APPLIED BIOCHEMISTRY

PLACEMENT: II SEMESTER

THEORY: 2 credits (40 hours) (includes lab hours also)

DESCRIPTION: The course is designed to assist the students to acquire knowledge of the normal biochemical compositionand functioning of human body, its alterations in disease conditions and to apply this knowledge in the practice of nursing.

COMPETENCIES: On completion of the course, the students will be able to

1. Describe the metabolism of carbohydrates and its alterations.
2. Explain the metabolism of lipids and its alterations.
3. Explain the metabolism of proteins and amino acids and its alterations.
4. Explain clinical enzymology in various disease conditions.
5. Explain acid base balance, imbalance and its clinical significance.
6. Describe the metabolism of hemoglobin and its clinical significance.
7. Explain different function tests and interpret the findings.
8. Illustrate the immunochemistry.

## COURSE OUTLINE

T – Theory

| Unit | Time (Hrs) | Learning Outcomes | Content | Teaching/ Learning Activities | Assessment Methods |
|---|---|---|---|---|---|
| I | 8 (T) | Describe the metabolism of carbohydrates and its alterations | Carbohydrates<br>• Digestion, absorption and metabolism of carbohydrates and related disorders<br>• Regulation of blood glucose<br>• Diabetes Mellitus – type 1 and type 2, symptoms, complications & management in brief<br>• Investigations of Diabetes Mellitus<br>○ OGTT – Indications, Procedure, Interpretation and types of GTT curve<br>○ Mini GTT, extended GTT, GCT, IV GTT<br>○ HbA1c (Only definition)<br>• Hypoglycemia – Definition & causes | • Lecture cum Discussion<br>• Explain using charts and slides<br>• Demonstration of laboratory tests | • Essay<br>• Short answer<br>• Very short answer |

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|---|---|---|---|---|---|
| II | 8 (T) | Explain the metabolism of lipids and its alterations | Lipids<br>• Fatty acids – Definition, classification<br>• Definition & Clinical significance of MUFA & PUFA, Essential fatty acids, Trans fatty acids<br>• Digestion, absorption & metabolism of lipids & related disorders<br>• Compounds formed from cholesterol<br>• Ketone bodies (name, types & significance only)<br>• Lipoproteins – types & functions (metabolism not required)<br>• Lipid profile<br>• Atherosclerosis (in brief) | • Lecture cum Discussion<br>• Explain using charts and slides<br>• Demonstration of laboratory tests | • Essay<br>• Short answer<br>• Very short answer |
| III | 9 (T) | Explain the metabolism of amino acids and proteins<br><br>Identify alterations in disease conditions | Proteins<br>• Classification of amino acids based on nutrition, metabolic rate with examples<br>• Digestion, absorption & metabolism of protein & related disorders<br>• Biologically important compounds synthesized from various amino acids (only names)<br>• In born errors of amino acid metabolism – only aromatic amino acids (in brief)<br>• Plasma protein – types, function & normal values<br>• Causes of proteinuria, hypoproteinemia, hyper-gamma globinemia<br>• Principle of electrophoresis, normal & abnormal electrophoretic patterns (in brief) | • Lecture cum Discussion<br>• Explain using charts, models and slides | • Essay<br>• Short answer<br>• Very short answer |

| Unit | Time (Hrs) | Learning Outcomes | Content | Teaching/ Learning Activities | Assessment Methods |
|---|---|---|---|---|---|
| IV | 4 (T) | Explain clinical enzymology in various disease conditions | Clinical Enzymology<br>• Isoenzymes – Definition & properties<br>• Enzymes of diagnostic importance in<br>○ Liver Diseases – ALT, AST, ALP, GGT<br>○ Myocardial infarction – CK, cardiac troponins, AST, LDH<br>○ Muscle diseases – CK, Aldolase<br>○ Bone diseases – ALP<br>○ Prostate cancer – PSA, ACP | • Lecture cum Discussion<br>• Explain using charts and slides | • Essay<br>• Short answer<br>• Very short answer |
| V | 3 (T) | Explain acid base balance, imbalance and its clinical significance | Acid base maintenance<br>• pH – definition, normal value<br>• Regulation of blood pH – blood buffer, respiratory & renal<br>• ABG – normal values<br>• Acid base disorders – types, definition & causes | • Lecture cum Discussion<br>• Explain using charts and slides | • Short answer<br>• Very short answer |
| VI | 2 (T) | Describe the metabolism of hemoglobin and its clinical significance | Heme catabolism<br>• Heme degradation pathway<br>• Jaundice – type, causes, urine & blood investigations (van den berg test) | • Lecture cum Discussion<br>• Explain using charts and slides | • Short answer<br>• Very short answer |
| VII | 3 (T) | Explain different function tests and interpret the findings | Organ function tests (biochemical parameters & normal values only)<br>• Renal<br>• Liver<br>• Thyroid | • Lecture cum Discussion<br>• Visit to Lab<br>• Explain using charts and slides | • Short answer<br>• Very short answer |

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| VIII | 3 (T) | Illustrate the immunochemistry | Immunochemistry<br>• Structure & functions of immunoglobulin<br>• Investigations & interpretation – ELISA | • Lecture cum Discussion<br>• Explain using charts and slides<br>• Demonstration of laboratory tests | • Short answer<br>• Very short answer |

Note: Few lab hours can be planned for observation and visits (Less than 1 credit, lab hours are not specified separately).

## Bibliography:


1. U. Satyanarayan, Essentials of biochemistry, Books & allied (P) Ltd., Kolkata publisher, 2004.

2. Deb A.C.: Concepts of biochemistry (Theory & Practical) 1st edition, books & allied (P) Ltd. Publisher, Kolkata, 1999.

3. Deb. A.C. Fundamentals of biochemistry of biochemistry: 1st edition New central book Ag (P) Ltd., 2004.

4. Jacob Anthikad, Biochemistry for nurses; 2nd edition, Jaypee; 2001..

5. Gupta. R.C., Multiple choice questions in Biochemistry, 2nd edition, Jaypee, 2004

## Suggested Assessment/ Evaluation Methods

| Scheme of Internal Assessment of theory out of 25 marks | | | | | |
|---|---|---|---|---|---|
| **Sr. No** | **Theory** | **Quantity** | **Marks** | **Round off** | **Final Round off IA** |
| **1.** | Class Test I | | 50 marks | 30 | Out of 15 |
| **2.** | Class Test II | | 75 Marks | 30 | |
| **3.** | Written Assignment | 2 | 50 | 10 | Out of 10 |
| **4.** | Seminar/Microteaching/individual presentation | 2 | 50 | 12 | |
| **5.** | Group project/Work/Report | 1 | 50 | 6 | |
| **6** | Attendance | (95-100%: 2 marks, 90-94: 1.5 marks, 85-89: 1 mark, 80-84: 0.5 mark, <80: 0) | | 2 | |
| (**Marks of each component to be rounded of the respective columns marks and the final IA need to be calculated out of 25 (15+10).** | | | | | |

APPLIED NUTRITION AND DIETETICS

PLACEMENT: II SEMESTER

THEORY: 3 cred credits (60 hours)

Theory: 45 hours

Lab : 15 hours

DESCRIPTION: The course is designed to assist the students to acquire basic knowledge and understanding of theprinciples of Nutrition and Dietetics and apply this knowledge in the practice of Nursing.

