

BVNHM-101: Anatomy-I

Total Marks: 100

Section A: Multiple Choice Questions (MCQs)

1. The anatomical term "superior" refers to:
 - a) Toward the front
 - b) Toward the back
 - c) Above or higher
 - d) Below or lower
2. The coronal plane divides the body into:
 - a) Left and right halves
 - b) Upper and lower halves
 - c) Front and back halves
 - d) Diagonal sections
3. The longest bone in the human body is:
 - a) Femur
 - b) Humerus
 - c) Tibia
 - d) Radius
4. Which type of bone is the vertebra?
 - a) Long bone
 - b) Short bone
 - c) Irregular bone
 - d) Flat bone
5. The functional unit of skeletal muscle is called:
 - a) Myofibril
 - b) Sarcomere
 - c) Actin
 - d) Myosin
6. Smooth muscles are:
 - a) Voluntary and striated
 - b) Involuntary and non-striated
 - c) Voluntary and non-striated
 - d) Involuntary and striated
7. The largest artery in the human body is:
 - a) Pulmonary artery
 - b) Aorta
 - c) Carotid artery
 - d) Femoral artery

8. RBCs are primarily responsible for:
- a) Immunity
 - b) Oxygen transport
 - c) Blood clotting
 - d) Hormone transport
9. Tidal volume refers to:
- a) Maximum air expelled after full inspiration
 - b) Normal air inhaled or exhaled during resting breathing
 - c) Air remaining in lungs after expiration
 - d) Total lung capacity
10. The pharynx connects:
- a) Mouth to esophagus and nasal cavity to larynx
 - b) Larynx to trachea
 - c) Stomach to small intestine
 - d) Heart to lungs
11. Which organ secretes bile?
- a) Pancreas
 - b) Liver
 - c) Stomach
 - d) Small intestine
12. The bone formation process is called:
- a) Calcification
 - b) Ossification
 - c) Mineralization
 - d) Myelination
13. The diaphragm separates:
- a) Thoracic and abdominal cavities
 - b) Heart and lungs
 - c) Small and large intestine
 - d) Upper and lower limbs
14. The main site of nutrient absorption in the digestive system is:
- a) Stomach
 - b) Small intestine
 - c) Large intestine
 - d) Mouth
15. Hypertension refers to:
- a) Low blood pressure
 - b) High blood pressure
 - c) High heart rate
 - d) Low heart rate

16. Alveoli are:
- a) Blood vessels
 - b) Air sacs in lungs
 - c) Muscles in the heart
 - d) Digestive glands
17. The humerus is located in the:
- a) Upper arm
 - b) Lower leg
 - c) Thigh
 - d) Chest
18. Asthma affects which system?
- a) Digestive
 - b) Respiratory
 - c) Skeletal
 - d) Circulatory
19. Myopathy refers to:
- a) Bone disease
 - b) Muscle disease
 - c) Heart disease
 - d) Lung disease
20. GERD is a disorder of the:
- a) Heart
 - b) Lungs
 - c) Digestive system
 - d) Skeletal system
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Section B: Short Answer Questions (SAQs)

1. **Define anatomy.**
Answer: Anatomy is the branch of biology concerned with the study of the structure of organisms and their parts.
2. **Name the three main body planes.**
Answer: Coronal (frontal), Sagittal (lateral), and Transverse (horizontal) planes.
3. **List four types of bones in the human body.**
Answer: Long bones, short bones, flat bones, irregular bones.
4. **Mention two types of muscle tissue.**
Answer: Skeletal muscle and smooth muscle (also cardiac muscle).
5. **Define ossification.**
Answer: Ossification is the process of bone formation from cartilage or connective tissue.

6. **What are the main components of blood?**

Answer: Red blood cells (RBCs), white blood cells (WBCs), platelets, and plasma.

7. **Define tidal volume.**

Answer: Tidal volume is the amount of air inhaled or exhaled during normal resting breathing.

8. **Name the major organs of the digestive system.**

Answer: Mouth, esophagus, stomach, small intestine, large intestine, liver, pancreas, gallbladder.

9. **List two common skeletal disorders.**

Answer: Fractures and osteoporosis.

10. **Mention two respiratory disorders.**

Answer: Asthma and pneumonia.

Section C: Long Answer Questions (LAQs)

1. **Explain the levels of structural organization in the human body.**

Answer:

- **Cellular level:** Basic unit of life.
- **Tissue level:** Group of similar cells performing a specific function.
- **Organ level:** Structures composed of tissues performing specialized functions.
- **System level:** Organs working together to perform complex functions.

2. **Discuss the classification and functions of bones in the human body.**

Answer:

- **Long bones:** Support weight and facilitate movement (e.g., femur).
- **Short bones:** Provide stability and limited motion (e.g., carpals).
- **Flat bones:** Protect organs and provide surface for muscle attachment (e.g., skull).
- **Irregular bones:** Have complex shapes (e.g., vertebrae).
- **Functions:** Support, protection, movement, mineral storage, blood cell formation.

3. **Describe the structure and function of skeletal muscles.**

Answer:

- Composed of muscle fibers with contractile proteins (actin and myosin).
- Function: Voluntary movement, posture maintenance, heat production.
- Contraction via sliding filament mechanism at neuromuscular junction.

4. **Explain the anatomy of the heart and major blood vessels.**

Answer:

- Heart has four chambers: two atria, two ventricles.

- Major vessels: Aorta, pulmonary arteries/veins, superior/inferior vena cava.
- Function: Pumping blood for systemic and pulmonary circulation.

5. **Discuss the mechanism of breathing.**

Answer:

- **Inspiration:** Diaphragm contracts, thoracic cavity expands, air enters lungs.
- **Expiration:** Diaphragm relaxes, thoracic cavity decreases, air exits lungs.
- Gas exchange occurs in alveoli between air and blood.

6. **Explain the anatomy and functions of the respiratory system.**

Answer:

- Structures: Nasal cavity, pharynx, larynx, trachea, bronchi, lungs.
- Functions: Breathing, oxygen and carbon dioxide exchange, maintaining pH.

7. **Describe the digestive processes and major enzymes involved.**

Answer:

- **Ingestion:** Taking food into the mouth.
- **Digestion:** Mechanical and chemical breakdown of food.
- **Absorption:** Nutrient uptake in small intestine.
- **Excretion:** Elimination of waste.
- **Enzymes:** Amylase, lipase, protease, bile.

