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|  | INDIAN SCHOOL AL WADI AL KABIR |  |
| CLASS: X | DEPARTMENT: SCIENCE 2025 – 26 SUBJECT: HEALTH CARE (SUBJECT CODE - 413) | DATE: 20/10/2025 |
| WORKSHEET NO: 2 WITH ANSWERS | UNIT 3: STERILIZATION AND DISINFECTION (SESSION – IV & V) | NOTE: A4 FILE FORMAT |
| NAME OF THE STUDENT: | CLASS & SEC: X -A to X -I | ROLL NO: |
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OBJECTIVE TYPE QUESTIONS (MULTIPLE CHOICE):

Q1. Write down the full form of HDU.

- a) High Dependency Unit
- b) Health Dependency Unit
- c) High Disease Unit
- d) Health Department Unit

Q2. To disinfect the Hospital in common method this is used in vast manner as it is rapidly bactericidal rather than bacteriostatic. This is basically used as topical antiseptic to disinfect the surface of medical equipment. Name the disinfectant.

- a) Alcohol
- b) Iodine
- c) Hypochlorite
- d) Hydrogen peroxide

Q3. Protozoans are microorganism which can be seen by using -

- a) X-ray
- b) sphygmomanometer
- c) telescope
- d) microscope

Q4. 0.2% - 1% _____ used for disinfecting plastics and glassware.

- a) Peroxyacetic acid
- b) Hydrochloric acid
- c) Hypochlorite
- d) Hydrogen peroxide

Q5. Cleaning the patient room after discharge or transfer of a patient and readying for another patient is called _____.

- a) Control of bugs and pests
- b) Discharge cleaning
- c) Garbage removal
- d) Sterilization

Q6. Give example of Halogen used in hospitals for disinfection.

- a) Alcohol
- b) Chlorine
- c) Phenol
- d) Formalin

Q7. Which of the following is the recommended method for sterilizing surgical instruments?

- a) Wiping with alcohol
- b) Cleaning with soap and water
- c) Autoclaving
- d) Soaking in disinfectant solution

Q8. _____ refers to the process of rendering an article or area free of danger from contaminants, including microbial, chemical, radioactive and other hazards.

- a) Disinfection
- b) Sterilization
- c) Antisepsis
- d) Decontamination

Q9. Shingles is a disease in adults caused by the same virus that causes _____ in children.

- a) chickenpox

- b) Polio
- c) Sinusitis
- d) Whooping cough

Q10. _____ used for disinfecting surgical instruments and dressing.

- a) Formalin
- b) Glutaraldehyde
- c) Epoxy ethane
- d) Phenol

Short Answer Questions (2 Marks)

- Q1. What are microorganisms?
- Q2. List any four human diseases caused by bacteria.
- Q3. What are the roles of GDA and nurse in controlling Hospital Acquired Infection?
- Q4. What is a parasite?
- Q5. Write two differences between sign and symptom?
- Q6. What is an autoimmune disease?
- Q7. What is the effect of nosocomial infections to the community and the patient?
- Q8. What is the consequence of over use of antibiotics?
- Q9. What is the difference between Antiseptics and Disinfectants?
- Q10. Define the term decontamination.

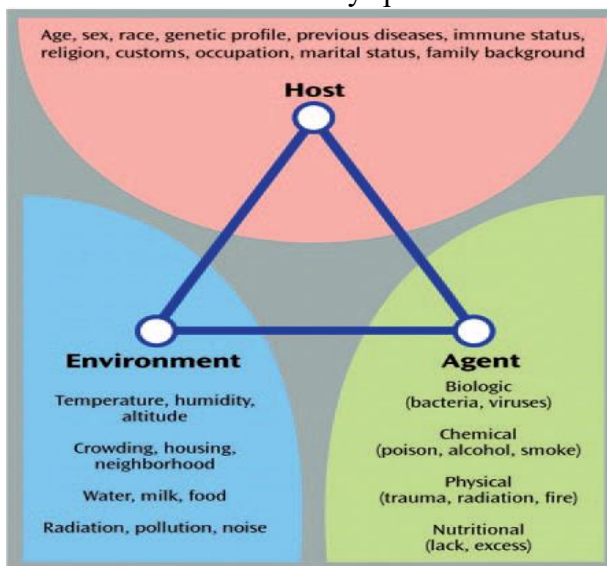
Descriptive Questions (4 Marks)

- Q1. Briefly explain about role of food service department in hospital.
- Q2. 'Cleaning plays an important preparatory role before sterilization or disinfection.' Justify the statement explaining in detail the various aspects of cleaning.
- Q3. Explain Hospital Acquired Infection in detail.
- Q4. What are the three vertices of the epidemiological triangle?
- Q5. What are the roles and function of Hospital Management in controlling HAI?

