

BIRLA INSTITUTE OF TECHNOLOGY, MESRA, RANCHI  
(END SEMESTER EXAMINATION)

CLASS: MPHARM  
BRANCH: PHARMACY

SEMESTER : II  
SESSION : SP/18

SUBJECT: MPH2021 HAZARDS & SAFETY MANAGEMENT  
TIME: 3 HOURS

FULL MARKS: 60

**INSTRUCTIONS:**

1. The question paper contains 7 questions each of 12 marks and total 84 marks.
  2. Candidates may attempt any 5 questions maximum of 60 marks.
  3. The missing data, if any, may be assumed suitably.
  4. Before attempting the question paper, be sure that you have got the correct question paper.
  5. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
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- Q.1(a) Describe in detail about various types of Hazards. [6]  
Q.1(b) Write down the different quality risk management methods and tools for handling workplace hazards. [6]
- Q.2(a) Write a note on physical, chemical, and biological properties of waste water. [6]  
Q.2(b) Write notes on BOD and COD. [6]
- Q.3(a) What is NFPA 704? How does the 704 labels differ from other hazardous material labels? [6]  
Q.3(b) Discuss the basic differences in how and where Explosive gas, spray/mist and Dust Clouds are likely to be generated. [6]
- Q.4(a) Write notes on a) Dry Chemical Extinguishers b) Foam Extinguishers [6]  
Q.4(b) Discuss the similar ignition and combustion properties of the explosive clouds? [6]
- Q.5(a) Discuss the concept of atom economy. Explain with an example. [4]  
Q.5(b) Discuss the effect of salinity on living organisms. Give example of salinity tolerance limit of animal species of your choice. [4]  
Q.5(c) Although both are radioisotopes, still, Iodine-131 is far more hazardous than Sodium -24. Explain. [4]
- Q.6(a) Describe the diluent/complexing agents used in industrial sulphonation processes. [4]  
Q.6(b) Explain the following: TLV-TWA, TLV-STEL & TLV-C [4]  
Q.6(c) Tabulate the effects and symptoms of different stages of Asphyxia caused by oxygen depleting gases. [4]
- Q.7(a) Discuss the nature of wastes produced at various stages of production processes (from raw material to post consumer wastes). Elaborate with an example. [6]  
Q.7(b) Compare and contrast natural and cultural eutrophication. [4]  
Q.7(c) Discuss the sources and sinks of CO in the environment. [2]

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