

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

**CLASS: M.PHARMACY (Pharmaceutical Quality Assurance)
BRANCH: PHARMACY**

**SEMESTER: II
SESSION: SP2025**

SUBJECT: MQA201T HAZARDS & SAFETY MANAGEMENT

TIME: 3.00 Hours

FULL MARK: 75

INSTRUCTIONS:

1. The missing data, if any, may be assumed suitably.
2. Before attempting the question paper, be sure that you have got the correct question paper.
3. Tables/Data hand book/Graph paper etc. to be supplied to the candidates in the examination hall.
5. Answer any five questions.

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| 1a. | Discuss the 'energy flow' and 'nutrient flow' through an ecosystem with a schematic diagram. | CO-1 | [7] |
| 1b. | Define and classify various natural resources. Discuss the various functions of forest resources, including the problems, their causes, and solutions for forest resources. | CO-1 | [8] |
| 2a. | What is an environmental hazard? Explain the sources of air-based pollution and hazards. | CO-2 | [7] |
| 2b. | What is the difference between a pollutant and a contaminant? Discuss primary and secondary pollutants with examples | CO-2 | [8] |
| 3a. | What are primary and secondary pollutants? Discuss with examples from air pollution. Outline the National Ambient Air Quality Standards (NAAQS). | CO-2 | [7] |
| 3b. | Explain the role of Preliminary Hazard Analysis (PHA) in pharmaceutical industries. | CO-2 | [8] |
| 4a. | Describe the classification and labelling of chemical hazards. | CO-3 | [7] |
| 4b. | Write in detail about various elements of a Safety Programme. | CO-3 | [8] |
| 5a. | What is NFPA 704 or the Fire diamond? Explain in detail. | CO-4 | [7] |
| 5b. | What are industrial process hazards and hazard potential? Write in detail about management of industrial process hazards. | CO-3 | [8] |
| 6a. | Briefly explain the triangle of fire with a suitable diagram. Classify different types of fires with examples. | CO-4 | [7] |
| 6b. | Define and classify different types of fire extinguishers. Discuss any 02 of them in detail. | CO-4 | [8] |
| 7a. | Define Hazards. Explain various types of workplace hazards. | CO-5 | [7] |
| 7b. | Discuss the ICH guidelines on risk assessment and risk management. | CO-5 | [8] |

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