# Jawaharlal Nehru Medical College, Belagavi

## Program outcomes for a medical graduate

**PO 1. Medical knowledge** - Demonstrate knowledge of normal and abnormal human structure, function and development from a molecular, cellular, biologic, clinical, behavioural and social perspective. Also demonstrate the knowledge of national and regional health care policies.

**PO 2. Clinical skills and patient care** - Demonstrate ability to elicit and record from the patient, and other relevant sources including relatives and caregivers, a history that is complete and relevant to disease identification, disease prevention and health promotion, and that is contextual to gender, age, vulnerability, social and economic status, patient preferences, beliefs and values. And perform physical examination that is complete and relevant to disease identification, disease prevention and health promotion in the same contexts. Also Maintain accurate, clear and appropriate record of the patient in conformation with medico legal and administrative frame works.

**PO 3. Critical analysis, problem solving and intellectual skills -** Demonstrate ability to choose the appropriate diagnostic tests and interpret these tests based on scientific validity, cost effectiveness and clinical context. Demonstrate effective clinical problem solving, judgment and ability to interpret and integrate available data in order to address patient problems, generate differential diagnoses and develop individualized management plans that include preventive, promotive and therapeutic goals; prescribe and safely administer appropriate therapies including nutritional interventions, pharmacotherapy and interventions based on the principles of rational drug therapy, also appropriately identify and refer patients who may require specialized or advanced tertiary care.

**PO 4. Leader and member of the health care team and system -** Work effectively and appropriately with colleagues in an inter-professional health care team as a member as well as a leader of the team respecting diversity of roles, responsibilities and competencies of other professionals, educate and motivate other members to work in collaborative and collegial fashion that will advance quality of health care and patient safety within the health care system.

**PO 5. Communicator with patients, families, colleagues and community -** Demonstrate ability to communicate adequately, sensitively, effectively and respectfully with patients in a language that the patient understands and in a manner that will improve patient satisfaction and health care outcomes; effectively communicate with patients, colleagues and families in a manner that encourages participation and shared decision-making.

**PO 6. Lifelong learner committed to continuous improvement of skills and knowledge -** Demonstrate ability to perform an objective self-assessment of knowledge and skills, continue learning, refine existing skills and acquire new skills, apply newly gained knowledge or skills, introspect and utilize experiences to enhance personal and professional growth and learning; effectively search (including through electronic means), and critically evaluate the medical literature and apply the information in the care of the patient.

Demonstrate familiarity with basic, clinical and translational research as it applies to the care of the patient.

**PO 7. Professional who is committed to excellence, is ethical, responsive and accountable to patients, community and the profession -** Abide by prescribed ethical and legal codes of conduct and practice, demonstrate selflessness, integrity, responsibility, accountability and respect, and maintain professional boundaries between patients, colleagues and society, effectively manage ethical and professional conflicts. Demonstrate a commitment to the growth of the medical profession as a whole.

# KLE VK INSTITUTE OF DENTAL SCIENCES

PROGRAM OUTCOMES FOR BDS CURICULUM

**PO.1.Critical thinking:** Acquire adequate basic knowledge, critical thinking and analysis skills for identifying relevant and appropriate dental, oral and craniofacial conditions.

**PO.2. Patient care:** Evaluate and apply the principles of an evidence based approach to clinical care and decision making necessary for patient care to provide preventive, promotive, curative, palliative and holistic oral health care with compassion.

**PO.3.Communication and interpersonal skills:** Communicator with patients, families, colleagues and community. Possess sufficient knowledge to communicate information using technologies available in contemporary dental practice.

**PO.4. Modern tool and ICT usage:** Learn, select, and apply appropriate methods and procedures, resources, and modern dental education and patient management-related computing technical tools with an understanding of the limitations

**PO.5. Leadership:** Leader and member of the health care team and system with capabilities to collect, analyze, synthesize and communicate dental health information appropriately.

**PO.6. Lifelong learner and researcher:** Lifelong learner committed to continuous improvement of skills and knowledge. Self access and use feedback effectively from others to identify learning needs and to satisfy these needs on an ongoing basis.

**PO.7.Professionalism and ethics:** Professional, who is committed to excellence, is ethical, responsive and accountable to patients, community and profession.

# KLE Shri B M Kankanawadi Ayurveda Mahavidyalaya

Program outcome for BAMS Curriculum

**P0.1. Critical thinking** - Comprehensive basic knowledge of Ayurveda, critical thinking and analytical skills for diagnosis of disease and management of relevant and appropriate conditions as per Ayurveda.

**P0.2. Patient Care:** Evaluate and apply the principles of Ayurveda through evidence-based approach to clinical care and decision making necessary for patient care to provide preventive, promotive, Curative, palliative and holistic health care with compassion.

**P0.3. Communication and interpersonal skills:-** Communicator with patients, Family, colleagues and community. Possess sufficient knowledge to **communicate** information using technologies available, in Ayurveda Clinical Practice

**P0.4. Modern tool and ICT usage.** Learn, select, and apply appropriate methods and procedures, resources, and modern Ayurveda education and patient management - related computing technical tools with understanding of the limitations

**P0.5. Leadership & Attitude -** Demonstrate professionalism and high ethical standards, Leader and member of the health **care** team and system with capabilities to collect, ***analyze,*** synthesize ***and*** communicate Ayurveda health information Appropriately.

**P0.6. Lifelong leaner and researcher -** Lifelong learner committed to continuous improvement of skills and knowledge and use feedback effectively from others to identify learning needs and to satisfy these needs on an ongoing basis.

**PO. 7. Professionalism and ethics:** Professional, who is committed to excellence, is ethical, responsive and accountable to patients, community and profession.

# KLE COLLEGES OF PHARMACY
# BELAGAVI, HUBBALI & BENGALURU

## Vision

To be an outstanding department in pursuit of new horizons to create self-reliant pharmacists of global repute through pharmacy education

## Mission

To inculcate students, the knowledge and innovative practices to develop critical thinking, problem solving abilities and leadership skills. The institution will set a standard of ultimate

## Programme Educational Objectives:

**PEO 1: Based on Knowledge & Understanding:** The pharmacy students should possess upon graduation, knowledge of pharmaceuticals, medication use and their safety and effectiveness.

**PEO 2: Based on Skill:** The graduate should be able to demonstrate his skills in providing quality pharmaceuticals, drug information and therapy including legal and ethical aspects.

**PEO 3: Based on Attitudes:** The graduate should be able to inculcate the current knowledge, changes in technology, continuous upgrading of professional information and participation in implementation of National health programmes.

## PROGRAM OUTCOMES:

The Graduate student after completing B. Pharmacy program should be able to face the challenges in the following sections/ disciplines like Pharmaceutical industry, Community & Hospital pharmacy and the concept of Research as below;

### 1. Pharmacy Knowledge:

Possess knowledge and comprehension of the core and basic knowledge associated with the profession of pharmacy, including biomedical sciences; pharmaceutical sciences; behavioural, social, and administrative pharmacy sciences; and manufacturing practices.

## 2. Planning Abilities:

Demonstrate effective planning abilities including time management, resource management, delegation skills and organizational skills. Develop and implement plans and organize work to meet deadlines.

## 3. Problem analysis:

Utilize the principles of scientific enquiry, thinking analytically, clearly and critically, while solving problems and making decisions during daily practice. Find, analyze, evaluate and apply information systematically and shall make defensible decisions.

## 4. Modern tool usage:

Learn, select, and apply appropriate methods and procedures, resources, and modern pharmacy-related computing tools with an understanding of the limitations.

## 5. Leadership skills:

Understand and consider the human reaction to change, motivation issues, leadership and team-building when planning changes required for fulfilment of practice, professional and societal responsibilities. Assume participatory roles as responsible citizens or leadership roles when appropriate to facilitate improvement in health and well-being.

## 6. Professional Identity:

Understand, analyze and communicate the value of their professional roles in society (e.g. health care professionals, promoters of health, educators, managers, employers, employees).

## 7. Pharmaceutical Ethics:

Honour personal values and apply ethical principles in professional and social contexts. Demonstrate behaviour that recognizes cultural and personal variability in values, communication and lifestyles. Use ethical frameworks; apply ethical principles while making decisions and take responsibility for the outcomes associated with the decisions.

## 8. Communication:

Communicate effectively with the pharmacy community and with society at large, such as, being able to comprehend and write effective reports, make effective presentations and documentation, and give and receive clear instructions.

## 9. The Pharmacist and society:

Apply reasoning informed by the contextual knowledge to assess societal, health, safety and legal issues and the consequent responsibilities relevant to the professional pharmacy practice.

## 10. Environment and sustainability:

Understand the impact of the professional pharmacy solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

## 11. Life-long learning:

Recognize the need for, and have the preparation ability to engage in independent and life-long learning in the broadest context of technological change. Self-assessment and feedback use effectively from others to identify learning needs and to satisfy these needs on an ongoing basis.

## COURSE OUTCOMES

### B. Pharm I Semester (RS3)

### Human Anatomy and Physiology – I (Theory) (BP101T)

After completion of this course student will be able to:

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| **BP101T.1** | Utilize appropriate medical terminology and normal physiological values related to the structure and function of the human body systems |
| **BP101T.2** | Describe the structural characteristics and functional processes common to all human cells and tissues. |
| **BP101T.3** | Integrate understanding of basic chemical concepts and principles into understanding the human anatomy and physiology. |
| **BP101T.4** | Describe the interrelationships of cells, tissues, and body organ systems, homeostasis and the complementarily of structure and functions. |
| **BP101T.5** | Demonstrate an understanding of the location, structure and functioning of the major body systems studied. |

### B. Pharm II Semester (RS3)

### Pharmaceutical Organic Chemistry-I (Theory) (BP202T)

After completion of this course student will be able to:

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| **BP202T.1** | Demonstrate an intermediate ability to use effective written and/or oral communication through the application of structural aspects of organic chemistry. |
| **BP202T.2** | Utilize the standardized names and symbols to represent atoms, molecules, ions and chemical reactions. |
| **BP202T.3** | Explain different types of organic reactions and their mechanisms concerning different |

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| | classes of organic compounds. |
| **BP202T.4** | Describe and predict the physicochemical properties of various organic compounds including their preparation and Uses. |

**B. Pharm III Semester (RS3)**

**Physical Pharmaceutics-I (Theory) (BP302T)**

After completion of this course student will be able to:

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| **BP302T.1** | Describe the solubility of drugs in solvent and distribution Phenomena. |
| **BP302T.2** | Explain the states of matter and describe the Physical properties of drug molecule in formulation of stable and effective dosage form. |
| **BP302T.3** | Explain solubility, surface and Interfacial Phenomena in developing dosage forms. |
| **BP302T.4** | Describe complexation and protein binding in pharmacy. |
| **BP302T.5** | Prepare and apply different pH and Buffer solutions. |

**Physical Pharmaceutics-I (Practical) (BP306P)**

After completion of this course student will be able to:

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| **BP306P1** | Determine the solubility and evaluate physicochemical properties of the drugs. |
| **BP306P2** | Determine the partition coefficient and surface tension of various liquids using different methods and interpret the results obtained. |
| **BP306P3** | Determine the various constants used in the complexation process. |

**Pharmaceutical Microbiology (Theory) (BP303T)**

After completion of this course student will be able to:

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| **BP303T.1** | Compile the basic knowledge about contributions of various scientists in the field of microbiology; and the detailed information regarding bacteria morphology and cultivation and different types of microscopes |
| **BP303T.2** | Explain the identification techniques of bacteria and merits and demerits of various sterilization techniques |
| **BP303T.3** | Explain the morphology and cultivation of virus and fungi and describe different types of disinfectants used in the pharmaceutical industry and their evaluation techniques and sterility testing as per various pharmacopoeia |
| **BP303T.4** | Describe the aseptic techniques, microbiological assay of antibiotics, vitamins and amino acids |
| **BP303T.5** | Explain the factors affecting microbiological spoilage in pharmaceutical products and evaluation of preservatives and details of cell culture techniques and their application in pharmaceuticals |

**Pharmaceutical Microbiology (Practical) (BP307P)**

After completion of this course student will be able to:

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| **BP307P.1** | Demonstrate aseptic and pure culture techniques with the competency to handle lab equipment and explain the importance of different types of media utilized in the laboratory. |
| **BP307P.2** | Implement appropriate methods isolation, identification and enumeration of microorganisms. |
| **BP307P.3** | Evaluate the efficacy of antimicrobial agents using reliable protocols and perform the |

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| | test for sterility and antimicrobial assays. |

**Pharmaceutical Engineering (Theory) (BP 304 T)**

After completion of this course student will be able to:

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| **BP304T.1** | Comprehend the Principles, construction and working of equipment involved in pharmaceutical processing. |
| **BP304T.2** | Explain the principles of unit operations and their significance |
| **BP304T.3** | Explain the basic concepts of Evaporation and Distillation and their applications in Preformulation studies. |
| **BP304T.4** | Explain the basic concepts of Flow of fluids and Heat transfer and their applications. |
| **BP304T.5** | Comprehend the materials of construction in Pharmaceutical industry, theory of corrosion and its prevention |

**Pharmaceutical Engineering (Practical) (BP 308P)**

After completion of this course student will be able to:

