

Q1.(a) Define Ischemic Heart Disease.

:- Definition of Ischemic Heart Disease (IHD): Ischemic Heart Disease (IHD), also known as **Coronary Artery Disease (CAD)**, is a condition characterized by reduced blood supply to the heart muscle due to **narrowing or blockage of the coronary arteries**. This occurs primarily due to **atherosclerosis**, where plaque (made of fat, cholesterol, and other substances) builds up inside the arteries, restricting oxygen-rich blood flow to the heart.

If left untreated, IHD can lead to **angina (chest pain)**, **heart attacks (myocardial infarction)**, and **heart failure**.

(B) Enlist the sign and symptoms of ischemic heart disease .

:- Signs and Symptoms of Ischemic Heart Disease (IHD):

1. **Chest Pain (Angina)** – A squeezing or pressure-like pain in the chest, often triggered by exertion or stress.
2. **Shortness of Breath (Dyspnea)** – Difficulty breathing, especially during physical activity.
3. **Fatigue** – Unusual tiredness due to decreased oxygen supply to the heart.
4. **Palpitations** – Irregular or rapid heartbeats.
5. **Nausea or Vomiting** – Common in some individuals, especially during a heart attack.
6. **Sweating (Diaphoresis)** – Excessive sweating, even without physical exertion.
7. **Dizziness or Lightheadedness** – Feeling faint or weak, often due to decreased blood flow.
8. **Pain Radiating to Other Areas** – Discomfort spreading to the arms, shoulders, neck, jaw, or back.
9. **Swelling in Legs or Abdomen** – In severe cases, fluid retention (edema) may occur due to heart dysfunction.
10. **Silent Ischemia (No Symptoms)** – Some individuals, especially diabetics, may have IHD without noticeable symptoms.

(c) Write down the medical management of IHD

:- Medical Management of Ischemic Heart Disease (IHD)

The management of IHD focuses on **reducing symptoms, preventing complications, and improving heart function** through medications, lifestyle changes, and surgical interventions.

1. Medications

- **Antiplatelet Agents:** Prevent blood clot formation.
 - Aspirin
 - Clopidogrel
- **Beta-Blockers:** Reduce heart rate and oxygen demand.
 - Metoprolol, Atenolol, Propranolol
- **Calcium Channel Blockers:** Relax blood vessels and improve blood flow.
 - Amlodipine, Diltiazem, Verapamil
- **Nitrates:** Dilate coronary arteries to relieve angina.
 - Nitroglycerin, Isosorbide Mononitrate
- **Statins:** Lower cholesterol to prevent plaque buildup.
 - Atorvastatin, Rosuvastatin
- **ACE Inhibitors/ARBs:** Lower blood pressure and reduce heart strain.
 - Lisinopril, Enalapril (ACE inhibitors)
 - Losartan, Valsartan (ARBs)
- **Diuretics:** Reduce fluid overload and decrease blood pressure.
 - Furosemide, Spironolactone

2. Lifestyle Modifications

- **Diet:** Low-fat, low-salt, high-fiber diet (fruits, vegetables, whole grains).
- **Exercise:** Regular moderate physical activity (as tolerated).
- **Smoking Cessation:** Reduces further arterial damage.
- **Weight Management:** Maintaining a healthy BMI.
- **Stress Reduction:** Yoga, meditation, and relaxation techniques.

3. Surgical/Interventional Procedures

- **Coronary Angioplasty (Percutaneous Coronary Intervention - PCI):**
 - A balloon and stent are used to open blocked arteries.
- **Coronary Artery Bypass Grafting (CABG):**
 - A surgical procedure where a healthy blood vessel is used to bypass a blocked coronary artery.

4. Regular Monitoring & Follow-Up

- **ECG (Electrocardiogram):** To monitor heart function.
- **Echocardiography:** To assess heart structure and function.
- **Lipid Profile & Blood Pressure Monitoring:** To prevent disease progression.

Conclusion:

A combination of medications, lifestyle changes, and possible interventions helps manage IHD effectively, reducing the risk of complications such as heart attack and heart failure.

(d) Formulate the nursing care plan for the patient.

