प्रदेश लोक सेवा आयोग

लुम्बिनी प्रदेश

प्रदेश निजामती सेवा तथा स्थानीय सरकार सेवाका प्रशासकीय तर्फका स्वास्थ्य सेवा, हे.ई. समूह, सहायकस्तर अ.हे.ब. चौथो तह, स्थायी नियुक्तिका लागि लिएको खुला प्रतिस्पर्धात्मक लिखित परीक्षा

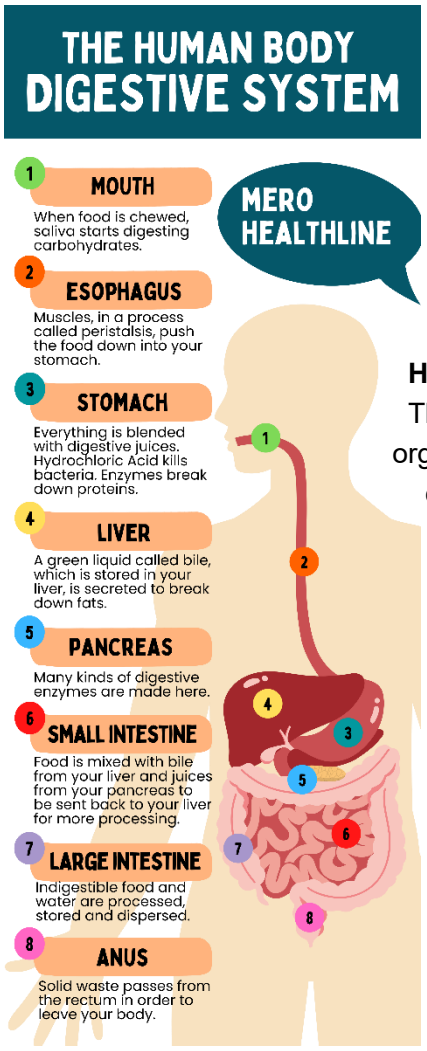
मितिः २०८२/०२/२२ गते

पत्रः द्वितीय | समयः २ घण्टा ३० मिनेट

विषयः सेवा सम्बन्धी | पूर्णाङ्कः 100

सबै प्रश्न अनिवार्य छन्। प्रश्नहरुको उत्तर खण्ड (Section) अनुसार क्रमसङ्ख्यामा उल्लेखबमोजिम क्रमबद्ध रुपमा लेख्नुहोस्। परीक्षामा मोबाइल लगायतका विद्युतीय उपकरणहरुको प्रयोग गर्नु पाईँदैन।

Section-A (Marks-50)



1. Enumerate the systems of the human body and list key functions of the digestive system. [2+3=5]

Systems of the Human Body (2 Marks)

The human body is organized into several complex organ systems that work together to maintain life. The major systems include:

1. **Skeletal System:** Provides structure, support, and protection; allows movement; produces blood cells.
2. **Muscular System:** Enables movement, maintains posture, and generates heat.
3. **Nervous System:** The body's control and communication center; detects stimuli and coordinates responses.
4. **Cardiovascular System:** Transports oxygen, nutrients, hormones, and waste products via the blood.
5. **Respiratory System:** Responsible for the intake of oxygen and removal of carbon dioxide.
6. **Digestive System:** Breaks down food, absorbs nutrients, and eliminates waste.
7. **Urinary System:** Filters blood and eliminates waste products as urine; maintains water and electrolyte balance.
8. **Endocrine System:** Produces hormones that regulate metabolism, growth, and other bodily functions.
9. **Reproductive System:** Responsible for producing offspring.
10. **Integumentary System (Skin):** Protects the body, regulates temperature, and provides sensory information.
11. **Lymphatic/Immune System:** Defends the body against infection and disease.

Key Functions of the Digestive System (3 Marks)

The digestive system performs four primary functions to process the food we eat:

1. **Ingestion:** This is the process of taking food and liquid into the body through the mouth.
2. **Digestion:** This involves breaking down large, complex food molecules into smaller, simpler ones. It occurs in two ways:
   - **Mechanical Digestion:** The physical breakdown of food through chewing (in the mouth) and churning (in the stomach).
   - **Chemical Digestion:** The chemical breakdown of food by enzymes secreted by glands in the mouth, stomach, pancreas, and small intestine.
3. **Absorption:** Once food is broken down into nutrients (like glucose, amino acids, and fatty acids), these molecules are absorbed through the walls of the small intestine into the bloodstream or lymph, which then transports them to cells throughout the body.
4. **Elimination (Defecation):** Indigestible food materials, waste products, and bacteria that were not absorbed are compacted in the large intestine and eliminated from the body as feces.