8. **Discuss common cardiovascular disorders.**

Answer:

- **Hypertension:** High blood pressure causing heart strain.
- **Atherosclerosis:** Artery blockage due to plaque.
- **Anemia:** Low RBCs or hemoglobin affecting oxygen transport.

9. **Explain common muscular disorders.**

Answer:

- **Strains:** Muscle overstretching.
- **Sprains:** Ligament injury.
- **Myopathies:** Muscle tissue diseases affecting function.

10. **Describe common digestive disorders.**

Answer:

- **GERD:** Acid reflux causing heartburn.
- **Peptic ulcers:** Stomach or duodenal lining erosion.
- **Crohn's disease:** Chronic inflammation of intestines.

BVNHM-102: Physiology-I

Total Marks: 100

Section A: Multiple Choice Questions (MCQs)

1. The study of the functions of the human body is called:
 - a) Anatomy
 - b) Physiology
 - c) Pathology
 - d) Histology
2. Homeostasis is defined as:
 - a) Structural organization of cells
 - b) Maintenance of a stable internal environment
 - c) Growth of tissues
 - d) Blood circulation
3. The primary extracellular cation is:
 - a) Potassium
 - b) Sodium
 - c) Calcium
 - d) Magnesium
4. RBCs are primarily responsible for:
 - a) Immunity
 - b) Oxygen transport
 - c) Clotting
 - d) Hormone secretion
5. Hemostasis refers to:
 - a) Blood formation
 - b) Blood clotting
 - c) Blood circulation
 - d) Blood oxygenation
6. The ABO blood group system includes:
 - a) A, B, AB, O
 - b) X, Y
 - c) Alpha, Beta
 - d) P, Q, R
7. Which part of the heart receives deoxygenated blood from the body?
 - a) Left atrium
 - b) Right atrium
 - c) Left ventricle
 - d) Right ventricle

8. Systole refers to:
- a) Relaxation of the heart
 - b) Contraction of the heart
 - c) Blood clotting
 - d) Breathing
9. The systemic circulation carries blood:
- a) Heart → Lungs
 - b) Heart → Body
 - c) Lungs → Heart
 - d) Kidney → Heart
10. The diaphragm is the main muscle for:
- a) Circulation
 - b) Digestion
 - c) Respiration
 - d) Urination
11. Oxygen is transported in the blood mainly by:
- a) Plasma
 - b) RBCs/hemoglobin
 - c) WBCs
 - d) Platelets
12. The liver produces:
- a) Insulin
 - b) Bile
 - c) Gastric acid
 - d) Amylase
13. Pancreas secretes:
- a) Bile
 - b) Digestive enzymes and insulin
 - c) Hydrochloric acid
 - d) Mucus
14. Filtration of blood in the kidney occurs at:
- a) Loop of Henle
 - b) Glomerulus
 - c) Collecting duct
 - d) Renal pelvis
15. Reabsorption in the kidney mainly occurs in:
- a) Bowman's capsule
 - b) Proximal convoluted tubule
 - c) Collecting duct
 - d) Renal pelvis

16. Acid-base balance in the body is regulated mainly by:

- a) Lungs and kidneys
- b) Heart and liver
- c) Stomach
- d) Pancreas

17. The primary waste product excreted by kidneys is:

- a) Glucose
- b) Urea
- c) Amino acids
- d) Fatty acids

18. Asthma is primarily a disorder of the:

- a) Cardiovascular system
- b) Respiratory system
- c) Digestive system
- d) Nervous system

19. Malabsorption syndrome affects:

- a) Kidney
- b) Lungs
- c) Small intestine
- d) Liver

20. Nephritis refers to:

- a) Lung infection
- b) Heart disorder
- c) Kidney inflammation
- d) Liver failure

Section B: Short Answer Questions (SAQs)

1. **Define physiology.**

Answer: Physiology is the study of the normal functions of living organisms and their parts.

2. **Name the main body fluid compartments.**

Answer: Intracellular fluid (ICF) and Extracellular fluid (ECF).

3. **List the four main tissue types in the body.**

Answer: Epithelial, connective, muscle, and nervous tissue.

4. **What is the function of platelets?**

Answer: Platelets aid in blood clotting and hemostasis.

5. **Define cardiac cycle.**

Answer: The cardiac cycle is the sequence of events in one heartbeat, including systole (contraction) and diastole (relaxation).

6. **Name two common cardiovascular disorders.**

Answer: Hypertension and myocardial infarction.

7. **Mention two respiratory disorders.**

Answer: Asthma and pneumonia.

8. **List three digestive enzymes and their functions.**

Answer: Amylase (breaks down carbohydrates), lipase (breaks down fats), protease (breaks down proteins).

9. **Define urine formation.**

Answer: Urine formation involves filtration, reabsorption, and secretion in the kidneys to remove waste and maintain water/electrolyte balance.

10. **Name two renal disorders.**

Answer: Nephritis and kidney stones.

Section C: Long Answer Questions (LAQs)

1. **Explain homeostasis and its importance in human physiology.**

Answer: Homeostasis is the maintenance of a stable internal environment despite external changes. It involves feedback mechanisms (negative and positive). Essential for proper cell function, organ system efficiency, and survival.

2. **Describe the composition and functions of blood.**

Answer:

- **Plasma:** Transport nutrients, hormones, and waste.
- **RBCs:** Carry oxygen.
- **WBCs:** Immunity.
- **Platelets:** Clotting.
- **Functions:** Transport, regulation (pH, temperature), protection.

3. **Discuss the cardiac cycle and regulation of heart rate.**

Answer:

- **Systole:** Ventricular contraction, blood ejection.
- **Diastole:** Ventricular relaxation, filling with blood.
- **Regulation:** Neural (autonomic nervous system), chemical (hormones like adrenaline).

4. **Explain the mechanism of breathing and gas exchange.**

Answer:

- **Inspiration:** Diaphragm contracts → thoracic volume increases → air enters lungs.
- **Expiration:** Diaphragm relaxes → thoracic volume decreases → air exits lungs.
- **Gas exchange:** Oxygen diffuses from alveoli to blood, CO₂ from blood to alveoli.

5. **Describe the physiology of digestion and nutrient absorption.**

Answer:

- **Mechanical digestion:** Chewing and churning.
- **Chemical digestion:** Enzymes break down macronutrients.
- **Absorption:** Small intestine absorbs nutrients; water absorbed in large intestine.
- **Metabolism:** Nutrients converted to energy or stored.

