various functions performed by geosynthetics.
2. List the various modes of failure for the reinforced soil bed.
3. Define geogrids and its types.
4. What are the various properties of geogrids?
5. What are natural geosynthetics?
6. What are the advantages of reinforced earth?
7. What are the different methods of soil stabilization?
8. What are the various factors that are considered while designing of pavements by geo composites?
9. What are the functions of geotextiles?
10. How geogrids helps to control soil erosion?

SECTION-B

11. Write a note on the Biological, Chemical and Weathering resistance of Tensar and Netlon geogrid.

12. a) Explain the Geogrid- soil interaction.

    b) What are the various factors which influence testing? Explain

13. What are natural geosynthetics? Explain the typical situations where natural geosynthetics can be employed.

14. Explain in detail the methods of designing with geotextiles. Also list out the various properties of geotextiles.

15. External stability analysis of reinforced soil retaining walls seismic loads.

SECTION-C

16. List (i) Physical-properties (ii) Mechanical properties (iii) Hydraulic properties (iv) Constructability/ survivability properties and (v) Durability properties with respect to geosynthetics. What is the significance of thickness as a property?

17. Describe the design procedure for determination and estimation of Ps (load carried by the soil) and Pr (load carried by the reinforcement).

18. a) Write notes on :

    (a) Slit films

    (b) Yarn

    (c) Directionally Structured filament fabrics

    b) Give comparison between Staple fibre and Spun laid Non-wovens

NOTE : Disclosure of Identity by writing Mobile No. or Making of passing request on any page of Answer Sheet will lead to UMC against the Student.