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2. What is health education? Mention three methods to educate the community people. [2+3=5]

What is Health Education? (2 Marks)

Health education is any planned combination of learning experiences designed to help individuals and communities improve their health by increasing their knowledge, influencing their attitudes, and developing the necessary skills to make healthy choices and adopt voluntary healthy behaviors. Its ultimate goal is to promote health, prevent disease, and enhance the quality of life.

Three Methods to Educate the Community (3 Marks)

1. **Group Methods (e.g., Group Discussion, Demonstration):**
   - **Description:** This involves bringing together a small group of people (e.g., a mothers' group) to discuss a health topic. It is an interactive method that encourages participation and peer learning. A practical demonstration, like how to prepare Oral Rehydration Solution (ORS) or how to properly wash hands, is a very effective group method.
   - **Usefulness:** It is highly effective for changing attitudes and developing skills, as people learn from each other's experiences and can practice new skills under guidance.
2. **Individual Methods (e.g., One-to-One Counseling):**
   - **Description:** This involves a face-to-face interaction between the health worker and an individual. It often takes place during a home visit or at the health post.
   - **Usefulness:** This method is ideal for discussing personal or sensitive topics like family planning, STIs, or managing a chronic illness. It allows the health worker to tailor information to the individual's specific needs and concerns, building trust and rapport.
3. **Mass Methods (e.g., Posters, Pamphlets, Radio Broadcasts):**
   - **Description:** These methods are used to deliver simple health messages to a large, widespread audience simultaneously. Examples include placing posters with images about immunization in public places, distributing pamphlets on malaria prevention, or broadcasting jingles on the radio about sanitation.
   - **Usefulness:** Mass media is excellent for raising general awareness about a health issue and reminding people about healthy practices. It is cost-effective for reaching a large population but is less effective for in-depth learning or skill development.

3. What are the vector borne diseases? List the different types of vector borne disease prevalent in our country. [2+3=5]

What are Vector-Borne Diseases? (2 Marks)
Vector-borne diseases (VBDs) are human illnesses caused by pathogens (like parasites, viruses, and bacteria) that are transmitted by vectors. A vector is typically an arthropod, such as a mosquito, tick, fly, or flea, which carries the infectious agent from an infected person or animal to a healthy person, transmitting the disease in the process.

Prevalent Vector-Borne Diseases in Nepal (3 Marks)
Several vector-borne diseases are a significant public health concern in Nepal, particularly in the Terai and inner Terai regions.

1. **Malaria:**
   - **Vector:** Female *Anopheles* mosquito.
   - **Pathogen:** *Plasmodium* parasite.
2. **Dengue Fever:**
   - **Vector:** *Aedes aegypti* and *Aedes albopictus* mosquitoes.
   - **Pathogen:** Dengue virus.
3. **Kala-azar (Visceral Leishmaniasis):**
   - **Vector:** Female *Phlebotomus* sandfly.
   - **Pathogen:** *Leishmania donovani* parasite.
4. **Japanese Encephalitis (JE):**
   - **Vector:** *Culex* mosquitoes (especially *Culex tritaeniorhynchus*).
   - **Pathogen:** JE virus.
5. **Scrub Typhus:**
   - **Vector:** Larval mites (chiggers).
   - **Pathogen:** *Orientia tsutsugamushi* bacteria.

4. What is fracture? Write the types and management of fracture at health post level. [1+2+2=5]

What is a Fracture? (1 Mark)
A fracture is a medical condition in which there is a break or crack in the continuity of a bone.

Types of Fractures (2 Marks)
Fractures can be classified in several ways, but a primary classification is:

1. **Closed (Simple) Fracture:** The broken bone does not break through the skin. The skin surface remains intact.
2. **Open (Compound) Fracture:** The broken bone pierces the skin, creating an open wound. This type carries a high risk of infection.