:- Nursing Care Plan for a Patient with Ischemic Heart Disease (IHD)

Nursing Diagnosis	Goals/Expected Outcomes	Nursing Interventions	Rationale
Acute Pain related to myocardial ischemia	- Patient will verbalize reduced chest pain. - Patient will maintain stable vital signs.	- Assess chest pain (location, intensity, duration). - Administer prescribed nitroglycerin and analgesics. - Provide oxygen therapy if required. - Encourage deep breathing and relaxation techniques.	- Monitoring pain helps in evaluating the effectiveness of treatment. - Nitroglycerin improves blood flow by dilating coronary arteries. - Oxygen reduces cardiac workload and prevents ischemic damage.
Risk for Decreased Cardiac Output related to reduced blood supply	- Patient will maintain stable heart rate and BP. - Patient will demonstrate improved circulation.	- Monitor BP, HR, and ECG regularly. - Administer antihypertensives and beta-blockers as prescribed. - Educate about lifestyle modifications (low-fat diet, exercise).	- Early detection of abnormalities prevents complications. - Medications help reduce the heart's oxygen demand. - Lifestyle changes reduce risk factors like hypertension and obesity.
Activity Intolerance related to decreased oxygen supply to tissues	- Patient will report increased energy levels. - Patient will perform daily activities with minimal fatigue.	- Assess tolerance to physical activity. - Encourage gradual increase in physical activity. - Provide rest periods between activities.	- Prevents overexertion and cardiac stress. - Gradual activity increases cardiovascular endurance.
Ineffective Tissue	- Patient will have	- Monitor peripheral pulses,	- Poor perfusion can lead to

Nursing Diagnosis	Goals/Expected Outcomes	Nursing Interventions	Rationale
Perfusion related to atherosclerosis	improved circulation. - No signs of tissue hypoxia (cold extremities, cyanosis).	skin color, and temperature. - Elevate legs if edema is present. - Encourage leg exercises to improve circulation.	complications like ulcers and gangrene. - Elevation and exercise promote venous return and reduce swelling.
Anxiety related to fear of heart attack	- Patient will express reduced anxiety. - Patient will demonstrate coping strategies.	- Provide emotional support and reassurance. - Educate about the disease process and treatment plan. - Encourage relaxation techniques (deep breathing, meditation).	- Knowledge reduces fear and promotes adherence to treatment. - Relaxation techniques help reduce cardiac workload.

Conclusion:

A well-structured **nursing care plan** for IHD **focuses on pain relief, improving cardiac function, promoting activity tolerance, and providing emotional support** to enhance the patient's quality of life.

Q2. (a) Define renal failure.

:- Definition of Renal Failure:

Renal failure, also known as **kidney failure**, is a condition in which the **kidneys lose their ability to filter waste, excess fluids, and electrolytes from the blood effectively**. This leads to an accumulation of toxins in the body, which can be life-threatening if not managed properly.

Types of Renal Failure:

- 1. Acute Renal Failure (Acute Kidney Injury - AKI):**
 - o Sudden loss of kidney function over hours to days.
 - o Usually reversible if treated promptly.
 - o Common causes: **Dehydration, infections, severe injury, drug toxicity.**
- 2. Chronic Renal Failure (Chronic Kidney Disease - CKD):**
 - o Gradual loss of kidney function over months or years.
 - o Irreversible and may require dialysis or kidney transplant.
 - o Common causes: **Diabetes, hypertension, glomerulonephritis, polycystic kidney disease.**

(b) Enlist sign & symptoms of renal failure.

:- Signs & Symptoms of Renal Failure

1. General Symptoms:

- **Fatigue & Weakness** – Due to toxin buildup in the blood (uremia).
- **Loss of Appetite & Nausea/Vomiting** – Due to waste accumulation in the body.
- **Weight Loss** – Unintentional due to muscle wasting and fluid imbalance.

2. Urinary Symptoms:

- **Decreased Urine Output (Oliguria)** – In severe cases, urine production drops.
- **Increased Urination at Night (Nocturia)** – Common in early chronic kidney disease.
- **Foamy or Dark-Colored Urine** – Indicates protein loss or blood in urine.

3. Fluid & Electrolyte Imbalance:

- **Swelling (Edema)** – In legs, ankles, and around the eyes due to fluid retention.
- **Shortness of Breath** – Fluid buildup in lungs (pulmonary edema).
- **High Blood Pressure (Hypertension)** – Due to improper fluid and sodium regulation.

4. Neurological Symptoms:

- **Confusion or Difficulty Concentrating** – Due to buildup of toxins affecting the brain.
- **Tingling or Numbness (Peripheral Neuropathy)** – Due to electrolyte imbalances.
- **Seizures or Coma** – In severe kidney failure (end-stage renal disease).

5. Skin Changes:

- **Dry, Itchy Skin (Pruritus)** – Due to waste buildup and mineral imbalance.
- **Pale or Yellowish Skin Tone** – Due to anemia and toxin accumulation.

(c) Explain the management of Renal Failure.