COMPETENCIES: On completion of the course, the students will be able to

1. Identify the importance of nutrition in health and wellness.
2. Apply nutrient and dietary modifications in caring patients.
3. Explain the principles and practices of Nutrition and Dietetics.
4. Identify nutritional needs of different age groups and plan a balanced diet for them.
5. Identify the dietary principles for different diseases.
6. Plan therapeutic diet for patients suffering from various disease conditions.
7. Prepare meals using different methods and cookery rules.

COURSE OUTLINE

T – Theory

| Unit | Time (Hrs) | Learning Outcomes | content | Teaching/ Learning Activities | Assessment Methods |
|---|---|---|---|---|---|
| I | 2 (T) | Define nutrition and its relationship to Health | Introduction to Nutrition<br>*Concepts*<br>Definition of Nutrition & Health<br>Malnutrition – Under Nutrition & OverNutrition<br>Role of Nutrition in maintaining health<br>Factors affecting food and nutrition<br>*Nutrients*<br>Classification<br>Macro & Micronutrients<br>Organic & Inorganic<br>Energy Yielding & Non-Energy Yielding<br>*Food*<br>Classification – Food groups<br>Origin | • Lecture cum Discussion<br>• Charts/Slides | • Essay<br>• Short answer<br>• Very short answer |

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| II | 3 (T) | Describe the classification, functions, sources and recommended daily allowances (RDA) of carbohydrates<br><br>Explain BMR and factors affecting BMR | Carbohydrates<br>• Composition – Starches, sugar andcellulose<br>• Recommended Daily Allowance (RDA)<br>• Dietary sources<br>• Functions<br>Energy<br>• Unit of energy – Kcal<br>• Basal Metabolic Rate (BMR)<br>• Factors affecting BMR | • Lecture cum Discussion<br>• Charts/Slides<br>• Models<br>• Display of fooditems | • Essay<br>• Short answer<br>• Very short answer |
| III | 3 (T) | Describe the classification,<br>Functions, sources and RDA ofproteins. | Proteins<br>• Composition<br>• Eight essential amino acids<br>• Functions<br>• Dietary sources<br>• Protein requirements – RDA | • Lecture cum Discussion<br>• Charts/Slides<br>• Models<br>• Display of food items | • Essay<br>• Short answer<br>• Very short answer |
| **IV** | 2 (T) | Describe the classification,<br>Functions, sources and RDA of fats | **Fats**<br>• Classification – Saturated & unsaturated<br>• Calorie value<br>• Functions<br>• Dietary sources of fats and fatty acids<br>• Fat requirements – RDA | • Lecture cum Discussion<br>• Charts/Slides<br>• Models<br>• Display of fooditems | • Essay<br>• Short answer<br>• Very short answer |
| V | 3 (T) | Describe the classification, functions, sources and RDA of vitamins | Vitamins<br>• Classification – fat soluble & water soluble<br>• Fat soluble – Vitamins A, D, E, and K<br>• Water soluble – Thiamine (vitamin B1), Riboflavin (vitamin B2), Nicotinic acid, Pyridoxine (vitamin B6), Pantothenic acid, Folic acid, Vitamin B12, Ascorbic acid (vitamin C)<br>• Functions, Dietary Sources & Requirements – RDA of every vitamin | • Lecture cum Discussion<br>• Charts/Slides<br>• Models<br>• Display of food items | • Essay<br>• Short answer<br>• Very short answer |
| VI | 3 (T) | Describe the classification, functions, sources and RDA of minerals | Minerals<br>• Classification – Major minerals (Calcium, phosphorus, sodium, potassium and magnesium) and Trace elements<br>• Functions<br>• Dietary Sources<br>• Requirements – RDA | • Lecture cum Discussion<br>• Charts/Slides<br>• Models<br>• Display of food items | • Short answer<br>• Very short answer |

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| VII | 7 (T)<br>8 (L) | Describe and plan balanced diet for different age groups, pregnancy, and lactation | Balanced diet<br>• Definition, principles, steps<br>• Food guides – Basic Four Food Groups<br>• RDA – Definition, limitations, uses<br>• Food Exchange System<br>• Calculation of nutritive value of foods<br>• Dietary fibre<br>Nutrition across life cycle<br>• Meal planning/Menu planning – Definition, principles, steps<br>• Infant and Young Child Feeding (IYCF) guidelines – breast feeding, infant foods<br>• Diet plan for different age groups – Children, adolescents and elderly<br>• Diet in pregnancy – nutritional requirements and balanced diet plan<br>• Anemia in pregnancy – diagnosis, diet foranemic pregnant women, iron & folic acid supplementation and counseling<br>Nutrition in lactation – nutritional requirements, diet for lactating mothers, complementary feeding/ weaning | • Lecture cum Discussion<br>• Meal planning<br>• Lab session on<br>○ Preparation of balanced diet for different categories<br>○ Low cost nutritious dishes | • Short answer<br>• Very short answer |
| **VIII** | 6 (T) | Classify and describe the common nutritionaldeficiency disordersand identify nurses'role in assessment, management and prevention | **Nutritional deficiency disorders**<br>• Protein energy malnutrition – magnitudeof the problem, causes, classification, signs & symptoms, Severe acute malnutrition (SAM), management & prevention and nurses' role<br>• Childhood obesity – signs & symptoms,assessment, management & prevention and nurses' role<br>• Vitamin deficiency disorders – vitamin A,B, C & D deficiency disorders – causes, signs & symptoms, management & prevention and nurses' role<br>• Mineral deficiency diseases – iron, iodineand calcium deficiencies –causes, signs &symptoms, management & prevention and nurses' role | • Lecture cum Discussion<br>• Charts/Slides<br>• Models | • Essay<br>• Short answer<br>• Very short answer |
| **IX** | 4 (T)<br>7 (L) | Principles of diets in various diseases | **Therapeutic diets**<br>• Definition, Objectives, Principles<br>• Modifications – Consistency, Nutrients,<br>• Feeding techniques.<br>• Diet in Diseases – Obesity, Diabetes Mellitus, CVD, Underweight, Renal diseases, Hepatic disorders Constipation,Diarrhea, Pre and Post-operative period | • Lecture cum Discussion<br>• Meal planning<br>• Lab session on preparation of therapeutic diets | • Essay<br>• Short answer<br>• Very short answer |

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| **X** | 3 (T) | Describe the rules and preservation of nutrients | **Cookery rules and preservation ofnutrients**<br>• Cooking – Methods, Advantages andDisadvantages<br>• Preservation of nutrients<br>• Measures to prevent loss of nutrientsduring preparation<br>• Safe food handling and Storage of foods<br>• Food preservation<br>• Food additives and food adulteration<br>• Prevention of Food Adulteration Act(PFA)<br>• Food standards | • Lecture cum Discussi on<br>• Charts/Slides | • Essay<br>• Short answer<br>• Very short answer |
| XI | 4 (T) | Explain the methods of nutritional assessment and nutrition education | Nutrition assessment and nutrition education<br>• Objectives of nutritional assessment<br>• Methods of assessment – clinical examination, anthropometry, laboratory & biochemical assessment, assessment ofdietary intake including Food frequency questionnaire (FFQ) method<br>• Nutrition education – purposes, principlesand methods | • Lecture cum Discussi on<br>• Demonstration<br>• Writing nutritional assessment report | • Essay<br>• Short answer<br>• Evaluation of Nutritional assessment report |