Other types include:

- **Greenstick Fracture:** An incomplete fracture where the bone is bent; common in children.
- **Comminuted Fracture:** The bone is broken into three or more pieces.

Management of Fracture at Health Post Level (First Aid) (2 Marks)
Management at the health post level focuses on providing immediate first aid to prevent further injury and prepare the patient for transport to a higher facility.

1. **Immobilization:** This is the most critical step. The injured limb must be immobilized to prevent movement of the broken bone ends, which reduces pain and prevents further damage to muscles, nerves, and blood vessels. This is done using a **splint**. The splint should be long enough to immobilize the joints above and below the fracture site.
2. **Control Bleeding (for Open Fractures):** If it is an open fracture, apply gentle pressure with a clean or sterile dressing to control bleeding. Do not try to push the bone back in. Cover the wound with a sterile dressing.
3. **Pain Management:** Provide a simple analgesic like Paracetamol to help manage the pain.

4. **Referral:** After immobilizing the fracture and managing pain, arrange for the safe and prompt transfer of the patient to a hospital or a facility with X-ray and orthopedic services for definitive treatment.

5. How do you use HMIS information in health post? [5]

The Health Management Information System (HMIS) is a system for collecting, analyzing, and using health data. At the health post level, HMIS information is not just for reporting upwards; it is a vital tool for local-level management and planning. Here is how it is used:

1. **Monitoring Service Coverage and Performance:** By reviewing monthly HMIS reports, a health post in-charge can track performance against set targets. For example, they can see how many children received their DPT vaccine compared to the target population, or how many pregnant women completed four ANC visits. This helps identify gaps in service delivery.
2. **Disease Surveillance and Outbreak Detection:** The HMIS is a crucial tool for surveillance. A sudden increase in the number of cases of diarrhea, fever, or acute respiratory infection recorded in the HMIS can be an early warning sign of an outbreak, prompting an immediate investigation and response.
3. **Planning and Resource Management:** Data from HMIS helps in planning activities and managing resources. For instance, if the data shows a high number of malnutrition cases in a specific area, the health post can plan targeted nutrition programs. If contraceptive stocks are running low according to the logistics report (LMIS, a part of HMIS), new supplies can be ordered in time.
4. **Identifying Priority Health Problems:** Analyzing trends in morbidity and mortality data helps the health post identify the most common health problems in its catchment area. This allows them to prioritize health education topics and preventive programs.
5. **Advocacy and Community Feedback:** The HMIS data provides evidence that can be used to advocate for more resources from the municipality or to discuss health issues with community leaders during health facility management committee meetings.

6. Write short note on: Monitoring and Evaluation of VBDs control programs. [5]

Monitoring and Evaluation (M&E) are essential management tools to track the progress and measure the effectiveness of Vector-Borne Disease (VBD) control programs, such as for malaria or dengue.

- **Monitoring:** This is the continuous, routine tracking of program activities and outputs. It answers the question, "Are we doing what we planned to do?" For a VBD program, monitoring involves:
    - Tracking **inputs:** e.g., number of bed nets (LLINs) received, insecticide stock, RDTs available.
    - Tracking **activities/processes:** e.g., number of houses sprayed with insecticide (IRS), number of LLINs distributed, number of fever cases tested for malaria.
    - Tracking **outputs:** e.g., IRS coverage percentage, LLIN usage rate, number of positive cases identified and treated.
    - **Data Sources:** HMIS reports, supervision checklists, stock registers.
- **Evaluation:** This is a periodic, systematic assessment of a program's outcomes and impact. It answers the question, "Have we achieved our objectives?" or "Did the program make a difference?" For a VBD program, evaluation involves:
    - Assessing **outcomes:** e.g., change in community knowledge and behavior regarding vector control, reduction in vector density.

- Assessing **impact:** e.g., reduction in the incidence (new cases) and prevalence of the disease, reduction in mortality from the disease.
- **Data Sources:** Population-based surveys (e.g., Malaria Indicator Survey), epidemiological data trends from HMIS over several years.

In essence, M&E helps managers to make informed decisions, identify problems early, improve program efficiency, and demonstrate accountability.