: - Management of Renal Failure

The management of renal failure depends on whether the condition is **acute (AKI)** or **chronic (CKD)**. The main goals of treatment are to **slow disease progression, manage symptoms, and prevent complications**.

1. Medical Management

A. Acute Kidney Injury (AKI) Treatment

- **Identify & Treat Underlying Cause** – Correct dehydration, infections, or drug toxicity.
- **Fluid Management** –
 - If **dehydrated**, administer IV fluids (Normal Saline, Ringer's Lactate).
 - If **fluid overloaded**, use **diuretics** (Furosemide) to remove excess fluid.
- **Electrolyte Balance** –
 - Control **hyperkalemia** with **calcium gluconate, insulin + glucose, sodium bicarbonate**.
 - Restrict potassium-rich foods (bananas, oranges, potatoes).
- **Dialysis (Temporary)** – Used if kidney function worsens severely.

B. Chronic Kidney Disease (CKD) Treatment

- **Control Underlying Conditions:**
 - **Hypertension** – Use ACE inhibitors (Lisinopril, Enalapril) to lower BP.
 - **Diabetes** – Maintain blood sugar control with insulin or oral antidiabetics.
- **Anemia Treatment:**
 - **Erythropoietin Injections** to boost red blood cell production.
 - **Iron & Folic Acid Supplements** for RBC formation.
- **Phosphate & Calcium Management:**
 - **Phosphate binders** (Sevelamer) reduce phosphorus buildup.
 - **Vitamin D supplements** prevent bone disease.
- **Diuretics & Fluid Restriction** – Prevents fluid overload and swelling.
- **Dialysis (Long-Term)** –
 - **Hemodialysis**: Removes waste via a machine.
 - **Peritoneal Dialysis**: Uses the abdomen for filtration.

- **Kidney Transplant:**
 - The only permanent cure for end-stage kidney disease (ESRD).

2. Lifestyle & Dietary Modifications

- **Low-Sodium Diet** – Controls blood pressure and prevents fluid retention.
- **Low-Potassium Diet** – Avoids heart complications (no bananas, oranges, spinach).
- **Low-Protein Diet** – Reduces kidney workload while preventing muscle loss.
- **Fluid Restriction** – Prevents swelling and high blood pressure.
- **No Smoking or Alcohol** – Reduces kidney stress and prevents further damage.

3. Regular Monitoring & Follow-Up

- **Blood Tests** – Monitor creatinine, urea, electrolytes.
- **Urine Tests** – Check for proteinuria and infections.
- **Blood Pressure & Sugar Monitoring** – Prevent further damage to kidneys.

Conclusion:

Management of renal failure **focuses on treating the underlying cause, controlling symptoms, and preventing complications**. In **acute cases**, kidney function may recover, while in **chronic cases**, dialysis or transplantation may be needed.

(d) Formulate a nursing care plan for renal failure Patient.

:- Nursing Care Plan for a Patient with Renal Failure

Nursing Diagnosis	Goals / Expected Outcomes	Nursing Interventions	Rationale
Fluid Volume Excess related to decreased urine output	- Patient will maintain balanced fluid levels. - No signs of fluid overload (edema, hypertension, dyspnea).	- Monitor daily weight and intake/output balance. - Assess for signs of edema, crackles in lungs, and high BP. - Restrict fluid intake as per doctor's order. - Administer diuretics if prescribed.	- Helps track fluid retention and prevent complications. - Fluid overload can cause respiratory distress and heart failure. - Diuretics help remove excess fluid and reduce swelling.
Risk for Electrolyte Imbalance related to impaired kidney function	- Patient will maintain normal electrolyte levels. - No signs of hyperkalemia (arrhythmia, muscle weakness).	- Monitor serum potassium, sodium, and calcium levels. - Educate patient about potassium and phosphorus restrictions. - Administer prescribed phosphate binders or calcium supplements.	- Electrolyte imbalances can lead to life-threatening complications. - Diet modifications help prevent hyperkalemia and bone disorders.
Risk for Impaired Skin Integrity related to uremic toxins	- Patient's skin will remain intact, with no itching or breakdown.	- Assess for dry, itchy skin or any redness. - Encourage use of moisturizing lotions. - Keep skin clean and dry.	- Uremic toxins cause severe itching and skin breakdown. - Proper skin care prevents infections.

