Activity 1: Problem Solving (CO 1 / CO 2)		
Date: 17 January 2025	**Time: 04:50 pm – 05:50 pm**	**Sub: Municipal Solid Waste Management (CE30078**

Full Marks: 10

Question No. 1 is mandatory. Attempt any 5 questions from Question No. 2 to 7.

No	Question Description	Marks
1.	A town comprising 1 million population generates MSW @ 400 g/capita/day. The composition of the MSW is as follows. (i) Organics – 45% (ii) C&D waste – 6% (iii) Paper & Cardboard waste – 6% (iv) Metals – 3% (v) Glass – 1% (vi) Plastics – 20% (vii) Textiles – 8% (viii) Hazardous Waste – 5% (ix) Street waste – 6% It was decided by the municipal authority to dispose (i) hazardous waste, (ii) street waste and (iii) 15% of the other dry waste except C&D waste to landfill. The proposed site of the landfill has an area of 0.8 ha for landfill cell (containing MSW) and 0.2 ha for auxiliary services. A guideline was prepared related to the landfill as follows • 15% of the landfill cell should be used as soil cover • total height of the landfill is restricted to 25 m. a) Assuming the compacted density of the MSW to be 800 kg/m^3, determine the landfill lift, i.e., depth in one year. b) Determine the life span of the landfill	05
2.	Name the colours of the bins for collecting different categories of biomedical waste as per Biomedical Waste Management Rules 2016.	01
3.	Differentiate between manufacturer and producer with reference to Plastic Waste Management Rules 2016.	01
4.	Differentiate between combustible waste and residual solid waste with reference to Solid Waste Management Rules 2016.	01
5.	Explain Extended Producers Responsibilities (EPR) with reference to Electronic Waste Management Rules 2016.	01
6.	Explain co-processing of plastic waste in cement plants using flow diagram.	01
7.	Explain the process of road construction using the dry process with the help of a flow diagram.	01