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7. List the key steps for assessing the growth of children under five years of age and explain how you would counsel a mother if her child is found to be underweight. [5+5=10]

Key Steps for Assessing Child Growth (Growth Monitoring) (5 Marks)

1. **Determine the Correct Age:** Accurately calculate the child's age in months from their date of birth. This is essential for correct plotting.
2. **Measure Weight Accurately:** Use a properly calibrated and maintained weighing scale (e.g., Salter scale or digital infant scale). The child should be weighed with minimal clothing. Record the weight accurately.
3. **Plot the Weight on the Growth Chart:** Use the "Road-to-Health" chart found in the child health card. Find the child's age on the horizontal axis and their weight on the vertical axis. Mark the point where these two lines intersect with a dot.
4. **Interpret the Growth Curve:** Connect the current dot to the previous one. The direction of the line is more important than the child's position on the chart.
    - **Good Growth:** The line is going up ("Uphill").
    - **Growth Faltering (Problem):** The line is flat ("Plateau").
    - **Losing Weight (Serious Problem):** The line is going down ("Downhill").
5. **Discuss Findings and Take Action:** Discuss the child's growth pattern with the mother and take appropriate action based on the interpretation (e.g., counseling, referral, or praise).

How to Counsel a Mother of an Underweight Child (5 Marks)

Counseling should be empathetic, supportive, and practical.

1. **Greet and Praise:** Start by greeting the mother warmly and praising her for bringing the child for the check-up. This builds rapport. "Namaste. It's so good that you brought [Child's Name] today. You are a caring mother."
2. **Explain the Situation Simply:** Show the mother the growth chart. Explain what it means in simple terms. "See this line? It shows that your child is not gaining weight as we would like. Let's find out why so we can help him grow strong and healthy."
3. **Ask and Listen (Assess the Cause):** Ask open-ended questions to understand the feeding practices and if the child has been ill.
    - "Can you tell me what and how often you fed the child yesterday?" (Assess frequency, quantity, and type of food).
    - "Has the child been sick with diarrhea, cough, or fever recently?" (Illness can cause weight loss).
4. **Give Relevant, Practical Advice (Tailor the Message):** Based on the assessment, give 1-2 key pieces of advice that the mother can actually follow.
    - **If feeding is inadequate:** "Try to feed the child one more time each day than you do now." or "When you make *jaulo* (porridge), you can add a

little bit of oil or ghee to give him more energy."
    - **If the child was sick:** "Now that he is better, he needs extra food for the next two weeks to catch up on the weight he lost."
5. **Help and Schedule Follow-up:** Help the mother make a plan. Check her understanding by asking her to repeat the advice. Schedule a follow-up visit soon (e.g., in 1-2 weeks) to see how things are going. "Let's try this for two weeks, and please bring him back then so we can check his weight again."

8. Describe steps to plan a community awareness program for malaria prevention. Also mention the tools used in malaria control. [5+5=10]

Steps to Plan a Community Awareness Program for Malaria Prevention (5 Marks)

1. **Community Assessment and Diagnosis:** Before planning, understand the community's current knowledge, attitudes, and practices (KAP) regarding malaria. Find out what people already know, what misconceptions they have (e.g., "malaria is caused by bad air"), and what barriers they face in using preventive measures like bed nets.
2. **Set Clear Objectives:** Define what you want the program to achieve. Objectives should be SMART (Specific, Measurable, Achievable, Relevant, Time-bound). For example: "By the end of the 3-month campaign, 80% of households in Ward 5 will be able to state two key symptoms of malaria and will consistently sleep under an LLIN."
3. **Develop Key Messages:** Create simple, clear, and actionable messages in the local language. Focus on a few key points:
    - Malaria is caused by mosquito bites.
    - Sleep under a long-lasting insecticidal net (LLIN) every night.
    - Keep surroundings clean to prevent mosquito breeding.
    - If you have a fever, get your blood tested immediately at the health post.
4. **Select Appropriate Channels and Materials:** Choose methods that will effectively reach the target audience. This could include:
    - Using Female Community Health Volunteers (FCHVs) for door-to-door counseling.
    - Holding group discussions in mothers' groups.
    - Using posters, flip charts, and pamphlets.
    - Broadcasting messages on local FM radio.
5. **Implementation and Monitoring:** Launch the program activities according to the plan. Continuously monitor if the activities are being carried out as intended and if they are reaching the people.

