

School of Business**Master of Business Administration MBA Dual Specialization
Semester End Examination - Jul 2024**

Duration : 180 Minutes
Max Marks : 100

Sem IV - MBHC6004 - Hospital Hazards and Waste ManagementGeneral Instructions

Answer to the specific question asked

Draw neat, labelled diagrams wherever necessary

Approved data hand books are allowed subject to verification by the Invigilator

- 1) In a densely populated urban slum area of Dharavi, a significant outbreak of typhoid fever occurs which has affected many people in the community. Identify the factors contributing to the outbreak of typhoid fever in the urban slum area of Dharavi. K3(6)
- 2) In a private hospital in Mumbai, India, the management recognizes the importance of ensuring the safety and well-being of their healthcare workers, particularly in light of the ongoing COVID-19 pandemic. They decide to implement a series of health worker safety activities to minimize the risk of exposure to infectious diseases and promote a culture of safety among staff members. K4(8)

Question :

- a) How do the healthcare workers' roles and responsibilities within the hospital contribute to the overall effectiveness of health worker safety activities (4 marks)
- b) How do organizational factors, such as leadership support, resource allocation, and communication channels, impact the effectiveness of health worker safety activities within the hospital setting? (4 marks)
- 3) In a manufacturing plant located in Aligarh, during the peak summer season, workers are routinely exposed to extreme heat conditions while carrying out their tasks on the factory floor. The plant specializes in the production of heavy machinery and operates in Aligarh known for its high temperatures and humidity levels. K4(8)
- One particularly hot day, several workers begin to show signs of heat-related illnesses such as heat exhaustion and heatstroke. Some workers experience dizziness, nausea, and fainting spells, while others struggle to maintain their focus and productivity due to the oppressive heat. Recognizing the urgency of the situation, the plant manager initiates immediate measures to address the heat-

related risks faced by the workers. You have been appointed as an Occupational Safety Officer to assess the situation and give recommendations for heat stress management.

Questions :

- a) Analyze the factors contributing to the high risk of heat-related illnesses among workers in the manufacturing plant. (3 marks)
 - b) Propose strategies for improving heat stress management in the manufacturing plant. (3 marks)
 - c) Predict the potential challenges in implementing heat stress management measures within the manufacturing plant. (2 marks)
- 4) Explain the importance of raising awareness regarding Occupational Hazards amongst healthcare workers. K4(4)
- 5) At Astha Hospital in Greater Noida, Uttar Pradesh, the safety and well-being of both patients and staff are of paramount importance. Recognizing the need for effective measures to address spills of body fluids and chemicals, hospital administrators have initiated comprehensive training sessions for housekeeping and General Duty Assistant (GDA) staff on the use of CODE Orange protocols. K3(9)
- Questions :
- a) As a Facility Manager, how would you build a checklist for assessing the severity of a spill situation according to the CODE Orange protocols? (4 marks)
 - b) How would you develop a training module for new staff members to ensure they understand and follow the CODE Orange protocols at Astha Hospital? (5 marks)
- 6) In the bustling operation theatre (OT) of Sparsh Hospital, located in Faridabad, Haryana, a critical oversight threatens the safety and well-being of patients and staff alike. Amidst the controlled chaos of surgical procedures, the OT technicians and scrub nurses, tasked with ensuring sterile conditions and meticulous attention to detail, inadvertently make a grave error—they dispose of biomedical waste in the wrong color-coded bins. K5(10)
- Questions:
- a) Appraise the potential consequences of disposing of biomedical waste in the wrong color-coded bins in the O.T. (5 marks)
 - b) Determine the root causes of the improper biomedical waste disposal incident. (5 marks)
- 7) Ghazipur, once a thriving industrial hub, has rapidly transformed into a densely populated urban center, characterized by narrow lanes, crowded markets, and sprawling residential colonies. However, amidst the hustle and bustle of city life, a critical issue remains largely overlooked—the lack of adequate sanitation infrastructure and services. For years, the residents of Ghazipur have grappled with the absence of proper sewage systems, waste management facilities, and access to clean water. Open drains meander through the streets, carrying untreated sewage and household waste, emitting foul odors and serving as breeding grounds for disease-causing pathogens. The situation is particularly dire in informal settlements and slum areas, where overcrowding, poor sanitation practices, and inadequate housing exacerbate the risk of waterborne illnesses and environmental pollution. Residents, especially women and children, are disproportionately affected,

facing daily challenges in accessing safe drinking water, sanitation facilities, and healthcare services. As the urban population continues to grow, the sanitation barrier in Ghazipur looms larger, underscoring the urgent need for comprehensive interventions and sustainable solutions. Questions : a) Determine the key factors contributing to the persistence of the sanitation barrier in Ghazipur. (5 marks) b) As a Sanitary Officer, how would you prioritize between addressing open drains, improving waste management facilities, and ensuring access to clean water in Ghazipur ? (5 marks)

