Health Sciences Post Graduate (SRMJEEH-PG)

Syllabus / Model Exam Paper

Content

Course for SRMJEEH- PG

College	Program
SRM College of Pharmacy	M.Pharm.-Pharmaceutical Analysis
	M.Pharm.-Pharmaceutical Chemistry
	M.Pharm.-Pharmaceutical Quality Assurance
	M.Pharm.-Pharmaceutical Regulatory Affairs
	M.Pharm.-Pharmaceutics
	M.Pharm.-Pharmacognosy
	M.Pharm.-Pharmacology
	M.Pharm.-Pharmacy Practice
SRM College of Nursing	M.Sc.-Community Health Nursing
	M.Sc.-Medical Surgical Nursing
	M.Sc.-Obstetrics and Gynaecology Nursing
	M.Sc.-Paediatic Nursing
	M.Sc.-Psychiatric Nursing
SRM College of Physiotherapy	MPT - Orthopedics
	MPT- Neurology
	MPT- Sports Physiotherapy
	MPT- Cardio Pulmonary Sciences
	MPT- Biomechanics
	MPT - Obstetrics and Gynaecology
	MPT-Paediatrics
	MPT- Community Rehabilitation
	MPT- Hand Rehabilitation
SRM College of Occupational Therapy	M.O.T-Hand Rehabilitation
	M.O.T-Mental Health
	M.O.T-Neurosciences
	M.O.T-Orthopaedics
	M.O.T-Paediatrics
	M.O.T-Sensory Integration Therapy

Nursing

Syllabus Nursing PG Entrance

CONTENT

NURSING FOUNDATIONS

UNIT I:Introduction (10 Hours)

- Concept of Health: Health – illness continuum
- Factors influencing health
- Causes and risk factors for developing illness
- Body defenses: Immunity and immunization
- Illness and Illness Behaviour:
- Impact of illness on patient and family
- Health care services: Health Promotion and Prevention, Primary Care, Diagnosis and Treatment, Rehabilitation, Continuing Care
- Health care teams
- Types of health care agencies
- Hospitals: Types, Organisation and Function
- Health Promotion and Levels of Disease Prevention
- Primary health care and its delivery: Role of nursing

UNIT II: Nursing as a profession (16 Hours)

- Definition and characteristics of a profession.
- Nursing

 Definition, Concepts, philosophy, objectives

- Characteristics, nature and scope of nursing practice
- Functions of nurse
- Qualities of a nurse
- Categories of nursing personnel
- History of nursing in India

• Values: Definition, Types, Values Clarification and values in professional Nursing: Caring and Advocacy

• Ethics:

- Definition and Ethical Principles
- Code of ethics and professional conduct for nurses

UNIT III: Hospital admission and discharge (4 Hours)

• Admission to the hospital

- Unit and its preparation - admission bed
- Admission procedure
- Special considerations
- Medico – legal issues
- Roles and Responsibilities of the nurse

• Discharge from the hospital

- Types: LAMA and abscond, Referrals and transfers
- Discharge Planning
- Special considerations
- Medico – legal issues
- Roles and Responsibilities of the nurse

- Care of the unit after discharge

UNIT IV: Communication and Nurse patient relationship (10 Hours)

- Communication: Levels, Elements, Types, Modes, Process, Factors influencing Communication
- Methods of Effective Communication
  - attending skills
  - Rapport building skills
  - Empathy skills
- Barriers to effective communication
- Helping Relationships (NPR): Dimensions of Helping Relationships, Phases of a helping relationship
- Communicating effectively with patient, families and team members and maintain effective human relations with special reference to communicating with vulnerable group (children, women, physically and mentally challenged and elderly)
- Patient Teaching: Importance, Purposes, Process, role of nurse and Integrating teaching in Nursing Process

UNIT V: The Nursing Process (15 Hours)

- Critical Thinking and Nursing Judgement
  - Critical Thinking: Thinking and Learning
  - Competencies, Attitudes for Critical Thinking, Levels of critical thinking in Nursing
- Nursing Process Overview: Application in Practice
  - Nursing process format: INC, current format
  - Assessment

Collection of Data: Types, Sources, Methods

Formulating Nursing Judgment: Data interpretation

- Nursing diagnosis
- Identification of client problems
- Nursing diagnosis statement
- Difference between medical and nursing diagnosis
- Planning
- Establishing Priorities
- Establishing Goals and Expected Outcomes
- Selection of interventions: Protocols and standing Orders
- Writing the Nursing Care Plan
- Implementation
- Implementing the plan of care
- Evaluation
- Out come of care
- Review and Modify
- Documentation and Reporting