Tools Used in Malaria Control (5 Marks)

These are the key interventions or technologies used to fight malaria:

1. **Vector Control Tools:**
    - **Long-Lasting Insecticidal Nets (LLINs):** Bed nets treated with insecticide that kills or repels mosquitoes. This is a core preventive tool.
    - **Indoor Residual Spraying (IRS):** Spraying the inside walls of houses with a long-lasting insecticide to kill mosquitoes that rest there.
2. **Diagnostic Tools:**
    - **Rapid Diagnostic Tests (RDTs):** Simple, blood-based tests that can detect malaria antigens and provide a result in 15-20 minutes. They are crucial for diagnosis at the community and health post level.
    - **Microscopy:** The gold standard for diagnosis, where a blood smear is examined under a microscope to identify the malaria parasite.
3. **Treatment Tools:**

- **Artemisinin-based Combination Therapy (ACT):** The most effective drug regimen for treating uncomplicated falciparum malaria.
- **Chloroquine and Primaquine:** Used for treating vivax malaria.

4. **Surveillance and Information Tools:**
   - **Health Management Information System (HMIS):** For reporting and tracking malaria cases to monitor trends and detect outbreaks.

Section-B (Marks-50)

9. Define Gastritis. Write short note on management of peptic ulcer disease. [2+3=5]

Define Gastritis (2 Marks)

Gastritis is the inflammation, irritation, or erosion of the lining of the stomach, known as the gastric mucosa. It can be **acute**, occurring suddenly, or **chronic**, developing gradually over time. Common causes include infection with *Helicobacter pylori* bacteria, long-term use of NSAIDs (like aspirin or ibuprofen), excessive alcohol consumption, and stress.

Short Note on Management of Peptic Ulcer Disease (3 Marks)

Peptic ulcer disease (PUD) is a condition where open sores, or ulcers, develop on the inside lining of the stomach and the upper portion of the small intestine. Management at the health post level focuses on relieving symptoms, promoting healing, and preventing complications through medication and lifestyle changes.

- **Lifestyle and Dietary Advice:** Patients are counseled to:
  - Avoid spicy, oily, and acidic foods that can aggravate symptoms.
  - Eat smaller, more frequent meals instead of large ones.
  - Stop smoking and avoid alcohol, as both can delay ulcer healing.
  - Avoid stress, as it can worsen symptoms.
  - Discontinue use of NSAIDs if possible.
- **Medication:**
  - **Antacids:** Provide immediate, temporary relief by neutralizing stomach acid.
  - **Acid-Suppressing Medications:** These are the mainstay of treatment.
    - **H2-Receptor Antagonists** (e.g., Ranitidine): Reduce acid production.
    - **Proton Pump Inhibitors (PPIs)** (e.g., Omeprazole, Pantoprazole): Strongly block acid production and are highly effective for healing ulcers.
- **Referral:** If *H. pylori* infection is suspected or if the patient has signs of complications (like severe pain, vomiting blood, or black, tarry stools), they must be referred to a higher center for further investigation and treatment (including antibiotic therapy for *H. pylori*).

10. Define Health. Write down the factors influencing health in Nepal. [2+3=5]

Define Health (2 Marks)

The most widely accepted definition of health is from the World Health Organization (WHO), which states:
"Health is a state of complete physical, mental, and social well-being and not merely the absence of disease or infirmity."
This definition emphasizes that health is a positive and holistic concept, encompassing more than just the lack of illness.

Factors Influencing Health in Nepal (Determinants of Health) (3 Marks)

The health of individuals and communities in Nepal is influenced by a complex interplay of several factors:

1. **Socio-Economic Factors:** Poverty is a major determinant. Poor people are more likely to have inadequate nutrition, live in unhygienic conditions, and have limited access to education and healthcare, all of which negatively impact health.

2. **Environmental Factors:** This includes access to safe drinking water, proper sanitation and hygiene facilities, air quality, and housing conditions. Lack of these basics is a major cause of infectious diseases like diarrhea and typhoid. Nepal's difficult geographical terrain also affects access to services.
3. **Health Services:** The availability, accessibility, affordability, and quality of health services are critical. This includes everything from the presence of a local health post and FCHVs to the availability of specialized care at hospitals.
4. **Lifestyle and Behavioral Factors:** Individual behaviors such as dietary habits, physical activity levels, hygiene practices, and use of substances like tobacco and alcohol have a significant impact on health.
5. **Cultural and Social Factors:** Traditional beliefs and practices, social norms, gender inequality, and the status of women can significantly influence health-seeking behavior and health outcomes.

