

Applied Health Informatics and Technology

Important Questions (Chapter-wise)

Chapter 1: Introduction to Health Informatics

- Define Health Informatics.
- Explain the scope and importance of Health Informatics in Nursing.
- Discuss the role of nurses in Health Informatics.
- Explain advantages and disadvantages of computerized healthcare systems.
- Differentiate between Medical Informatics and Nursing Informatics.
- Explain applications of informatics in patient care.
- Write short note on Information Technology in healthcare.

Short Notes

- Data vs Information
- Nursing Informatics
- Telehealth
- E-health
- Digital Healthcare

Chapter 2: Computer Fundamentals

- Explain the components of a computer system with diagram.
- Describe input and output devices.
- Explain primary and secondary memory.
- Differentiate hardware and software.
- Explain operating system and its functions.
- Describe generations of computers.
- Explain types of computers used in healthcare.

Short Notes

- CPU
- RAM and ROM
- Storage devices
- Printer types
- Keyboard shortcuts

Chapter 3: Internet and Networking

- Define computer network and explain its types.
- Explain LAN, MAN and WAN.
- Describe internet services used in healthcare.
- Explain advantages and disadvantages of internet in nursing.

- Discuss cyber safety and internet ethics.
- Explain Wi-Fi and cloud computing.
- Write note on video conferencing in healthcare.

Short Notes

- Browser
- Search engine
- URL
- Email etiquette
- VPN

Chapter 4: Electronic Health Record (EHR) and Electronic Medical Record (EMR)

- Define EHR and EMR.
- Differentiate EHR and EMR.
- Explain components of Electronic Health Records.
- Discuss benefits of EHR in hospitals.
- Explain challenges in implementation of EHR.
- Discuss role of nurses in maintaining EHR.
- Explain legal and ethical issues in electronic documentation.

Short Notes

- Digital documentation
- Patient portal
- Clinical decision support system
- Health data management

Chapter 5: Nursing Informatics

- Define Nursing Informatics.
- Explain applications of Nursing Informatics in patient care.
- Discuss benefits of Nursing Informatics.
- Explain role of nurse informaticist.
- Describe informatics competencies for nurses.
- Explain use of informatics in nursing education and research.
- Discuss barriers in Nursing Informatics.

Short Notes

- Nurse informaticist
- Electronic charting
- Barcode medication administration
- Tele-nursing

Chapter 6: Telemedicine and Telehealth

- Define Telemedicine and Telehealth.
- Explain applications of Telemedicine in rural healthcare.
- Discuss advantages and disadvantages of Telemedicine.
- Explain role of nurses in Telehealth.
- Describe components required for Telemedicine.
- Explain legal and ethical issues in Telemedicine.
- Write note on virtual consultation.

Short Notes

- Remote monitoring
- Mobile health (mHealth)
- Video consultation
- Telenursing

Chapter 7: Hospital Information System (HIS)

- Define Hospital Information System.
- Explain components of Hospital Information System.
- Discuss advantages of HIS.
- Explain functions of HIS in hospital management.
- Describe role of nurses in HIS.
- Explain inventory and billing management through HIS.
- Discuss challenges faced during HIS implementation.

Short Notes

- Pharmacy information system
- Laboratory information system
- Admission-discharge-transfer system
- Scheduling system

Chapter 8: Data Security and Ethics

- Explain data security in healthcare.
- Discuss confidentiality and privacy of patient information.
- Explain cybercrime and cyber security.
- Describe ethical principles in health informatics.
- Explain legal issues related to electronic records.
- Discuss methods to protect healthcare data.
- Explain password and authentication methods.

Short Notes

- Hacking
- Malware
- Encryption
- Confidentiality
- Ethics in digital healthcare

Chapter 9: Research and Evidence-Based Practice

- Explain role of informatics in nursing research.
- Discuss evidence-based practice in nursing.
- Explain data collection methods using technology.
- Describe online databases used in nursing research.
- Explain advantages of computerized research systems.
- Write note on plagiarism.
- Explain statistical software used in healthcare research.

Short Notes

- PubMed
- Google Scholar
- SPSS
- Research database

Chapter 10: Recent Trends in Health Informatics

- Explain Artificial Intelligence in healthcare.
- Discuss use of robotics in nursing.
- Explain wearable health technology.
- Describe smart hospitals.
- Explain big data in healthcare.
- Discuss future scope of Health Informatics.
- Explain mobile applications in healthcare.