Nursing Diagnosis and edema	Goals / Expected Outcomes	Nursing Interventions	Rationale
Fatigue related to anemia and toxin buildup	- Patient will report improved energy levels.	- Monitor hemoglobin levels and administer erythropoietin as prescribed. - Encourage adequate rest periods. - Educate about iron-rich foods (if allowed).	- Treating anemia improves oxygen delivery and energy levels. - Rest prevents overexertion.
Knowledge Deficit related to disease process and treatment	- Patient will demonstrate understanding of renal failure management.	- Educate patient and family about dialysis, diet restrictions, and medication compliance. - Provide emotional support and encourage questions.	- Proper education improves adherence to treatment and lifestyle changes.

Conclusion:

This nursing care plan **focuses on fluid balance, electrolyte control, skin care, energy conservation, and patient education** to enhance the patient's well-being and prevent complications.

Q3. (a) Define Pulmonary Tuberculosis.

:- Definition of Pulmonary Tuberculosis (TB):

Pulmonary Tuberculosis (TB) is a **contagious bacterial infection** that primarily affects the **lungs**. It is caused by *Mycobacterium tuberculosis*, a bacteria that spreads through **airborne droplets** when an infected person coughs, sneezes, or speaks.

If untreated, TB can lead to **serious lung damage** and spread to other organs (extrapulmonary TB). It is a **major global health concern**, but it is **preventable and treatable** with proper medication.

(B) Enlist cause and clinical manifestation of PTB.

:- Causes and Clinical Manifestations of Pulmonary Tuberculosis (PTB)

Causes of Pulmonary Tuberculosis (PTB):

1. **Infection by *Mycobacterium tuberculosis*** – A bacterium that primarily affects the lungs.
2. **Airborne Transmission** – Spread through droplets when an infected person coughs, sneezes, or talks.
3. **Weakened Immune System** – People with **HIV/AIDS, diabetes, malnutrition, or undergoing chemotherapy** are at higher risk.
4. **Close Contact with an Infected Person** – Living in crowded conditions increases the risk.
5. **Smoking & Substance Abuse** – Weakens lung function and increases TB susceptibility.
6. **Poor Hygiene & Malnutrition** – Leads to reduced immunity, making infection more likely.

Clinical Manifestations (Signs & Symptoms) of PTB:

1. **Persistent Cough (more than 3 weeks)** – May produce **blood-stained sputum (hemoptysis)**.
2. **Fever & Night Sweats** – Due to the body's immune response to infection.
3. **Unintentional Weight Loss** – Due to loss of appetite and high metabolic rate.
4. **Fatigue & Weakness** – Caused by chronic infection and poor oxygenation.
5. **Chest Pain** – Especially during coughing or deep breathing.
6. **Shortness of Breath (Dyspnea)** – In severe cases where lung tissue is affected.
7. **Swollen Lymph Nodes** – Especially in the neck region.

Conclusion:

Pulmonary TB is **highly contagious** but **preventable and treatable** if diagnosed early. **Persistent cough, fever, and weight loss** are key warning signs that require medical attention.

(C) Explain pathophysiology of PTB.

:- Pathophysiology of Pulmonary Tuberculosis (PTB)

Pulmonary Tuberculosis (PTB) develops in **stages**, starting from exposure to the *Mycobacterium tuberculosis* bacteria and progressing to active disease if not controlled by the immune system.

Step-by-Step Pathophysiology of PTB:

1. Entry & Initial Infection (Primary TB)

- *Mycobacterium tuberculosis* enters the lungs via **airborne droplets** inhaled from an infected person.
 - The bacteria reach the **alveoli (air sacs of the lungs)** and are engulfed by **alveolar macrophages** (immune cells).
 - In some cases, macrophages **fail to kill the bacteria**, allowing TB to multiply inside them.
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2. Formation of Tubercle (Granuloma)

- The immune system responds by activating **T-cells and macrophages**, forming a **granuloma (tubercle)** around the infected cells.
 - This forms a **Ghon focus** (a small lung lesion), which may combine with nearby infected lymph nodes to form a **Ghon complex**.
 - Inside the granuloma, TB bacteria **can remain dormant (latent TB)** for years without causing symptoms.
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3. Latent or Active Disease Progression

- **Latent TB:**
 - The immune system successfully contains the bacteria.
 - The patient has **no symptoms** but can develop **active TB later** if immunity weakens.
 - **Active TB:**
 - In immunocompromised patients (HIV, malnutrition, elderly), the bacteria multiply and spread.
 - The granuloma **breaks down**, leading to lung tissue damage and **caseous necrosis** (cheese-like dead tissue).
 - Bacteria spread through the airways and blood, leading to **progressive lung damage and systemic symptoms** (fever, weight loss, night sweats).
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4. Complications & Disease Spread

- If untreated, TB can cause:
 - **Cavitation** (large holes in lung tissue).
 - **Hemoptysis** (coughing up blood due to lung destruction).
 - **Miliary TB** (spread to other organs via the bloodstream).
 - **Pleural Effusion** (fluid buildup around the lungs).