11. Enumerate three viral diseases commonly found in Nepal. List three key preventive interventions to control their spread. [2+3=5]

Three Common Viral Diseases in Nepal (2 Marks)

1. **Measles:** A highly contagious viral disease, primarily affecting children, that can lead to serious complications.
2. **Hepatitis (A and E):** Viral infections that cause inflammation of the liver, commonly spread through the fecal-oral route (contaminated food and water).
3. **Dengue Fever:** A mosquito-borne viral illness that has become increasingly common in many parts of Nepal.

Three Key Preventive Interventions (3 Marks)

The interventions to control these diseases target their different modes of transmission:

1. **Immunization:** This is the most effective way to prevent vaccine-preventable diseases. The measles vaccine (given as MR vaccine in Nepal's immunization program) is a cornerstone of child survival and a key intervention to control measles outbreaks.
2. **Improving Water, Sanitation, and Hygiene (WASH):** This is crucial for preventing diseases spread through the fecal-oral route, like Hepatitis A and E. Key actions include promoting the use of safe drinking water (boiling or filtering), proper handwashing with soap, and use of sanitary latrines.
3. **Vector Control:** This is the primary method for controlling mosquito-borne viruses like Dengue. Key activities include "search and destroy" campaigns to eliminate mosquito breeding sites (e.g., stagnant water in tires, pots, and containers) and promoting personal protection measures like using mosquito repellents.

12. Mention two traditional beliefs about illness and write three ways to address them in the community. [2+3=5]

Two Traditional Beliefs About Illness (2 Marks)

1. **Supernatural Causes:** A common belief that illnesses, especially sudden ones or those affecting children, are caused by supernatural forces like evil spirits, a curse, or the "evil eye" (*boksi lagyo*). This often leads families to seek help from traditional healers (*dhami/jhankri*) first, delaying medical treatment.
2. **Dietary Restrictions (Hot/Cold Foods):** The belief that certain foods are "hot" (*garam*) or "cold" (*chiso*) in nature and should be avoided during specific conditions like pregnancy, postpartum period, or illness. For example, a mother might be told not to eat nutritious foods

like meat or lentils after delivery, leading to malnutrition.

Three Ways to Address These Beliefs (3 Marks)

1. **Respect and Acknowledge, Do Not Ridicule:** Never mock or dismiss a person's beliefs. This will only create resistance. Instead, acknowledge their perspective respectfully. For example, "I understand that many people believe this, and it is an important part of our culture."
2. **Integrate and Provide "Both/And" Solutions:** Instead of forcing an "either/or" choice, suggest integrating modern medicine alongside traditional practices. For example, "While you consult the traditional healer, it is also very important to give this ORS to the child to replace the water lost from diarrhea. This will make his body strong."
3. **Work with Community Influencers:** Identify and collaborate with trusted community leaders, elders, and even traditional healers themselves. By educating them and gaining their support, they can become powerful allies in promoting correct health messages and bridging the gap between traditional beliefs and modern healthcare.

13. Mention the types of antibiotics used for different diseases at health post level with example. [5]

At the health post level in Nepal, antibiotics are used according to national treatment protocols (Standard Treatment Protocols) for common infections. Here are some key types and their uses:

Type of Antibiotic	Example Drug	Common Use at Health Post Level
Penicillins	**Amoxicillin**	Community-Acquired Pneumonia (CAP) in children, sore throat.
Sulfonamides	**Co-trimoxazole**	Used for some respiratory and urinary tract infections, and as prophylaxis in HIV patients.
Macrolides	**Azithromycin**	Uncomplicated Typhoid fever, some types of pneumonia.
Fluoroquinolones	**Ciprofloxacin**	Uncomplicated Urinary Tract Infections (UTIs) in adults, treatment of dysentery.
Nitroimidazoles	**Metronidazole**	Amoebic dysentery, giardiasis, and some anaerobic infections.
Tetracyclines	**Doxycycline**	Used for diseases like Scrub Typhus and Cholera.

