

JAYPEE UNIVERSITY OF INFORMATION TECHNOLOGY, WAKNAGHAT  
TEST -3 EXAMINATION- 2016

M.Tech IV Semester

COURSE CODE: 16M31CE412

MAX. MARKS: 35

COURSE NAME: ENVIRONMENTAL AUDIT

COURSE CREDITS: 03

MAX. TIME: 2 Hr

*Note: All questions are compulsory. Carrying of mobile phone during examinations will be treated as case of unfair means.*

Q1.a) Mention the three different phases of environmental audit. What are the objectives of conducting an on-site audit activity [03 Marks]

b) What are the areas which encompass environmental audit in a manufacturing plant? [02 Marks]

Q2.a) What are the various sources of generation of wastewater in a typical dairy industry? With the help of a neat flow diagram, explain the wastewater treatment process for a small scale dairy unit. [2.5 Marks]

b) Discuss some of the recognized benefits of environmental audit in India [2.5 Marks]

Q3.a) What measures are adopted in a chlor-alkali manufacturing unit to control the following: [2.5 Marks]

	Wastewater	Air
Constituents	pH; Suspended Solids; Zinc	RM, RSPM and SPM; Chlorine and HCl

b) What are the various Hazardous wastes generated in a chlor-alkali plant [2.5 Marks]

c) What are the functions of the following units in a typical industrial wastewater treatment plant: [04 Marks]

- i. Centrifuge
- ii. Acid dosing tank
- iii. Flash Mixer
- iv. Clariflocculator

Q4.a) What are the various sources of noise pollution in a typical cement manufacturing plant? What measures do you suggest to control the noise? [02 Marks]

b) What measures are taken for Green belt development within a cement plant? [03 Marks]

- Q5. Considering a typical fertilizer manufacturing plant: [02+02+02]
- i. What are the manufacturing units usually found inside the plant
  - ii. What factors contribute for setting up of a fertilizer plant in a particular location?
  - iii. What are the various Hazardous Wastes generated in the plant.

- Q6. A cluster of textile units in Tamil Nadu consume the following resources:
- i. 4.4 lakh tonnes of firewood per year
  - ii.  $62.5 \times 10^6$  kWh/year
  - iii. Process water is supplied from river Cauvery which is 55km away and
  - iv.  $96.5 \times 10^3$  tonnes/year of Municipal Solid Waste composed of paper, textile waste, plastic waste and ash is generated.
- Develop a suitable plan for sustainable growth of the industry. [05 Marks]