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| **BP308.1** | Demonstrate the handling of various equipment and machinery used in pharmaceutical industry as unit operations like Drying process, Mixing efficacy, Filtration & Evaporation. |
| **BP308.2** | Perform and analyse heat transfer through different materials and their significance in drying of substances |
| **BP308.3** | Perform and evaluate the size reduction and size separation operation and realize its significance in manufacturing process. |
| **BP308.4** | Implement and incorporate various methods of preparation of crystals and compare their size and yield. |
| **BP308.5** | Determine humidity of air using Dew point method and its significance to maintain room temperature and humidity in special areas in pharmaceutical industry |

**B. Pharm IV Semester (RS3)**

**Pharmacognosy & Phytochemistry – I (Theory) (BP405T)**

After completion of this course student will be able to:

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| **BP405T.1** | Define Pharmacognosy and express its history and scope. |
| **BP405T.2** | Explain different class of Crude Drugs from natural origin and general methods of cultivation, collection, storage, quality control and conservation. |
| **BP405T.3** | Describe the natural drugs containing primary metabolites with respect to their chemistry, classification, biological source, morphology, uses and storage. |
| **BP405T.4** | Illustrate the different secondary metabolites and their pharmaceutical importance |
| **BP405T.5** | Define and apply the knowledge of alternative system of medicine in herbal drug technology. |
| **BP405T.6** | Express salient features of plant tissue cultures, transgenic plants and animals |

**B.Pharm V Semester (RS3)**

**INDUSTRIAL PHARMACYI (Theory) (BP502T)**

After completion of this course student will be able to:

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| **BP502T.1** | Define and describe Preformulation study with physical and chemical properties |
| **BP502T.2** | Explain the theoretical considerations in development of Pharmaceutical Solid, Liquid and parenteral dosage forms. |
| **BP502T.3** | Formulation & Evaluation study of the Cosmetics and Aerosols and shelf life. |
| **BP502T.4** | Describe packaging components and their specifications |

**B. Pharm VI Semester (RS3)**

**Pharmaceutical Biotechnology(Theory) (BP605 T)**

After completion of this course student will be able to:

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| **BP605 T 1** | Define and explain products and applications of biotechnology. |
| **BP605 T 2** | Write the steps involved in bioprocess development and large scale production of representative fermentation products |
| **BP605 T 3** | Explain the techniques and steps involved in production of biopharmaceuticals. |
| **BP605 T 4** | Express salient features of plant tissue cultures, transgenic plants and animals |
| **BP605 T 5** | Explain recent tools, techniques and concepts of modern biotechnology |

**B.Pharm VII Semester (RS3)**

**PHARMACY PRACTICE (Theory) (BP703T)**

After completion of this course student will be able to:

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| **BP703T.1** | Implement various drug distribution methods and inventory control methods in a hospital. |
| **BP703T.2** | Monitor drug therapy of patient through medication chart review, clinical review, medication history interview& adopt Rational drug therapy. |
| **BP703T.3** | Identify drug related problems, detect and assess adverse drug reactions. |
| **BP703T.4** | Interpret selected laboratory results (as monitoring parameters in therapeutics) of specific disease states |

**B.Pharm VIII Semester (RS3)**

**BIOSTATICS AND RESEARCH METHODOLOGY (Theory) (BP801T)**

After completion of this course student will be able to:

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| **BP801T.1** | Study the descriptive statistics and applications in pharmaceutical research & experimental studies |
| **BP801T.2** | Study the measures of central tendency, correlation, probability theory |
| **BP801T.3** | Study the descriptive statistics, Graphics, parametric & non-parametric tests, ANOVA. |
| **BP801T.4** | To study the need for design of Experiments and study design types |

# KLE Institute of Physiotherapy, Belagavi

## Program Outcomes

1. **Physiotherapy knowledge:**
   Possess an understanding & knowledge of the scientific basis of Physiotherapy, principles of biological functions & analysis of scientific data & facts. Demonstrate an adequate understanding of the effects of disease on normal bodily functions & to apply this in the evaluation, management & rehabilitation of patients
2. **Planning abilities:**
   Demonstrate effective patient evaluation & treatment planning skills including time management & follow-up program
3. **Communication Skills:**
   Demonstrate effective communication skills with patients, caregivers, other scientific/ medical personnel & community at large with regard to health promotion, education & rehabilitation
4. **Professional Identity & Ethics:**
   Understand, analyze & communicate their professional role in the society (health promoters, rehabilitation specialists, health educators, employers, employee, managers).
   Demonstrate an understanding of human values & humanitarian approach in patient care. Apply ethical principles during day to day professional practice & take ownership of results/outcome of treatment
5. **Problem analysis:**
   Utilize the principles of scientific enquiry, analytical thinking, clearly and critically, while solving problems and making decisions relating to patient care during daily practice. Find, analyze, evaluate and apply information systematically and make defensible decisions.
6. **Physiotherapist & Society:**
   Apply informed contextual reasoning supported by evidence to assess societal, health, safety and legal issues and the consequent responsibilities relevant to professional Physiotherapy practice
7. **Leadership skills:**
   Develop the ability to independently evaluate & plan patient care programs. Develop the ability to work as a team in the holistic management of patients. Demonstrate an ability to lead & mentor a peer team or juniors in the best interest of the patient, profession & society at large.

8. **Research Acumen:**
   Develop a keen sense of research in the field of Physiotherapy. Develop a sense of scientific inquiry in the evaluation & management of patients & aim to cover the lacuna in the knowledge pool by conducting good quality research & presenting the same at scientific forums & publish quality papers in order to aid evidence based practice.
9. **Lifelong learning:**
   Recognize the need for & engage in independent and life-long learning in the broadest context. Self -assess and use feedback effectively from others to identify learning needs and to satisfy these needs on an ongoing basis.

# KLE Institute of Nursing Sciences, Belagavi

### B.Sc. NURSING PROGRAMME OUTCOME

**On completion of the four year B.Sc. Nursing program the graduate will be able to:**

1. **Knowledge:** Apply knowledge from physical, biological, and behavioral sciences, medicine including alternative systems and nursing in providing nursing care to individuals, families and communities.
2. **Patient Care:** Demonstrate critical thinking skills in making decisions to provide promotive, preventive and restorative health services based on the nursing process in order to provide quality care in clinical and community setting
3. **Professionalism & Ethics:** Practice within the framework of code of ethics and professional conduct, and acceptable standards of practice within the legal boundaries.
4. **Communication & Interpersonal skill**: Communicate effectively with individuals, groups, and members of the health team in order to promote effective interpersonal relationships and teamwork
5. **Modern tool and ICT uses:** Utilize the latest trends and technology in teaching and providing health care
6. **Leadership skills:** Demonstrate leadership and managerial skills in clinical/community health settings
7. **Lifelong Learner and Researcher**: Conduct need based research studies in various

   settings and utilize the research findings to improve the quality of care.

# KLE University's Homoeopathic Medical College & Hospital, Belagavi

## Programme Outcomes

A BHMS graduate after completion of graduation should be a competent physician capable of functioning independently and effectively in Rural and Urban setup:

### Homoeopathic Knowledge

1) Possess the knowledge about the fundamental principles of Homoeopathy and its application in the areas of Pathological, Surgical, Gynaecological and Medical diseases.

2) Possess the knowledge to practice promotive, preventive, curative and rehabilitative medicine in respect to the commonly encountered health problems.

3) Possess the knowledge about the scope and limitations of Homoeopathy.

4) Role of Homoeopathy in the present and future context.

5) Apply the clinical knowledge in diagnosis and management of common health problems of both individual and the community.

6) Be competent in implementing National Health Programs such as:

   a) Family Welfare and Maternal and Child Health (MCH)
   b) Sanitation and water supply
   c) Prevention and control of communicable and non-communicable diseases
   d) Immunization
   e) Health education
   f) National Health Mission.

### Skills

1) Acquire basic management skills in managing human resources and materials related to health care delivery.

2) Demonstrate the skills in case taking, physical examination, individualization, clinical diagnosis, miasmatic analysis & evaluation, Repertorisation and prescribing.

3) Demonstrate leadership skills and ability to perform in an integrated clinical setting.

4) To develop an effective communication skill with patient.

### Attitude

1) Develop humane attitude, logical thinking, clarity of expression and action, independence of judgment, self-initiated and continued self-directed learning, to seek further expertise or to pursue research, purity of purpose and other necessary values.

2) Demonstrate professionalism and high ethical standards in all aspects of medical practice, specifically personal integrity, sense of responsibility, dependability and ability to relate to or show concern for other individuals and society.

### Problem solving

Identifying the problems in current health care environment, utilize the principles systematically, analyse problems and take correct decision to solve them.

**Usage of modern tools and technology**

Learn, evaluate and apply appropriate methods and procedures, equipment's and modern techniques in health care delivery systems for diagnosis, curative and preventive aspects.

**Professional identity**

Understand, analyze and communicate the value of their professional roles in society (e.g. health care professionals, promoters of health, educators, managers, employers and employees).

**Ethics**

Demonstrate high ethical standards in all aspects of Medical practice.

**Medico-legal aspects**

Apply reasoning and facts informed by the contextual knowledge to assess community, health, safety, ethical and legal issues and the consequent responsibilities relevant to the professional Homoeopathic practice.

**Research and Evidence-based system**

Learn, integrate and apply research-based knowledge and practices for revalidation of concepts; innovations in healthcare and evidence –based clinical practice. Also the ability to community at a scientific level to create awareness about the new developments.

# Jawaharlal Nehru Medical College, Belagavi

## Details of Course Outcomes

1. Clinician who understands and provides preventive, promotive, curative, palliative and holistic care with compassion.
2. Leader and member of the health care team and system with capabilities to collect analyze, synthesize and communicate health data appropriately.
3. Communicator with patients, families, colleagues and community.
4. Lifelong learner committed to continuous improvement of skills and knowledge.
5. Professional, who is committed to excellence, is ethical, responsive and accountable to patients, community and profession.
6. Work effectively and appropriately with colleagues in an interprofessional health care team respecting diversity of roles, responsibilities and competencies of other professionals.
7. Participate appropriately and effectively in measures that will advance quality of health care and patient safety within the health care system.
8. Recognize and advocate health promotion, disease prevention and health care quality improvement through prevention and early recognition: in a) life style diseases and b) cancers, in collaboration with other members of the health care team.
9. To communicate adequately, sensitively, effectively and respectfully with patients in a language that the patient understands and in a manner that will improve patient satisfaction and health care outcomes.
10. Ability to establish professional relationships with patients and families that are positive, understanding, humane, ethical, empathetic, and trustworthy.

11. Ability to communicate with patients in a manner respectful of patient's preferences, values, prior experience, beliefs, confidentiality and privacy.
12. Ability to communicate with patients, colleagues and families in a manner that encourages participation and shared decision-making.
13. Professional who is committed to excellence, is ethical, responsive and accountable to patients, community and the profession

# KLE VK Institute of Dental Sciences, Belagavi

## Course outcomes of Oral Medicine & Radiology

At the end of BDS Course the students should be able to:

1. Demonstrate adequate knowledge of common orofacial disorders with clinical features, diagnostic methods & medical management.
2. Perform comprehensive extraoral & intraoral examination, record findings, develop differential diagnosis & write a treatment plan for common orofacial disorders.
3. Assess influence of systemic diseases on oral health.
4. Demonstrate the proficiency in intraoral radiography following appropriate safety & protection measures
5. Demonstrate an understanding of clinical & radiographic aspects of forensic odontology.

## Course outcome Public Health Dentistry

At the end of the course, student should be able to -

1. Recall and explain appropriate terminologies related to public health dentistry.
2. Evaluate the extent of common oral health problems in the community, identify risk groups and plan the appropriate preventive, promotive and curative methods.
3. Design the oral health education materials and application of the same to educate, create awareness and motivate the population to adapt the best oral health practice.
4. Understand and write the steps of research protocol, collect data, analyze and interpret the results and publish the scientific paper.
5. Record and interpret a comprehensive and contemporaneous patient history with emphasis on quantification of disease, investigation, diagnosis and treatment plan.
6. Treat all patients with equality, respect and dignity and incorporate current best practice guidelines.

## Course outcomes of Prosthodontics & Crown & Bridge

At the end of the course, student should be able to -

1. Recall and explain appropriate components and terminologies which include dental materials, Removable prosthodontics, fixed prosthodontics, maxillofacial prosthodontics and implant prosthodontics.
2. Identify various edentulous conditions; outline the different treatment modalities and treatment planning to restore missing dentition.
3. Refine and acquire the skills in the selection and manipulation of various dental materials and techniques related to rehabilitation of various missing oral and maxillofacial structures.
4. Familiarize with the prosthodontics instruments, materials, and various treatment protocols to rehabilitate missing oral and maxillofacial structures.
5. Adopt and excel innovation in various dental materials and innovative techniques in order to meet high quality prosthodontics demands of the patients.
6. Understand the steps of research and with protocol, collect, analyze and interpret data and publish scientific papers.
7. Incorporate dental ethics, honesty and integrity in various aspects of prosthodontics practices.