Short Notes

- AI
- Robotics
- IoT in healthcare
- Smart devices
- Digital health apps

Frequently Repeated University Questions

- Define Nursing Informatics and explain its importance.
- Differentiate EMR and EHR.
- Explain advantages of Telemedicine.
- Describe Hospital Information System.
- Explain ethical and legal issues in Health Informatics.
- Discuss role of computer in nursing practice.
- Explain cyber security in healthcare.

Most Important Topics for Exam Preparation

Must Prepare Long Answers

- Nursing Informatics
- EHR and EMR
- Telemedicine
- Hospital Information System
- Data Security and Ethics
- Computer Fundamentals

Applied Nursing Foundation II

Important Questions (Chapter-wise)

Chapter 1: Nursing as a Profession

- Define nursing profession.
 - Explain characteristics of a profession.
 - Discuss scope and functions of nursing.
 - Explain expanded roles of nurses.
 - Discuss ethics and values in nursing profession.
 - Explain qualities of a professional nurse.
 - Discuss trends in modern nursing.
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- Short Notes
 - Professionalism
 - Accountability
 - Nursing ethics
 - Nurse as educator
 - Leadership in nursing

Chapter 2: Communication and Interpersonal Relationship

- Define communication and explain communication process.
- Discuss types and barriers of communication.
- Explain therapeutic communication techniques.
- Describe interpersonal relationship in nursing.
- Explain nurse-patient relationship phases.
- Discuss importance of communication in patient care.
- Explain documentation and reporting.

Short Notes

- Verbal communication
- Non-verbal communication
- Active listening
- Nurse-patient relationship
- Incident report

Chapter 3: Nursing Process

- Define nursing process.
- Explain steps of nursing process.
- Discuss nursing assessment.
- Explain nursing diagnosis with examples.
- Describe nursing care plan.
- Explain implementation and evaluation.

- Discuss importance of nursing process in patient care.

Short Notes

- Nursing diagnosis
- Data collection
- Goal setting
- SOAP notes
- Care plan

Chapter 4: Vital Signs

- Explain assessment of body temperature.
- Discuss pulse assessment and abnormalities.
- Explain respiration and respiratory assessment.
- Discuss blood pressure measurement procedure.
- Explain factors affecting vital signs.
- Describe recording and interpretation of vital signs.
- Explain oxygen saturation monitoring.

Short Notes

- Fever
- Tachycardia
- Bradycardia
- Hypertension
- Pulse oximeter

Chapter 5: Infection Control and Biomedical Waste Management

- Explain chain of infection.
- Discuss medical and surgical asepsis.
- Explain hand washing technique.
- Discuss standard precautions.
- Explain biomedical waste management.
- Describe color coding in biomedical waste segregation.
- Explain prevention of hospital-acquired infections.

Short Notes

- PPE
- Nosocomial infection
- Sterilization
- Disinfection
- Needle stick injury

Chapter 6: Hygiene and Comfort Measures

- Explain principles of personal hygiene.
- Discuss oral care procedure.
- Explain bed bath procedure.
- Describe care of skin and pressure sore prevention.
- Explain care of eyes, ears and hair.
- Discuss comfort devices used in nursing.
- Explain care of unconscious patient.

Short Notes

- Pressure ulcer
- Back care
- Bed making
- Comfort devices
- Pediculosis

Chapter 7: Mobility, Positioning and Exercise

- Explain principles of body mechanics.
- Discuss range of motion exercises.
- Explain positioning of patient.
- Describe transferring and lifting techniques.
- Explain effects of immobility.
- Discuss use of restraints.
- Explain fall prevention measures.

Short Notes

- Fowler's position
- Supine position
- ROM exercises
- Crutches
- Traction

Chapter 8: Nutrition and Elimination

- Explain principles of nutrition in nursing care.
- Discuss assisting patient with feeding.
- Explain enteral feeding procedure.
- Describe bowel elimination and common problems.
- Explain urinary elimination and catheter care.
- Discuss intake and output charting.
- Explain care of patient with constipation and diarrhea.

Short Notes

- Nasogastric tube feeding
- Enema
- Urinary catheterization
- Fluid balance
- Dysphagia

Chapter 9: Oxygenation

- Explain oxygen therapy.
- Discuss methods of oxygen administration.
- Explain nursing care of patient receiving oxygen therapy.
- Describe airway suctioning procedure.
- Explain pulse oximetry.
- Discuss CPR principles.
- Explain breathing exercises.