6. **Discuss the structure and functions of the kidneys.**

Answer:

- Structures: Cortex, medulla, nephrons (functional unit).
- Functions: Filtration of blood, reabsorption of useful substances, secretion of waste, maintenance of water/electrolyte and acid-base balance.

7. **Explain blood clotting mechanism (hemostasis).**

Answer:

- **Vascular spasm:** Constriction of blood vessels.
- **Platelet plug formation:** Platelets aggregate at injury site.
- **Coagulation:** Fibrin formation traps RBCs to form clot.
- **Clot retraction and repair:** Clot stabilizes and tissue repairs.

8. **Describe the respiratory volumes and capacities.**

Answer:

- **Tidal volume (TV):** Normal breath air volume.
- **Inspiratory reserve volume (IRV):** Max air inhaled.
- **Expiratory reserve volume (ERV):** Max air exhaled.
- **Vital capacity (VC):** Total air exchangeable by lungs.
- **Residual volume (RV):** Air remaining in lungs after maximal exhalation.

9. **Explain acid-base balance and role of kidneys in pH regulation.**

Answer:

- Blood pH maintained ~7.35–7.45.
- **Kidneys:** Reabsorb bicarbonate, excrete H⁺ ions.
- **Lungs:** Regulate CO₂ excretion.
- Imbalance can cause acidosis or alkalosis.

10. **Discuss common disorders of the blood and lymphatic system.**

Answer:

- **Anemia:** Low RBCs or hemoglobin → fatigue, pallor.

- **Leukemia:** Cancer of WBCs → immune deficiency.
 - **Hemophilia:** Defective clotting factors → bleeding disorders.
 - **Lymphatic disorders:** Lymphedema → swelling due to lymph accumulation.
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BVNHM-103: Medical Biochemistry

Total Marks: 100

Section A: Multiple Choice Questions (MCQs)

1. The basic building blocks of proteins are:
 - a) Monosaccharides
 - b) Amino acids ✓
 - c) Fatty acids
 - d) Nucleotides
2. DNA is composed of:
 - a) Amino acids
 - b) Nucleotides ✓
 - c) Fatty acids
 - d) Monosaccharides
3. The primary storage form of glucose in humans is:
 - a) Sucrose
 - b) Glycogen ✓
 - c) Starch
 - d) Fructose
4. Enzyme activity can be affected by:
 - a) Temperature ✓
 - b) pH ✓
 - c) Substrate concentration ✓
 - d) All of the above ✓
5. Competitive enzyme inhibitors:
 - a) Bind to the active site ✓
 - b) Bind to an allosteric site
 - c) Increase V_{max}
 - d) Denature the enzyme
6. Glycolysis occurs in the:
 - a) Mitochondria
 - b) Cytoplasm ✓
 - c) Nucleus
 - d) Endoplasmic reticulum
7. The end product of beta-oxidation of fatty acids is:
 - a) Acetyl-CoA ✓
 - b) Pyruvate
 - c) Glucose
 - d) Lactate

8. Urea cycle occurs in the:
- a) Cytoplasm and mitochondria
 - b) Nucleus
 - c) Lysosome
 - d) Golgi apparatus
9. Hyperlipidemia is primarily related to:
- a) Protein metabolism
 - b) Lipid metabolism
 - c) Carbohydrate metabolism
 - d) Nucleic acid metabolism
10. Insulin is secreted by:
- a) Alpha cells of pancreas
 - b) Beta cells of pancreas
 - c) Adrenal cortex
 - d) Thyroid gland
11. Phenylketonuria is a disorder of:
- a) Carbohydrate metabolism
 - b) Protein metabolism
 - c) Lipid metabolism
 - d) Nucleic acid metabolism
12. Cholesterol is a precursor for:
- a) Steroid hormones
 - b) Insulin
 - c) Glucose
 - d) Amino acids
13. Lactate is formed under:
- a) Aerobic conditions
 - b) Anaerobic conditions
 - c) Photosynthesis
 - d) Urea cycle
14. Which of the following is a liver enzyme used as a clinical marker?
- a) ALT
 - b) Amylase
 - c) Lipase
 - d) Creatinine
15. Lipoproteins are responsible for:
- a) Transport of carbohydrates
 - b) Transport of lipids
 - c) Transport of proteins
 - d) Transport of nucleic acids

16. Transamination is primarily involved in:
- a) Carbohydrate metabolism
 - b) Amino acid metabolism ✓
 - c) Lipid metabolism
 - d) DNA replication
17. Michaelis-Menten equation is related to:
- a) Protein folding
 - b) Enzyme kinetics ✓
 - c) Lipid transport
 - d) Glycolysis
18. Alkaptonuria is caused by a defect in:
- a) Tyrosine metabolism ✓
 - b) Glucose metabolism
 - c) Fatty acid metabolism
 - d) Purine metabolism
19. Acid-base balance in blood is maintained by:
- a) Kidneys and lungs ✓
 - b) Heart and liver
 - c) Brain only
 - d) Pancreas
20. Creatinine levels are used to assess:
- a) Liver function
 - b) Kidney function ✓
 - c) Heart function
 - d) Lung function
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Section B: Short Answer Questions (SAQs)

1. **Define biochemistry.**

Answer: Biochemistry is the study of chemical processes and substances in living organisms.

2. **Name the three main types of biomolecules.**

Answer: Carbohydrates, proteins, and lipids.

3. **Define enzyme and its function.**

Answer: An enzyme is a biological catalyst that accelerates chemical reactions without being consumed.

4. **What is glycolysis?**

Answer: Glycolysis is the metabolic pathway that converts glucose into pyruvate, producing ATP and NADH.

5. **Name two clinical uses of liver enzymes.**

Answer: ALT and AST are used to assess liver function and detect liver damage.

6. **Mention two disorders of carbohydrate metabolism.**

Answer: Diabetes mellitus and glycogen storage diseases.

7. **Define beta-oxidation.**

Answer: Beta-oxidation is the process of breaking down fatty acids into acetyl-CoA for energy production.

8. **What is the function of urea cycle?**

Answer: The urea cycle detoxifies ammonia by converting it to urea for excretion.

9. **Name two hormonal biochemicals.**

Answer: Insulin and thyroid hormones.

10. **Define hyperlipidemia.**

Answer: Hyperlipidemia is a condition characterized by elevated levels of lipids in the blood.