## Course Out Comes of Oral Pathology and Microbiology

## Course Out Comes of Dental Anatomy

At the end of the course, student should be able to -

1. State and utilize the appropriate terminology used in dental anatomy and oral histology
2. Integrate the knowledge regarding embryology and physiology of oral cavity for clinical application
3. Recognize and describe the morphology of deciduous and permanent dentition and relate it to clinical application
4. Describe the histology of normal oral structures
5. Explain laboratory techniques of oral biopsy tissue preservation (Hard and Soft)

## Course Out Comes of Oral Pathology & Microbiology

At the end of the course, student should be able to -

1. Recall the appropriate definitions, terminologies related to pathologies affecting head and neck (Knowledge)
2. Describe the characteristics and manifestations related to diseases affecting the head and neck (Comprehension)
3. Integrate the understanding of systemic diseases with oral manifestations and correlate with systemic signs, symptoms and laboratory findings (Application)
4. Apply the knowledge related to basic principles and techniques in histopathology (Knowledge)
5. Describe the basic aspects of forensic odontology (Knowledge)

## Course Out Comes of Oral and Maxillofacial Surgery

At the end of the course, student should be able to -

1. Define Indications And Contraindications of extraction of teeth
2. Incorporate pharmacological basis of Local anesthesia in oral Surgery
3. Be able to administer Local anesthetic nerve blocks
4. Be able to perform exodontia
5. Be able to evaluate, analyze, diagnose and categorize maxillofacial infections, pathology, trauma and deformities
6. Apply the knowledge of medical emergency drugs
7. Recognize and manage medical emergencies till help arrives
8. Have the knowledge to evaluate medically compromised patients and prioritize the treatment accordingly
9. Recognize the concept of sterilization and waste disposal
10. Able to Appraise patients regarding morbidity and dysfunction associated with maxillofacial region and transfer such patients to specialist ( Maxillofacial surgeon)
11. Incorporate ethical practice and demonstrate understanding of medico-legal issue and communication ability

## Course Out Comes of Pedodontics & Preventive Dentistry

At the end of the course, student should be able to -

1. Apply knowledge of the scientific foundations on which pediatric dentistry is based and good understanding of various relevant scientific methods, principles of biological functions and able to evaluate and analyze scientifically various established facts and data.
2. Apply knowledge of the development, structure and function of the teeth, mouth and jaws and associated tissues both in health and disease and their relationship and effect on general – state of health and also the bearing on physical and social well – being of the patient.
3. Relate the knowledge of clinical disciplines and methods, which provide a coherent picture of anomalies, lesions and diseases of the teeth, mouth and jaws and execute appropriate preventive, diagnostic and therapeutic aspects of pediatric dentistry when presented with such a case.
4. Correlate the knowledge of biological function and behavior of children in health and sickness as well as the influence of the natural psychological and social environment on the state of health .
5. Ability to engage in ethical, independent, research and lifelong teaching.

## Course Outcome of Conservative Dentistry and Endodontic

At the end of the course, student should be able to -

1. Recall and explain appropriate dental terminologies of Conservative Dentistry and Endodontics.
2. Identify etiology and pathophysiology of diseases of dental tissues in clinical diagnosis, prevention and treatment planning.
3. Develop skills in selection, manipulation & application of various restorative dental materials and dental instruments in clinical dental practice.
4. Familiarize with endodontic instruments, materials and techniques required to carry out simple Endodontic procedures.
5. Adopt innovations in materials and techniques to deliver high quality treatment to the patients.

6. Understand steps of research and right protocol, collect, analyze and interpret data and publish scientific paper
7. Incorporate ethical principles, honesty and integrity in various aspects of dental practice.

**Course Outcome of Orthodontics**

At the end of the course, student should be able to -

1. Define, Understand the basics of growth and development, factors influencing and Clinical application of growth and development
2. Understand the dynamic interaction of biologic processes and mechanical forces acting on the Stomatognathic system during orthodontic treatment
3. Define, Identify, describe, classify malocclusion and differentiate it with normal occlusion and understand the etiology of malocclusion
4. Describe importance of various diagnostic aids and relate the findings by analyzing various cephalometric and model analysis to enable the students to diagnose and manage minor malocclusions requiring removable appliances
5. Prioritize and design an orthodontic treatment plan based on patients need

**Course outcomes of Periodontics**

At the end of the course, student should be able to -

1. Define & explain the components of Periodontium
2. Analyze various etiological factors contributing to periodontal disease, diagnose them and incorporate group research on identified thrust areas on continual basis.
3. To develop non surgical treatment and oral hygiene maintenance protocol for patients, explain the same to them and render non surgical treatment.

# KLE Shri B. M.Kankanwadi Ayurveda Mahavidhyalaya

## COURSE OUTCOME

## BAMS I SEMESTER

### 1. Sharira Rachana

Shareera Rachana is segmentation of Ayurveda which exclusively deals with the study of human body through dissection, which forms the subtle essential basics and sets a strong base for further medical knowledge

After completion of course student will be

- Comprehend the normal disposition, inter-relationships, gross, functional and applied anatomy of the various structures in the body.
- Have a detail knowledge of Ayurveda Terminologies pertaining to different body parts
- Develop the skill of dissecting & identifying the structures of the body
- He / She should be able to locate the site of gross lesions according to the deficits encountered

### 2. Sharira Kriya

Shareera kriya is the key subject in medicine. This subject provides the ground base knowledge of body functions and dysfunctioning which helps in critical understanding of disease process and insight to disease management and prevention. Physiology is the core of medical wisdom. Its enormous contribution is responsible for the growth of medical technology and clinical management.

After completion of course student will be

- sufficient level of knowledge of SHAREER KRIYA to understand the basic facts, concepts and principles essential for medical practice
- To find solutions in basic concepts of mechanisms, prevention and treatment of disease.

### 3. Padhartha Vijnana and Ayurveda Itihasa.

After completion of course student will be

- Students to understand the fundamental concepts of Ayurveda
- Relation between Indian Philosophy and Ayurveda
- History of Ayurveda and its origin.

### 4. Ashtanga hrudaya avum Maulika siddhanta

After completion of course student will be

- Demonstrate Ayurvedic concepts like, dosha-dhatu-mala, ahar , vihar etc mentioned in Ashtang Hridaya.
- Give advice for Health and lifestyle management through Dinacharya, Rutucharya, Sadvrutta etc.
- Select appropriate Panchakarma procedures in healthy and diseased conditions.

### 5. Sanskrit

After completion of course student will be

- Make Samskruta as a speaking language
- Understand the basic concepts of Ayurveda which are written in sanskrit
- Grammatical analysis of Sanskrit shlokas

## BAMS II SEMESTER

### 1. Rasa Shastra avam Bhaisajya Kalpana (Pharmaceuticals of Ayurveda)

Rasashastra and Bhaishajya Kalpana is a combined branch of Pharmacognosy, Pharmaceuticals, Neutraceuticals and Pharmacology.

Rasashastra and Bhaishajya Kalpana is the potential branch deals with selection of genuine raw drugs, their collection, processing of poisonous herbs, manufacture of herbal, herbo-mineral, herbo-metallic formulations and their therapeutic indications, dose, vehicle and diet

After completion of course student will be

- Sound theoretical knowledge and practical skills of **Kalpa** at the end of Profession/Course.
- Develop and modify classical formulations adopting advanced technology and to validate classical formulations to achieve safety and efficacy.
- Bring confluence in achieving academic excellence and promoting scientific research methods in Rasashastra and Bhaishajya Kalpana

## 2. Nidan/Vikriti Vigyana (Pathology)

Providing basic methodology of Roga Nidana and Vikruti Vijnana with recent developments in clinical diagnostics, bestowing complete knowledge of bedside clinics and advanced investigations with clinical interpretation.

After completion of course student will have be

- Describe the importance of – Dosha Dooshyadi Vigyanam, fundamentals of Vikruti Vijnan and Rognidan, Pariksha Vidhana, Shat Kriyakala (Vyadhi and Rutu), Nidana Panchaka, Vyadhi Vigyanam
- Comprehend basic pathology, immunology and infectious diseases
- Construct the knowledge of Concept of Ashta Mahagada.
- Classify microorganisms such as Virus, Bacteria, Fungi
- Infer Vyadhikshamatva
- Identify the importance of Rogamarga
- Appraise Ojas and Vyadhikshamatva
- Assess the basic knowledge of bio chemistry, pathology and microbiology
- Specify and classify Vishistha Vata Vyadhi
- Endocrinology

Skills:

- Execute the practice of Pareeksha Vigyanam
- Interpret the Diseases of various Srotas

- Practice the tools of Avayavika Pariksha like -USG, X-ray, MRI, CT, ECG etc
- Demonstrate Upasargajanya Vyadhi (Communicable diseases)
- Integrate Krimi Vigyanam
- Perform bedside physical examination and history taking by regular observation of the demonstrations and practice on the patients
- Calibrate various steps involved in performing various laboratory Investigations
- Adapt safety skills during the emergencies at student laboratory

Attitude:

- Develop communication skills to take the patients into confidence
- Extrapolate to take the patient into confidence for briefing proper history
- Valuing high moral and ethical standards while carrying out the clinical examination and history taking

### 3. Dravyaguna

Dravyaguna is an integral part of Ayurveda, which deals comprehensively about rasa, guna virya, vipaka and prabhava (pharmacokinetics and pharmcodynamics) of herbs. Branch also deals with identification, collection, storage, and preservation of raw materials of plant origin.

After completion of course student will have be

- Detail knowledge of Ayurveda drugs and its therapeutic uses

- Collection and preservation of drugs
- Identification of adulteries and use of Abhava dravys
- Knowledge of rare drugs

**4. Charaka Samhita Purvardhta**

After completion of course student will be

- Demonstrate Ayurvedic concepts like, dosha-dhatu-mala, ahar , vihar etc mentioned in Ashtang Hridaya.
- Give advice for Health and lifestyle management through Dinacharya, Rutucharya, Sadvrutta etc.
- Select appropriate Panchakarma procedures in healthy and diseased conditions.

## BAMS III SEMESTER

**1. Agadtantra, VyavaharAyurveda and Vidhi Vaidyaka**

Agada Tantra is a branch of Ayurveda which deals with identification, prevention, diagnosis and treatment of various **Visha** conditions (Animate, Inanimate, Subclinical, Residual and Cumulative toxicological presentation). Department of Agada Tantra for Undergraduate was individualized in 1963. Since then the department is growing and working for the upliftment of Agada Tantra.

To uplift the glory of Ayurveda Vishachikithsa by Exploring the classical and traditional knowledge on scientific grounds.

After completion of course student will have be

- scientifically validate the Antidoatal effects of Agada 's, for Garavisha (artificial Poisons) and Dooshivisha (Low potent poisons)
- Traditional Practices of Visha Chikithsa.
- Establish the art of treatment of Skin Diseases Through fundamentals principles of AgadaTantra.
- Establish the Ayurveda Environmental Toxicology on Scientific grounds

2. **Swasthavritta Yoga**

**Swasthavritta**, which is known as Preventive and Social Medicine or Community Medicine in modern medical science. The concept of Swasthavritta is pioneer in the field of medicine propagated by our ancient seers and is basic need for building a healthy society.

After completion of course student will be able to

- Provide community based services,
- provide preventive services to the society in respect to communicable, non-communicable diseases,
- To know and involve in national health programmes,
- Understand and practice Yoga & Naturopathy
- Understand and practice principles of Ayurveda diet system.

## 3. PRASUTI TANTRA EVUM STRI ROGA

Prasuti Tantra & Striroga is a significant branch of Ayurveda mainly dealing with child birth /Parturition (Prasuti Tantra /Obstetrics) and Gynecological (Striroga) disorders.

After completion of course student will be able to

- To promote Garbhini Paricharya (Antenatal care through Ayurveda) through quality clinical training
- Explore Ayurveda treatment modalities for various Gynecological disorders
- To validate pharmacotherapy of drugs & formulations related to Prasuti Tantra & Striroga
- To implement Standard Operative Procedures (SOP) for various therapeutic procedures related to Prasuti Tantra & Striroga

## 4. KAUMARBHRITYA PARICHAYA

Kaumarabhritya seeks to improve the health of children through excellence in the care of Children and families through Ayurveda principles

After completion of course student will be able to

- To impart complete theoretical, clinical and practical knowledge of Kaumarabhritya.
- Generate research minded, knowledge seeking and knowledge expanding clinicians and academicians.

- Provide facilities to the graduates and postgraduates for the intellectual/ skill growth and braveness to serve the mankind.
- Serve as a part of national immunization program with Ayurvedic immune boosters
- Provide the scope of job facilities in national and international level
- Systematize and impart Preventive Ayurvedic Pediatrics
- Systematize Ayurvedic treatment protocols, Drug doses, drug forms, Panchakarma, Nutrition, growth and development.
- Strengthen Ayurvedic Pediatric Literature.

### 5. CHARAK SAMHITA (UTTARARDHA)

After completion of course student will be

- Demonstrate Ayurvedic concepts of Chikitsa sutra
- Give advice for Health and lifestyle management through shama aushadha and shodhana
- Understand diseases and its pathology in detail Ayurveda way
- Select appropriate Panchakarma procedures in healthy and diseased conditions.

## BAMS IV SEMESTER

### 1. KAYACHIKITSA

Kayachikitsa is the one of the eight branches of Ayurveda which deals with the multi systemic illness of the adults. It deals with therapeutic

approach to the disease either through Shodhana (purification), Shamana (pacification) and Satwawajaya (Counseling). These applications are done through medications, behavioural, psychological & life style management. Pharmacological intervention is through various forms of medicines like vati (tablets), kashaya (decoctions), churna (powders), bhasma, asava, arista, ghruta, guggulus etc. Strength of the system is providing efficient, cost effective, personalized medicine with high safety margins

After completion of course student will be able

- Recognize the need of lifelong learning, to stay abreast of relevant scientific advances.
- Develop the communication skills.
- Develop ability of applying evidence based principles of medicine. And ability to practice the principles of primary health care.
- Use the knowledge for clinical application in day to day practice.

## 2. PANCHKARMA

It is that stream of Ayurveda which fulfills the objective of prevention and cure especially in the era of lifestyle disorders and chronic diseases it provides apt solutions.