Short Notes

- Nasal cannula
- Face mask
- Hypoxia
- Suctioning
- Incentive spirometer

Chapter 10: Medication Administration

- Explain principles of medication administration.
- Discuss rights of medication administration.
- Explain routes of drug administration.
- Describe intramuscular injection procedure.
- Explain intravenous therapy.
- Discuss complications of IV therapy.
- Explain medication errors and prevention.

Short Notes

- IM injection sites
- IV cannula
- Drug chart
- Medication errors
- Infusion pump

Chapter 11: Perioperative Nursing Care

- Explain preoperative nursing care.
- Discuss postoperative nursing care.
- Explain surgical asepsis.
- Describe consent for surgery.
- Explain complications after surgery.
- Discuss care of patient under anesthesia.
- Explain postoperative exercises.

Short Notes

- Preoperative checklist
- Surgical consent
- Postoperative complications
- Deep breathing exercises
- Wound care

Chapter 12: Admission, Transfer and Discharge

- Explain admission procedure.
- Discuss transfer procedure.
- Explain discharge procedure.
- Describe discharge planning.
- Explain care of belongings and valuables.
- Discuss medico-legal responsibilities during admission and discharge.
- Explain death care procedure.

Short Notes

- Admission unit
- Discharge summary
- Transfer note
- Last offices
- Medico-legal case

Frequently Repeated University Questions

- Explain nursing process in detail.
- Discuss biomedical waste management with color coding.
- Explain oxygen therapy and nursing responsibilities.
- Describe medication administration principles.
- Explain vital signs assessment.
- Discuss preoperative and postoperative nursing care.
- Explain infection control measures.

Most Important Long Answers

- Nursing Process
- Biomedical Waste Management
- Oxygen Therapy
- Medication Administration
- Vital Signs
- Infection Control
- Perioperative Nursing Care
- Most Important Procedures for Practical Exam
- Hand washing
- Bed making
- Vital signs assessment
- Oral medication administration
- IM injection
- IV infusion
- Catheter care
- Nasogastric feeding
- Oxygen administration
- Sterile dressing procedure

Applied Biochemistry – Important Questions

Chapter 1: Cell and Cell Structure

- Describe structure and functions of cell.
- Explain structure and functions of cell organelles.
- Differentiate prokaryotic and eukaryotic cells.
- Explain plasma membrane and transport mechanisms.
- Discuss functions of nucleus and mitochondria.

Short Notes

- Lysosomes
- Ribosomes
- Golgi apparatus
- Diffusion and osmosis
- Cell membrane

Chapter 2: Carbohydrates

- Define carbohydrates and classify them with examples.
- Explain digestion and absorption of carbohydrates.
- Describe glycolysis.
- Explain glycogenesis and glycogenolysis.
- Discuss functions of carbohydrates in body.

Short Notes

- Monosaccharides
- Lactose intolerance
- Hyperglycemia
- Glycogen
- Diabetes mellitus

Chapter 3: Proteins

- Define proteins and classify them.
- Explain digestion and absorption of proteins.
- Discuss functions of proteins.
- Explain protein metabolism.
- Describe urea cycle.

Short Notes

- Amino acids
- Essential amino acids
- Denaturation
- Plasma proteins
- Kwashiorkor

Chapter 4: Lipids

- Define lipids and classify them.
- Explain digestion and absorption of fats.
- Discuss functions of lipids.
- Explain cholesterol metabolism.
- Describe beta oxidation of fatty acids.

Short Notes

- Saturated fats
- Unsaturated fats
- Triglycerides
- Ketosis
- Obesity

Chapter 5: Enzymes

- Define enzymes and classify them.
- Explain mechanism of enzyme action.
- Discuss factors affecting enzyme activity.
- Explain clinical importance of enzymes.
- Describe isoenzymes.

Short Notes

- Coenzyme
- Active site
- pH effect on enzymes
- Temperature effect
- Catalysts

Chapter 6: Vitamins

- Classify vitamins.
- Explain functions and deficiency diseases of fat-soluble vitamins.
- Explain functions and deficiency diseases of water-soluble vitamins.
- Discuss role of vitamin D in body.
- Explain importance of vitamin C.

Short Notes

- Night blindness
- Rickets
- Scurvy
- Vitamin B complex
- Hypervitaminosis

Chapter 7: Minerals and Water Balance

- Explain functions of calcium and phosphorus.
- Discuss sodium and potassium balance.
- Explain iron metabolism.
- Describe water and electrolyte balance.
- Discuss acid-base balance.