Conclusion:

PTB starts when *Mycobacterium tuberculosis* infects the lungs, leading to granuloma formation. If not controlled, the bacteria multiply, causing lung damage and potentially spreading to other organs. **Early diagnosis and treatment prevent complications.**

(d) Write down medical and nursing management of PTB.

:- Medical and Nursing Management of Pulmonary Tuberculosis (PTB)

1. Medical Management of PTB

The primary goal of PTB treatment is to **eliminate *Mycobacterium tuberculosis*, prevent transmission, and avoid complications.**

A. Anti-Tuberculosis Drug Therapy (ATT) – First-Line Treatment

Treatment follows the **Directly Observed Treatment Short-course (DOTS)** strategy recommended by the WHO.

Phase	Drugs Used	Duration
Intensive Phase	Rifampicin + Isoniazid + Pyrazinamide + Ethambutol (RIPE)	First 2 months
Continuation Phase	Rifampicin + Isoniazid	Next 4 months

Key Points:

- **Total duration = 6 months** (can be extended in severe cases).
- **Take medication daily or as per DOTS regimen to prevent drug resistance.**
- **Multidrug-resistant TB (MDR-TB)** requires longer treatment with second-line drugs.

B. Supportive Treatment

- **Oxygen Therapy** – If the patient has severe respiratory distress.
- **Analgesics & Antipyretics** – To relieve fever and pain.
- **Nutritional Support** – High-protein, high-calorie diet to strengthen immunity.
- **Treatment of Coexisting Conditions** – HIV, diabetes, or malnutrition should be managed.

2. Nursing Management of PTB

The nursing care plan focuses on **infection control, medication adherence, symptom relief, and patient education.**

Nursing Diagnosis	Goals / Expected Outcomes	Nursing Interventions	Rationale
Ineffective Airway Clearance related to excessive mucus and coughing	- Patient will have clear airways and improved oxygenation.	- Encourage deep breathing and coughing techniques. - Provide humidified oxygen if needed. - Position patient in high Fowler's to ease breathing.	- Promotes mucus clearance and prevents airway obstruction. - Improves lung expansion and gas exchange.
Risk for Infection Transmission related to airborne spread of TB	- Reduce the risk of TB spread to others.	- Isolate patient in a negative-pressure room . - Educate about wearing a mask and covering mouth when coughing . - Ensure proper hand hygiene and disposal of sputum.	- TB spreads through airborne droplets; isolation prevents transmission.
Imbalanced Nutrition: Less than Body Requirements related to weight loss and poor appetite	- Patient will gain/maintain a healthy weight.	- Provide high-protein, high-calorie diet . - Encourage small, frequent meals to improve intake. - Monitor weight weekly.	- TB leads to malnutrition; proper nutrition enhances recovery.
Knowledge Deficit related to TB disease process and medication adherence	- Patient will demonstrate understanding of TB treatment.	- Educate about medication importance and side effects . - Emphasize completing the full course of ATT . - Encourage regular follow-up visits.	- Non-compliance leads to drug resistance (MDR-TB) and treatment failure.
Fatigue related to chronic infection	- Patient will report improved energy levels.	- Encourage adequate rest between activities. - Provide psychological support to reduce stress.	- Rest conserves energy for healing and recovery.

Conclusion:

Medical management of PTB includes **anti-TB drugs (ATT), supportive care, and infection control**. Nursing management ensures **airway clearance, infection prevention, nutritional support, and medication adherence** to promote recovery and prevent complications.

Q4. (a) Define Amputation.

:- Definition of Amputation:

Amputation is the **surgical or traumatic removal of a limb or part of a limb** (such as an arm, leg, foot, hand, toe, or finger). It is performed to **remove diseased, damaged, or non-functional tissue** and prevent complications such as **infection, gangrene, or life-threatening conditions**.

Amputations can be **planned (surgical)** due to medical conditions like **diabetes, peripheral artery disease, or cancer**, or **unplanned (traumatic)** due to **accidents, severe infections, or war injuries**.

(B) Write down the causes of amputation.

:- Causes of Amputation

Amputation may be **planned (surgical)** or **unplanned (traumatic)** depending on the cause. The main reasons include:

1. Vascular Causes (Poor Blood Supply)

- **Peripheral Artery Disease (PAD)** – Reduced blood flow leads to **gangrene** (tissue death).
- **Diabetes Mellitus** – Causes **diabetic foot ulcers**, infections, and poor healing.
- **Blood Clots (Thrombosis/Embolism)** – Can block circulation, causing tissue death.