After completion of course student will be able

- Perform various panchakarma procedures
- Have hands on experience
- Confident in employing panchakarma therapies
- Well versed in patient interaction

## 3. SHALYA TANTRA

Shalyatantra is one of distinct branch of Ayurveda which explains and demonstrates surgical knowledge and procedures that were performed and used since thousands of years and are useful even today.

After completion of course student will be able

- Providing the competent surgical and medicinal knowledge.
- Skills for the care of patients with complex problems that difficult to diagnose and to manage.
- Demonstrating decision making skills for treatment and referral to deliver comprehensive management for the patient

## 4. SHALAKYA TANTRA

Shalakyatantra is defined as branch of an Ayurveda which deals with diagnosis and management of diseases that occurs above the clavicle. Viz. Diseases of eyes, ears, nose, throat, head and neck. Since this speciality deals with narrow and delicate parts of body, it requires various specialised instruments for diagnosis and treatment. Hence, the term ***Shalaki*** is used for the specialists of Shalakyatantra.

After completion of course student will be able

- Ability of applying evidence based principles of medicine.
- Develop the communication skills.
- Develop the ability to practice the principles of primary health care.

- Recognize the need of lifelong learning, to stay abreast of relevant scientific advances.
- Inculcate thirst for learning to develop in-depth knowledge.
- knowledge for clinical application in day to day practice.

## 5. RESEARCH METHODOLOGY AND MEDICAL STATISTICS

After completion of course student will be able

- Study the descriptive statistics and applications in pharmaceutical research & experimental studies
- Study the measures of central tendency, correlation, probability theory
- Study the descriptive statistics, Graphics, parametric & non-parametric tests, ANOVA.
- To study the need for design of Experiments and study design types

### 9. The Pharmacist and society:

Apply reasoning informed by the contextual knowledge to assess societal, health, safety and legal issues and the consequent responsibilities relevant to the professional pharmacy practice.

### 10. Environment and sustainability:

Understand the impact of the professional pharmacy solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.

### 11. Life-long learning:

Recognize the need for, and have the preparation ability to engage in independent and life-long learning in the broadest context of technological change. Self-assessment and feedback use effectively from others to identify learning needs and to satisfy these needs on an ongoing basis.

## COURSE OUTCOMES

### B. Pharm I Semester (RS3)

### Human Anatomy and Physiology – I (Theory) (BP101T)

After completion of this course student will be able to:

| | |
|---|---|
| **BP101T.1** | Utilize appropriate medical terminology and normal physiological values related to the structure and function of the human body systems |
| **BP101T.2** | Describe the structural characteristics and functional processes common to all human cells and tissues. |
| **BP101T.3** | Integrate understanding of basic chemical concepts and principles into understanding the human anatomy and physiology. |
| **BP101T.4** | Describe the interrelationships of cells, tissues, and body organ systems, homeostasis and the complementarily of structure and functions. |
| **BP101T.5** | Demonstrate an understanding of the location, structure and functioning of the major body systems studied. |

**B. Pharm II Semester (RS3)**

**Pharmaceutical Organic Chemistry-I (Theory) (BP202T)**

After completion of this course student will be able to:

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| **BP202T.1** | Demonstrate an intermediate ability to use effective written and/or oral communication through the application of structural aspects of organic chemistry. |
| **BP202T.2** | Utilize the standardized names and symbols to represent atoms, molecules, ions and chemical reactions. |
| **BP202T.3** | Explain different types of organic reactions and their mechanisms concerning different |

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| | classes of organic compounds. |
| **BP202T.4** | Describe and predict the physicochemical properties of various organic compounds including their preparation and Uses. |

**B. Pharm III Semester (RS3)**

**Physical Pharmaceutics-I (Theory) (BP302T)**

After completion of this course student will be able to:

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| **BP302T.1** | Describe the solubility of drugs in solvent and distribution Phenomena. |
| **BP302T.2** | Explain the states of matter and describe the Physical properties of drug molecule in formulation of stable and effective dosage form. |
| **BP302T.3** | Explain solubility, surface and Interfacial Phenomena in developing dosage forms. |
| **BP302T.4** | Describe complexation and protein binding in pharmacy. |
| **BP302T.5** | Prepare and apply different pH and Buffer solutions. |

**Physical Pharmaceutics-I (Practical) (BP306P)**

After completion of this course student will be able to:

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| **BP306P1** | Determine the solubility and evaluate physicochemical properties of the drugs. |
| **BP306P2** | Determine the partition coefficient and surface tension of various liquids using different methods and interpret the results obtained. |
| **BP306P3** | Determine the various constants used in the complexation process. |

**Pharmaceutical Microbiology (Theory) (BP303T)**

After completion of this course student will be able to:

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| **BP303T.1** | Compile the basic knowledge about contributions of various scientists in the field of microbiology; and the detailed information regarding bacteria morphology and cultivation and different types of microscopes |
| **BP303T.2** | Explain the identification techniques of bacteria and merits and demerits of various sterilization techniques |
| **BP303T.3** | Explain the morphology and cultivation of virus and fungi and describe different types of disinfectants used in the pharmaceutical industry and their evaluation techniques and sterility testing as per various pharmacopoeia |
| **BP303T.4** | Describe the aseptic techniques, microbiological assay of antibiotics, vitamins and amino acids |
| **BP303T.5** | Explain the factors affecting microbiological spoilage in pharmaceutical products and evaluation of preservatives and details of cell culture techniques and their application in pharmaceuticals |

**Pharmaceutical Microbiology (Practical) (BP307P)**

After completion of this course student will be able to:

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| **BP307P.1** | Demonstrate aseptic and pure culture techniques with the competency to handle lab equipment and explain the importance of different types of media utilized in the laboratory. |
| **BP307P.2** | Implement appropriate methods isolation, identification and enumeration of microorganisms. |
| **BP307P.3** | Evaluate the efficacy of antimicrobial agents using reliable protocols and perform the |

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| | test for sterility and antimicrobial assays. |

**Pharmaceutical Engineering (Theory) (BP 304 T)**

After completion of this course student will be able to:

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| **BP304T.1** | Comprehend the Principles, construction and working of equipment involved in pharmaceutical processing. |
| **BP304T.2** | Explain the principles of unit operations and their significance |
| **BP304T.3** | Explain the basic concepts of Evaporation and Distillation and their applications in Preformulation studies. |
| **BP304T.4** | Explain the basic concepts of Flow of fluids and Heat transfer and their applications. |
| **BP304T.5** | Comprehend the materials of construction in Pharmaceutical industry, theory of corrosion and its prevention |

**Pharmaceutical Engineering (Practical) (BP 308P)**

After completion of this course student will be able to:

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| **BP308.1** | Demonstrate the handling of various equipment and machinery used in pharmaceutical industry as unit operations like Drying process, Mixing efficacy, Filtration & Evaporation. |
| **BP308.2** | Perform and analyse heat transfer through different materials and their significance in drying of substances |
| **BP308.3** | Perform and evaluate the size reduction and size separation operation and realize its significance in manufacturing process. |
| **BP308.4** | Implement and incorporate various methods of preparation of crystals and compare their size and yield. |
| **BP308.5** | Determine humidity of air using Dew point method and its significance to maintain room temperature and humidity in special areas in pharmaceutical industry |

**B. Pharm IV Semester (RS3)**

**Pharmacognosy & Phytochemistry – I (Theory) (BP405T)**

After completion of this course student will be able to:

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| **BP405T.1** | Define Pharmacognosy and express its history and scope. |
| **BP405T.2** | Explain different class of Crude Drugs from natural origin and general methods of cultivation, collection, storage, quality control and conservation. |
| **BP405T.3** | Describe the natural drugs containing primary metabolites with respect to their chemistry, classification, biological source, morphology, uses and storage. |
| **BP405T.4** | Illustrate the different secondary metabolites and their pharmaceutical importance |
| **BP405T.5** | Define and apply the knowledge of alternative system of medicine in herbal drug technology. |
| **BP405T.6** | Express salient features of plant tissue cultures, transgenic plants and animals |

**B.Pharm V Semester (RS3)**

**INDUSTRIAL PHARMACYI (Theory) (BP502T)**

After completion of this course student will be able to:

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|---|---|
| **BP502T.1** | Define and describe Preformulation study with physical and chemical properties |
| **BP502T.2** | Explain the theoretical considerations in development of Pharmaceutical Solid, Liquid and parenteral dosage forms. |
| **BP502T.3** | Formulation & Evaluation study of the Cosmetics and Aerosols and shelf life. |
| **BP502T.4** | Describe packaging components and their specifications |

**B. Pharm VI Semester (RS3)**

**Pharmaceutical Biotechnology(Theory) (BP605 T)**

After completion of this course student will be able to:

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|---|---|
| **BP605 T 1** | Define and explain products and applications of biotechnology. |
| **BP605 T 2** | Write the steps involved in bioprocess development and large scale production of representative fermentation products |
| **BP605 T 3** | Explain the techniques and steps involved in production of biopharmaceuticals. |
| **BP605 T 4** | Express salient features of plant tissue cultures, transgenic plants and animals |
| **BP605 T 5** | Explain recent tools, techniques and concepts of modern biotechnology |

**B.Pharm VII Semester (RS3)**

**PHARMACY PRACTICE (Theory) (BP703T)**

After completion of this course student will be able to:

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|---|---|
| **BP703T.1** | Implement various drug distribution methods and inventory control methods in a hospital. |
| **BP703T.2** | Monitor drug therapy of patient through medication chart review, clinical review, medication history interview& adopt Rational drug therapy. |
| **BP703T.3** | Identify drug related problems, detect and assess adverse drug reactions. |
| **BP703T.4** | Interpret selected laboratory results (as monitoring parameters in therapeutics) of specific disease states |

**B.Pharm VIII Semester (RS3)**

**BIOSTATICS AND RESEARCH METHODOLOGY (Theory) (BP801T)**

After completion of this course student will be able to:

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|---|---|
| **BP801T.1** | Study the descriptive statistics and applications in pharmaceutical research & experimental studies |
| **BP801T.2** | Study the measures of central tendency, correlation, probability theory |
| **BP801T.3** | Study the descriptive statistics, Graphics, parametric & non-parametric tests, ANOVA. |
| **BP801T.4** | To study the need for design of Experiments and study design types |

# KLE Institute of Physiotherapy, Belagavi

## Course Outcomes

## First Year BPT

At the completion of the course students will be able to:

**Human Anatomy:**

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|---|---|
| 1.1.1 | Develop an understanding of the normal anatomical structures of the human body with respect to structure, location & function |
| 1.1.2 | Develop an understanding of the common terminology used for describing human structures & movements |
| 1.1.3 | Understand the structure and function of various systems of the body with emphasis on musculoskeletal, CNS, cardiac and respiratory systems |
| 1.1.4 | Develop an understanding of the applied aspects of human anatomy |

**Human Physiology:**

| | |
|---|---|
| 1.2.1 | Develop an understanding of the normal physiological functions of various systems of body |
| 1.2.2 | Develop an understanding of functioning/responses of various systems such as cardiac, respiratory, musculoskeletal and CNS in response to exercises |
| 1.2.3 | Demonstrate common laboratory skills relating to assessment of normal functioning of the body systems |
| 1.2.4 | Develop an understanding of the applied physiology of various systems of the body |
| 1.2.5 | Develop an understanding of the clinical applications of various physiological functions in relation to Physiotherapy |

**Human Biochemistry:**

| | |
|---|---|
| 1.3.1 | Develop an understanding of the normal bio-chemical basis of various systems of the human body |
| 1.3.2 | Develop an understanding of the applied aspect of bio-chemical processes of various systems of the human body |
| 1.3.3 | Develop an understanding of the importance of common clinical biochemistry tests of various systems of the human body |

**Human Biomechanics:**

| | |
|---|---|
| 1.4.1 | Understand the basic principles of biomechanics as applied to human body |
| 1.4.2 | Understand the principles &application of kinetics& kinematics to human joint movements |
| 1.4.3 | Develop an understanding of the mechanics of normal body movements with emphasis on posture, gait & activities of daily living including hand functions |
| 1.4.4 | Develop an understanding of the abnormal mechanics/ applied aspect of biomechanical principles to human movement |
| 1.4.5 | Develop an understanding of the principles, working & application of various tools & equipment used in the exercise therapeutic management of patients |
| 1.4.6 | Demonstrate basic skills of posture analysis& movement evaluation as related to Physiotherapy |

**Psychology and Sociology:**

| | |
|---|---|
| 1.5.1 | Develop an understanding of various components of psychology & their application to human learning & behavior |
| 1.5.2 | Develop an understanding of the various psychological processes & their evaluation |
| 1.5.3 | Develop an understanding of the basic psychological factors influencing an individual in health & sickness/illness |
| 1.5.4 | Understand the basic concepts & principles of sociology & their relation to individual, family and community |
| 1.5.5 | Understand the various social factors affecting the individual, family and community (rural and urban) in India. |
| 1.5.6 | Understand the role of social factors affecting health & illness |

**Second Year BPT**

At the completion of the course students will be able to:

**Exercise therapy:**

| | |
|---|---|
| 2.1.1 | Understand the basics of exercise, exercise prescription and its therapeutic methods |
| 2.1.2 | Understand the basic principles of various assessment and treatment techniques related to exercise therapy |
| 2.1.3 | Understand the indications, contraindications and precautions to be taken during therapeutic movements and exercises |
| 2.1.4 | Understand the application of advanced therapeutic methods |
| 2.1.5 | Demonstrate an understanding of the applicability of therapeutic skills in the management of various conditions |
| 2.1.6 | Demonstrate practical skills of various exercises and treatment techniques used commonly |