Short Notes

- Anemia
- Dehydration
- Electrolytes
- Edema
- Iodine deficiency

Chapter 8: Hormones

- Define hormones and classify them.
- Explain functions of insulin.
- Discuss thyroid hormones and their functions.
- Explain pituitary hormones.
- Describe hormonal regulation in body.

Short Notes

- Diabetes mellitus
- Thyroxine
- Adrenal hormones
- Endocrine glands
- Growth hormone

Chapter 9: Acid-Base Balance

- Explain acid-base balance.
- Describe buffer systems in body.
- Discuss respiratory acidosis and alkalosis.
- Explain metabolic acidosis and alkalosis.
- Describe role of kidneys in acid-base balance.

Short Notes

- pH
- Buffers
- Acidosis
- Alkalosis
- Bicarbonate buffer

Frequently Asked Questions

- Classify carbohydrates with examples.
- Explain digestion of proteins.
- Describe functions of lipids.
- Explain vitamins and deficiency diseases.
- Discuss enzyme action and factors affecting it.
- Explain water and electrolyte balance.

Applied Nutrition – Important Questions

Chapter 1: Introduction to Nutrition

- Define nutrition and nutrients.
- Explain principles of balanced diet.
- Discuss functions of food.
- Explain nutritional requirements of body.
- Describe food pyramid and MyPlate concept.

Short Notes

- Malnutrition
- Nutrients
- Balanced diet
- Calorie
- BMI

Chapter 2: Carbohydrates, Proteins and Fats

- Explain functions and sources of carbohydrates.
- Discuss functions and sources of proteins.
- Explain functions and sources of fats.
- Describe energy requirements of body.
- Explain protein-energy malnutrition.

Short Notes

- Essential fatty acids
- Complete proteins
- Obesity
- Marasmus
- Kwashiorkor

Chapter 3: Vitamins and Minerals

- Explain functions and deficiency diseases of vitamins.
- Discuss importance of minerals in nutrition.
- Explain role of calcium and iron.
- Describe iodine deficiency disorders.
- Discuss nutritional anemia.

Short Notes

- Vitamin A deficiency
- Iron deficiency anemia
- Osteoporosis
- Goiter
- Fluorosis

Chapter 4: Water and Electrolytes

- Explain importance of water in body.
- Discuss fluid and electrolyte balance.
- Explain dehydration and overhydration.
- Describe oral rehydration therapy.
- Explain functions of sodium and potassium.

Short Notes

- ORS
- Electrolytes
- Dehydration
- Water balance
- Edema

Chapter 5: Nutrition Through Life Cycle

- Explain nutritional needs during infancy.
- Discuss nutrition during pregnancy.
- Explain diet during lactation.
- Describe nutrition for preschool and school-age children.
- Discuss nutrition in old age.

Short Notes

- Weaning
- Colostrum
- Complementary feeding
- Geriatric diet
- Adolescent nutrition

Chapter 6: Therapeutic Diets

- Define therapeutic diet.
- Explain diabetic diet.
- Discuss diet in hypertension.
- Explain high-protein diet and low-protein diet.
- Describe diet in fever and infection.

Short Notes

- Soft diet
- Liquid diet
- Bland diet
- Low salt diet
- Renal diet

Chapter 7: Community Nutrition

- Explain community nutrition.
- Discuss national nutrition programs in India.
- Explain mid-day meal program.
- Describe role of nurse in nutritional education.
- Discuss prevention of malnutrition.

Short Notes

- ICDS
- POSHAN Abhiyaan
- Food fortification
- Nutrition education
- Public health nutrition

Chapter 8: Food Hygiene and Food Preservation

- Explain food hygiene.
- Discuss food adulteration.
- Explain methods of food preservation.
- Describe food poisoning.
- Discuss safe food handling practices.

Short Notes

- Pasteurization
- Refrigeration
- Food contamination
- Canning
- Food safety

Frequently Repeated Questions

- Explain balanced diet.
- Discuss nutrition during pregnancy and lactation.
- Explain protein-energy malnutrition.
- Describe therapeutic diets.
- Explain vitamin deficiency diseases.
- Discuss national nutrition programs.
- Most Important Topics for University Exam
- Applied Biochemistry
- Carbohydrates metabolism
- Proteins and amino acids
- Lipids
- Vitamins
- Enzymes
- Acid-base balance
- Applied Nutrition
- Balanced diet

- Nutrition during pregnancy
- PEM (Marasmus & Kwashiorkor)
- Therapeutic diets
- Vitamins and minerals
- National nutrition programs