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| XII | 3 (T) | Describe nutritional problems in India and nutritional programs | National Nutritional Programs and roleof nurse<br>• Nutritional problems in India<br>• National nutritional policy<br>• *National nutritional programs* – Vitamin A Supplementation, Anemia Mukt Bharat Program, Integrated Child Development Services (ICDS), Mid-day Meal Scheme (MDMS), National Iodine Deficiency Disorders Control Program (NIDDCP), Weekly Iron Folic Acid Supplementation (WIFS) and others as introduced<br>• Role of nurse in every program | • Lecture cum Discussion | • Essay<br>• Short answer<br>• Very short answer |
| XIII | 2 (T) | Discuss the importance of food hygiene and food safety<br><br>Explain the Acts related to food safety | Food safety<br>• Definition, Food safety considerations & measures<br>• Food safety regulatory measures in India – Relevant Acts<br>• Five keys to safer food<br>• Food storage, food handling and cooking<br>• General principles of food storage of food items (ex. milk, meat)<br>• Role of food handlers in food borne diseases<br>• Essential steps in safe cooking practices | • Guided reading on related acts | • Quiz<br>• Short answer |
| XIII | 2 (T) | Discuss the importance of food hygiene and food safety<br><br>Explain the Acts related to food safety | Food safety<br>• Definition, Food safety considerations & measures<br>• Food safety regulatory measures in India – Relevant Acts<br>• Five keys to safer food<br>• Food storage, food handling and cooking<br>• General principles of food storage of food items (ex. milk, meat)<br>• Role of food handlers in food borne diseases<br>• Essential steps in safe cooking practices | • Guided reading on related acts | • Quiz<br>• Short answer |

Food born diseases and food poisoning are dealt in community health Nursing I

**Bibliography :**

1) Shubhangi Joshi, Nutrition and Dietetics 2 nd edition, Tata McGraw – Hill publishing company Limited, New Delhi, 2002.

2) Dr. M. Swaminathan, Handbook of Food and Nutrition, The Banglore printing and publishing Co. Ltd. (Banglore press) 2004.

3) C. Gopalan, B. V. Ramasastri and S.C. Balasubramanian Nutritive value of Indian Foods, National Institute of Nutrition, Indian Council of Medical Research, Hyderabad 1999.

4) Joshi V.D. Handbook of Nutrition and Dietetics vora medical publications, 1999.

5) Kusum Gupta (L. C.Guple, Abhishek Gupta) Food and Nutrition Facts and Figures, 5th edition Jaypee brothers Medical publications (P) Ltd., New Delhi, India 2003.

6) T. K. Indrani, Nursing Manual of Nutrition and Therapeutic Diet, 1st edition Jaypee Brothers medical publishers (P) Ltd., 2003.

7) Antia – Clinical Dietetics and Nutrition, ed., 4th .

## Suggested Assessment/ Evaluation Methods

| **Scheme of Internal Assessment of theory out of 25 marks** | | | | | |
|---|---|---|---|---|---|
| **Sr. No** | **Theory** | **Quantity** | **Marks** | **Round off** | **Final Round off IA** |
| **1.** | Class Test I | | 50 marks | 30 | Out of 15 |
| **2.** | Class Test II | | 75 Marks | 30 | |
| **3.** | Written Assignment | 2 | 50 | 10 | Out of 10 |
| **4.** | Seminar/Microteaching/individual presentation | 2 | 50 | 12 | |
| **5.** | Group project/Work/Report | 1 | 50 | 6 | |
| **6** | Attendance | (95-100%: 2 marks, 90-94: 1.5 marks, 85-89: 1 mark, 80-84: 0.5 mark, <80: 0) | | 2 | |
| (**Marks of each component to be rounded of the respective columns marks and the final IA need to be calculated out of 25 (15+10).** | | | | | |

# HEALTH/NURSING INFORMATICS AND TECHNOLOGY

PLACEMENT: II SEMESTER

THEORY: 2 Credits (40 hours)

PRACTICAL/LAB: 1 Credit (40 hours)

DESCRIPTION: This course is designed to equip novice nursing students with knowledge and skills necessary to deliverefficient informatics-led health care services.

COMPETENCIES: On completion of the course, the students will be able to

1. Develop a basic understanding of computer application in patient care and nursing practice.
2. Apply the knowledge of computer and information technology in patient care and nursing education, practice,administration and research.
3. Describe the principles of health informatics and its use in developing efficient healthcare.
4. Demonstrate the use of information system in healthcare for patient care and utilization of nursing data.
5. Demonstrate the knowledge of using Electronic Health Records (EHR) system in clinical practice.
6. Apply the knowledge of interoperability standards in clinical setting.
7. Apply the knowledge of information and communication technology in public health promotion.
8. Utilize the functionalities of Nursing Information System (NIS) system in nursing.
9. Demonstrate the skills of using data in management of health care.
10. Apply the knowledge of the principles of digital ethical and legal issues in clinical practice.
11. Utilize evidence-based practices in informatics and technology for providing quality patient care.
12. Update and utilize evidence-based practices in nursing education, administration, and practice.

COURSE OUTLINE

T – Theory, P/L – Lab

| Unit | Time (Hrs) | | Learning Outcomes | Content | Teaching/ Learning Activities | Assessment Methods |
|---|---|---|---|---|---|---|
| | T | P/L | | | | |
| I | 10 | 15 | Describe the importance of computer and technology in patient care and nursing practice | Introduction to computer applications for patient care delivery system and nursing practice<br>• Use of computers in teaching, learning, research and nursing practice | • Lecture<br>• Discussion<br>• Practice session<br>• Supervised clinical practice on EHR use<br>• Participate in data analysis using statistical package with statistician | (T)<br>• Short answer<br>• Objective type<br>• Visit reports<br>• Assessment of assignments |
| | | | Demonstrate the use of computer and technology in patient care, nursing education, practice, administration and research. | • Windows, MS office: Word, Excel, Power Point<br>• Internet<br>• Literature search<br>• Statistical packages<br>• Hospital management information system | • Visit to hospitals with different hospital management systems | (P)<br>• Assessment of skills using checklist |
| II | 4 | 5 | Describe the principles of health informatics<br><br>Explain the ways data, knowledge and information can be used for effective healthcare | <u>Principles of Health Informatics</u><br>• Health informatics – needs, objectives and limitations<br>• Use of data, information and knowledge for more effective healthcare and better health | • Lecture<br>• Discussion<br>• Practical session<br>• Work in groups with health informatics team in a hospital to extract nursing data and prepare a report | (T)<br>• Essay<br>• Short answer<br>• Objective type questions<br>• Assessment of report |
| III | 3 | 5 | Describe the concepts of information system in health<br><br>Demonstrate the use of health information system in hospital setting | <u>Information Systems in Healthcare</u><br>• Introduction to the role and architecture of information systems in modern healthcare environments<br>• Clinical Information System (CIS)/Hospital information System (HIS) | • Lecture<br>• Discussion<br>• Demonstration<br>• Practical session<br>• Work in groups with nurse leaders to understand the hospital information system | (T)<br>• Essay<br>• Short answer<br>• Objective type |
| IV | 4 | 4 | Explain the use of electronic health records in nursing practice<br><br>Describe the latest trend in electronic health records standards and interoperability | <u>Shared Care & Electronic Health Records</u><br>• Challenges of capturing rich patient histories in a computable form<br>• Latest global developments and standards to enable lifelong electronic health records to be integrated from disparate systems. | • Lecture<br>• Discussion<br>• Practice on Simulated EHR system<br>• Practical session<br>• Visit to health informatics department of a hospital to understand the use of EHR in nursing practice | (T)<br>• Essay<br>• Short answer<br>• Objective type<br>(P)<br>• Assessment of skills using checklist |

