	DR. BABASAHEB AMBEDKAR TECHNOLOGICAL UNIVERSITY, LONERE **Question Bank** **Course: B. Tech. Branch : Civil Engineering Semester : VIII** **Subject Code & Name: Geo-synthetics and Reinforced Soil Structures (BTCVSS801B)**
1)	State and explain various latest trends in geosynthetics.
2)	Briefly describe the following terms: a) Geotextile b) Geogrids c) Geonets d) Geomembranes
3)	Explain the role of polymers in geosynthetics.
4)	Briefly explain the various functions performed by geosynthetics.
5)	State and explain the various types of Geosynthetics.
6)	State the test methods of testing different hydraulic properties of geotextiles. Explain any two methods in details.
7)	Explain the function of pre- fabricated vertical drains to accelerate the pre- consolidation of soft clays.
8)	List the major raw materials that are used for the manufacture of soil reinforcements.
9)	Explain the triaxial compression test.
10)	State and explain the surface treatments of slopes.
11)	State and explain the possible modes of failure of a soil-reinforcement system?
12)	State the test methods of Geotextiles. Explain any two methods in details.
13)	Explain the Slip circle analysis (Bishop's method) in detail.
14)	List the assumptions involved in the Tie Back Wedge analysis. .
15)	State and explain different geotextile properties.
16)	Briefly describe the following terms: a) Geocell b) Geocomposites c) PVD
17)	The following data refers to a reinforced soil structure with strip reinforcement. ΔV =4 cm, ΔH= 10 cm, γ = 20 kN/m^3 , Max. Permissible stress in the reinforcement = 105 kPa, φi = 32 ^{o} , w = 3 cm, L = 75 cm, t = 0.2 cm. Find the equivalent confining stress. What type of failure is expected in the structure? Find the equivalent confining stress if geotextile reinforcement with stiffness of 1500 kN/m is used instead with a vertical spacing of 8 cm.
18)	Explain with sketches the various modes of stability of retaining walls.
19)	Enlist the different forces causing soil erosion.
20)	Explain the different types of erosion control products.
21)	Design a strip footing to carry a line load of 1700 kN/m. The data for the design is as follows. **Soil parameters** : c= 0, ϕ = 35 ^{o}, γ = 17 kN/m^3, E_s = 30,000 kPa, v_s = 0.35 **Reinforcement parameters** : F_y = 2.5 x 10^5 kPa, ϕ_u = 28^o, FS_y = 3, FS_f =2.5, width of ties = 75 mm, LDR = 65%, Depth of foundation = 1m, permissible settlement = 25 mm, Design life = 50 years.
22)	Explain the Geosynthetic Clay Liner, its's advantages, disadvantages and applications.

23)	State and explain the different types of Fibres used to improve properties of soil.
24)	Explain constant head permeability test.
25)	State and explain the different criteria for engineered landfills.
26)	List out the types of Filters and explain the functions of filters.
27)	What are natural geosynthetics? What are their advantages? Explain the typical situations where natural geosynthetics can be employed
28)	Explain the role of geosynthetics in Landfills.
29)	Explain and draw Mohr's circle for Equivalent Confining stress Concept and Pseudo Cohesion Concept.
30)	List the various processes by which (i) Non-woven geosynthetics and (ii) Geogrids are manufactured.
31)	State and explain the different types of engineered landfills.
32)	What are the geo-others? State the types and uses of Geo-others.
33)	List the various processes by which (i) Geotextiles and (ii) Geomembranes are manufactured.
34)	Enlist and explain the latest trends in geosynthetics.
35)	Explain the procedure for improving the load capacity of the stone columns.