ANSWER KEY

| | OBJECTIVE TYPE QUESTIONS (MULTIPLE CHOICE): |
|----|--|
| 1 | a) High Dependency Unit |
| 2 | a) Alcohol |
| 3 | d) microscope |
| 4 | a) Peroxyacetic acid |
| 5 | b) Discharge cleaning |
| 6 | b) Chlorine |
| 7 | c) Autoclaving |
| 8 | d) Decontamination |
| 9 | a) chickenpox |
| 10 | c) Epoxy ethane |
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| | Short Answer Questions (2 Marks) |
| 1 | A microorganism (from the Greek: mikrós, “small” and organismós, “organism”) or a microbe is an organism that is microscopic (too small to be seen by the naked human eye). Anton van Leeuwenhoek’s discovered microorganisms in 1675, using a microscope. The microorganism is a tiny individual living thing that is way too small to be seen by the human eye alone but can be seen is by using a microscope. |
| 2 | Four human diseases caused by bacteria - tuberculosis, gonorrhoea, syphilis, cholera, typhoid fever |
| 3 | GDAs and nurses play a vital role in preventing Hospital-Acquired Infections by maintaining hygiene, properly disinfecting wards and equipment, managing waste safely, and supporting the infection control and nursing teams to ensure a clean and safe hospital environment. |
| 4 | A parasite is any organism which lives inside a different organism and depends on the organism for its survival. This means that a parasite basically feeds off a host and the host suffer as a result of this. Parasite can be as small as microscopic (amoeba) or as big as metre-long tapeworms. |
| 5 | A symptom is experienced and reported by the patient (e.g., feeling hot). A sign is observed or measured by a physician (e.g., warm skin on examination). A symptom cannot be directly measured by others; it is subjective. A sign is objectively detectable by someone other than the patient, such as a healthcare provider. |
| 6 | When the immune system attacks our body’s own cells, tissues and organs, thinking that they are unwanted invaders. |
| 7 | HAI or nosocomial infections occur at a cost to the community and the patient because they cause: 1. Illness to the patient. 2. Longer stay in hospital. 3. Longer recovery time. 4. Costs associated with a longer stay in hospital and longer recovery time. |
| 8 | Overuse of antibiotics can lead to resistant bacteria, which means that |

| | antibiotics become less effective. | | | | | | |
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| 9 | <p style="text-align: center;">Difference between Antiseptics and Disinfectants</p> <table border="1"> <thead> <tr> <th>Antiseptics</th><th>Disinfectants</th></tr> </thead> <tbody> <tr> <td>Use on skin and mucous membrane to kill microorganisms.</td><td>Use to kill microorganisms on inanimate objects.</td></tr> <tr> <td>Not for use on inanimate objects.</td><td>Not for the use on skin and mucous membrane.</td></tr> </tbody> </table> | Antiseptics | Disinfectants | Use on skin and mucous membrane to kill microorganisms. | Use to kill microorganisms on inanimate objects. | Not for use on inanimate objects. | Not for the use on skin and mucous membrane. |
| Antiseptics | Disinfectants | | | | | | |
| Use on skin and mucous membrane to kill microorganisms. | Use to kill microorganisms on inanimate objects. | | | | | | |
| Not for use on inanimate objects. | Not for the use on skin and mucous membrane. | | | | | | |
| 10 | Decontamination refers to the process of rendering an article or area free of danger from contaminants, including microbial, chemical, radioactive and other hazards. | | | | | | |
| | Descriptive Questions (4 Marks) | | | | | | |
| 1 | <p>Role of Food Service Department</p> <p>The Food Service Department is responsible for setting the standards and criteria for the purchase of foodstuffs, equipment use, and cleaning procedures so as to maintain a high level of food safety and quality service.</p> <ol style="list-style-type: none"> 1. Ensuring that the equipment used and all working and storage areas are kept clean. 2. Issuing written policies and instructions for hand washing, clothing, staff responsibilities and daily disinfection duties. 3. Ensuring that the methods used for storing, preparing and distributing food will avoid contamination by microorganisms. 4. Issuing written instructions for the cleaning of dishes after use, including special considerations for infected or isolated patients where appropriate. 5. Ensuring appropriate handling and disposal of wastes. 6. Establishing programmes for training staff in food preparation, cleanliness, and food safety. | | | | | | |
| 2 | <p>Cleaning plays an important preparatory role before sterilization or disinfection. Cleaning helps in removing soil and other dirt and reducing the microbial burden, making sterilization more effective. The various equipment that are used for cleaning include, but not limited to the following:</p> <ul style="list-style-type: none"> • Floor cleaning machines. • Swiping machines. • Floor scrubbing machines. • Floor polishing machines. • High pressure machines to clean bathrooms. <p>Daily Cleaning: This includes sweeping and mopping floors, dusting furniture, cleaning fixtures, walls, ceilings, windows and bathrooms, emptying trash cans, etc</p> <p>Periodic Cleaning: It includes washing windows, waxing floors, cleaning carpets, dusting high ceilings and changing drapers.</p> <p>Discharge Cleaning: This includes cleaning the patient room after discharge or transfer of a patient and readying it for another patient.</p> <p>Control of Bugs and Pests: Hospital 's Integrated Pest Management (IPM) plans help direct a hospital in carrying out its pest control practices regularly. An IPM programme is a pest management approach to preventing and managing pest problems in the least hazardous manner possible.</p> | | | | | | |
| 3 | 1. Hospital Acquired Infections (HAI) - | | | | | | |