Section C: Long Answer Questions (LAQs)

1. **Explain the structure and function of carbohydrates.**

Answer: Carbohydrates are organic compounds composed of carbon, hydrogen, and oxygen. Monosaccharides (glucose, fructose) are simple sugars; disaccharides (sucrose, lactose) are composed of two monosaccharides; polysaccharides (starch, glycogen) are energy storage molecules. Functions: energy source, structural roles, and cell signaling.

2. **Discuss the classification and mechanism of enzyme action.**

Answer: Enzymes are classified as oxidoreductases, transferases, hydrolases, lyases, isomerases, and ligases. Mechanism: substrate binds to enzyme active site → enzyme-substrate complex → transition state → product formation → enzyme release.

3. **Describe glycolysis and its importance in energy metabolism.**

Answer: Glycolysis is a 10-step anaerobic process converting glucose to pyruvate, producing 2 ATP and 2 NADH. Importance: primary energy source in cells, provides intermediates for other pathways.

4. **Explain lipid metabolism, including beta-oxidation and cholesterol biosynthesis.**

Answer: Fatty acids undergo beta-oxidation in mitochondria → acetyl-CoA → enters Krebs cycle → ATP. Cholesterol is synthesized from acetyl-CoA, used for membranes, bile acids, and steroid hormones. Disorders include hyperlipidemia and atherosclerosis.

5. **Discuss protein metabolism and urea cycle.**

Answer: Proteins are broken into amino acids → deamination removes amino groups → carbon skeleton used for energy. Urea cycle detoxifies ammonia by converting it into urea for excretion. Disorders: phenylketonuria, alkaptonuria.

6. **Describe nucleic acids and their function in the body.**

Answer: DNA and RNA are polymers of nucleotides. DNA stores genetic information; RNA participates in protein synthesis (mRNA, tRNA, rRNA).

7. **Explain clinical biochemical tests for liver and kidney function.**

Answer:

- **Liver:** ALT, AST, ALP, bilirubin.
- **Kidney:** Serum creatinine, blood urea nitrogen (BUN), urinalysis.
- Purpose: Diagnose organ dysfunction, monitor disease progression.

8. Discuss disorders of carbohydrate and lipid metabolism.

Answer:

- Carbohydrate: Diabetes mellitus → high blood glucose; glycogen storage diseases → abnormal glycogen accumulation.
- Lipid: Hyperlipidemia → high cholesterol/triglycerides; atherosclerosis → plaque formation in arteries.

9. Explain enzyme inhibition and its clinical relevance.

Answer:

- **Competitive inhibition:** inhibitor competes for active site.
- **Non-competitive:** binds elsewhere → changes enzyme shape.
- Clinical relevance: drug action (statins inhibit HMG-CoA reductase).

10. Describe the role of biochemistry in disease diagnosis.

Answer: Biochemistry helps detect metabolic imbalances, enzyme levels, hormone levels, and biomarkers for diseases like diabetes, cardiovascular disorders, liver/kidney diseases, and cancer.

BVNHM-104: Communication Skills

Total Marks: 100

Section A: Multiple Choice Questions (MCQs)

1. Communication is the process of:
 - a) Sending information only
 - b) Receiving information only
 - c) Sharing information between sender and receiver
 - d) Writing reports

2. Non-verbal communication includes:
 - a) Gestures
 - b) Tone of voice
 - c) Written letters
 - d) Both a and b

3. Barriers to communication may include:
 - a) Physical barriers
 - b) Psychological barriers
 - c) Semantic barriers
 - d) All of the above

4. Active listening involves:
 - a) Interrupting the speaker
 - b) Paying full attention and providing feedback
 - c) Ignoring the speaker
 - d) Writing a report

5. Eye contact in communication helps to:
 - a) Convey attention and interest
 - b) Distract the listener
 - c) Increase physical distance
 - d) None of the above

6. Public speaking requires:
 - a) Voice modulation
 - b) Audience engagement
 - c) Reading silently
 - d) Both a and b

7. The communication process includes:
 - a) Sender, message, receiver, feedback
 - b) Sender and receiver only
 - c) Message and feedback only
 - d) Receiver only

8. Proxemics is related to:
- a) Tone of voice
 - b) Personal space and physical distance
 - c) Facial expressions
 - d) Written communication
9. Written communication examples include:
- a) Memos
 - b) Reports
 - c) Emails
 - d) All of the above
10. Cultural variations in communication affect:
- a) Body language
 - b) Gestures
 - c) Eye contact
 - d) All of the above
11. Coherence in writing means:
- a) Ideas are logically connected
 - b) Using long words
 - c) Ignoring grammar
 - d) Writing quickly
12. Feedback is:
- a) Ignoring the message
 - b) Response from the receiver
 - c) Sending the message
 - d) None of the above
13. Paralinguistics refers to:
- a) Grammar and vocabulary
 - b) Tone, pitch, and volume of voice
 - c) Written reports
 - d) Body posture
14. Conciseness in writing refers to:
- a) Writing as much as possible
 - b) Using few words to convey meaning
 - c) Ignoring clarity
 - d) Using complex sentences
15. Team communication enhances:
- a) Collaboration
 - b) Misunderstanding
 - c) Isolation
 - d) Conflict

16. Persuasion skills help in:
- a) Convincing others ✓
 - b) Ignoring others
 - c) Writing reports only
 - d) Listening passively
17. Conflict resolution in communication involves:
- a) Avoiding communication
 - b) Addressing disagreements constructively ✓
 - c) Blaming others
 - d) Ignoring issues
18. Professional writing requires:
- a) Coherence ✓
 - b) Grammar and vocabulary ✓
 - c) Structure and clarity ✓
 - d) All of the above ✓
19. Effective verbal communication includes:
- a) Clarity ✓
 - b) Brevity ✓
 - c) Relevance ✓
 - d) All of the above ✓
20. Customer service communication emphasizes:
- a) Professionalism ✓
 - b) Empathy ✓
 - c) Ignoring complaints
 - d) Both a and b ✓

Section B: Short Answer Questions (SAQs)

1. **Define communication.**

Answer: Communication is the process of exchanging information, ideas, or messages between a sender and a receiver effectively.

2. **Name two types of communication.**

Answer: Verbal and non-verbal communication.

3. **List two barriers to effective communication.**

Answer: Physical barriers (noise, distance), psychological barriers (stress, emotions).