2. Traumatic Causes (Accidents & Injuries)

- **Road Traffic Accidents (RTA)** – Severe limb damage in car, bike, or industrial accidents.
- **Crush Injuries** – From heavy machinery, explosions, or collapsed buildings.
- **Severe Burns & Frostbite** – Extreme heat or cold can cause tissue death.
- **Gunshot & War Injuries** – Blast injuries may require amputation.

3. Infections

- **Osteomyelitis** – Severe bone infections that do not respond to treatment.
- **Necrotizing Fasciitis** – Flesh-eating bacterial infections leading to tissue death.
- **Gas Gangrene** – Caused by *Clostridium* bacteria, requiring immediate amputation.

4. Tumors & Cancers

- **Bone Cancer (Osteosarcoma, Chondrosarcoma)** – If cancer spreads, amputation may be needed.
- **Soft Tissue Sarcomas** – Can destroy muscles and require limb removal.

5. Congenital Causes (Birth Defects)

- **Congenital Limb Deficiencies** – Some babies are born with non-functional or deformed limbs.
- **Amniotic Band Syndrome** – Bands in the womb restrict blood flow, causing limb loss.

Conclusion:

Amputation is a **last resort** to save a patient's life or prevent further complications. The most common causes include **vascular diseases (PAD, diabetes), trauma (accidents, burns), severe infections, and cancers**. Early medical intervention can sometimes **prevent the need for amputation**.

(c) Explain the management of amputation.

:- Management of Amputation

The management of amputation includes **preoperative preparation, surgical procedure, postoperative care, rehabilitation, and psychological support** to ensure optimal recovery and function.

1. Preoperative Management (Before Surgery)

◇ Patient Assessment:

- Evaluate the reason for amputation (trauma, infection, vascular disease, etc.).
- Assess circulation, nerve function, and muscle strength of the affected limb.

- Conduct blood tests, imaging (X-ray, MRI), and Doppler studies to assess vascular status.

◇ Patient Education & Psychological Support:

- Explain the procedure, possible complications, and prosthetic options.
- Address patient concerns about mobility and body image.
- Involve family members in discussions for emotional support.

◇ Pain Management & Infection Control:

- Administer **pain relievers (analgesics) and antibiotics** to prevent infection.
- If needed, perform **wound debridement** (removal of dead tissue).

2. Surgical Management (Amputation Procedure)

◇ Types of Amputation Surgeries:

- **Closed Amputation (Flap Method):** Skin flaps cover the residual limb for prosthesis use.
- **Open Amputation (Guillotine Method):** Used in severe infections, leaving the stump open for drainage before a second surgery.

◇ Levels of Amputation:

- **Lower Limb:** Toe, foot, below-knee, above-knee, hip disarticulation.
- **Upper Limb:** Finger, hand, below-elbow, above-elbow, shoulder disarticulation.

◇ Key Surgical Goals:

- Preserve as much healthy tissue as possible.
- Shape the stump to fit a prosthetic limb.
- Ensure proper wound closure and healing.

3. Postoperative Management (After Surgery)

◇ Pain Management:

- Administer **opioids, NSAIDs, or nerve pain medications** (gabapentin for phantom pain).
- Use **stump shrinkers or elastic bandages** to reduce swelling.

◇ Infection Prevention & Wound Care:

- Keep the surgical site clean and monitor for **redness, pus, or fever**.
- Change dressings as per sterile technique.

◇ Preventing Complications:

- **Contractures:** Encourage **range of motion (ROM) exercises** to prevent joint stiffness.
- **DVT (Blood Clots):** Provide **anticoagulants (blood thinners)** if needed.
- **Phantom Limb Pain:** Educate about sensations of the missing limb and use medications, therapy, or mirror therapy.

4. Rehabilitation & Prosthetic Training

◇ Physical Therapy:

- Strengthen remaining muscles to improve balance and mobility.
- Teach **stump care and exercises** for prosthetic fitting.

◇ Use of Prosthesis:

- After stump healing, evaluate for a **prosthetic limb**.
- Teach **prosthetic training for walking, gripping, and daily activities**.

5. Psychological & Emotional Support

◇ Counseling & Therapy:

- Address **depression, anxiety, and body image issues**.
- Encourage **peer support groups** and rehab programs.