It is crucial that these antibiotics are prescribed and used rationally, only when indicated, and that patients are counseled to complete the full course to prevent the development of antimicrobial resistance (AMR).

14. Supervision भनेको के हो ? यसका उद्देश्यहरू के-के हुन् ? Supervision गर्ने तरिकाहरू उल्लेख गर्नुहोस्। [1+2+2=5]

Supervision भनेको के हो ? (What is Supervision?) (1 Mark)

पर्यवेक्षण (Supervision) भनेको कर्मचारीहरूको कार्य सम्पादनमा सुधार ल्याउन र तोकिएको लक्ष्य हासिल गर्न सहयोग पुर्याउने एक निरन्तर, सहयोगी तथा शैक्षिक प्रक्रिया हो। यो केवल गल्ती पत्ता लगाउने काम नभई, कर्मचारीहरूलाई उनीहरूको काममा आइपर्ने समस्याहरू समाधान गर्न, उनीहरूको ज्ञान र सीप बढाउन र उत्प्रेरित गर्न गरिने एक व्यवस्थापकीय कार्य हो।

यसका उद्देश्यहरू के-के हुन् ? (What are its objectives?) (2 Marks)

पर्यवेक्षणका मुख्य उद्देश्यहरू निम्नअनुसार छन्:

- **सेवाको गुणस्तर सुधार गर्नु:** स्वास्थ्य सेवाको गुणस्तर बढाउनु र स्तरीय बनाउनु।
- **कर्मचारीको ज्ञान र सीप अभिवृद्धि गर्नु:** कर्मचारीहरूलाई आवश्यक तालिम र पृष्ठपोषण दिएर उनीहरूको कार्यक्षमता बढाउनु।
- **समस्या पहिचान र समाधान गर्नु:** कार्यस्थलमा देखिने समस्याहरूलाई समयमै पहिचान गरी समाधानका लागि सहजीकरण गर्नु।
- **कर्मचारीलाई उत्प्रेरित गर्नु:** राम्रो कामको प्रशंसा गरेर र काम गर्ने सहज वातावरण बनाएर कर्मचारीको मनोबल उच्च राख्नु।
- **स्रोतसाधनको उचित प्रयोग सुनिश्चित गर्नु:** उपलब्ध स्रोत र साधनको प्रभावकारी उपयोग भए/नभएको सुनिश्चित गर्नु।

Supervision गर्ने तरिकाहरू (Methods of Supervision) (2 Marks)

पर्यवेक्षण विभिन्न तरिकाले गर्न सकिन्छ:

- **सहयोगात्मक पर्यवेक्षण (Supportive Supervision):** समस्या समाधानमा केन्द्रित भई सहयोगी भूमिका खेल्ने।
- **प्रत्यक्ष अवलोकन (Direct Observation):** कर्मचारीले काम गरिरहेको (जस्तैः खोप लगाइरहेको) प्रत्यक्ष अवलोकन गर्ने।
- **अभिलेख जाँच (Record Review):** स्वास्थ्य संस्थाका अभिलेखहरू (जस्तैः एचएमआईएस रिपोर्ट, दर्ता किताब) जाँच गर्ने।
- **छलफल र पृष्ठपोषण (Discussion and Feedback):** कर्मचारीसँग छलफल गर्ने र उनीहरूको काममा सुधारका लागि रचनात्मक पृष्ठपोषण दिने।

15. Define burns. Describe the types and degrees of burns and explain first aid management at health post level. [2+4+4=10]

Define Burns and Types (2 Marks)

A **burn** is an injury to the skin or other organic tissue primarily caused by heat or due to radiation, radioactivity, electricity, friction, or contact with chemicals.

Types of burns are classified by their cause:

- **Thermal burns:** From hot objects, hot liquids (scalds), steam, or fire.
- **Chemical burns:** From strong acids, alkalis, or other chemicals.
- **Electrical burns:** From contact with electrical sources.
- **Radiation burns:** From sources like the sun (sunburn) or radiation therapy.

Degrees of Burns (4 Marks)

Burns are classified by their depth or severity into three main degrees:

1. **First-Degree (Superficial) Burn:**
   - Affects only the outer layer of the skin (epidermis).
   - The skin is red, painful, dry, and has no blisters. Mild sunburn is an example.
2. **Second-Degree (Partial-Thickness) Burn:**
   - Affects the epidermis and the second layer of skin (dermis).
   - The skin is red, blistered, swollen, and very painful.
3. **Third-Degree (Full-Thickness) Burn:**

- Destroys the epidermis and dermis and may go into the underlying tissue (subcutaneous tissue).
- The burn site may appear white, leathery, or charred. There may be little or no pain as the nerve endings have been destroyed.