UNIT VI: Documentation and Reporting (4 Hours)

- Documentation: Purposes of Recording and reporting
- Communication within the Health Care Team,
- Types of records; ward records, medical/nursing records
- Common Record-keeping forms, Computerized documentation
- Guidelines for Reporting: Factual Basis, Accuracy, Completeness, currentness, Organization, confidentiality
- Methods of Recording,

- Reporting: Change of shift reports: Transfer reports, Incident reports
- Minimizing legal Liability through effective record keeping

UNIT VII: Vital Signs (15 Hours)

- Guidelines for taking vital signs:
- Body temperature:

 Physiology, Regulation, Factors affecting body temperature,

 Assessment of body temperature: sites, equipments and technique, special considerations

 Temperature alterations: Hyperthermia, Heatstroke, Hypothermia

 Hot and cold applications

- Pulse:

 Physiology and Regulation, Characteristics of the pulse, Factors affecting pulse

 Assessment of pulse: sites, location, equipments and technique, special considerations

 Alterations in pulse

- Respiration:

 Physiology and Regulation, Mechanics of breathing, Characteristics of the respiration, Factors affecting respiration

 Assessment of respirations: technique, special considerations

 Alterations in respiration

- Blood pressure:

 Physiology and Regulation, Characteristics of the blood pressure, Factors affecting blood pressure

 Assessment of blood pressure: sites, equipments and technique, special considerations

 Alterations in blood pressure

- Recording of vital signs

UNIT VIII: Health assessment (30 Hours)

- Purposes
- Process of Health assessment
  - Health history
  - Physical examination:
  - Methods-Inspection, Palpation, Percussion, auscultation, Olfaction
  - Preparation for examination: patient and unit
  - General assessment
  - Assessment of each body system
  - Recording of health assessment

UNIT IX: Machinery, Equipment and linen (5 Hours)

- Types: Disposables and reusables-Linen, rubber goods, glass ware, metal, plastics, furniture, machinery
- Introduction:
  - Indent
  - Maintenance
  - Inventory

UNIT X: Meeting needs of patient (60 Hours)

- Basic needs (Activities of daily living)
  - Providing safe and clean environment
  - Physical-environment: Temperature, Humidity, Noise, Ventilation, light, Odour, pests control

- Reduction of Physical hazards: fire, accidents
- Safety devices: Restraints, side rails, airways, trapez etc.
- Role of nurse in providing safe and clean environment
- Hygiene
- Factors influencing Hygienic Practice
- Hygienic care: Care of the skin-Bath and pressure points, feet and nail, Oral cavity, Hair Care, Eyes, Ears and Nose
- Assessment, Principles, Types, Equipments, Procedure, Special Considerations
- Patient environment: Room Equipment and linen making patient beds
- Types of beds and bed making
- Comfort:-
- Factors Influencing Comfort
- Comfort devices

• Physiological needs:

- Sleep and Rest:
- Physiology of sleep
- Factors affecting sleep
- Promoting Rest and Sleep
- Sleep Disorders

• Nutrition:

- Importance
- Factors affecting nutritional needs
- Assessments of nutritional needs: Variables
- Meeting Nutritional needs: Principles, equipments, procedure and special considerations

- Oral
- Enteral: Naso/Orogastric, gastrostomy
- Parenteral

• Urinary Elimination

- Review of Physiology of Urine Elimination, composition and characteristics of urine
- Factors influencing Urination
- Alteration in Urinary Elimination
- Types and Collection of urine specimen: Observation, urine testing
- Facilitating urine elimination: assessment, types, equipments, procedures and special considerations
- Providing urinal/bed pan
- Condom drainage
- Perineal care
- Catheterization
- Care of urinary drainage
- Care of urinary diversions
- Bladder irrigation

• Bowel Elimination

- Review of Physiology of Bowel Elimination, Composition and characteristics of faeces
- Factors affecting Bowel elimination
- Alteration in Bowel Elimination
- Types and Collection of specimen of faeces: Observation
- Facilitating bowel elimination: assessment, equipments, procedures and special considerations
- Passing of Flatus tube