4. **What is active listening?**

Answer: Active listening is fully concentrating, understanding, responding, and remembering what the speaker says.

5. **Define proxemics.**

Answer: Proxemics is the study of personal space and how physical distance affects communication.

6. **Mention two techniques of public speaking.**

Answer: Voice modulation, audience engagement.

7. **List two types of written communication.**

Answer: Emails and reports.

8. **What is feedback in communication?**

Answer: Feedback is the response or reaction of the receiver to the sender's message.

9. **Define paralinguistics.**

Answer: Paralinguistics refers to tone, pitch, and volume of voice that influence verbal communication.

10. **Mention two strategies to overcome communication barriers.**

Answer: Simplifying language, using active listening, clarifying messages, and using visual aids.

Section C: Long Answer Questions (LAQs)

1. **Explain the types and importance of communication.**

Answer: Types: Verbal (spoken), Non-verbal (gestures, body language), Written (letters, reports), Visual (charts, diagrams). Importance: facilitates understanding, builds relationships, enhances teamwork, and ensures effective professional practice.

2. **Describe the communication process with an example.**

Answer: Steps: Sender → encodes message → Message → transmitted through a channel → Receiver → decodes message → Feedback provided. Example: A nurse explaining medication instructions to a patient and receiving confirmation of understanding.

3. **Discuss verbal communication skills and their significance.**

Answer: Includes clarity, brevity, relevance, voice modulation, active listening. Significance: reduces misunderstanding, improves teamwork, ensures accurate information exchange in professional settings.

4. **Explain non-verbal communication and its role in healthcare.**

Answer: Non-verbal communication includes body language, facial expressions, gestures, eye contact, tone of voice. Role: conveys empathy, supports verbal communication, helps assess patient emotions and needs.

5. **Describe the principles of effective writing.**

Answer: Coherence, conciseness, clarity, proper grammar and vocabulary, structured format. Ensures professional and clear communication in reports, emails, and documentation.

6. **Explain barriers to communication and ways to overcome them.**

Answer: Barriers: Physical (noise, distance), psychological (stress, attitudes), semantic

(misinterpretation). Overcome by: using simple language, active listening, visual aids, feedback confirmation.

7. **Discuss the role of team communication in professional settings.**

Answer: Promotes collaboration, conflict resolution, better decision-making, knowledge sharing, and improves efficiency in healthcare teams.

8. **Describe public speaking skills and techniques.**

Answer: Skills: Clarity, confidence, voice modulation, audience engagement, body language. Techniques: preparation, practicing, controlling nervousness, using visual aids.

9. **Explain customer service communication in healthcare.**

Answer: Emphasizes professionalism, empathy, active listening, clear instructions, and managing complaints effectively to ensure patient satisfaction and trust.

10. **Discuss written communication formats and professional writing techniques.**

Answer: Formats: Reports, emails, memos, proposals. Techniques: structured layout, clear headings, coherent paragraphs, proofreading, concise language, professional tone.

BVNHM-201: Health Care Management

Total Marks: 100

Section A: Multiple Choice Questions (MCQs)

1. Health care systems can be categorized as:
 - a) Public
 - b) Private
 - c) International Models
 - d) All of the above
2. Primary care refers to:
 - a) Specialized hospital care
 - b) First point of contact in the health system
 - c) Emergency care
 - d) Intensive care
3. The role of a health care manager includes:
 - a) Planning and organizing
 - b) Supervising staff
 - c) Financial management
 - d) All of the above
4. NABH stands for:
 - a) National Accreditation Board for Hospitals
 - b) National Association of Blood Health
 - c) Nursing Accreditation Board for Health
 - d) None of the above
5. JCI is related to:
 - a) International hospital accreditation
 - b) Medical coding
 - c) Health insurance
 - d) Patient nutrition
6. Hospital departments include:
 - a) Outpatient
 - b) Inpatient
 - c) Emergency and ICU
 - d) All of the above
7. Revenue cycle management involves:
 - a) Billing
 - b) Coding

- c) Reimbursement
 - d) All of the above
8. Health Information Systems (HIS) include:
- a) Electronic Health Records (EHR)
 - b) Hospital management software
 - c) Telemedicine platforms
 - d) All of the above
9. Telemedicine provides:
- a) Remote patient care
 - b) Face-to-face visits only
 - c) Pharmacy management
 - d) Hospital administration only
10. Patient safety protocols aim to:
- a) Reduce medical errors
 - b) Increase patient satisfaction
 - c) Improve health care quality
 - d) All of the above
11. Budgeting in health care helps to:
- a) Plan resource allocation
 - b) Control costs
 - c) Monitor performance
 - d) All of the above
12. Health care quality assurance includes:
- a) Accreditation compliance
 - b) Protocol adherence
 - c) Staff training
 - d) All of the above
13. Performance appraisal in health care:
- a) Evaluates staff competency
 - b) Helps in motivation and retention
 - c) Ignores staff contribution
 - d) None of the above
14. Types of health insurance include:
- a) Private
 - b) Public
 - c) Employer-provided
 - d) All of the above

15. Telemedicine challenges include:

- a) Data security
- b) Technology access
- c) Staff training
- d) All of the above

16. Financial reporting in health care includes:

- a) Balance sheet
- b) Income statement
- c) Patient notes
- d) Both a and b

17. Patient satisfaction assessment helps to:

- a) Improve health care delivery
- b) Monitor patient experience
- c) Ignore quality standards
- d) Both a and b

18. Hospital infrastructure planning involves:

- a) Facility management
- b) Equipment allocation
- c) Staffing and workflow
- d) All of the above

19. Health care manager must ensure:

- a) Compliance with legal and ethical standards
- b) Proper allocation of resources
- c) Quality care delivery
- d) All of the above

20. Data privacy in health care refers to:

- a) Protecting patient information
- b) Sharing records freely
- c) Ignoring consent
- d) None of the above

Section B: Short Answer Questions (SAQs)

1. **Define health care management.**

Answer: Health care management is the planning, organizing, directing, and controlling of resources to achieve the objectives of a health care organization efficiently and effectively.

2. **List three types of health care systems.**

Answer: Public, private, and international health care models.

3. **What is primary, secondary, and tertiary care?**

Answer:

- Primary: First point of contact (e.g., clinics)
- Secondary: Specialized care in hospitals
- Tertiary: Advanced medical care in specialized centers

4. **Mention two hospital accreditation bodies.**

Answer: NABH (National Accreditation Board for Hospitals) and JCI (Joint Commission International).