**Electrotherapy and Physical Agents:**

| | |
|---|---|
| 2.2.1 | Understand the basic concept and principles of medical electronics and its relevance to the human body |
| 2.2.2 | Understand the theoretical framework of electro-diagnosis and its applicability |
| 2.2.3 | Understand the various principles & laws governing the functioning of electrotherapeutic modalities and physical agents & their effect on various body systems |
| 2.2.4 | Understand the indications, contraindications and precautions to be taken during application of electrotherapeutic modalities and physical agents in the treatment of various conditions |
| 2.2.5 | Demonstrate the methodology of application of electro-therapeutic modalities and physical agents |
| 2.2.6 | Demonstrate an understanding of the applicability of electrotherapeutic modalities and physical agents in the evaluation & management of various clinical conditions |

**Pharmacology:**

| | |
|---|---|
| 2.3.1 | Understand the various drug classifications and sources of drugs with emphasis on musculoskeletal, CNS and CVS |
| 2.3.2 | Understand the usage, dosage, mechanism of action, adverse effects and drug interactions of common pharmacological agents on various systems with emphasis on musculoskeletal, CNS & CVS |
| 2.3.3 | Understand the role of pharmacology in Physiotherapy management of common conditions |

**Pathology and Microbiology**

| | |
|---|---|
| 2.4.1 | Understand the basic theoretical aspects of pathology & microbiology as applied to the human body. |
| 2.4.2 | Understand the various disease causing agents and their manifestations in the human body |
| 2.4.3 | Understand the modes of infection of various pathogens. |
| 2.4.4 | Understand the pathophysiology of common diseases on various body systems with emphasis on musculoskeletal, CNS and CVS system |
| 2.4.5 | Demonstrate an understanding of the common methods of sample collection, cultures and sensitivity tests for identification of microbiological agents |
| 2.4.6 | Demonstrate an understanding of various methods for prevention of transmission and contamination by infective agents |

**Microbiology:**

| | |
|---|---|
| 2.4.1 | Understand the basic theoretical aspects of microbiology as applied to the human body. |
| 2.4.2 | Understand the various disease causing agents and their manifestations in the human body |
| 2.4.3 | Understand the modes of infection of various pathogens. |
| 2.4.4 | Understand the pathophysiology of common diseases on various body systems with emphasis on musculoskeletal, CNS and CVS system |
| 2.4.5 | Demonstrate an understanding of the common methods of sample collection, cultures and sensitivity tests for identification of microbiological agents |
| 2.4.6 | Demonstrate an understanding of various methods for prevention of transmission and contamination by infective agents |

**Prosthetics and Orthotics (Theory):**

| | |
|---|---|
| 2.5.1 | Understand the historical aspects, materials and instrumentation of common prostheses and orthoses |

| | |
|---|---|
| 2.5.2 | Understand the classification and basic principles of working of common prosthetic and orthotic devices |
| 2.5.3 | Understand the role of a Physiotherapist in the process of prescribing and designing of prosthesis, orthosis& assistive devices |
| 2.5.4 | Understand the uses, assessment and prescription of common prosthesis, orthotics and assistive devices. |
| 2.5.5 | Demonstrate various methods of training a patient with prosthesis, orthosis or assistive devices to achieve functional independence |
| 2.5.6 | Demonstrate an understanding of the importance of counselling in patients using prosthetic or orthotic devices &/or assistive devices |

**Third Year BPT**

At the completion of the course students will be able to:

**General Medicine:**

| | |
|---|---|
| 3.1.1 | Understand the pathophysiology & clinical aspects of common medical conditions relating to all systems of the body encountered Physiotherapists during day to day practice |
| 3.1.2 | Understand the importance & need for common investigations in diagnosing medical conditions |
| 3.1.3 | Develop an understanding of the interpretation of various investigations & integrate the results of common clinical investigations in the overall management of patients with medical conditions |
| 3.1.4 | Demonstrate common clinical examination skills relating to common medical conditions |
| 3.1.5 | Understand the role/importance of Physiotherapy in the management of commonly referred medical conditions |

**General Surgery:**

| | |
|---|---|
| 3.2.1 | Understand the pathophysiology & clinical aspects of common surgical conditions relating to all systems of the body encountered Physiotherapists during day to day practice |
| 3.2.2 | Understand the importance & need for common investigations in medical conditions |
| 3.2.3 | Develop an understanding of the interpretation of various investigations & integrate the results of common clinical investigations in the overall management of patients with surgical conditions |

| | |
|---|---|
| 3.2.4 | Demonstrate common clinical examination skills relating to common surgical conditions |
| 3.2.5 | Understand the role/importance of Physiotherapy in the management of commonly referred surgical conditions |

**PT Medicine and Surgery including OBG:**

| | |
|---|---|
| 3.3.1 | Understand the pathophysiology & clinical aspects of common medical & surgical conditions relating to all systems of the body seen in clinical practice |
| 3.3.2 | Understand the importance & need for common investigations in diagnosing medical & surgical conditions |
| 3.3.3 | Develop an understanding of the interpretation of various investigations & integrate the results in the overall management of patients with medical & surgical conditions |
| 3.3.4 | Demonstrate common Physiotherapy examination skills relating to medical & surgical conditions |
| 3.3.5 | Understand the role/importance of Physiotherapy in the management of commonly referred medical & surgical conditions including their rehabilitation |
| 3.3.6 | Understand the Pathophysiology & clinical aspects of common OBG conditions seen in clinical practice |
| 3.3.7 | Understand the importance & need for common investigations in diagnosing OBG conditions |
| 3.3.8 | Develop an understanding of the interpretation of various investigations & integrate the results in the overall management of patients with OBG conditions |
| 3.3.9 | Demonstrate common Physiotherapy examination skills relating to OBG conditions |
| 3.3.0 | Understand the role/importance of Physiotherapy in the management of commonly referred OBG conditions including their rehabilitation |

**PT in CVTS:**

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| 3.4.1 | Understand the basics of exercise, exercise prescription and its therapeutic methods in Cardiovascular and respiratory physiotherapy |

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| 3.4.2 | Understand the basic principles of various assessment and treatment techniques related to Cardiovascular and respiratory Physiotherapy |
| 3.4.3 | Understand the indications, contraindications and precautions to be taken during cardio-respiratory Physiotherapy |
| 3.4.4 | Understand the application of advanced therapeutic methods in Cardiovascular and respiratory Physiotherapy |
| 3.4.5 | Demonstrate an understanding of the applicability of therapeutic skills in the management of various conditions |
| 3.4.6 | Demonstrate practical skills of various exercises and treatment techniques used commonly in cardio-respiratory Physiotherapy |

**Research methodology and Ethics, Evidence Based Physiotherapy:**

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|---|---|
| 3.5.1 | Understand the basic concepts of research methodology & basic biostatistics |
| 3.5.2 | Understand the application of research methodology principles to Physiotherapy research |
| 3.5.3 | Understand the historical aspects & basic concepts of Human & research ethics |
| 3.5.4 | Understand the importance & application of ethical principles in Physiotherapy research & during day-to- day practice |
| 3.5.5 | Understand the basic concepts of evidence based practice & its role/importance in Physiotherapy research & day-to-day practice |

**Community Medicine:**

| | |
|---|---|
| 3.6.1 | Develop an understanding of the concepts of health & disease & the factors influencing it at community level |
| 3.6.2 | Develop an understanding of the concepts of healthcare delivery systems & their levels & health education at community level |
| 3.6.3 | Develop an understanding of the role of prevention of disease in the community & its levels |
| 3.6.4 | Develop a basic understanding of the role of Physiotherapists/medical personnel in disaster management, hospital waste management & public-private partnership |
| 3.6.5 | Understand the role of Physiotherapist in the promotion of health in the community |
| 3.6.6 | Develop a basic understanding of the common health conditions in the community which require rehabilitation & the role of Physiotherapist in |

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| | providing the same |

**Final Year BPT**

At the completion of the course students will be able to:

**Clinical Orthopedics:**

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|---|---|
| 4.1.1 | Understand the pathophysiology & clinical aspects of common musculoskeletal conditions in clinical practice |
| 4.1.2 | Understand the importance & need for common investigations in musculoskeletal conditions |
| 4.1.3 | Develop an understanding of the interpretation of various investigations & integrate the results in the overall management of patients with musculoskeletal disorders |
| 4.1.4 | Demonstrate common clinical examination skills relating to musculoskeletal conditions |
| 4.1.5 | Understand the role/importance of Physiotherapy in the management of various musculoskeletal conditions |

**Neurology & Neurosurgery:**

| | |
|---|---|
| 4.2.1 | Understand the Pathophysiology & clinical aspects of common neurological & neurosurgical conditions in clinical practice |
| 4.2.2 | Understand the importance & need for common investigations in neurological conditions |
| 4.2.3 | Develop an understanding of the interpretation of various investigations & integrate the results in the overall management of patients with neurological & neurosurgical conditions |
| 4.2.4 | Understand & demonstrate common clinical examination skills relating to neurological conditions |
| 4.2.5 | Understand the role/importance of Physiotherapy in the management of various neurological & neurosurgical conditions |

**Community Physiotherapy:**

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|---|---|
| 4.3.1 | Develop an understanding of the concepts of health, healthcare delivery systems & levels & health education at community level |
| 4.3.2 | Understand the principles of rehabilitation as applicable to common conditions encountered by Physiotherapists & their application at community level |
| 4.3.3 | Describe& demonstrate evaluation of disability at different levels in the community & its importance |
| 4.3.4 | Understand the legal & ethical provisions for persons with disability & to disseminate the same in the community |
| 4.3.5 | Demonstrate an understanding of the government health related policies as applicable to the community |
| 4.3.6 | Understand the role of Physiotherapist in a multidisciplinary rehabilitation team in the management of common conditions in the community |
| 4.3.7 | Understand the importance of Physiotherapist in counseling & in achieving functional independence in patients & rehabilitating them back into community |
| 4.3.8 | Demonstrate the applicability of exercise & electrotherapeutic skills in the management of various conditions in the community with emphasis on musculoskeletal, neuromuscular, respiratory and cardiovascular system |
| 4.3.9 | Demonstrate conduct of health related programs in the community |

**PT in Orthopedics:**

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|---|---|
| 4.4.1 | Understand the Pathophysiology & clinical aspects of various orthopedic/ musculoskeletal/sports conditions seen in clinical practice |
| 4.4.2 | Describe the role of Physiotherapy in the management of various orthopedic/ musculoskeletal/sports conditions |
| 4.4.3 | Demonstrate clinical examination skills relating to orthopedic/ musculoskeletal/sports conditions seen in clinical practice |
| 4.4.4 | Describe the principles of rehabilitation as applied to various orthopedic / musculoskeletal/sports conditions |
| 4.4.5 | Understand & integrate the results of common investigations in the overall management of patients with orthopedic/ musculoskeletal/sports disorders |

**PT in Neurology & Neurosurgery:**

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|---|---|
| 4.6.1 | Understand the pathophysiology and clinical aspects of various neurological and neurosurgical conditions seen in clinical practice |
| 4.6.2 | Understand and demonstrate the common assessment and clinical examination skills related to neurological and neurosurgical conditions |
| 4.6.3 | Understand and integrate the results of common clinical investigations in the management of various neurological and neurosurgical conditions |
| 4.6.4 | Describe the principles of rehabilitation as applied to various neurological and neurosurgical conditions |
| 4.6.5 | Understand the role of physiotherapist and demonstrate the management of neurological and neurosurgical conditions in clinical practice |

**PT in Pediatrics:**

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|---|---|
| 4.6.1 | Understand the pathophysiology & clinical aspects of common pediatric conditions encountered by Physiotherapists during day to day practice |
| 4.6.2 | Describe the role of Physiotherapist in the management of common pediatric conditions |
| 4.6.3 | Demonstrate common clinical examination skills relating to pediatric conditions encountered in day to day practice |
| 4.6.4 | Describe the principles of rehabilitation as applied to common pediatric conditions |
| 4.6.5 | Integrate the results of common clinical investigations in the overall management of pediatric patients with various disorders |

# KLE Institute of Nursing Sciences, Belagavi

## COURSE OUTCOME

| Programe | Subject | Course outcome |
|---|---|---|
| B.Sc Nursing- I | Anatomy & Physiology | 1. Acquire knowledge of the normal structure and functions of various human body systems<br>2. Differentiate the alterations in anatomical structures and functions in disease and practice of nursing.<br>3. Apply the knowledge of anatomy and physiology in the practice of nursing. |
| | Nutrition & Biochemistry | 1. Acquire knowledge of nutrition for maintenance of optimum health at different stages of life<br>2. Discuss the various national programmes related to nutrition and the role of nurse in assessment of nutritional status and nutritional education<br>3. Acquire knowledge of the normal biochemical composition and functioning of human body<br>4. Differentiate the alterations in biochemistry in diseases for practice of nursing |
| | Nursing foundation | 1. Develop an understanding of the philosophy, objectives, theories & process of nursing in various supervised clinical settings<br>2. Acquire knowledge, understanding & skills in techniques of nursing & practice them in supervised clinical settings.<br>3. Communicate effectively with individuals and groups, and members of the health team in order to promote effective inter personal relationship and team work<br>4. Discuss the legal and ethical issues that influence the practice of professional nursing. |
| | Psychology | 1. Acquire knowledge of fundaments of psychology and develop an insight into behavior of self and others<br>2. Practice the principles of mental hygiene for promoting mental health in Nursing practice |
| | Microbiology | 1. Explain concepts and principles of microbiology and their importance in nursing<br>2. Acquire knowledge of fundamentals of Microbiology |