- Enemas
- Suppository
- Sitz bath
- Bowel wash
- Care of Ostomies

• Mobility and Immobility

- Principles of Body Mechanics
- Maintenance of normal body Alignment and mobility
- Factors affecting body alignment and mobility
- Hazards associated with immobility
- Alteration in body Alignment and mobility
- Nursing interventions for impaired Body Alignment and Mobility: assessment, types, devices used, methods and special considerations, rehabilitation aspects.
- Range of motion exercises
- Maintaining body alignment: Positions
- Moving
- Lifting
- Transferring
- Walking
- Restraints

• Oxygenation

- Review of Cardiovascular and respiratory Physiology
- Factors Affecting Oxygenation
- Alterations in oxygenation

- Nursing interventions in oxygenation: assessment, types, equipment used, procedure and special considerations
- Maintenance of a patent airway
- Oxygen administration
- Suction
- Inhalation; dry and moist
- Chest physiotherapy and postural drainage
- Care of Chest drainage
- Pulse oximetry
- CPR-Basic life support

• Fluid, Electrolyte, and Acid – Base Balances

- Review of Physiological Regulation of Fluid, Electrolyte, and Acid – Base Balances
- Factors Affecting Fluid, Electrolyte, and Acid – Base balances
- Alterations in Fluid, Electrolyte, and Acid – Base Balances
- Nursing interventions in Fluid, Electrolyte and Acid – Base Imbalances: assessment, types, equipment, procedure and special considerations
- Measuring fluid intake and output
- Correcting Fluid, Electrolyte Imbalance:
- Replacement of fluids: Oral and Parenteral – Veni puncture, regulating IV Flow rates, changing IV solutions and tubing, Changing IV dressing
- Administering Blood transfusion
- Restriction of fluids

• Psychosocial Needs

- Concepts of Cultural Diversity, Stress and Adaptation, Self –concept, Sexuality, Spiritual Health, Coping with loss, death and grieving
- Assessment of psychosocial needs

- Nursing intervention for psychosocial needs
- Assist with coping and adaptation
- Creating therapeutic environment
- Recreational and diversional therapies

UNIT XI: Infection control in Clinical settings (20 Hours)

- Infection Control
- Nature of infection
- Chain of infection transmission
- Defenses against infection :(natural and acquired)
- Hospital acquired infection (Nosocomial infection)
- Concept of asepsis: medical asepsis, and surgical asepsis
- Isolation precautions (Barrier nursing) :
- Hand washing: simple, hand antisepsis and surgical antisepsis (scrub)
- Isolation: Source and protective
- Personal protecting equipments: types, uses and techniques of wearing and removing
- Decontamination of equipment and unit
- Transportation of infected patients
- Standard safety precautions (Universal precautions)
- Transmission based precautions
- Biomedical waste management
- Importance
- Types of hospital waste
- Hazards associated with hospital waste

- Decontamination of hospital waste
- Segregation and transportation and disposal

UNIT XII: Administration of Medications (40 Hours)

- General Principles/Considerations
- Purposes of Medication
- Principles: 5 rights, Special Considerations, Prescriptions, Safety in Administering Medications and Medication Errors
- Drug forms
- Routes of administration
- Storage and maintenance of drugs and Nurses responsibility
- Broad classification of drugs
- Therapeutic Effect, Side Effects, Toxic effects, Idiosyncratic Reactions, Allergic Reactions, Drug Tolerance, Drug Interactions,
- Factors Influencing drug Actions
- Systems of Drug Measurement: Metric system, Apothecary System, Household Measurements, Solutions
- Converting Measurements Units: Conversion within one system, Conversion between systems, Dosage Calculation
- Terminologies and abbreviations used in prescriptions of medications
- Oral Drugs Administration: Oral, Sublingual and Buccal: Equipment, Procedure
- Parenteral
- General principles: decontamination and disposal of syringes and needles
- Types of parenteral therapies
- Types of syringes, needles, canula and infusion sets
- Protection from Needle stick Injuries: Giving Medications with a safety syringes

- Routes of parenteral therapies –

  - Intradermal: purpose, site, equipment, procedure, special consideration
  - Subcutaneous: purpose, site, equipment, procedure, special considerations
  - Intramuscular: purpose, site, equipment, procedure, special considerations
  - Intra venous: purpose, site, equipment, procedure, special considerations
  - Advanced techniques: epidural, intrathecal, intraosseous intraperitonial, intraplural, intraarterial –
  - Role of nurse

- Topical Administration: Purposes, site, equipment, procedure, special considerations for

