Roll No. | | | | | | | | | | | | | Total No. of Pages : 01

Total No. of Questions : 08

M.Tech.(Civil Engg.) (2016 Batch) (Sem.-1)

GEOENVIRONMENTAL ENGINEERING

Subject Code : MTCE-204

Paper ID : [74240]

Time : 3 Hrs. Max. Marks : 100

INSTRUCTION TO CANDIDATES :

1. **Attempt any FIVE questions out of EIGHT questions.**
2. **Each question carries TWENTY marks.**

Q1. a) Discuss subsurface contamination, briefly. (8)

b) Estimate the life of a land landfill for a user population of 10,000, available area for landfill is 50,000 m^2. Water table is at 5m below ground level. Height of landfill is restricted to 8m. Assume that soil occupies 20% of the compacted volume. Assume suitable data if required. (12)

Q2. With the help of a neat sketch describe the operational components of a landfill and state their functions. (20)

Q3. Define containment transport; explain the process governing the transport of contaminant in saturated soil. (20)

Q4. a) Enumerate the geotechnical problems due to soil -water environment interaction. (8)

b) Discuss factors affecting permeability and their evaluation. (12)

Q5. a) Write steps for design of ash pond for a thermal power plant. (12)

b) Explain different types of liners with figures. (8)

Q6. Explain geotechnical reuse of mining waste and coal ash waste material in Civil engineering. (20)

Q7. Explain detection and remedial measures for control of subsurface contamination. (20)

Q8. a) Explain the different remedial measures for old waste dump. (10)

b) Give regulations for contaminated site remediation as per IS. (10)