First Aid Management of Burns at Health Post Level (4 Marks)

1. **Stop the Burning Process:** The immediate priority is to cool the burn.
   - Hold the burned area under cool (not cold) running water for at least **10-20 minutes**. This reduces pain, swelling, and the depth of the injury.
   - **Do not use ice,** as it can cause further tissue damage.
   - For chemical burns, flush the area with copious amounts of water.
2. **Remove Constricting Items:** Gently remove any rings, watches, belts, or tight clothing from the burned area before it starts to swell.
3. **Cover the Burn:** Cover the burn with a clean, non-stick dressing or plastic cling film. This helps prevent infection and reduces pain by keeping air off the skin. Do not use cotton wool or other fluffy materials that can stick to the wound.
4. **Manage Pain and Refer:**
   - Provide a simple analgesic like Paracetamol.
   - **Refer immediately to a higher facility** for:
     - All third-degree burns.
     - Large second-degree burns.
     - Burns on the face, hands, feet, genitals, or major joints.
     - Electrical or chemical burns.
     - Burns in young children or elderly patients.

16. Explain the key steps involved in vaccine storage and describe the reasons why proper storage is essential. [5+5=10]

Key Steps Involved in Vaccine Storage (Cold Chain) (5 Marks)

1. **Use of Correct Equipment:** Vaccines at a health post must be stored in a specialized **Ice-Lined Refrigerator (ILR)**, which is designed to maintain the required temperature (+2°C to +8°C) even during power cuts.
2. **Correct Arrangement of Vaccines:**
   - Vaccines must be arranged systematically in baskets inside the ILR to allow air circulation.
   - **Freeze-sensitive vaccines** (like Pentavalent, PCV, IPV, Td) must be kept in the upper baskets, away from the freezing compartment.
   - **Heat-sensitive but freeze-tolerant vaccines** (like OPV, MR, BCG, JE) can be kept in the lower baskets.
   - The "First-Expired, First-Out" (FEFO) principle should be followed.
3. **Temperature Monitoring:**
   - The temperature inside the ILR must be checked and recorded on a temperature chart **twice daily** (morning and evening).
   - A stem thermometer must be kept inside the ILR for accurate readings. Any deviation from the +2°C to +8°C range must be reported and corrected immediately.
4. **Maintaining a Contingency Plan:** There must be a plan for what to do during prolonged power failures or refrigerator breakdown, including where to move the vaccines to maintain the cold chain.
5. **Checking Vaccine Vial Monitors (VVM):** Before administering any vaccine, the VVM on the vial must be checked. If the inner square is the same color as or darker than the

outer circle, the vaccine has been exposed to heat and must be discarded.

Reasons Why Proper Storage is Essential (5 Marks)

1. **To Maintain Vaccine Potency and Effectiveness:** Vaccines are sensitive biological products. If they are exposed to temperatures outside the recommended range (either too hot or frozen), they lose their potency. An impotent vaccine will not provide protection against the disease, even if it is administered correctly.
2. **To Ensure the Success of the Immunization Program:** The entire goal of the national immunization program is to protect children and communities from vaccine-preventable diseases. If vaccines are not potent, the program fails, and children remain vulnerable to diseases like measles, polio, and tetanus.
3. **To Prevent Financial Loss and Wastage:** Vaccines are valuable and often expensive. Improper storage leads to vaccine wastage, which is a significant financial loss for the health system and a waste of scarce national resources.
4. **To Maintain Public Trust and Confidence:** The community's trust in the healthcare system is paramount. If people believe that vaccines are not being stored or handled properly, they will lose confidence in the immunization services. This can lead to vaccine hesitancy and a decline in immunization coverage, putting the entire community at risk.
5. **For Patient Safety:** Administering a vaccine that has been damaged (e.g., a freeze-sensitive vaccine that was frozen and then thawed) could potentially increase the risk of adverse reactions, although the primary risk is lack of efficacy.

~The End~