5. **What is the role of EHR in health care?**

Answer: Electronic Health Records store patient information digitally, improve access to medical history, enhance decision-making, and ensure continuity of care.

6. **Define patient safety.**

Answer: Patient safety is the prevention of errors and adverse effects to patients associated with health care.

7. **Name two challenges of telemedicine.**

Answer: Data security and technology access.

8. **What is health care budgeting?**

Answer: Budgeting is the process of planning, allocating, and monitoring financial resources in a health care organization.

9. **List two responsibilities of a health care manager.**

Answer: Resource allocation and staff supervision.

10. **What is quality assurance in health care?**

Answer: Quality assurance involves systematic processes to ensure health care services meet defined standards and improve patient outcomes.

Section C: Long Answer Questions (LAQs)

1. **Explain the overview of health care systems and delivery models.**

Answer: Health care systems are organized to provide medical services efficiently. Public systems are government-funded, private systems are owned by individuals/organizations, and international models follow global standards. Delivery models include primary care (first contact), secondary care (specialist), and tertiary care (advanced medical services).

2. **Discuss the roles and responsibilities of hospital administration.**

Answer: Hospital administrators oversee daily operations, manage staff, coordinate departments, ensure regulatory compliance, allocate resources, monitor finances, and maintain quality care standards.

3. **Explain financial management and budgeting in health care.**

Answer: Involves planning income and expenditure, controlling costs, allocating resources

efficiently, preparing budgets, monitoring revenue, and ensuring sustainability. Financial reporting includes balance sheets, income statements, and performance metrics.

4. **Describe the role of human resource management in health care.**

Answer: HR management recruits, trains, and evaluates staff, ensures competency, motivates employees, resolves conflicts, and ensures legal compliance for workforce safety and welfare.

5. **Discuss Health Information Systems (HIS) and EHR.**

Answer: HIS encompasses software and systems managing patient care, administrative tasks, and medical records. EHR stores digital patient records for continuity, improves clinical decisions, reduces errors, and facilitates telemedicine.

6. **Explain telemedicine, its principles, and challenges.**

Answer: Telemedicine uses technology to provide remote medical care. Principles include accessibility, safety, and patient confidentiality. Challenges: internet connectivity, data security, technology literacy, and regulatory compliance.

7. **Describe quality assurance and patient safety in health care.**

Answer: Quality assurance ensures services meet standards, protocols, and accreditation requirements. Patient safety involves risk management, preventing errors, monitoring outcomes, and enhancing patient satisfaction.

8. **Explain hospital planning and infrastructure management.**

Answer: Involves designing facilities, managing space, allocating equipment, workflow planning, ensuring compliance with standards, and maintaining functional hospital operations.

9. **Discuss health care finance and insurance management.**

Answer: Finance involves budgeting, cost control, revenue cycle management, and financial reporting. Health insurance provides coverage for patient expenses; includes private, public, and employer-provided plans with claims and reimbursement processes.

10. **Explain monitoring and evaluation of health care services.**

Answer: Monitoring involves collecting data on performance and patient care. Evaluation assesses efficiency, quality, patient satisfaction, compliance with standards, and identifies areas for improvement in services.

BVNHM-202: Community Healthcare

Total Marks: 100

Section A: Multiple Choice Questions (MCQs)

1. Community health focuses on:
 - a) Individual treatment only
 - b) Population health and preventive strategies ✓
 - c) Hospital-based interventions only
 - d) None of the above

2. Determinants of health include:
 - a) Social factors ✓
 - b) Environmental factors ✓
 - c) Economic factors ✓
 - d) All of the above ✓

3. DALY stands for:
 - a) Disability-Adjusted Life Year ✓
 - b) Disease Analysis Life Year
 - c) Daily Average Life Yield
 - d) None of the above

4. CHWs are:
 - a) Certified Hospital Workers
 - b) Community Health Workers ✓
 - c) Clinical Health Watchers
 - d) None of the above

5. Epidemiology is:
 - a) Study of disease distribution ✓
 - b) Treatment of patients
 - c) Nursing care
 - d) None of the above

6. Immunization programs aim to:
 - a) Cure infectious diseases
 - b) Prevent diseases ✓
 - c) Diagnose chronic conditions
 - d) Treat malnutrition

7. Growth monitoring in children helps to:
 - a) Detect malnutrition ✓
 - b) Track development milestones ✓
 - c) Monitor immunization status ✓
 - d) All of the above ✓

8. Non-communicable diseases include:
- a) Diabetes
 - b) Hypertension
 - c) Tuberculosis
 - d) Heart Disease
9. Health promotion strategies involve:
- a) Education
 - b) Advocacy
 - c) Behavior change
 - d) All of the above
10. Vector-borne diseases are transmitted by:
- a) Air
 - b) Water
 - c) Insects
 - d) Food
11. Environmental health hazards include:
- a) Poor water quality
 - b) Air pollution
 - c) Sanitation issues
 - d) All of the above
12. Waste management in communities helps to:
- a) Reduce disease spread
 - b) Improve hygiene
 - c) Protect environment
 - d) All of the above
13. Occupational health focuses on:
- a) Hospital infection control
 - b) Workplace safety
 - c) Nutrition programs
 - d) Patient satisfaction
14. RNTCP is related to:
- a) Tuberculosis control program
 - b) Nutrition program
 - c) Maternal care
 - d) Child health
15. WHO stands for:
- a) World Health Organization
 - b) Wellness Health Organization
 - c) World Hospital Organization
 - d) None of the above

16. ICDS program focuses on:

- a) Child development and nutrition
- b) Hospital accreditation
- c) Health insurance
- d) Elderly care

17. Universal Health Coverage (UHC) ensures:

- a) Access to health services for all
- b) Only hospital care
- c) Only vaccination programs
- d) None of the above

18. NGOs in community health:

- a) Fund programs
- b) Provide services
- c) Advocate for policy changes
- d) All of the above

19. Sustainable Development Goals (SDGs) related to health include:

- a) Good Health and Well-being
- b) Zero Hunger
- c) Quality Education
- d) Only a and b

20. Outbreak investigation involves:

- a) Identifying source
- b) Containing spread
- c) Educating community
- d) All of the above

Section B: Short Answer Questions (SAQs)

1. **Define community health.**

Answer: Community health is the study and practice of protecting, promoting, and restoring the health of populations through organized efforts, preventive strategies, and health education.