| Unit | Time (Hrs) | | Learning Outcomes | Content | Teaching/ Learning Activities | Assessment Methods |
|---|---|---|---|---|---|---|
| | T | P/L | | | | |
| | | | | | • Prepare a report on current EHR standards in Indian setting | |
| V | 3 | | Describe the advantages and limitations of health informatics in maintaining patient safety and risk management | Patient Safety & Clinical Risk<br>• Relationship between patient safety and informatics<br>• Function and application of the risk management process | • Lecture<br>• Discussion | (T)<br>• Essay<br>• Short answer<br>• Objective type |
| VI | 3 | 6 | Explain the importance of knowledge management<br><br>Describe the standardized languages used in health informatics | Clinical Knowledge & Decision Making<br>• Role of knowledge management in improving decision-making in both the clinical and policy contexts<br>• Systematized Nomenclature of Medicine, Clinical Terms, SNOMED CT to ICD-10-CM Map, standardized nursing terminologies (NANDA, NOC), Omaha system. | • Lecture<br>• Discussion<br>• Demonstration<br>• Practical session<br>• Work in groups to prepare a report on standardized languages used in health informatics.<br>• Visit health informatics department to understand the standardized languages used in hospital setting | (T)<br>• Essay<br>• Short answer<br>• Objective type |
| VII | 3 | | Explain the use of information and communication technology in patient care<br><br>Explain the application of public health informatics | eHealth: Patients and the Internet<br>• Use of information and communication technology to improve or enable personal and public healthcare<br>• Introduction to public health informatics and role of nurses | • Lecture<br>• Discussion<br>• Demonstration | • Essay<br>• Short answer<br>• Objective type<br>• Practical exam |
| VIII | 3 | 5 | Describe the functions of nursing information system<br><br>Explain the use of healthcare data in management of health care organization | Using Information in Healthcare Management<br>• Components of Nursing Information system(NIS)<br>• Evaluation, analysis and presentation of healthcare data to inform decisions in the management of health-care organizations | • Lecture<br>• Discussion<br>• Demonstration on simulated NIS software<br>• Visit to health informatics department of the hospital to understand use of healthcare data in decision making | (T)<br>• Essay<br>• Short answer<br>• Objective type |
| IX | 4 | | Describe the ethical and legal issues in healthcare informatics<br><br>Explains the ethical and legal issues | Information Law & Governancein Clinical Practice<br>• Ethical-legal issues pertaining to healthcare information in contemporary clinical practice<br>• Ethical-legal issues related to | • Lecture<br>• Discussion<br>• Case discussion<br>• Role play | (T)<br>• Essay<br>• Short answer<br>• Objective type |

| Unit | Time (Hrs) | | Learning Outcomes | Content | Teaching/ Learning Activities | Assessment Methods |
|---|---|---|---|---|---|---|
| | T | P/L | | | | |
| | | | related to nursing informatics | digital health applied to nursing | | |
| X | 3 | | Explain the relevance of evidence-based practices in providing quality healthcare | <u>Healthcare Quality & Evidence Based Practice</u><br>• Use of scientific evidence in improving the quality of healthcare and technical and professional informatics standards | • Lecture<br>• Discussion<br>• Case study | (T)<br>• Essay<br>• Short answer<br>• Objective type |

SKILLS

- Utilize computer in improving various aspects of nursing practice.
- Use technology in patient care and professional advancement.
- Use data in professional development and efficient patient care.
- Use information system in providing quality patient care.
- Use the information system to extract nursing data.
- Develop skill in conducting literature review.

**Books Recommended**


1. McGonigle D, Mastrian K. Nursing informatics and the foundation of knowledge. Jones & Bartlett Publishers; 2021 Mar 8.
2. Ball MJ, DuLong D, Newbold SK, Sensmeier JE, Skiba DJ, Troseth MR, Gugerty B, Hinton-Walker P, Douglas JV, Hannah KJ. Nursing informatics. Springer; 2011.
3. McCormick K, Saba V. Essentials of nursing informatics. McGraw-Hill Education; 2015.
4. Hebda T, Czar P, Mascara C. Handbook of informatics for nurses and health care professionals. Pearson Prentice Hall; 2005.
5. Ball MJ, JA EM. Introduction to nursing informatics. New York: Springer; 2006.

**Suggested Assessment/ Evaluation Methods**

| **Scheme of Internal Assessment of theory out of 25 marks** | | | | | |
|---|---|---|---|---|---|
| **Sr. No** | **Theory** | **Quantity** | **Marks** | **Round off** | **Final Round off IA** |
| **1.** | Class Test I | | 50 marks | 30 | Out of 15 |
| **2.** | Class Test II | | 75 Marks | 30 | |
| **3.** | Written Assignment | 2 | 50 | 10 | Out of 10 |
| **4.** | Seminar/Microteaching/individual presentation | 2 | 50 | 12 | |
| **5.** | Group project/Work/Report | 1 | 50 | 6 | |
| **6** | Attendance | (95-100%: 2 marks, 90-94: 1.5 marks, 85-89: 1 mark, 80-84: 0.5 mark, <80: 0) | | 2 | |
| (**Marks of each component to be rounded of the respective columns marks and the final IA need to be calculated out of 25 (15+10).** | | | | | |

**NURSING FOUNDATION - II**

**(Including Health Assessment Module)**

**PLACEMENT: II SEMESTER**

THEORY: 6 Credits (120 hours)

PRACTICUM: Skill Lab: 3 Credits (120 hours), Clinical: 4 Credits (320 hours)

DESCRIPTION: This course is designed to help novice nursing students develop knowledge and competencies required to provide evidence-based, comprehensive basic nursing care for adult patients, using nursing process approach.

