

Environmental Engineering

Tutorial 3 – Solid Waste Management

Answer two questions in Section A and any one question in Section B

Section A

1	(a) What is Solid Waste Management ? (b) Describe the classification of wastes and what are the problems we are facing in solid wastes. (c) Identify five major solid wastes in Hong Kong and suggest ways to dispose of them.
2	(a) Describe the various methods of pretreatment of solid wastes. (b) Describe the various methods in solid waste disposal.
3	Briefly describe the following refuse collections/disposal methods in buildings. a) Refuse chute; (b) Pneumatic System; (c) Incineration
4	(a) Discuss the advantages and disadvantages of landfill. (b) Describe the various factors affecting the selection of a landfill site.
5	(a) What are the purposes of transfer station ? (b) Describe a good landfill design. Sketch a typical landfill construction.
6	(a) Define leachates and suggest ways to control them. (b) What gases are commonly generated in landfill and Describe the various methods in the control of gas in landfill ?
7	(a) What are the effects of construction on the environment and vice versa. (b) Briefly describe marine disposal of mud in Hong Kong.
8	(a) What is Environmental Management System and what are its purposes ? (b) What are the similarities among ISO9000, ISO14000, ISO18000 ?
9	(a) Summarise the plan/policy on solid waste management in Hong Kong. (b) Describe the legislation frame work in controlling solid waste disposal in HK. (c) Under the Waste Disposal Ordinance, name five industries that require special treatment for waste disposal.

Section B

1	Evaluate the roles of civil engineering in solid waste management. (hints: impact assessment, design, contract specification, construction site control, landfill design including leachate control, restoring landfill site; surface water and ground water management; recycling of demolition work; you can also apply ISO14000 concept.)
2	What measures can be used to manage construction wastes and how to apply solid waste management in the building/construction industry.