2. **Differentiate between community health and public health.**

Answer:

- **Community Health:** Focuses on health within a specific community, involving local participation.
- **Public Health:** Broader focus on population health, policy, and preventive measures at regional or national levels.

3. **List three health indicators.**

Answer: Mortality rate, morbidity rate, and life expectancy.

4. **Name two roles of community health workers (CHWs).**

Answer: Health promotion, disease prevention, basic health care, and patient education.

5. **Define epidemiology.**

Answer: Epidemiology is the study of the distribution, determinants, and control of diseases in populations.

6. **Mention two immunization programs in India.**

Answer: Universal Immunization Program (UIP) and National Polio Program.

7. **Explain the role of nutrition in maternal and child health.**

Answer: Nutrition ensures healthy fetal development, supports breastfeeding, prevents malnutrition, and promotes child growth and immunity.

8. **List two environmental health hazards.**

Answer: Contaminated water and air pollution.

9. **What are the components of health promotion?**

Answer: Education, advocacy, community participation, and behavior change strategies.

10. **Mention two international health organizations.**

Answer: World Health Organization (WHO) and UNICEF.

Section C: Long Answer Questions (LAQs)

1. **Explain the determinants of health in community healthcare.**

Answer: Determinants of health are factors influencing individual and population health, including social factors (education, income), environmental factors (clean water, sanitation), and economic factors (employment, access to resources). Addressing these determinants improves health outcomes and reduces disparities.

2. **Discuss the role of CHWs in health promotion.**

Answer: Community Health Workers act as a bridge between health systems and the community. They educate people on hygiene, nutrition, and disease prevention, monitor health indicators, support vaccination campaigns, and refer patients to medical facilities when needed.

3. **Describe the prevention strategies for communicable and non-communicable diseases.**

Answer:

- **Communicable:** Vaccination, sanitation, isolation, and vector control.
- **Non-communicable:** Lifestyle modification, health education, regular screening, and management of risk factors (diet, exercise, smoking cessation).

4. **Explain maternal and child health services in the community.**

Answer: Includes antenatal, intranatal, and postnatal care, growth monitoring, immunization,

nutrition counseling, management of malnutrition, family planning services, and education for healthy child-rearing practices.

5. **Discuss principles and strategies of health promotion.**

Answer: Health promotion is enabling people to increase control over their health. Strategies include health education, advocacy for supportive policies, community engagement, behavior change models, and targeted interventions for vulnerable groups like women, children, and the elderly.

6. **Explain environmental and occupational health in community healthcare.**

Answer: Environmental health focuses on preventing hazards from water, air, and sanitation, and ensuring safe waste disposal. Occupational health ensures workplace safety, minimizes exposure to hazards, promotes hygiene, and reduces work-related diseases.

7. **Describe vector-borne disease control strategies.**

Answer: Includes mosquito control, insecticide use, drainage of stagnant water, use of bed nets, public education, vaccination (if available), and early diagnosis and treatment of cases.

8. **Explain national health programs in India.**

Answer: Programs like NRHM, ICDS, and RNTCP focus on improving maternal and child health, nutrition, tuberculosis control, immunization, and primary health care access. They provide structured health services at community and facility levels.

9. **Discuss international health organizations and their role.**

Answer: WHO provides leadership on global health matters, sets standards, and monitors health trends. UNICEF supports child health, nutrition, and immunization. The Global Fund finances programs against HIV, TB, and malaria. These organizations support policy, funding, and technical guidance.

10. **Explain Universal Health Coverage (UHC) and community-based health insurance.**

Answer: UHC ensures all individuals receive essential health services without financial hardship. Community-based health insurance pools resources from members to cover medical costs, improving access to care in low-resource communities.

BVNHM-204: Midwifery

Total Marks: 100

Section A: Multiple Choice Questions (MCQs)

1. Midwifery is primarily concerned with:
 - a) Pediatric care
 - b) Care of pregnant women and newborns
 - c) Geriatric nursing
 - d) Surgical nursing
2. The main role of a midwife includes:
 - a) Antenatal care
 - b) Assisting in labor and delivery
 - c) Postnatal care
 - d) All of the above
3. Which of the following is a legal consideration in midwifery?
 - a) Patient confidentiality
 - b) Infection control
 - c) Nutritional counseling
 - d) Exercise guidelines
4. Physiological changes during pregnancy include:
 - a) Increased blood volume
 - b) Increased cardiac output
 - c) Changes in respiratory function
 - d) All of the above
5. Fetal development stage at 8 weeks is called:
 - a) Zygote
 - b) Embryo
 - c) Fetus
 - d) Neonate
6. Maternal nutrition affects:
 - a) Fetal growth
 - b) Maternal health
 - c) Birth outcomes
 - d) All of the above
7. Importance of antenatal care (ANC) includes:
 - a) Detecting maternal complications
 - b) Monitoring fetal growth

- c) Counseling on nutrition and lifestyle ✓
 - d) All of the above ✓
8. Pain management techniques during labor include:
- a) Epidural anesthesia ✓
 - b) Breathing techniques ✓
 - c) Massage and hydrotherapy ✓
 - d) All of the above ✓
9. First stage of labor is:
- a) Latent phase ✓
 - b) Active phase ✓
 - c) Transition phase ✓
 - d) All of the above ✓
10. Immediate newborn care includes:
- a) Clearing airway ✓
 - b) Drying and warming ✓
 - c) Assessing Apgar score ✓
 - d) All of the above ✓
11. Postnatal care for mother includes:
- a) Monitoring vitals ✓
 - b) Counseling on breastfeeding ✓
 - c) Identifying postpartum complications ✓
 - d) All of the above ✓
12. Breastfeeding benefits for baby include:
- a) Provides antibodies ✓
 - b) Promotes bonding ✓
 - c) Supports optimal growth ✓
 - d) All of the above ✓
13. Common antenatal complications include:
- a) Preeclampsia ✓
 - b) Gestational diabetes ✓
 - c) Anemia ✓
 - d) All of the above ✓
14. Psychological changes in pregnancy include:
- a) Mood swings ✓
 - b) Anxiety and stress ✓
 - c) Emotional adjustments to motherhood ✓
 - d) All of the above ✓