COMPETENCIES: On completion of the course, the students will be able to

1. Develop understanding about fundamentals of health assessment and perform health assessment in supervised clinicalsettings
2. Demonstrate fundamental skills of assessment, planning, implementation and evaluation of nursing care using Nursingprocess approach in supervised clinical settings
3. Assess the Nutritional needs of patients and provide relevant care under supervision
4. Identify and meet the hygienic needs of patients
5. Identify and meet the elimination needs of patient
6. Interpret findings of specimen testing applying the knowledge of normal values
7. Promote oxygenation based on identified oxygenation needs of patients under supervision
8. Review the concept of fluid, electrolyte balance integrating the knowledge of applied physiology
9. Apply the knowledge of the principles, routes, effects of administration of medications in administering medication
10. Calculate conversions of drugs and dosages within and between systems of measurements
11. Demonstrate knowledge and understanding in caring for patients with altered functioning of sense organs andunconsciousness
12. Explain loss, death and grief
13. Describe sexual development and sexuality
14. Identify stressors and stress adaptation modes
15. Integrate the knowledge of culture and cultural differences in meeting the spiritual needs
16. Explain the introductory concepts relevant to models of health and illness in patient care

*Mandatory Module used in Teaching/Learning:

Health Assessment Module: 40 hours

COURSE OUTLINE

T – Theory, SL – Skill Lab

| Unit | Time (Hrs) | Learning Outcomes | Content | Teaching/ Learning Activities | Assessment Methods |
|---|---|---|---|---|---|
| I | 20 (T)<br>20 (SL) | Describe the purpose and process of health assessment and perform assessment under supervised clinical practice | Health Assessment<br>• Interview techniques<br>• Observation techniques<br>• Purposes of health assessment<br>• Process of Health assessment<br>oHealth history<br>○ Physical examination:<br>▪ Methods: Inspection, Palpation, Percussion, Auscultation, Olfaction<br>▪ Preparation for examination: patient and unit<br>▪ General assessment<br>▪ Assessment of each body system<br>▪ Documenting health assessment findings | • Modular Learning<br>*Health Assessment Module<br>• Lecture cum Discussion<br>• Demonstration | • Essay<br>• Short answer<br>• Objective type<br>• OSCE |
| II | 13 (T)<br>8 (SL) | Describe assessment, planning, implementation and evaluation of nursing care using Nursing process | The Nursing Process<br>• Critical Thinking Competencies, Attitudes for Critical Thinking, Levels of critical thinking in Nursing<br>• Nursing Process Overview | • Lecture<br>• Discussion<br>• Demonstration<br>• Supervised Clinical Practice | • Essay<br>• Short answer<br>• Objective type<br>• Evaluation of care plan |

| Unit | Time (Hrs) | Learning Outcomes | Content | Teaching/ Learning Activities | Assessment Methods |
|---|---|---|---|---|---|
| | | approach | oAssessment<br>▪ Collection of Data: Types, Sources, Methods<br>▪ Organizing Data<br>▪ Validating Data<br>▪ Documenting Data<br>○ Nursing Diagnosis<br>□ Identification of client problems, risks and strengths<br>□ Nursing diagnosis statement – parts, Types, Formulating, Guidelines for formulating Nursing Diagnosis<br>□ NANDA approved diagnoses<br>□ Difference between medical and nursing diagnosis<br>○ Planning<br>□ Types of planning<br>□ Establishing Priorities<br>□ Establishing Goals and Expected Outcomes – Purposes, types, guidelines, Components of goals and outcome statements<br>□ Types of Nursing Interventions, Selecting interventions: Protocols and Standing Orders<br>□ Introduction to Nursing Intervention Classification and Nursing Outcome Classification<br>□ Guidelines for writing care plan<br>○ Implementation<br>□ Process of Implementing the plan of care<br>□ Types of care – Direct and Indirect<br>○ Evaluation<br>□ Evaluation Process, Documentation and Reporting | | |
| III | 5 (T)<br>5 (SL) | Identify and meet the Nutritional needs of patients | Nutritional needs<br>• Importance<br>• Factors affecting nutritional needs<br>• Assessment of nutritional status<br>• *Review:* special diets – Solid, Liquid, Soft<br>• *Review* on therapeutic diets<br>• Care of patient with Dysphagia, | • Lecture<br>• Discussion<br>• Demonstration<br>• Exercise<br>• Supervised Clinical practice | • Essay<br>• Short answer<br>• Objective type<br>• Evaluation of nutritional assessment & diet planning |

| Unit | Time (Hrs) | Learning Outcomes | Content | Teaching/ Learning Activities | Assessment Methods |
|---|---|---|---|---|---|
| | | | Anorexia, Nausea, Vomiting<br>• Meeting Nutritional needs: Principles, equipment, procedure, indications<br>○ Oral<br>○ Enteral: Nasogastric/ Orogastric<br>○ Introduction to other enteral feeds – types, indications, Gastrostomy, Jejunostomy<br>○ Parenteral – TPN (Total Parenteral Nutrition) | | |
| IV | 5 (T)<br>15 (SL) | Identify and meet the hygienic needs of patients | Hygiene<br>• Factors Influencing Hygienic Practice<br>• Hygienic care: Indications and purposes, effects of neglected care<br>○ Care of the Skin – (Bath, feet and nail, Hair Care)<br>○ Care of pressure points<br>○ Assessment of Pressure Ulcers using Braden Scale and Norton Scale<br>○ Pressure ulcers – causes, stages and manifestations, care and prevention<br>○ Perineal care/Meatal care<br>○ Oral care, Care of Eyes, Ears and Nose including assistive devices (eye glasses, contact lens, dentures, hearing aid) | • Lecture<br>• Discussion<br>• Demonstration | • Essay<br>• Short answer<br>• Objective type<br>• OSCE |
| V | 10 (T)<br>10 (SL) | Identify and meet the elimination needs of patient | Elimination needs<br>• Urinary Elimination<br>○ Review of Physiology of Urine Elimination, Composition and characteristics of urine<br>○ Factors Influencing Urination<br>○ Alteration in Urinary Elimination<br>○ Facilitating urine elimination: assessment, types, equipment, procedures and special considerations<br>○ Providing urinal/bed pan<br>○ Care of patients with<br>▪ Condom drainage<br>▪ Intermittent Catheterization<br>▪ Indwelling Urinary catheter and urinary drainage<br>▪ Urinary diversions<br>▪ Bladder irrigation | • Lecture<br>• Discussion<br>• Demonstration | • Essay<br>• Short answer<br>• Objective type<br>• OSCE |