8) Jagannath Gupta Institute of Medical Sciences and Hospital (JIMSH) is a renowned and leading multi-specialty hospital located at Budge Budge, Buita, Kolkata. Since its establishment in the year 2016, it has been successfully serving people from West Bengal as well as from other states. JIMSH has been committedly working in the medical field to foster patient care with advanced medical approach. The hospital has got a capacity of 1000 beds, serving a large population of patients and staff. With approximately 1800 people consuming meals daily within the hospital premises, the generation of kitchen waste has become a significant concern. The absence of a proper waste management system for kitchen waste at JIMS has led to the accumulation of organic waste, including leftover food, vegetable peels, and other biodegradable materials. With no mechanism in place to manage this waste effectively, it is disposed of along with general waste, contributing to environmental pollution and resource wastage. However, despite the increasing volume of waste, the hospital has yet to implement a vermicomposting system for managing kitchen waste. The show cause notice from the Pollution Control Board underscores the need for immediate action to mitigate the environmental impact of the hospital's waste disposal practices.

K5(15)

Questions :

a) As a GM Operations, how will you assess the potential consequences of failing to implement a vermicomposting system for managing kitchen waste at JIMSH, including impacts on environmental compliance? (5 marks)

b) Investigate the role of hospital management and staff in promoting waste segregation practices and environmental stewardship initiatives at JIMSH. (5 marks)

c) Compare and contrast different approaches to waste management, including vermicomposting, composting, and incineration, in the context of JIMSH's waste disposal needs. (5 marks)

9) Anna Hospital, located in Whitefield, Bangalore, is renowned for its advanced medical facilities, including its Surgical Intensive Care Unit (SICU), which provides specialized care for patients recovering from complex surgeries. However, in recent months, the hospital has faced a concerning increase in cases of Surgical Site Infections (SSIs) among patients undergoing hip replacement surgeries in the SICU.

K6(18)

The SICU is bustling with activity as patients recovering from hip replacement surgeries receive post-operative care. Nurses meticulously monitor vital signs, administer medications, and

ensure patients' comfort. However, despite strict adherence to infection control protocols, several patients begin to exhibit symptoms of SSIs, such as redness, swelling, and warmth around the surgical incision sites.

Concerned by the alarming trend, the hospital's medical team initiates a thorough investigation into the root causes of the SSIs. They analyze patient records, surgical procedures, and environmental factors within the SICU to identify potential sources of contamination or lapses in infection control practices.

It becomes apparent that while the hospital has robust infection control protocols in place, there are several factors contributing to the occurrence of SSIs among hip replacement surgery patients in the SICU. Despite the challenges posed by the surge in SSIs, the medical team at Anna Hospital remains committed to providing the highest standard of care for hip replacement surgery patients in the SICU. They collaborate closely with Microbiologists, Infection Control Nurse, surgeons, and other healthcare professionals to implement evidence-based practices aimed at reducing the incidence of SSIs and improving patient outcomes.

Questions :

a) Propose a robust Infection Control policy for improving infection control measures in SICU to address the increase in Surgical Site Infections. (6 marks)

b) Develop a protocol for conducting RCA (Root Cause Analysis) of SSIs to identify potential sources of contamination or lapses in infection control practices. (6 marks)

c) Design an infection control training program for Critical Care Units staff in reducing SSIs. (6 marks)

10)

A hospital kitchen employee in a private hospital slipped on a wet floor while carrying a tray of food items to the cafeteria, resulting in a fall. Due to inadequate signage warning of the slippery surface and improper drainage systems, water had accumulated on the floor from recent cleaning activities. The employee suffered a fractured arm and required medical attention.

K6(12)

Questions :

a) Propose strategies to improve safety measures in the hospital kitchen to prevent future incidents of slip and fall accidents. (4 marks)

b) Analyze the potential consequences of inadequate signage and improper drainage systems on employee safety. (4 marks)

c) Evaluate the effectiveness of the hospital's safety protocols and procedures regarding fall prevention in the kitchen area. (4 marks)