  - Application to skin
  - Application to mucous membrane
  - Direct application of liquids-Gargle and swabbing the throat
  - Insertion of Drug into body cavity: Suppository/medicated packing in rectum/vagina
  - Instillations: Ear, Eye, Nasal, Bladder and Rectal
  - Irrigations: Eye, Ear, Bladder, Vaginal and Rectal
  - Spraying: Nose and throat

- Inhalation: Nasal, oral endotracheal/tracheal (steam, oxygen and medications) – purposes, types, equipment, procedure, special considerations
- Recording and reporting of medications administered

UNIT XIII: Meeting needs of Perioperative patients (10 Hours)

- Definition and concept of perioperative Nursing
- Preoperative Phase

  - Preparation of patient for surgery

- Intraoperative

  - Operation theatre Set up and environment

- Role of nurse
- Postoperative Phase
- Recovery unit
- Post operative unit
- Post operative care
- Wounds: types, Classifications, wound Healing Process, Factors affecting wound, Complications of Wound Healing
- Surgical asepsis
- Care of the wound: types, equipments, procedure and special considerations
- Dressings, Suture Care, Care of Drainage
- Application of Bandages, Binders, Splints and Slings
- Heat and Cold Therapy

UNIT XIV: Meeting Special needs of the patient (15 Hours)

- Care of patients having alteration in
- Temperature (hyper and hypothermia): Types, Assessment, Management
- Sensorium (Unconsciousness): Assessment, Management
- Urinary Elimination (retention and incontinence): Assessment, Management
- Functioning of sensory organs: (Visual & hearing impairment)
- Assessment of Self-Care ability
- Communication Methods and special considerations
- Mobility (physically challenged, cast) assessment of Self-Care ability: Communication Methods and special considerations
- Mental state (mentally challenged), assessment of Self-Care ability;
- Communication Methods and special considerations

- Respiration (distress): Types, Assessment, Management
- Comfort – (Pain)-Nature, Types, Factors influencing Pain, Coping, Assessment, Management
- Treatments related to gastrointestinal system: naso-gastric suction gastric irrigation, gastric analysis

UNIT XV: Care of Terminally ill patient (5 Hours)

- Concepts of Loss, Grief, grieving Process
- Signs of clinical death
- Care of dying patient: special considerations
- Advance directives; Euthanasia, will, dying declaration, organ donation.
- Care of dead body: equipment, procedure and care of unit
- Medico legal issues
- Autopsy
- Embalming

UNIT XVI: Professional Nursing concepts and practices (6 Hours)

- Conceptual and theoretical models of nursing practice: Introduction to models-holistic model, health belief model, health promotion model etc.
- Introduction to theories in Nursing; Peplau's Henderson's Orem's, Neuman's, Roger's and Roy's
- Linking theories with nursing process

Methods of Teaching

1. Lecture and Discussion
2. Demonstration
3. Role Play

4. Field trips

5. Clinical Practice

Methods of Evaluation

1. Written assignments

2. Written and practical exams

3. Quiz

4. Clinical practice record

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5. Christensen Kockrow(2011),"Foundations of Nursing", 6thEdition,Mosby Publication.

6. Mary Sulakshini Immanuel(2014),"Nursing Foundation–Principles and Practices",1stEdition, University Press.

7. Lakhwinder Kaur Maninder Kaur (2010), "Text Book of Nursing Foundation", 1stEdition,Svikas Publication.

8. Potter & Perry's (2013), "Fundamentals of Nursing", 8th Edition, Elsevier Publication.

9. Kozier & Erb's (2008),"Fundamentals of Nursing", 2nd Edition, Pearson Publication.

10. Carol Taylor, Carol Lillis(2009),"Fundamentals of Nursing",6thEdition, Wolters Kluwer Publication

COMMUNITY HEALTH NURSING - I

CONTENT

UNIT I: Introduction (2 Hours)

Community health nursing

- Definition, concept and dimensions of health
- Promotion of health
- Maintenance of health

UNIT II: Determinants of health (20 Hours)

- Eugenics
- Environment

Physical:

- Air, light, Ventilation, Water, Housing, Sanitation; Disposal of waste, disposal of dead bodies, Forestation, Noise Climate, Communication: Infrastructure facilities and Linkages
- Acts regulating the environment: National pollution control board
- Renewable and non –renewable resources

Natural resources and associated problems

a) Forest resources: Use and over-exploitation, deforestation, case studies, Timber extraction, mining, dams and their effects on forest and tribal people.

b) Water resources: Use and over-exploitation of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems.

c) Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies.

d) Energy resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources, Case studies.

e) Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification.