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| | | and identification of various micro organisms<br>3. Practice infection control measures in hospital and community |

| Programme | Subject | Course outcome |
|---|---|---|
| B.Sc. Nursing- II | Sociology | 1. Explain the concepts of sociology related to community and social institutions in India and its relationship with health, illness and nursing<br>2. Describe the role of Nurse in dealing with Social Problems in India |
| | Pharmacology, Pathology & Genetics | 1. Describe the pharmacodynamics, pharmacokinetics, principles of therapeutics and nursing implications.<br>2. Apply the knowledge of pharmacology & pathology in the practice of nursing.<br>3. Explain the basic concepts of pathology.<br>4. Enumerate the basic concepts of Genetics and its role in causation and management of defects and diseases |
| | Medical Surgical Nursing-I | 1. Describe the causes, signs and symptoms, pathophysiology, treatment and prevention of medical surgical conditions.<br>2. Demonstrate skill in carrying out nursing techniques and procedures in keeping with scientific principles.<br>3. Discuss nursing process and provide nursing care to patients with various medical surgical conditions. |
| | Community Health Nursing- I | 1. Acquire the knowledge of basic concepts of community health nursing.<br>2. Describe the epidemiology and nursing management of common communicable diseases.<br>3. Appreciate the various factors influencing health in the community. |
| | Communication & Education Technology | 1. Identify the principles and methods of communication and teaching<br>2. Establishes effective interpersonal and human relations with patients, families and health team members.<br>3. Demonstrate teaching skills using various teaching methods in classroom, clinical and community setup using different methods and media. |

| Programme | Subject | Course outcome |
|---|---|---|
| B.Sc. Nursing- III | Medical Surgical Nursing-II | 1. Apply the concepts of anatomy and physiology to recognize deviations from normal<br>2. Explain the etiology, pathophysiology, clinical manifestations and management of clients with disorders of different systems.<br>3. Participate in patient/family teaching to promote, maintain and restore health<br>4. Explain the organization of emergency, critical care and disaster services and role of nurse.<br>5. Demonstrate skills in techniques of basic and advanced nursing procedures |
| | Child Health Nursing | 1. Explain the modern concept of childcare and the principles of child health nursing.<br>2. Describe the normal growth and development of children in various age groups.<br>3. Identify the various preventive, promotive and rehabilitative aspects of child care and apply them in providing nursing care to children in the hospital and in the community. |
| | Mental Health Nursing | 1. Explain the etiology, psychodynamics and management of psychiatric disorders.<br>2. Develop skill in providing comprehensive care to various kinds of psychiatric patients. |

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| | Nursing research and Statistics | 1. Develop an understanding of basic concepts of research, research process and statistics and to enable them to conduct/participate in need based research studies in various settings<br>2. Utilize the research findings to provide quality-nursing care |

| Programme | Subject | Course outcome |
|---|---|---|
| B.Sc. Nursing- IV | Community Health nursing – II | 1. Develop understanding about community health nursing approaches, concepts and roles and responsibilities of nursing personnel.<br>2. Understand the national health planning, polices, problems<br>3. Describe the system of delivery of community health services in rural and urban area.<br>4. Participate in assisting individuals and groups to promote and maintain their health.<br>5. Appreciate the national health and family welfare programme and the role of the nurse. |
| | Midwifery and Obstetrical Nursing | 1. Review the anatomy and physiology of female reproductive system including menstrual cycle and fertilization and apply this knowledge in Obstetrics and Gynecological nursing practice.<br>2. Describe the development of ovum, physiological and psychological adaptation, current trends in midwifery, management of normal and abnormal pregnancy, labour, puperium and newborn<br>3. Describe the common drugs used in obstetrics and their effects during pregnancy, labour and puerperium.<br>4. Assist for caring women facing health problems associated with antenatal, intranatal and postnatal period. |
| | Management of Nursing Service & Education | 1. In-depth understanding of management of hospital services, management of nursing services and nursing educational programmes.<br>2. Acquire the professional responsibilities, prospects and contribution to the growth of the Nursing profession |

# P. B. B.Sc. NURSING

## COURSE OUTCOME

| Programme | Subject | Course outcome |
|---|---|---|
| P. B. B.Sc. Nursing-I | Nursing foundation | 1. Develop an understanding of the philosophy, objectives, theories & process of nursing in various supervised clinical settings<br>2. Acquire knowledge, understanding & skills in techniques of nursing & practice them in supervised clinical settings.<br>3. Discuss the legal and ethical issues that influence the practice of professional nursing. |
| | Nutrition & Dietetics | 1. Explain the principles and practices of nutrition and dietetics.<br>2. Identify nutritional needs of different age groups and plan diet accordingly.<br>3. Prepare meals using different methods utilizing cookery rules. |
| | Biochemistry and Biophysics | 1. Describe the basic principles of Biochemistry and Biophysics related to nursing<br>2. Differentiate the alterations in biochemistry in diseases for practice of nursing |
| | Psychology | 1. Acquire knowledge of fundamental of psychology<br>2. Participating in psychological assessment of patients.<br>3. Apply the theoretical concepts in the clinical setting and thereby |

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| | | understand the psychodynamics of patient behavior |
| | Maternal Nursing | 1. Review the anatomy and physiology of female reproductive system and apply this knowledge in Obstetrics and Gynecological nursing practice.<br>2. Describe the physiology of menstrual cycle, fertilization and development of ovum, physiological and psychological adaptation during pregnancy<br>3. Develop the skills in rendering optimum nursing care to a child bearing mother in hospital/community<br>4. Describe the common drugs used in obstetrics and their effects during pregnancy, labour and puerperium. |
| | Child Health Nursing | 1. Describe the normal growth and development of children in various age groups.<br>2. Identify the health needs and problems of neonates and children, plan and implement appropriate nursing interventions.<br>3. Identify the various preventive, promotive and rehabilitative aspects of child care and apply them in providing nursing care to children in the hospital and in the community. |
| | Microbiology | 1. Determine the fundamentals of microbiology and its various sub-divisions |

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| | | 2. Identify the role of nurses in hospital infection control programs |
| | Medical Surgical Nursing | 1. Apply the concepts of anatomy and physiology to recognize deviations from normal<br>2. Explain the etiology, pathophysiology, clinical manifestations and management of clients with disorders of different systems.<br>3. Participate in patient/family teaching to promote, maintain and restore health |

| Programme | Subject | Course outcome |
|---|---|---|
| P. B. B.Sc. Nursing-II | Sociology | 1. Explain the concepts of sociology related to community and its relationship with health, illness and nursing<br>2. Describe the role of Nurse in dealing with Social Problems in India |
| | Community Health Nursing | 1. Acquire the knowledge of basic concepts of community health nursing.<br>2. Describe the epidemiology and nursing management of common communicable diseases.<br>3. Appreciate the various factors influencing health in the community. |
| | Mental Health Nursing | 1. Recognize and appreciate the causes, symptoms and process of abnormal human behavior<br>2. Learn principles and develop skills in mental health nursing and management of the mentally ill patients in hospital and community |

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| | Introduction to Nursing Education | 1. Describes the steps in curriculum development and implementation of educational programs in nursing.<br>2. Demonstrate teaching skills using various teaching methods in classroom, clinical and community setup using different methods and media. |
| | Introduction to Nursing Administration | 1. Gain an understanding of the principles of administration and its application to nursing service<br>2. Exhibit the professional leadership need in health setting |

# M.SC. NURSING

# PROGRAMME OUTCOME

**On Completion of the two year M.Sc Nursing programme, the postgraduate will be able to:-**

1. **Knowledge:** Develop knowledge, skills and professional values to deliver essential high quality and complex care, to the consumers in the field of nursing practice.
2. **Problem solving skills and patient care:** Develop analytical and problem-solving approaches to the holistic assessment, planning and implementation of care of a multiplicity of health needs.
3. **Communication and interpersonal skills**: Display effective ways of Communication with individuals, groups and members of the health care team in order to promote professional interpersonal relationship and team work.
4. **Leadership skills:** Leader Use leadership skills to supervise and manage others and contribute to planning, designing, delivering and improving future nursing care services.
5. **Lifelong learner and Researcher:** Apply and utilize the knowledge of research by conducting research, critically analyzing research findings and applying best evidences to nursing practice and develop lifelong commitment to continuing professional development and other academic and professional activities
6. **Professionalism & Ethics:** Practice within the frame work of code of ethics, professional conduct, and acceptable standards of practice within the legal boundaries.
7. **Modern tool and ICT uses:** Utilize the latest trends and technology in teaching and providing health care

# M.SC. NURSING

## COURSE OUTCOME

| Programme | Subject | Course outcome |
|---|---|---|
| M.Sc Nursing-I | Nursing education | 1. Explain the aims of education, philosophies, trends in education and health: its impact on nursing education.<br>2. Prepare and utilize various instructional media and methods in teaching learning process.<br>3. Critically analyze the existing nursing educational programs, their problems, issues and future trends.<br>4. Describe the process of curriculum development, and the need and methodology of curriculum change, innovation and integration.<br>5. Plan and conduct continuing nursing education programs.<br>6. Demonstrate skill in guidance and counseling.<br>7. Describe the problems and issues related to administration of nursing curriculum including selection and organization of clinical experience.<br>8. Explain the development of standards and accreditation process in nursing education programs.<br>9. Identify research priorities in nursing education.<br>10. Discuss various models of collaboration in nursing education and services.<br>11. Explain the concept, principles, steps, tools and techniques of evaluation<br>12. Construct, administer and evaluate various tools for assessment of knowledge, skill, and attitude. |

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| | Nursing Research & Statistics | 1. Define basic research terms and concepts of statistics.<br>2. Review literature utilizing various sources<br>3. Describe research methodology<br>4. Develop a research proposal.<br>5. Conduct a research study.<br>6. Communicate & utilize research findings.<br>7. Critically evaluate nursing research studies.<br>8. Write scientific paper for publication.<br>9. Describe the scope of statistics in health and nursing<br>10. Organize tabulate and present data meaningfully.<br>11. Use descriptive and inferential statistics to predict results.<br>12. Draw conclusions of the study and predict statistical significance of the results.<br>13. Describe vital health statistics and their use in health related research.<br>14. Use statistical packages for data analysis |
| | Advance Nursing Practice | 1. Appreciate and analyze the development of nursing as a profession.<br>2. Describe ethical, legal, political and economic aspects of health care delivery and nursing practice.<br>3. Explain bio- psycho- social dynamics of health, life style and health care delivery system.<br>4. Discuss concepts, principles, theories, models, approaches relevant to nursing and their application.<br>5. Provide holistic and competent nursing care following nursing process approach.<br>6. Identify latest trends in nursing and the basis of advance nursing practice.<br>7. Perform extended and expanded role of nurse. |

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| | | 8. Describe the concept of quality control in nursing.<br>9. Use computer in patient care delivery system and nursing practice. |
| | Medical Surgical Nursing-I | 1. Appreciate the trends & issues in the field of Medical – Surgical Nursing as a specialty.<br>2. Apply concepts & theories related to health promotion.<br>3. Appreciate the client as a holistic individual.<br>4. Perform physical, psychosocial assessment of Medical – Surgical patients.<br>5. Apply Nursing process in providing care to patients.<br>6. Integrate the concept of family centered nursing care with associated disorder such as genetic, congenital and long-term illness.<br>7. Recognize and manage emergencies with Medical- Surgical patients.<br>8. Describe various recent technologies & treatment modalities in the management of critically ill patients.<br>9. Appreciate the legal & ethical issues relevant to Medical – Surgical Nursing.<br>10. Appreciate the role of alternative systems of Medicine in care of patients<br>11. Incorporate evidence based Nursing practice and identify the areas of research in the field of Medical – Surgical Nursing.<br>12. Teach Medical – Surgical nursing to undergraduate nursing students & in-service nurses. |

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| | Obstetric and Gynecological Nursing-I | 1. Appreciate the trends in the field of midwifery, obstetrics and gynecology as a specialty.<br>2. Describe the population dynamics and indicators of maternal and child health<br>3. Describe the concepts of biophysical, psychological and spiritual aspects of normal pregnancy, labor and puerperium.<br>4. Provide comprehensive nursing care to women during reproductive period and newborns.<br>5. Integrate the concepts of family centered nursing care and nursing process approach in obstetric and gynecological nursing.<br>6. Identify and analyze the deviations from normal birth process and refer appropriately.<br>7. Describe the pharmacological agents, their effects during pregnancy, child birth, puerperium, lactation and the role of nurse<br>8. Counsel adolescents, women and families on issues pertaining to pregnancy, child birth and lactation<br>9. Describe the role of various types of complementary and alternative therapies in obstetric and gynecological nursing.<br>10. Incorporate evidence based nursing practice and identify the areas of research in the field of obstetric and gynecological nursing.<br>11. Describe the recent advancement in contraceptive technology and birth control measures<br>12. Appreciate the legal and ethical issues pertaining to obstetric and gynecological nursing |

