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

Total No. of Questions : 09

B.Tech (Civil Engineering) (2011 Onwards E-I & II) (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

1) Write briefly :

(a) What is the mechanism of the reinforced earth techniques?

(b) List the major raw materials that are used for the manufacture of soil reinforcements.

(c) Define Pull Out Test.

(d) List out the factors that are considered while designing with geomembranes.

(e) What are the durability properties with respect to geosynthetics?

(f) What are the different types of geosynthetics?

(g) What are the different methods of soil stabilization?

(h) How does the erosion is controlled in waterways.

(i) Discuss about geogrid soil interaction,

(j) Explain box shear test.

SECTION-B

2. Write a note on contribution by RILEM in the field of Geosynthetics. Enumerate the basic objectives of Indian Group of Geosynthetics.

3. List the various processes by which :

   (a) non-woven geosynthetics and

   (b) geogrids, are manufactured.

4. (a) Explain the Pull-Out test.

   (b) What are the tests which are conducted to obtain stress-strain characteristics and failure load of a geogrid.

5. List the assumptions made by Binquet and Lee in their analysis of reinforced earth beds?

6. Enumerate the applications of geosynthetics in River valley projects.

SECTION-C

7. Explain concertina method and telescopic method of construction of reinforced soil retaining walls with sketches.

8. Briefly describe the mechanism of mobilization of reinforcement strength in the case of :

   (a) Geogrid

   (b) Geotextile

   (c) Metallic Strips

9. Discuss the corrosion of steel meshes *vis-a-vis* degradation of polymeric reinforcements in reinforced soil structures.

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.