

University of Pune
Department of Management Sciences
MBA-BT Semester IV
Semester End Exams April 2011

402-Safety and Hazard Management in BT

Max Marks: 60

Max Time: 3 Hours

Notes: Question 7 case study is compulsory (20 marks)
Attempt any 4 questions from Q1-Q6.
All questions carry equal marks (10)

Q1. Why ISO 14001 Certification is necessary for a company? Give a flow chart of various activities involved in achieving ISO 14001 certification starting from deciding the policy.

Q2. What is Radioactive Decay? In brief, explain the safety precautions that should be taken after a radiation spill if the isotope involved in a) ^3H and b) $^{238}\text{Uranium}$

Q3. Explain in brief

- a) What is a radioisotope? (2)
- b) Why is half-life of an isotope important for its safe disposal? (2)
- c) What are low, intermediate and high levels of radioactive waste (3)
- d) List three different radioisotopes and their uses in Biology. (3)

Q4. Proper disposal of waste is a key factor to protecting the public health and safety and the quality of the environment. Discuss with suitable examples.

Q5. As the HR manager of PUMBA Ltd you have been assigned the task of preparing a safety policy document. Select any industry of your choice and prepare a safety policy containing all the relevant safety measures. List your assumptions separately.

Q6. What is Biological and Clinical Waste and how is it generated? List the methods that are used for decontamination of hazardous waste and explain **any one** method.

Q7. Case Study: Read and Answer the questions

India's lax attitude towards radioactive waste

IN THE heart of India's capital, Asia's largest scrap market Mayapuri is located, where cobalt-60 found in junk shops, left seven people seriously ill from radiation exposure, and killed one. It is a pity in India that we are so callous and lax attitude towards managing radioactive waste. With this incident, India's image has further suffered a setback.

Now this problem turned out to be home-produced. It is blot on the image of India most sought Delhi University, where imported a gamma radiator machine, thoughtlessly auctioned it off as scrap to dealers in Mayapuri, who were not educated people. The innocent and poor dealers mistakenly peeled off the lead covering, leading to the radiation exposure. Delhi University faculty housing world famous scholars, failed to conform to the standards expected of any minimally research unit.

This incident highlighted how weak the regulatory shield around radioactive material is. India has only itself to blame for lax attitude towards the radioactive waste chain. Our enormous recycling

market, which hunts and melts these metals to recast and sell, is largely unmonitored at each connection.

India plans to install radioactive detectors at all ports to ensure that no toxic material slips in from abroad, but there is no point of inspection at the foundries. In India all radioactive waste is supposed to be handled with permission from the Atomic Energy Regulated Board (AERB). At grassroots level, radioactive waste finds no mention in biomedical waste rules, though hospitals have equipment with radioactive substances. There are also no agencies at the municipal level to check pilferage of such waste. The India's legal framework is just as indistinct. Neither the Bio Medical waste Rules 1998 nor the Hazardous Wastes Rules cover norms for radioactive waste management and disposal. Only a comprehensive set of rules on electronic waste under the Environment Act is being drafted.

The victims who are affected are helpless, as no law exists for civil compensation for these victims of radioactive accidents. This incident has exposed our criminal carelessness about hazardous waste. Now it is finally stir up the government to put safeguards in place.

- 1. Who should be held responsible for negligence's?**
- 2. Who should design the disposal policy?**
- 3. Write a few guidelines for safety in such matters.**
- 4. Should our country opt for Nuclear energy as the main source of Power?**
- 5. Discuss how Japan should have handled the Fukushima disaster?**