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| | <ul style="list-style-type: none"> • Also called Nosocomial Infections. • These are infections acquired during hospital care which were not present or incubating at admission. • Infections occurring after 48 hours of admission are considered hospital-acquired. <p>Types:</p> <ul style="list-style-type: none"> o Endemic: Common and constant. o Epidemic: Sudden outbreak. <p>2. Causes and Effects of HAI</p> <ul style="list-style-type: none"> • Main Cause: Bacteria. • Impact: <ol style="list-style-type: none"> 1. Illness to the patient 2. Longer hospital stays 3. Longer recovery time 4. Increased treatment cost 3. Risk Factors - All hospitalized patients are at some risk. Risk is higher in: <ol style="list-style-type: none"> 1. Very young (infants, premature babies) 2. Very old people 3. Very sick children 4. People with diseases like diabetes 5. Patients with weak immunity (chemotherapy, steroids) <p>Other risk factors include:</p> <ul style="list-style-type: none"> • Length of stay: Longer stay → higher risk • Surgical procedures: Long/complex surgeries • Poor hand hygiene: Inadequate hand washing by staff/patients • Antibiotic misuse: Leads to resistant bacteria • Invasive equipment: IV lines, catheters, tubes • Open wounds or burns • High-risk areas: ICU, HDU (critically ill patients) • Controlling Infection <p>Infection control and reduction can be achieved by:</p> <ul style="list-style-type: none"> • Following strict hospital infection control procedures • Frequent and correct hand washing by all staff • Careful use of antibiotics |
| 4 | <p>The Epidemiologic Triangle is a model that scientists have developed for understanding infectious diseases and how they spread.</p>  <p>The diagram illustrates the Epidemiologic Triangle, a model for understanding infectious diseases. It consists of three interconnected components forming a triangle:</p> <ul style="list-style-type: none"> Host (Top): Represented by a red semi-circle. Factors include: Age, sex, race, genetic profile, previous diseases, immune status, religion, customs, occupation, marital status, family background. Environment (Bottom Left): Represented by a blue semi-circle. Factors include: Temperature, humidity, altitude; Crowding, housing, neighborhood; Water, milk, food; Radiation, pollution, noise. Agent (Bottom Right): Represented by a green semi-circle. Factors include: Biologic (bacteria, viruses); Chemical (poison, alcohol, smoke); Physical (trauma, radiation, fire); Nutritional (lack, excess). <p>Blue lines connect the three components, indicating their interrelationship in the spread of disease.</p> |

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| | <p>1. The Agent: The Triangle has three corners called vertices, with agent, host and environment. The agent or microbe that causes the disease (the “what” of the Triangle) is the cause of the disease. When studying the epidemiology of most infectious diseases, the agent is a microbe.</p> <p>2. The Host: Hosts or organism harbouring the disease (the “who” of the Triangle) are organisms, usually humans or animals, which are exposed to and harbour a disease. The host can be the organism that gets sick, as well as any animal carrier (including insects and worms) that may or may not get sick.</p> <p>3. The Environment: The environment or those external factors that cause or allow disease transmission (the “where” of the Triangle) is the favourable surroundings and conditions external to the host that cause or allow the disease to be transmitted.</p> |
| 5 | <p>Role of Hospital Management in controlling HAI - The various measures that could be adopted by the hospital management include, but not limited to the following:</p> <ul style="list-style-type: none"> • Establishing a multidisciplinary Infection Control Committee. • Identifying appropriate resources for a programme to monitor infections and apply. The most appropriate methods for preventing infection. • Ensuring education and training of all staff through support of programmes on the prevention of infection in disinfection and sterilization techniques. • Delegating technical aspects of hospital hygiene to appropriate staff, such as: <ul style="list-style-type: none"> <input type="checkbox"/> Nursing <input type="checkbox"/> Housekeeping <input type="checkbox"/> Maintenance <input type="checkbox"/> Clinical Microbiology Laboratory • Periodically reviewing the status of nosocomial infection. • Effectiveness of interventions to contain them. • Reviewing, approving, and implementing policies approved by the Infection Control Committee. • Ensuring that the infection control team has the authority to facilitate appropriate programme function. |

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