◇ Lifestyle Adjustments & Vocational Training:

- Help patient **adapt to daily activities and work-life** with assistive devices.
- Provide **job retraining** if needed for professional adjustment.

Conclusion:

Managing amputation requires a **holistic approach**—preoperative care, skilled surgery, **postoperative wound care, pain control, rehabilitation, and emotional support**. Early rehabilitation and prosthetic use **improve mobility and quality of life**.

Q5. Short Note on:-

(a) Breast Self Examination:-

:- Breast Self-Examination (BSE)

Definition:

Breast Self-Examination (BSE) is a **simple, regular self-check method** used by women to detect **early signs of breast cancer** by **feeling and looking for abnormalities** in the breasts.

Steps of BSE (5-Step Method)

◇ Step 1: Visual Inspection in the Mirror

- Stand in front of a mirror with arms at your sides.
- Look for **changes in breast size, shape, skin texture, or nipple appearance**.
- Raise your arms and check again for **dimples, swelling, or nipple discharge**.

◇ Step 2: Inspection with Hands on Hips

- Press hands firmly on hips to tighten chest muscles.
- Look for any unusual changes in the breasts.

◇ Step 3: Feel for Lumps While Lying Down

- Lie down and place **one hand behind your head**.
- Use the **opposite hand** to check the breast using **small circular motions**.
- Cover the entire breast, from the **collarbone to the ribcage** and **armpit area**.

◇ Step 4: Examine While Standing or in the Shower

- Apply soap or lotion for easy movement of fingers.
- Use **fingertips** to check for lumps or thickening.

◇ Step 5: Check Nipples

- Gently squeeze nipples to check for **discharge (blood, pus, or clear fluid)**.

When to Perform BSE?

- **Once a month**, preferably **7–10 days after menstruation** when breasts are less tender.
- **Postmenopausal women** should pick a **fixed date each month**.

Why is BSE Important?

- ☒ Helps in **early detection** of breast cancer.
- ☒ Improves **breast awareness** and self-care.
- ☒ Can detect **lumps, skin changes, or abnormal discharge** early.
- ☒ Increases chances of **successful treatment** if cancer is found early.

What to Do If You Find an Abnormality?

- Do not panic—**most lumps are non-cancerous (benign)**.
- Consult a doctor for **clinical breast examination and further tests** (mammogram, ultrasound, biopsy).

(B) National AIDS Control Programme.

:- National AIDS Control Programme (NACP)

The **National AIDS Control Programme (NACP)** is a **government initiative** launched by the **Ministry of Health and Family Welfare, India**, to **prevent and control the spread of HIV/AIDS** in the country. It is implemented by the **National AIDS Control Organization (NACO)**.

Objectives of NACP:

- ☒ **Prevent new HIV infections** through awareness and behavior change.
- ☒ **Provide free HIV testing and treatment (ART – Antiretroviral Therapy)**.
- ☒ **Reduce stigma and discrimination** against people living with HIV/AIDS.
- ☒ **Ensure safe blood transfusions** and prevent mother-to-child transmission.
- ☒ **Promote research and surveillance** to monitor HIV/AIDS trends.

Phases of NACP:

The programme has been implemented in **four phases** since its launch in 1992.

- 1 ☐ **NACP-I (1992-1999)** – Focused on **awareness and blood safety**.
- 2 ☐ **NACP-II (1999-2006)** – Introduced **HIV testing centers & prevention programs** for high-risk groups.
- 3 ☐ **NACP-III (2007-2012)** – Launched **free Antiretroviral Therapy (ART)** and targeted interventions.
- 4 ☐ **NACP-IV (2012-2021)** – Aimed to **reduce new HIV infections by 50% and increase treatment access**.

Key Strategies of NACP:

- ◇ **Awareness Campaigns** – Mass media, community outreach, and school education programs.
- ◇ **HIV Testing & Counseling Centers (ICTC)** – Free and confidential HIV testing.
- ◇ **Prevention of Parent-to-Child Transmission (PPTCT)** – Treatment to prevent HIV transmission from mother to baby.
- ◇ **Free Antiretroviral Therapy (ART) Centers** – Providing lifelong treatment to HIV-positive individuals.
- ◇ **Blood Safety & Infection Control** – Strict screening of blood donors to prevent HIV transmission.

Achievements of NACP:

- ☒ **HIV prevalence reduced from 0.41% (2001) to 0.22% (2021).**
- ☒ **Over 14 lakh people receiving free ART treatment.**
- ☒ **Increase in HIV testing and counseling services.**
- ☒ **Reduction in mother-to-child transmission of HIV.**

Conclusion:

The **National AIDS Control Programme (NACP)** has played a vital role in **reducing HIV infections, increasing awareness, and providing free treatment**. Continued efforts are needed to **eliminate HIV/AIDS and support affected individuals**.