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| | Child Health (Pediatric Nursing) Nursing-I | 1. Appreciate the history and developments in the field of pediatrics and pediatric nursing as a specialty<br>2. Apply the concepts of growth and development in providing care to the pediatric clients and their families.<br>3. Appreciate the child as a holistic individual<br>4. Perform physical, developmental, and nutritional assessment of pediatric clients<br>5. Apply nursing process in providing nursing care to neonates & children<br>6. Integrate the concept of family centered pediatric nursing care with related areas such as genetic disorders, congenital malformations and long term illness.<br>7. Recognize and manage emergencies in neonates<br>8. Describe various recent technologies and treatment modalities in the management of high risk neonates<br>9. Appreciate the legal and ethical issues pertaining to pediatric and neonatal nursing<br>10. Prepare a design for layout and management of neonatal units<br>11. Incorporate evidence based nursing practice and identify the areas of research in the field of pediatric/neonatal nursing<br>12. Recognize the role of pediatric nurse practitioner and as a member of the pediatric and neonatal health team<br>13. Teach pediatric nursing to undergraduate students & in-service nurses |

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| | Mental Health (Psychiatric Nursing) Nursing-I | 1. Appreciate the trends and issues in the field of psychiatry and psychiatric nursing.<br>2. Explain the dynamics of personality development and human behavior.<br>3. Describe the concepts of psychobiology in mental disorders and its implications for psychiatric nursing<br>4. Demonstrate therapeutic communications skills in all interactions<br>5. Demonstrate the role of psychiatric nurse practitioner in various therapeutic modalities<br>6. Establish and maintain therapeutic relationship with individual and groups<br>7. Uses assertive techniques in personal and professional actions<br>8. Promotes self-esteem of clients, others and self<br>9. Apply the nursing process approach in caring for patients with mental disorders<br>10. Describe the psychopharmacological agents, their effects and nurses role<br>11. Recognize the role of psychiatric nurse practitioner and as a member of the psychiatric and mental health team<br>12. Describe various types of alternative system of medicines used in psychiatric settings<br>13. Incorporate evidence based nursing practice and identify the areas of research in the field of psychiatric nursing |

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| | Community Health Nursing-I | 1. Appreciate the history and development in the field of Community Health and Community Health Nursing.<br>2. Appreciate role of individuals and families in promoting health of the Community.<br>3. Perform physical, developmental and nutritional assessment of individuals, families and groups.<br>4. Apply the concepts of promotive, preventive, curative and rehabilitative aspects of health while providing care to the people.<br>5. Apply nursing process approach while providing care to individuals, families, groups and community.<br>6. Integrate the concepts of family centered nursing approach while providing care to the community.<br>7. Recognize and participate in the management of emergencies, epidemics and disasters.<br>8. Apply recent technologies and care modalities while delivering community health nursing care.<br>9. Appreciate legal and ethical issues pertaining to community health nursing care.<br>10. Conduct community health nursing care projects.<br>11. Participate in planning, implementation and evaluation of various national health and family welfare programmes at local, state and the national level.<br>12. Incorporate evidence based nursing practice and identify the areas of research in the community settings.<br>13. Participate effectively as a member of Community Health team.<br>14. Coordinate and collaborate with various agencies operating in the community by using |

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| | | inter-sectorial approach.<br>15. Teach community health nursing to undergraduates, in-service nurses and the community health workers.<br>16. Demonstrate leadership and managerial abilities in community health nursing practice. |

| Programme | Subject | Course outcome |
|---|---|---|
| M.Sc Nursing-II | Nursing management | 1. Describe the principles, philosophy and objectives of the health care institutions at various levels.<br>2. Identify trends and issues in nursing<br>3. Discuss the public administration, health care administration vis a vis nursing administration<br>4. Explain the organization of health and nursing services at the various levels/ institutions.<br>5. Collaborate and co-ordinate with various agencies by using multi-sectoral approach<br>6. Discuss the planning, supervision and management of nursing workforce for various health care settings.<br>7. Discuss various collaborative models between nursing education and nursing service to improve the quality of nursing care<br>8. Identify and analyse legal and ethical issues in nursing administration<br>9. Describe the process of quality assurance in nursing services.<br>10. Demonstrate leadership in nursing at various levels |

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| | Medical Surgical Nursing (Critical Care Nursing) -II | 1. Appreciate trends and issues related to Critical Care Nursing.<br>2. Describe the epidemiology, etiology, pathophysiology and diagnostic assessment of critically ill patients<br>3. Describe the various drugs used in critical care and nurses responsibility<br>4. Perform physical, psychosocial & spiritual assessment<br>5. Demonstrate advance skills/competence handling various equipments/gadgets in managing critically ill patients including Advance Cardiac Life Support.<br>6. Provide comprehensive care to critically ill patients.<br>7. Appreciate team work & coordinate activities related to patient care.<br>8. Practice infection control measures.<br>9. Assess and manage pain .<br>10. Identify complications & take appropriate measures.<br>11. Discuss the legal and ethical issues in critical care nursing<br>12. Assist patients and their family to cope with emotional distress, spiritual, grief and anxiety<br>13. Assist in various diagnostic, therapeutic and surgical procedures<br>14. Incorporate evidence based nursing practice and identify the areas of research in the field of critical care nursing<br>15. Identify the sources of stress and manage burnout syndrome among health care providers.<br>16. Teach and supervise nurses and allied |

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| | | health workers.<br>17. Design a layout of ICU and develop standards for critical care nursing practice |
| | Obstetric and Gynaecological Nursing-II | 1. Describe the epidemiology, etiology, pathophysiology and diagnostic assessment of women with obstetric and Gynaecological conditions<br>2. Perform physical, psychosocial, cultural & spiritual assessment<br>3. Demonstrate competence in caring for women with obstetrical and Gynaecological conditions and high risk newborn.<br>4. Demonstrate competence in caring for obstetrical and neonatal emergencies as per protocol.<br>5. Practice infection control measures<br>6. Utilize recent technology and various diagnostic, therapeutic modalities in the management of obstetrical, gynecological and neonatal care.<br>7. Demonstrate skill in handling various equipment's /gadgets used for obstetrical, Gynaecological and neonatal care<br>8. Teach and supervise nurses and allied health workers.<br>9. Design a layout of speciality units of obstetrics and gynecology<br>10. Develop standards for obstetrical and gynaecological nursing practice.<br>11. Counsel women and families<br>12. Incorporate evidence based nursing practice and identify the areas of research in the field of obstetrical and |

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| | | gynecological nursing<br>13. Function as independent midwifery nurse practitioner |
| | Child Health Nursing (Pediatric Nursing)-II | 1. Apply the nursing process in the care of ill infants to pre adolescents in hospital and community<br>2. Demonstrate advanced skills/competence in nursing management of children with medical and surgical problems<br>3. Recognize and manage emergencies in children<br>4. Provide nursing care to critically ill children<br>5. Utilize the recent technology and various treatment modalities in the management of high risk children<br>6. Prepare a design for layout and describe standards for management of pediatric units/hospitals<br>7. Identify areas of research in the field of pediatric nursing |
| | Mental Health Nursing(Psychiatric Nursing)-II | 1. Apply the nursing process in the care of patients with mental disorders in hospital and community<br>2. Demonstrate advanced skills/competence in nursing management of patients with mental disorders<br>3. Identify and care for special groups like children, adolescents, women, elderly, abused and neglected, people living with HIV/AIDS.<br>4. Identify and manage psychiatric emergencies.<br>5. Provide nursing care to critically ill |

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| | | patients with mental disorders<br>6. Utilize the recent technology and various treatment modalities in the management of patients with mental disorders.<br>7. Demonstrate skills in carrying out crisis intervention.<br>8. Appreciate the legal and ethical issues pertaining to psychiatric nursing.<br>9. Identify areas of research in the field of psychiatric nursing.<br>10. Prepare a design for layout and describe standards for management of Psychiatric units/emergency units/hospitals<br>11. Teach psychiatric nursing to undergraduate students & in-service nurses |
| | Community Health Nursing-II | 1. Appreciate trends and issues related to community health Nursing-reproductive and child health, school health, Occupational health, international health, rehabilitation, geriatric and mental health.<br>2. Apply epidemiological concepts and principles in community health nursing practice<br>3. Perform community health assessment and plan health programmes<br>4. Describe the various components of Reproductive and child health programme.<br>5. Demonstrate leadership abilities in organizing community health nursing services by using inter-sectoral approach.<br>6. Describe the role and responsibilities of community health nurse in various national health and family welfare programmes |

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| | | 7. Participate in the implementation of various national health and family welfare programme<br>8. Demonstrate competencies in providing family centered nursing care independently<br>9. Participate/Conduct research for new insights and innovative solutions to health problems<br>10. Teach and supervise nurses and allied health workers.<br>11. Design a layout of sub center/Primary health center/Community health Centre and develop standards for community health nursing practice. |

# NURSE PRACTIONER IN CRITICAL CARE
# POST GRADUATE RESIDENCY PROGRAM

## PROGRAM OUTCOME

1. Assume responsibility and accountability to provide competent care to critically ill patients and appropriate family care in tertiary care centers
2. Demonstrate clinical competence/ expertise in providing critical care which includes diagnostic reasoning, complex monitoring and therapies
3. Apply theoretical, patho-physiological and pharmacological principles and evidence base in implementing therapies/ interventions in critical care
4. Identify the critical conditions and carry out interventions to stabilize and restore patient's health and minimize or manage complications.
5. Assess and participate in treating patients with critical illnesses to stabilize and restore patients health and minimize or minimize complications independently or collaboratively as a part of critical care team
6. Collaborate with other health care professionals in the critical care team, across the continuum of critical care

# NURSE PRACTIONER IN CRITICAL CARE POST GRADUATE RESIDENCY PROGRAM (NPCC)

## COURSE OUTCOME

| Programe | Subject | Course outcome |
|---|---|---|
| NPCC-I | Theoretical basis for advanced practice nursing | 1. Analyze the global health care trends and challenges<br>2. Analyses the impact of health care and education policies in India on nursing consulting the documents available<br>3. Develops in-depth understanding of the health care delivery system in India, and its challenges<br>4. Applies economic principles relevant to delivery of health care services in critical care<br>5. Manage and transforms health information to effect health outcomes such as cost, quality and satisfaction.<br>6. Accepts the accountability and responsibility in practicing the Nurse practitioner's roles and competencies<br>7. Actively participates in collaborative practice involving all healthcare team members in critical care and performs the prescriptive roles within the authorized scope<br>8. Engages in ethical practice having a sound knowledge of law, ethics and regulation of advanced nursing practice<br>9. Uses the training opportunities provided through well planned preceptorship and performs safe and competent care applying nursing process<br>10. Applies the knowledge of nursing theories in providing competent care to |

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| | | critically ill patients<br>11. Predicts future challenges of nurse practitioner's roles in variety of healthcare settings particularly in India |
| | Research application and evidence based practice in critical care competencies | 1. Applies sound research knowledge and skills in conducting independent research in critical care setting<br>2. Participate in collaborative research to improve patient care quality<br>3. Interprets and uses research findings in advanced practice to produce EBP<br>4. Evaluate current practice to develop best practices and health outcomes and quality care in advanced practice<br>5. Analyze the evidence for nursing interventions carried out in critical care nursing practice to promote safety effectiveness of care<br>6. Develop skill in writing scientific research reports |
| | Advanced skills in leadership, management and teaching | 1. Applies principles of leadership and management in critical care units<br>2. Manage stress and conflicts effectively in a critical care setting using sound knowledge of principles<br>3. Applies problem solving and decision making skill effectively<br>4. Uses critical thinking and communication skills in in providing leadership and managing patient care in ICU<br>5. Builds teams and motivates others in ICU setting<br>6. Develops unit budget, manages supplies and staffing effectively<br>7. Participates appropriately in times of innovation and change |

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| | | 8. Uses effective teaching methods, media and evaluation based on sound principles of teaching<br>9. Develops advocacy role in patient care, maintaining quality and ethics in ICU environment<br>10. Provides counseling to families and patients in crisis situations particularly end of life care. |
| | Advanced pathophysiology and advanced pharmacology relevant to critical care nursing | 1. Integrates the knowledge of pathophysiological process in critical conditions in developing diagnosis and plan of care<br>2. Applies the pathophysiological principles in symptom management and secondary prevention of critical illnesses<br>3. Analyze the pathophysiological changes relevant to each critical illness recognizing the value of diagnosis, treatment, care and prognosis<br>4. Applies the pharmacological principles in providing care to critically ill patients and families<br>5. Analyzes pharmaco-therapeutics and pharmacodynamics relevant to drugs used in the treatment of critical care conditions<br>6. Performs safe drug administration based on principles and institutional protocols<br>7. Documents accurately and provides follow up care<br>8. Applies sound knowledge of drug interactions in administration of drugs to critically ill patients in the critical care settings and guiding their families |

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| | | in self-care management |
| | Advanced Health/Physical Assessment in Critical Care Nursing | 1. Applies the physical assessment principles in developing appropriate system wise examination skills<br>2. Uses advanced health assessment skills to differentiate between variations of normal and abnormal findings<br>3. Orders screening and diagnostic tests based on the examination findings<br>4. Analyzes the results of various investigations and works collaboratively for development of diagnoses<br>5. Documents assessment, diagnosis, and management and monitors follow up care in partnership with health care team members, patients, and families |

| Programe | Subject | Course outcome |
|---|---|---|
| NPCC-II | 1. Foundations of Critical Care Nursing Practice | 1. Applies advanced concepts of critical care nursing based on sound knowledge of these concepts<br>2. Uses invasive and noninvasive technology and interventions to assess, monitor and promote physiologic stability<br>3. Works in collaboration with other healthcare team members<br>4. Consults with and is consulted by other health care professionals<br>5. Provides nursing care related to health protection, disease prevention, anticipatory guidance, counseling, management of critical illness, palliative care and end of life care<br>6. Uses advanced skills in complex and unstable environments<br>7. Applies ethically sound solutions to complex issues related to individuals, populations and systems of care<br>8. Practices principles of infection control relevant to critical care<br>9. Practices independently within the legal framework of the country towards the interest of patients, families and communities<br>10. Develops practice that is based on scientific evidence<br>11. Uses applicable communication, counseling, advocacy and interpersonal skills to initiate , develop and discontinue therapeutic relationships |