| Unit | Time (Hrs) | Learning Outcomes | Content | Teaching/ Learning Activities | Assessment Methods |
|---|---|---|---|---|---|
| | | | • Bowel Elimination<br>○ Review of Physiology of Bowel Elimination, Composition and characteristics of feces<br>○ Factors affecting Bowel elimination<br>○ Alteration in Bowel Elimination<br>○ Facilitating bowel elimination: Assessment, equipment, procedures<br>▪ Enemas<br>▪ Suppository<br>▪ Bowel wash<br>▪ Digital Evacuation of impacted feces<br>▪ Care of patients with Ostomies (Bowel Diversion Procedures) | | |
| VI | 3 (T)<br>4 (SL) | Explain various types of specimens and identify normal values of tests<br><br>Develop skill in specimen collection, handling and transport | Diagnostic testing<br>• Phases of diagnostic testing (pre-test, intra-test & post-test) in Common investigations and clinical implications<br>○ Complete Blood Count<br>○ Serum Electrolytes<br>○ LFT<br>○ Lipid/Lipoprotein profile<br>○ Serum Glucose – AC, PC, HbA1c<br>○ Monitoring Capillary Blood Glucose (Glucometer Random Blood Sugar – GRBS)<br>○ Stool Routine Examination<br>○ Urine Testing – Albumin, Acetone, pH, Specific Gravity<br>○ Urine Culture, Routine, Timed Urine Specimen<br>○ Sputum culture<br>○ Overview of Radiologic & Endoscopic Procedures | • Lecture<br>• Discussion<br>• Demonstration | • Essay<br>• Short answer<br>• Objective type |
| VII | 11 (T)<br>10 (SL) | Assess patients for oxygenation needs, promote oxygenation and provide care during oxygen therapy | Oxygenation needs<br>□ Review of Cardiovascular and Respiratory Physiology<br>□ Factors affecting respiratory functioning<br>□ Alterations in Respiratory Functioning<br>□ Conditions affecting<br>○ Airway<br>○ Movement of air | • Lecture<br>• Discussion<br>• Demonstration & Re-demonstration | • Essay<br>• Short answer<br>• Objective type |

| Unit | Time (Hrs) | Learning Outcomes | Content | Teaching/ Learning Activities | Assessment Methods |
|---|---|---|---|---|---|
| | | | ○ Diffusion<br>○ Oxygen transport<br>Alterations in oxygenation<br>Nursing interventions to promote oxygenation: assessment, types, equipment used & procedure<br>○ Maintenance of patent airway<br>○ Oxygen administration<br>○ Suctioning – oral, tracheal<br>○ Chest physiotherapy – Percussion, Vibration & Postural drainage<br>○ Care of Chest drainage – principles & purposes<br>○ Pulse Oximetry – Factors affecting measurement of oxygen saturation using pulse oximeter, Interpretation<br>Restorative & continuing care<br>○ Hydration<br>○ Humidification<br>○ Coughing techniques<br>○ Breathing exercises<br>○ Incentive spirometry | | |
| VIII | 5 (T)<br>10 (SL) | Describe the concept of fluid, electrolyte balance | Fluid, Electrolyte, and Acid – Base Balances<br>• Review of Physiological Regulation of Fluid, Electrolyte and Acid-Base Balances<br>• Factors Affecting Fluid, Electrolyte and Acid-Base Balances<br>• Disturbances in fluid volume:<br>○ Deficit<br>▪ Hypovolemia<br>▪ Dehydration<br>○ Excess<br>▪ Fluid overload<br>▪ Edema<br>• Electrolyte imbalances (hypo and hyper)<br>○ Acid-base imbalances<br>▪ Metabolic – acidosis & alkalosis<br>▪ Respiratory – acidosis & alkalosis<br>○ Intravenous therapy | • Lecture<br>• Discussion<br>• Demonstration | • Essay<br>• Short answer<br>• Objective type<br>• Problem solving – calculations |

| Unit | Time (Hrs) | Learning Outcomes | Content | Teaching/ Learning Activities | Assessment Methods |
|---|---|---|---|---|---|
| | | | ▪ Peripheral venipuncture sites<br>▪ Types of IV fluids<br>▪ Calculation for making IV fluid plan<br>▪ Complications of IV fluid therapy<br>▪ Measuring fluid intake and output<br>▪ Administering Blood and Blood components<br>▪ Restricting fluid intake<br>▪ Enhancing Fluid intake | | |
| IX | 20 (T)<br>22 (SL) | Explain the principles, routes, effects of administration of medications<br><br>Calculate conversions of drugs and dosages within and between systems of measurements<br><br>Administer oral and topical medication and document accurately under supervision | Administration of Medications<br>• Introduction – Definition of Medication, Administration of Medication, Drug Nomenclature, Effects of Drugs, Forms of Medications, Purposes, Pharmacodynamics and Pharmacokinetics<br>• Factors influencing Medication Action<br>• Medication orders and Prescriptions<br>• Systems of measurement<br>• Medication dose calculation<br>• Principles, 10 rights of Medication Administration<br>• Errors in Medication administration<br>• Routes of administration<br>• Storage and maintenance of drugs and Nurses responsibility<br>• Terminologies and abbreviations used in prescriptions and medications orders<br>• Developmental considerations<br>• Oral, Sublingual and Buccal routes: Equipment, procedure<br>• Introduction to Parenteral Administration of Drugs – Intramuscular, Intravenous, Subcutaneous, Intradermal: Location of site, Advantages and disadvantages of the specific sites, Indication and contraindications for the different routes and sites.<br>• Equipment – Syringes & needles, cannulas, Infusion sets – parts, types, sizes<br>• Types of vials and ampoules, Preparing Injectable medicines from vials and ampoules<br>oCare of equipment: decontamination and disposal of syringes, needles, | • Lecture<br>• Discussion<br>• Demonstration & Re-demonstration | • Essay<br>• Short answer<br>• Objective type<br>• OSCE |

| Unit | Time (Hrs) | Learning Outcomes | Content | Teaching/ Learning Activities | Assessment Methods |
|---|---|---|---|---|---|
| | | | infusion sets<br>oPrevention of Needle-Stick Injuries<br>• Topical Administration: Types, purposes, site, equipment, procedure<br>○ Application to skin & mucous membrane<br>○ Direct application of liquids, Gargle and swabbing the throat<br>○ Insertion of Drug into body cavity: Suppository/ medicated packing in rectum/vagina<br>○ Instillations: Ear, Eye, Nasal, Bladder, and Rectal<br>○ Irrigations: Eye, Ear, Bladder, Vaginal and Rectal<br>○ Spraying: Nose and throat<br>• Inhalation: Nasal, oral, endotracheal/tracheal (steam, oxygen and medications) – purposes, types, equipment, procedure, recording and reporting of medications administered<br>• Other Parenteral Routes: Meaning of epidural, intrathecal, intraosseous, intraperitoneal, intra-pleural, intra-arterial | | |
| X | 5 (T)<br>6 (SL) | Provide care to patients with altered functioning of sense organs and unconsciousness in supervised clinical practice | Sensory needs<br>• Introduction<br>• Components of sensory experience – Reception, Perception & Reaction<br>• Arousal Mechanism<br>• Factors affecting sensory function<br>• Assessment of Sensory alterations – sensory deficit, deprivation, overload & sensory poverty<br>• Management<br>oPromoting meaningful communication (patients with Aphasia, artificial airway & Visual and Hearing impairment)<br>Care of Unconscious Patients<br>• Unconsciousness: Definition, causes & risk factors, pathophysiology, stages of Unconsciousness, Clinical Manifestations<br>• Assessment and nursing management of patient with unconsciousness, complications | • Lecture<br>• Discussion<br>• Demonstration | • Essay<br>• Short answer<br>• Objective type |