(c) CPR

:- Cardiopulmonary Resuscitation (CPR)

Definition:

Cardiopulmonary Resuscitation (CPR) is a **life-saving emergency procedure** performed when a person's **heart stops beating (cardiac arrest)** or when they stop breathing. It helps restore blood circulation and oxygen supply to vital organs.

Steps of CPR (Basic Life Support - BLS)

◇ **Step 1: Check Responsiveness**

- Tap the person and shout, “Are you okay?”
- If no response, **call for emergency help (e.g., 911/ambulance)**.

◇ **Step 2: Check Breathing & Pulse**

- Look, listen, and feel for **breathing for no more than 10 seconds**.
- If not breathing or only gasping, **start CPR immediately**.

◇ Step 3: Chest Compressions (C-A-B Method)

- Place both hands in the **center of the chest**.
- Push **hard and fast (100-120 compressions per minute)**.
- Compression depth: **At least 2 inches** for adults.

◇ Step 4: Rescue Breaths (If trained)

- Give **2 breaths after every 30 compressions**.
- Tilt the head back, pinch the nose, and blow air into the mouth.

◇ Step 5: Continue CPR

- Keep repeating **30 compressions + 2 breaths** until medical help arrives.
- If an **AED (Automated External Defibrillator)** is available, use it as soon as possible.

Importance of CPR:

- ☒ Restores blood flow to the brain and heart.
- ☒ Prevents brain damage and increases survival chances.
- ☒ Buys time until professional medical help arrives.

Conclusion:

CPR is a **critical emergency procedure** that can **save lives** in cases of cardiac arrest or drowning. Knowing CPR is a **valuable skill** for everyone, including non-medical persons.

(d) Immunity

- Immunity

Definition:

Immunity is the body's **defense mechanism** that protects against **infections, diseases, and harmful substances** like bacteria, viruses, and toxins. It helps in recognizing and fighting foreign invaders (pathogens).

Types of Immunity:

1 ☐ **Innate Immunity (Natural/Non-Specific):**

- Present **from birth**.
- First line of defense (**skin, mucous membranes, white blood cells, inflammation**).
- Provides **immediate** but **short-term protection**.

2 ☐ **Adaptive Immunity (Acquired/Specific):**

- Develops **after exposure** to infections or vaccines.
- Involves **B cells (produce antibodies)** and **T cells (destroy infected cells)**.
- Provides **long-term immunity** and memory against diseases.

Ways to Boost Immunity:

- ✓ **Vaccination** (e.g., flu shots, COVID-19 vaccines).
- ✓ **Healthy diet** (rich in vitamins, antioxidants, and protein).
- ✓ **Regular exercise and good sleep.**
- ✓ **Hygiene practices** (handwashing, sanitation).
- ✓ **Avoid smoking and excessive alcohol consumption.**

Importance of Immunity:

- ✓ Protects against **diseases and infections.**
- ✓ Helps in **faster recovery** from illnesses.
- ✓ Provides **long-term resistance** to certain diseases after vaccination or past infections.

(E) Chemotherapy.

:- Chemotherapy

Definition:

Chemotherapy is a **cancer treatment** that uses **powerful drugs** to **kill or stop the growth of cancer cells.** It can be used alone or in combination with surgery and radiation therapy.

Types of Chemotherapy:

- 1 ☐ **Curative Chemotherapy** – Aims to completely eliminate cancer.
- 2 ☐ **Adjuvant Chemotherapy** – Given **after surgery or radiation** to destroy remaining cancer cells.
- 3 ☐ **Neoadjuvant Chemotherapy** – Given **before surgery** to shrink the tumor.
- 4 ☐ **Palliative Chemotherapy** – Used in **advanced cancer cases** to relieve symptoms and slow tumor growth.

Common Side Effects:

- ◇ **Hair loss**
- ◇ **Nausea & vomiting**
- ◇ **Fatigue & weakness**
- ◇ **Low immunity (due to reduced white blood cells)**
- ◇ **Mouth sores & loss of appetite**

Importance of Chemotherapy:

- ✓ Helps in **reducing or eliminating cancer cells.**
- ✓ Increases **survival rates** in many cancers.
- ✓ Can be combined with **other treatments for better results.**

Conclusion:

Chemotherapy is a **lifesaving treatment** but has **side effects.** Proper **medical care and supportive therapy** can help manage these effects and improve the quality of life.