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| | | 12. Creates and maintains a safe therapeutic environment using risk management strategies and quality improvement<br>13. Adapts practice to the social, cultural and contextual milieu |
| | 2. Critical Care Nursing I | 1. Applies advanced concepts of critical care nursing based on sound knowledge of these concepts<br>2. Uses invasive and noninvasive technology and interventions to assess, monitor and promote physiologic stability<br>3. Works in collaboration with other healthcare team members<br>4. Consults with and is consulted by other health care professionals<br>5. Provides nursing care related to health protection, disease prevention, anticipatory guidance, counseling, management of critical illness, palliative care and end of life care<br>6. Uses advanced skills in complex and unstable environments<br>7. Applies ethically sound solutions to complex issues related to individuals, populations and systems of care<br>8. Practices principles of infection control relevant to critical care<br>9. Practices independently within the legal framework of the country towards the interest of patients, families and communities<br>10. Develops practice that is based on |

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| | | scientific evidence<br>11. Uses applicable communication, counseling, advocacy and interpersonal skills to initiate , develop and discontinue therapeutic relationships<br>12. Creates and maintains a safe therapeutic environment using risk management strategies and quality improvement<br>13. Adapts practice to the social, cultural and contextual milieu |
| | 3. Critical Care Nursing II | 1. Applies advanced concepts of critical care nursing based on sound knowledge of these concepts<br>2. Uses invasive and noninvasive technology and interventions to assess, monitor and promote physiologic stability<br>3. Works in collaboration with other healthcare team members<br>4. Consults with and is consulted by other health care professionals<br>5. Provides nursing care related to health protection, disease prevention, anticipatory guidance, counseling, management of critical illness, palliative care and end of life care<br>6. Uses advanced skills in complex and unstable environments<br>7. Applies ethically sound solutions to complex issues related to individuals, populations and systems of care<br>8. Practices principles of infection |

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| | | control relevant to critical care<br>9. Practices independently within the legal framework of the country towards the interest of patients, families and communities<br>10. Develops practice that is based on scientific evidence<br>11. Uses applicable communication, counseling, advocacy and interpersonal skills to initiate , develop and discontinue therapeutic relationships<br>12. Creates and maintains a safe therapeutic environment using risk management strategies and quality improvement<br>13. Adapts practice to the social, cultural and contextual milieu |

# KLE Homoeopathic Medical College, Belagavi

## Course Outcomes

**BHMS – I Year**

### 1) Anatomy

- Have understanding of morphological principles which determine and influence the organism of the living body as a structural unit.
- Be able to correlate and interpret the structural organism.
- Be able to recognize the anatomical basis of the clinical signs and symptoms of disorders due to injury, disease and mal development.
- Be able to understand the factors involved in development of organs.
- Be able to understand the factors involved in the development of pathological process and the possible complications, which may arise there from.
- Be able to apply knowledge of pre-clinical subjects for ordinary methods of examination and treatment (including surgery) that may involve such knowledge.
- Be able to pick out strange, rare and uncommon symptoms from pathognomic symptoms and drugs for the purpose of applying the law of similar in Homoeopathic practice.

### 2) Physiology Including Biochemistry

At The end of the course the student will be able to:

- Explain the normal functioning of all the organ systems of the body and their interactions.
- Narrate the contribution of each organ system to the maintenance of Homeostasis.
- Elucidate the physiological aspects of normal growth and development.
- Describe the physiological response and adaptations to environmental stresses.
- List the physiological principles underlined pathogenesis and treatment of diseases.
- Describe the basic and clinical aspects of enzymology and regulation of enzymatic activities.
- Explain the process of digestion and assimilation of nutrients and consequences of malnutrition.
- Describe the neuro-endocrine principles governing the functions of various systems.
- Discuss the integration of various aspects of metabolism and their regulatory pathways.
- Perform experiments designed either primarily for the study of physiological phenomena or for assessment of function.
- Analyse and interpret experimental or investigative data critically.
- Distinguish between normal and abnormal data derived as a result of tests which he/she has performed and observed in the laboratory.
- Make use of conventional techniques / instruments to perform biochemical analysis relevant to clinical screening and diagnosis, and to analyse and interpret investigative data.

### 3) Homoeopathic Pharmacy:

At The end of the course student shall be able to:

- Demonstrate the acquisitions of the basic knowledge of the principles and practice of Homoeopathic Pharmacy.
- Exhibit an understanding of the evolution of the various aspects of Homoeopathic Pharmacy with future projection.
- Demonstrate the knowledge of the scientific and logical basis of the principles and practice of dynamization.
- List the techniques of drug proving.
- Enumerate the methods of quality testing, storing, dispensing.
- Recall laws relating to Pharmaceutical industry in general and Homoeopathy in particular.

## BHMS – II Year

### 1) Pathology

At the end of the course a Student shall be able to:

- Know about changes in the cells and tissues as a result of disease in correlation to Homoeopathy.
- Know the pathogenicity and the virulence of the microbes in relation to the susceptibility of the constitution.
- Uunderstand the level of the affection of the illness, the scope of homoeopathy, determining the principles of posology, setting priorities of approach for treatment, prognosis, general management and drawing prophylactic measures.
- Correlate the subjective symptoms with the objective clinical signs on the basis of underlying pathology wherever necessary.
- Study pathology in relation with concept of miasms.
- Study the procedures of basic pathological, biochemical, and microbiological investigations, and interpretation of the same for promotive, prophylactic and therapeutic purposes.
- Correlate the knowledge of pathology to homoeopathic concepts.

**2) Forensic Medicine & Toxicology:**

At the end of the course a Student shall be able to:

- Be acquainted with medico-legal procedures, medical ethics and various provisions of Consumer Protection Act.
- Be competent to handle medico-legal cases apart from giving evidence in such cases whenever required.
- Have the knowledge of toxicology to identify the poison and adopt necessary emergency measures.
- Expand his knowledge of Materia Medica by incorporating the knowledge gained through the study of Toxicology.
- Demonstrate basic knowledge of relevant sections of penal code.
- Demonstrate awareness of inquest, legal and court procedures applicable to medico-legal and medical practice.
- Demonstrate awareness of code of ethics, duties & rights of medical practitioner, duties towards patients, society, punishment on violation of code of ethics, various forms of medical negligence and duties towards his / her professional colleagues.

**3) Homoeopathic Materia Medica**

At the end of 2nd year BHMS the student shall be able to

- Describe the science & philosophy of Homoeopathic Materia Medica
- List different ways of studying Homoeopathic Materia Medica
- List the scope & limitations of Homoeopathic Materia Medica
- Recall the remedy relationship of various drugs
- Compare & contrast the drugs listed below
- Describe the theory, history, concept & principles of Biochemic System of Medicine
- Recall the drug pictures of the medicines.

**4) Organon of Medicine with Homoeopathic Philosophy**

At end of the 2nd Year BHMS the student shall be able to

- Build conceptual base for the physician.
- List the fundamental principles of homoeopathy.
- List the pioneers of homoeopathy and give briefly the contributions of various pioneers.
- Critically analyze and evaluate the writings in Homoeopathy in the light of
- Psychology, Logic, Philosophy, Science and Medicine and understand the principles of Homoeopathy.
- Interact with patient and record case history.
- Classify the diseases according to Hahnemann and know the different types of symptoms.

**BHMS – III Year**

**1) Surgery (Including Homoeopathic Therapeutics)**

At the end of the course student should able to,

- Interact with patient and his / her attendants to record a surgical case in the systemic areas and the specialties of ENT, Ophthalmology, and Dentistry.
- Conduct necessary clinical examination to arrive at a surgical diagnosis in the systemic areas and the specialties of ENT, Ophthalmology, and Dentistry.
- Identify the specific surgical conditions which can be managed with homeopathy for curative / palliative outcomes.
- Identify specific surgical conditions, which have to be referred for surgical interventions.
- Provide appropriate pre- / post-surgical homeopathic management.

**2) Gynaecology and Obstetrics**

At the end of the course student should able to,

- Assess the relationship & Care of mother & foetus during Ante-natal, intra-natal & the complication to mother, foetus during & after pregnancy with its management.
- Recall the various disorders & diseases of female genitalia, its diagnosis & therapeutic management.
- Detect, control, treat and prevent a number of disease conditions encountered in women through homoeopathic treatment.
- Provide appropriate education to the students in Gynaecology & Obstetrics to become competent physicians.

**3) Homoeopathic Materia Medica**

At the end of course the student shall be able to

- Describe the concept of Constitution, Temperament and Diathesis in the context of the listed medicines.
- Describe the group features of the listed remedy groups.
- Compare and contrast the group characteristics among the listed remedy groups
- Describe the concept of Nosodes.
- Describe the concept of Mother Tincture.
- Recall the drug pictures of the medicines.

**4) Organon of Medicine with Homoeopathic Philosophy**

At end of the course the student shall be able to

- Build up further the conceptual base for the Physician.

- Correlate the knowledge of basic sciences of Anatomy, Physiology, Pathology, Medicine, Obstetrics & Gynaecology, and Surgery with the knowledge of Homoeopathic philosophy so as to understand the theory of chronic miasms and apply it in practice.
- Understand the evolution of natural disease from miasmatic angle.
- Select the similar medicine for the disease.
- Know about dosage.

**BHMS – IV Year**

**1) Practice of Medicine**

At the end of the course student shall be able to

- Take case in detail keeping in mind the scientific and artistic approach.
- Make a thorough physical general examination and systemic examination.
- Understand the common investigations appropriate to his/her case.
- Interpret the results of investigation to know the pace of the disease and its progress.
- Correlate the health disturbances with basics of Anatomy, Physiology and Biochemistry.
- Understand the evolution of disease about its causation, manifestations, maintenance and Prognosis.
- Make plan of treatment including general measures, diet and regimen.
- Understand the scope and limitations of homoeopathy in a given case including identification of medical emergencies and take appropriate measures.

**2) Homoeopathic Materia Medica**

At the end of the course student shall be able to

- Describe the concept of Constitution, Temperament and Diathesis in the context of the listed Medicines.

- Describe the personality types, miasmatic trends and therapeutic utility of the medicines listed.
- Describe the group features of the listed remedy groups.
- Compare and contrast the group characteristics among the listed remedy groups.
- Describe the concept of Nosodes.
- Describe the concept of Mother Tincture and illustrate the clinical application of mother tinctures.
- Recall the drug pictures of the Medicines.

**3) Organon of Medicine with Homoeopathic Philosophy**

At end of the course the student shall be able to

- Integrate and synchronize the principles of homoeopathy with the learning from
  contemporary medical sciences.
- Develop skill in case taking, case analysis, evaluation of symptoms, miasmatic diagnosis, selection of drug and potency, assessment of prognosis, repetition of doses, second prescription, diet and regimen and principles of management.
- Apply the learning for the individual and social well-being.
- Contribute effectively as an alternative and complementary Homoeopathic Practitioner.

## 4) Case Taking & Repertory

At end of the course the student shall be able to

- Understand the importance of case taking and record keeping.
- Take the case (both acute and chronic) according to Hahnemannian concept.
- Understand the views of various authors in case taking like Kent, Roberts,
  Boenninghausen and Boger.
- Understand the difficulties in case taking -one sided diseases, paediatric etc.
- Make out the totality of symptoms and repertorial totality.
- Understand the definition, purpose, and various terminologies used in the repertory.
- Understand the commonly used repertories in relation to their historical background, philosophical background, plan and construction, adaptability and limitations.
- Understand that the repertorisation is not the end but means to arrive at simillimum together with Materia Medica based on sound principles of philosophy.
- Understand modern methods of repertorisation including use of computer.

- Understand the definition, pre and post-repertorisation requisites.

**5) Community Medicine**

At end of the course the student shall be able to

- Organize elementary epidemiological studies to assess the health problems in the area. For this he should be able to design a study, collect data, analyze it with statistical tests, make a report and be able to participate in health information systems.

- Prioritize the most important problems and help formulate a plan of action to manage them under National Health Programme guidelines including population control and Family Welfare Programme.

- Demonstrate the knowledge of principles of organizing prevention and control of communicable and non-communicable diseases by incorporating the Hahnemannian concept of prevention and control of communicable and non-communicable diseases.

- Organize health care service for special groups like mother, infants, under five children and school children, handicapped, adolescents, geriatric, rural tribal and urban slum dwellers.

- Organize health care in case of calamities by following the guidelines given in Hahnemann's Organon of Medicine.

- Inculcate values like compassion, empathy to poor, rationale and ethical practice, honesty, sincerity, integrity to ensure quality professional practice.

- Work as an effective leader of the health team within the primary health care setup.

- Coordinate with and supervise other members of the health team and maintain liaison with various agencies. (Government, non-government and voluntary organizations).

    a. Plan and implement health education programmes.
    b. Promote community participation especially in areas of disease control, health education and implementation of national programmes.
    c. Aware of national priorities and the goal to be achieved to implement primary health care including the Health for All.