

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

CLASS: M. PHARMACY (PHARMACEUTICAL QUALITY ASSURANCE)
BRANCH: PHARMACY

SEMESTER: II
SESSION: SP2024

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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| a. | Outline the hazards of oxygen-demanding wastes on water bodies. What are the major damages caused by thermal pollution on aquatic ecosystems? | [7] |
| 1b. | Explain why energetic neutrons are the most lethal among particulate radiations. Compare and contrast the hazards of Sr-90 and I-131 released during a nuclear disaster. | [8] |
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| 2a. | Discuss in detail the various hazardous effects of chronic exposure to a toxicant. | [7] |
| 2b. | Differentiate between 'Rubbish' and 'Garbage'. Discuss the various methods of solid waste disposal. Outline the advantages and disadvantages of each method. | [8] |
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| 3a. | What are primary and secondary pollutants? Discuss with examples from air pollution. Outline the National Ambient Air Quality Standards (NAAQS). | [7] |
| 3b. | With clear schematics, outline the working of an IR-based carbon monoxide analyzer. | [8] |
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| 4a. | Discuss the mechanism of working of a hydroxocobalamin-based cyanide antidote kit. What is its advantage over the amyl nitrate-based cyanide antidote kit? | [7] |
| 4b. | Elaborate the clinical manifestations and treatment of cyanide poisoning. What are the postmortem highlights characteristic of a cyanide poisoning victim? | [8] |
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| 5a. | Discuss the various physiological factors affecting the severity of CO toxicity. | [7] |
| 5b. | Compare and contrast the concepts of TLV-TWA, TLV-C, and TLV-STEL. How can the safe exposure limit be determined in case of exposure to more than one toxic substance in the workplace environment? | [8] |
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| 6a. | Briefly explain the triangle of fire with a suitable diagram. Classify different types of fires with examples. | [7] |
| 6b. | Discuss the various preventive and protective management of fire and explosion. | [8] |
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| 7a. | Define Hazards. Explain various types of workplace hazards. | [7] |
| 7b. | Discuss the ICH guidelines on risk assessment and risk management. | [8] |

:::23/04/2024:::E