| Unit | Time (Hrs) | Learning Outcomes | Content | Teaching/ Learning Activities | Assessment Methods |
|---|---|---|---|---|---|
| XI | 4 (T)<br>6 (SL) | Explain loss, death and grief | Care of Terminally ill, death and dying<br>• Loss – Types<br>• Grief, Bereavement & Mourning<br>• Types of Grief responses<br>• Manifestations of Grief<br>• Factors influencing Loss & Grief Responses<br>• Theories of Grief & Loss – Kubler Ross<br>• 5 Stages of Dying<br>• The R Process model (Rando's)<br>• Death – Definition, Meaning, Types (Brain & Circulatory Deaths)<br>• Signs of Impending Death<br>• Dying patient's Bill of Rights<br>• Care of Dying Patient<br>• Physiological changes occurring after Death<br>• Death Declaration, Certification<br>• Autopsy<br>• Embalming<br>• Last office/Death Care<br>• Counseling & supporting grieving relatives<br>• Placing body in the Mortuary<br>• Releasing body from Mortuary<br>• Overview – Medico-legal Cases, Advance directives, DNI/DNR, Organ Donation, Euthanasia | • Lecture<br>• Discussion<br>• Case discussions<br>• Death care/last office | • Essay<br>• Short answer<br>• Objective type |
| | | | PSYCHOSOCIAL NEEDS (A-D) | | |
| XII | 3 (T) | Develop basic understanding of self-concept | A. Self-concept<br>• Introduction<br>• Components (Personal Identity, Body Image, Role Performance, Self Esteem)<br>• Factors affecting Self Concept<br>• Nursing Management | • Lecture<br>• Discussion<br>• Demonstration<br>• Case Discussion/ Role play | • Essay<br>• Short answer<br>• Objective type |
| XIII | 2 (T) | Describe sexual development and sexuality | B. Sexuality<br>• Sexual development throughout life<br>• Sexual health<br>• Sexual orientation<br>• Factors affecting sexuality | • Lecture<br>• Discussion | • Essay<br>• Short answer<br>• Objective type |

| Unit | Time (Hrs) | Learning Outcomes | Content | Teaching/ Learning Activities | Assessment Methods |
|---|---|---|---|---|---|
| | | | • Prevention of STIs, unwanted pregnancy, avoiding sexual harassment and abuse<br>• Dealing with inappropriate sexual behavior | | |
| XIV | 2 (T)<br>4 (SL) | Describe stress and adaptation | C. Stress and Adaptation – Introductory concepts<br>• Introduction<br>• Sources, Effects, Indicators & Types of Stress<br>• Types of stressors<br>• Stress Adaptation – General Adaptation Syndrome (GAS), Local Adaptation Syndrome (LAS)<br>• Manifestation of stress – Physical & psychological<br>• Coping strategies/ Mechanisms<br>• Stress Management<br>○ Assist with coping and adaptation<br>○ Creating therapeutic environment<br>• Recreational and diversion therapies | • Lecture<br>• Discussion | • Essay<br>• Short answer<br>• Objective type |
| XV | 6 (T) | Explain culture and cultural norms<br><br>Integrate cultural differences and spiritual needs in providing care to patients under supervision | D. Concepts of Cultural Diversity and Spirituality<br>• Cultural diversity<br>○ Cultural Concepts – Culture, Subculture, Multicultural, Diversity, Race, Acculturation, Assimilation<br>○ Transcultural Nursing<br>○ Cultural Competence<br>○ Providing Culturally Responsive Care<br>• Spirituality<br>○ Concepts – Faith, Hope, Religion, Spirituality, Spiritual Wellbeing<br>○ Factors affecting Spirituality<br>○ Spiritual Problems in Acute, Chronic, Terminal illnesses & Near-Death Experience<br>○ Dealing with Spiritual Distress/Problems | • Lecture<br>• Discussion | • Essay<br>• Short answer<br>• Objective type |
| XVI | 6 (T) | Explain the significance of nursing theories | Nursing Theories: Introduction<br>• Meaning &Definition, Purposes, Types of theories with examples, Overview of selected nursing theories – Nightingale, Orem, Roy<br>• Use of theories in nursing practice | • Lecture<br>• Discussion | • Essay<br>• Short answer<br>• Objective type |

## CLINICAL PRACTICUM

Clinical: 4 Credits (320 hours)

PRACT|ICE COMPETENCIES: On completion of the course, the student will be able to

1. Perform health assessment of each body system
2. Develop skills in assessment, planning, implementation and evaluation of nursing care using Nursing process approach
3. Identify and meet the Nutritional needs of patients
4. Implement basic nursing techniques in meeting hygienic needs of patients
5. Plan and Implement care to meet the elimination needs of patient
6. Develop skills in instructing and collecting samples for investigation.
7. Perform simple lab tests and analyze & interpret common diagnostic values
8. Identify patients with impaired oxygenation and demonstrate skill in caring for patients with impaired oxygenation
9. Identify and demonstrate skill in caring for patients with fluid, electrolyte and acid – base imbalances
10. Assess, plan, implement & evaluate the basic care needs of patients with altered functioning of sense organs andunconsciousness
11. Care for terminally ill and dying patients

## SKILL LAB

Use of Mannequins and Simulators

| S.No. | Competencies | Mode of Teaching |
|---|---|---|
| 1. | Health Assessment | Standardized Patient |
| 2. | Nutritional Assessment | Standardized Patient |
| 3. | Sponge bath, oral hygiene, perineal care | Mannequin |
| 4. | Nasogastric tube feeding | Trainer/ Simulator |
| 5. | Providing bed pan & urinal | Mannequin |
| 6. | Catheter care | Catheterization Trainer |
| 7. | Bowel wash, enema, insertion of suppository | Simulator/ Mannequin |
| 8. | Oxygen administration – face mask, venture mask, nasal prongs | Mannequin |
| 9. | Administration of medication through Parenteral route – IM, SC, ID, IV | IM injection trainer, ID injection trainer, IV arm (Trainer) |
| 10. | Last Office | Mannequin |

**CLINICAL POSTINGS – General Medical/Surgical Wards**

**(16 weeks × 20 hours per week = 320 hours)**

| Clinical Unit | Duration (Weeks) | Learning Outcomes | Procedural Competencies/ Clinical Skills (Supervised Clinical Practice) | Clinical Requirements | Assessment Methods |
|---|---|---|---|---|---|
| General Medical/ Surgical wards | 3 | Perform health assessment of each body system | **Health Assessment**<br>• Nursing/Health history taking<br>• Perform physical examination:<br>o General<br>o Body systems<br>• Use various methods of physical examination – Inspection, Palpation, Percussion, Auscultation, Olfaction<br>• Identification of system wise deviations<br>Documentation of findings | • History Taking – 2<br>• Physical examination – 2 | • Assessment of clinical skills using checklist<br>• OSCE |