15. Midwives in community health settings:
- a) Conduct home visits ✓
 - b) Provide health education ✓
 - c) Support maternal and child health programs ✓
 - d) All of the above ✓
16. Cultural competence in midwifery ensures:
- a) Respect for patient beliefs ✓
 - b) Improved adherence to care plans ✓
 - c) Better patient satisfaction ✓
 - d) All of the above ✓
17. Preparation for labor includes:
- a) Educating about birth plan ✓
 - b) Teaching breathing and relaxation techniques ✓
 - c) Ensuring hospital readiness ✓
 - d) All of the above ✓
18. Policies supporting maternal and child health include:
- a) National Health Mission ✓
 - b) Janani Suraksha Yojana ✓
 - c) ICDS ✓
 - d) All of the above ✓
19. Assessment of maternal recovery postpartum includes:
- a) Checking uterine involution ✓
 - b) Monitoring bleeding ✓
 - c) Evaluating emotional well-being ✓
 - d) All of the above ✓
20. Midwifery theoretical frameworks guide:
- a) Clinical decision-making ✓
 - b) Ethical care delivery ✓
 - c) Evidence-based practice ✓
 - d) All of the above ✓
-

Section B: Short Answer Questions (SAQs) with Detailed Answers

1. Define midwifery.

Answer: Midwifery is a healthcare profession dedicated to caring for women during pregnancy, labor, postpartum, and for newborns. It emphasizes health promotion, disease prevention, education, and support for safe childbirth.

2. List three roles of a midwife.

Answer:

- Provide antenatal care (monitor maternal and fetal health)
- Assist during labor and delivery
- Provide postnatal care, including breastfeeding support and family planning

3. Name two physiological changes during pregnancy.

Answer:

- Increased blood volume and cardiac output
- Respiratory adaptations: increased tidal volume and oxygen consumption

4. Explain the importance of antenatal care (ANC).

Answer: ANC ensures:

- Early detection of complications (preeclampsia, gestational diabetes)
- Monitoring fetal growth and development
- Nutritional and lifestyle counseling
- Education on labor, delivery, and postnatal care

5. Mention two pain management techniques during labor.

Answer:

- Pharmacological: Epidural anesthesia, opioid analgesics
- Non-pharmacological: Breathing exercises, massage, hydrotherapy

6. List three components of immediate newborn care.

Answer:

- Clearing the airway and ensuring respiration
- Drying, warming, and skin-to-skin contact
- Assessing Apgar score at 1 and 5 minutes

7. State two benefits of breastfeeding for the mother.

Answer:

- Promotes uterine contraction and reduces postpartum bleeding
- Enhances bonding and emotional well-being

8. Name two common antenatal complications.

Answer: Preeclampsia, gestational diabetes, anemia

9. What is the role of midwives in community health?

Answer:

- Conduct home visits and community outreach
- Provide education on maternal-child health
- Facilitate access to health services and vaccination programs

10. Mention two policies supporting maternal and child health.

Answer: National Health Mission, Janani Suraksha Yojana, Integrated Child Development Services (ICDS)

Section C: Long Answer Questions (LAQs) with Detailed Answers

1. Explain the scope of midwifery practice.

Answer: Midwifery practice covers:

- **Antenatal care (health assessment, counseling)**
- **Labor and delivery assistance (monitoring maternal-fetal well-being, supporting safe childbirth)**
- **Postnatal care (maternal recovery, newborn care, breastfeeding)**
- **Community health (education, outreach, vaccination, family planning)**
- **Evidence-based and culturally sensitive practice following ethical and legal standards**

2. Describe physiological and psychological changes during pregnancy.

Answer:

- **Physiological: Increased blood volume, cardiac output, respiratory rate, hormonal changes (progesterone, estrogen), musculoskeletal adjustments, and weight gain.**
- **Psychological: Mood swings, anxiety, excitement, maternal identity formation, and preparation for labor and parenting.**

3. Discuss antenatal care and monitoring of maternal and fetal health.

Answer: ANC involves:

- **Maternal health monitoring: vitals, weight, lab tests**
- **Fetal assessment: ultrasound, fetal heart rate, growth tracking**
- **Preventive care: immunizations, supplementation**
- **Counseling: nutrition, exercise, mental health, birth preparedness**
- **Identifying high-risk pregnancies and timely referral**

4. Explain stages of labor and the role of the midwife during delivery.

Answer:

- **Stages: Latent phase, active phase, transition phase (1st stage), second stage (delivery), third stage (placenta expulsion), fourth stage (postpartum monitoring).**
- **Midwife's role: Monitor maternal and fetal condition, assist delivery, ensure aseptic technique, manage pain, provide emotional support, and prepare for emergencies.**

5. Describe immediate newborn care and assessment.

Answer:

- **Clear airway and stimulate breathing**
- **Dry, warm, and initiate skin-to-skin contact**
- **Assess Apgar score (0–10) at 1 and 5 minutes**
- **Administer vitamin K and eye prophylaxis**
- **Monitor for congenital anomalies and vital signs**

6. Discuss postnatal care for mother and baby.

Answer:

- **Maternal: vitals, uterine involution, bleeding, emotional health, counseling on breastfeeding and family planning**
- **Newborn: feeding, weight monitoring, cord care, immunizations**
- **Early identification of postpartum depression or complications**

7. Explain the role of nutrition during pregnancy.

Answer: Adequate nutrition supports:

- **Fetal growth and brain development**
- **Maternal health and prevention of anemia**
- **Lactation and postpartum recovery**
- **Key nutrients: protein, iron, folic acid, calcium, vitamins, and balanced diet**

8. Describe health education and counseling for expecting mothers.

Answer:

- **Educate on nutrition, exercise, and lifestyle**
- **Explain warning signs and complications**
- **Prepare for labor, pain management, and delivery**
- **Breastfeeding guidance and postnatal care education**
- **Mental health support and stress management**

9. Discuss midwives' role in community health and public health initiatives.

Answer:

- **Conduct health promotion and awareness campaigns**
- **Facilitate immunization drives and preventive care**
- **Provide family planning services**
- **Collaborate with healthcare teams and local authorities**
- **Home visits to monitor maternal and child health**

10. Explain policies and programs supporting maternal and child health.

Answer:

- **National Health Mission (NHM): Improves maternal and child health services nationwide**
- **Janani Suraksha Yojana (JSY): Promotes institutional deliveries through incentives**
- **Integrated Child Development Services (ICDS): Ensures child nutrition, early learning, and health education**