| Clinical Unit | Duration (Weeks) | Learning Outcomes | Procedural Competencies/ Clinical Skills (Supervised Clinical Practice) | Clinical Requirements | Assessment Methods |
|---|---|---|---|---|---|
| | 1 | Develop skills in assessment, planning, implementation and evaluation of nursing care using Nursing process approach | **The Nursing Process**<br>• Prepare Nursing care plan for the patient based on the given case scenario | • Nursing process – 1 | • Evaluation of Nursing process with criteria |
| | 2 | Identify and meet the Nutritional needs of patients<br><br>Implement basic nursing techniques in meeting hygienic needs of patients | **Nutritional needs, Elimination needs& Diagnostic testing**<br>*Nutritional needs*<br>• Nutritional Assessment<br>• Preparation of Nasogastric tube feed<br>• Nasogastric tube feeding<br>*Hygiene*<br>• Care of Skin & Hair:<br>– Sponge Bath/ Bed bath<br>– Care of pressure points & back massage<br>• Pressure sore risk assessment using Braden/Norton scale<br>– Hair wash<br>– Pediculosis treatment<br>• Oral Hygiene<br>• Perineal Hygiene<br>• Catheter care | • Nutritional Assessment and Clinical Presentation – 1<br><br>• Pressure sore assessment – 1 | • Assessment of clinical skills using checklist<br>• OSCE |
| | 2 | Plan and Implement care to meet the elimination needs of patient<br><br>Develop skills in instructing and collecting samples for investigation. | **Elimination needs**<br>• Providing<br>– Urinal<br>– Bedpan<br>• Insertion of Suppository<br>• Enema<br>• Urinary Catheter care<br>• Care of urinary drainage<br>**Diagnostic testing** | • Clinical Presentation on Care of patient with Constipation – 1<br><br>• Lab values – inter-pretation | • Assessment of clinical skills using checklist<br>• OSCE |

| Clinical Unit | Duration (Weeks) | Learning Outcomes | Procedural Competencies/ Clinical Skills (Supervised Clinical Practice) | Clinical Requirements | Assessment Methods |
|---|---|---|---|---|---|
| | | Perform simple lab tests and analyze & interpret common diagnostic values | • Specimen Collection<br>o Urine routine and culture<br>o Stool routine<br>o Sputum Culture<br>• Perform simple Lab Tests using reagent strips<br>o Urine – Glucose, Albumin, Acetone, pH, Specific gravity<br>• Blood – GRBS Monitoring | | |
| | 3 | Identify patients with impaired oxygenation and demonstrate skill in caring for patients with impaired oxygenation<br><br>Identify and demonstrate skill in caring for patients with fluid, electrolyte and acid – base imbalances | **Oxygenation needs, Fluid, Electrolyte, and Acid – Base Balances**<br>***Oxygenation needs***<br>• Oxygen administration methods<br>o Nasal Prongs<br>o Face Mask/Venturi Mask<br>• Steam inhalation<br>• Chest Physiotherapy<br>• Deep Breathing & Coughing Exercises<br>• Oral Suctioning<br>***Fluid, Electrolyte, and Acid – Base Balances***<br>• Maintaining intake output chart<br>• Identify & report complications of IV therapy<br>• Observe Blood & Blood Component therapy<br>• Identify & Report Complications of Blood & Blood Component therapy | | • Assessment of clinical skills using checklist<br>• OSCE<br><br>• Assessment of clinical skills using checklist<br>• OSCE |
| | 3 | Explain the principles, routes, effects of administration of medications<br><br>Calculate conversions of drugs and dosages within and between systems of Measurements<br><br>Administer drugs by the following routes- Oral, Intradermal, | **Administration of Medications**<br>• Calculate Drug Dosages<br>• Preparation of lotions & solutions<br>• Administer Medications<br>o Oral<br>o Topical<br>o Inhalations<br>o Parenteral<br>▪ Intradermal<br>▪ Subcutaneous | | • Assessment of clinical skills using checklist<br>• OSCE |

| Clinical Unit | Duration (Weeks) | Learning Outcomes | Procedural Competencies/ Clinical Skills (Supervised Clinical Practice) | Clinical Requirements | Assessment Methods |
|---|---|---|---|---|---|
| | | Subcutaneous, Intramuscular, Intra Venous Topical, inhalation | ▪ -Intramuscular<br>▪ Instillations<br>o Eye, Ear, Nose –instillation of medicated drops, nasal sprays, irrigations | | |
| | 2 | Assess, plan, implement & evaluate the basic care needs of patients with altered functioning of sense organs and unconsciousness<br><br>Care for terminally ill and dying patients | **Sensory Needs and Care of Unconscious patients, Care of Terminally ill, death and dying**<br>*Sensory Needs and Care of Unconscious patients*<br>• Assessment of Level of Consciousness using Glasgow Coma Scale<br>*Terminally ill, death and dying*<br>• Death Care | • Nursing rounds on care of patient with altered sensorium | • Assessment of clinical skills using checklist<br>• OSCE<br>• Assessment of clinical skills using checklist |

**Suggested Assessment/ Evaluation Methods**

| Scheme of Internal Assessment of theory out of 25 marks | | | | | |
|---|---|---|---|---|---|
| **Sr. No** | **Theory** | **Quantity** | **Marks** | **Round off** | **Final Round off IA** |
| **1.** | Class Test I | | 50 marks | 30 | Out of 15 |
| **2.** | Class Test II | | 75 Marks | 30 | |
| **3.** | Written Assignment | 2 | 50 | 10 | Out of 10 |
| **4.** | Seminar/Microteaching/individual presentation | 2 | 50 | 12 | |
| **5.** | Group project/Work/Report | 1 | 50 | 6 | |
| **6** | Attendance | (95-100%: 2 marks, 90-94: 1.5 marks, 85-89: 1 mark, 80-84: 0.5 mark, <80: 0) | | 2 | |
| | **Total** | | **255** | | **25** |
| **(Marks of each component to be rounded of the respective columns marks and the final IA need to be calculated out of 25 (15+10).** | | | | | |

| Scheme of Internal Assessment of Practical - out of 25 marks | | | | | |
|---|---|---|---|---|---|
| Sr. No | Theory | Quantity | Marks | Round off | Final Round off for IA |
| 1. | Clinical Assignments: -<br>1 Clinical Presentation<br>2 Drug presentation & report<br>3 Case study Report | <br>1<br>1<br><br>1 | <br>3<br>2<br><br>5 | <br><br><br>10 | Total=30/3=10<br><br>Round off to 10 |
| 2 | Completion of Procedure and Clinical performance | 1 | 50 | 3 | |
| 3 | Continuous evaluation of clinical performance | 1 | 100 | 10 | |
| 4 | Attendance | (95-100%: 2 marks, 90-94: 1.5 marks, 85-89: 1 mark, 80-84: 0.5 mark, <80: 0) | | 2 | |
| 5. | End of Posting OSCE | | | 5 | |

| Sessional Examinations = 15 marks | | | | | |
|---|---|---|---|---|---|
| Sr. No | Theory | Quantity | Marks | Round off | Final Round off for IA |
| 1. | OSCE | 1 | 50 | 10 | |
| 2. | DOP | 1 | 50 | 20 | Total=30/2=15<br><br>Round off to 15 |
| | Total | | 100 | | |
| (Marks of each component to be rounded of the respective columns marks and the final IA need to be calculated out of 25 (15+10). | | | | | |