- Role of an individual in conservation of natural resources.
- Equitable use of resources for sustainable lifestyles.
- Environmental Pollutions

Definition, cause, effects and control measures of :-

a) Air pollution

b) Water pollution

c) Soil pollution

d) Marine pollution

e) Noise pollution

f) Thermal pollution

g) Nuclear pollution

- Solid waste Management: Cause, effects and control measures of urban and industrial wastes.
- Role of an individual in prevention of pollution
- Pollution case studies
- Bacterial and viral: Agents host carriers and immunity Arthopods and Rodents
- Food hygiene: Production, Preservation, Purchase, Preparation,

Consumption

- Acts regulating food hygiene – Prevention of food adulteration act, Drugs and cosmetic act
- Socio-cultural
  - Customs, taboos
  - Marriage system
  - Family structure
  - Status of special groups; Females, Children, Elderly, challenged groups and sick persons

- Life Style
- Hygiene
- Physical activity
  - Recreation and sleep
  - Sexual life
  - Spiritual life philosophy
  - Self reliance
  - Dietary pattern
  - Education
  - Occupation
- Financial Management
  - Income
  - Budget
  - Purchasing power
  - Security

UNIT III Epidemiology (10 Hours)

- Definition; concept, aims, scope, uses and terminology used in epidemiology
- Dynamics of disease transmission: epidemiological triad
- Morbidity and mortality: measurements
- Levels of prevention
- Methods of epidemiology of
  - Descriptive
  - Analytical: epidemic investigation

- Experimental

UNIT IV Epidemiology and nursing management of common Communicable diseases (25 Hours)

- Respiratory infections
- Smallpox
- Chicken pox
- Measles
- Influenza
- Rubella
- ARI's and pneumonia
- Mumps
- Diphtheria
- Whooping cough
- Meningococcal meningitis
- Tuberculosis
- SARS
- Intestinal Infections
- Poliomyelitis
- Viral Hepatitis
- Cholera
- Diarrhoeal diseases
- Typhoid Fever
- Food poisoning
- Amoebiasis

- Hook worm infestation
- Ascariasis
- Dracunculiasis
- Arthropod infection
- Dengue
- Malaria
- Filariasis
- Zoonoses
- Viral
- Rabies
- Yellow fever
- Japanese encephalitis
- Kyansnur Forest Disease

- Bacterial
- Brucellosis
- Plague
- HumanSalmonellosis
- Anthrax
- Leptospirosis
- Rickettsial diseases
- RickettsialZoonoses
- Scrub typhus
- Murine typhus

- Tick typhus
- Q fever
- Parasitic Zoonoses
- Taeniasis
- Hydatid disease
- Leishmaniasis
- Surface infection
- Trachoma
- Tetanus
- Leprosy
- STD & RTI
- Yaws
- HIV/AIDS
- Any other

UNIT V: Epidemiology and Nursing management of Non Communicable diseases (10 Hours)

- Malnutrition: under nutrition, over nutrition, nutritional deficiencies
- Anaemia
- Hypertension
- Stroke
- Rheumatic Heart Diseases
- Coronary Heart Diseases
- Cancer
- Diabetic mellitus

- Blindness
- Accidents
- Mental Illness
- Obesity
- Iodine Deficiency
- Fluorosis
- Epilepsy

UNIT VI: Demography (6 Hours)

- Definition, concept and scope
- Methods of collection, analysis and interpretation of demographic data
- Demographic rates and ratios

UNIT VII: Population and its control (17 Hours)

- Population explosion and its impact on social, economic development of individual, society and country
- Population control:

 Overall development: Women empowerment, social, economic and educational development

- Limiting family size:

 Promotion of small family norm

 Methods: spacing (natural, biological, chemical, mechanical methods etc)

 Terminal: surgical methods

 Emergency contraception

MEDICAL SURGICAL NURSING (ADULT AND GERIATRICS) – II

Subject Code: BSN 19301

Placement: Third year

Theory: 120 hours **Practical** –270 Hours

UNIT I: Nursing management of patient with disorders of Ear Nose and Throat (15 Hours)

- Review of anatomy and physiology of the Ear Nose and Throat
- Nursing Assessment – History and Physical assessment
- Etiology, Pathophysiology, clinical manifestations, diagnosis, treatment modalities and medical and surgical nursing management of Ear, Nose and Throat disorders:

 External ear: deformities , otalgia, foreign bodies, and tumours

 Middle Ear-impacted wax, Tympanic membrane perforation, otitis media,otoselerosis, mastoiditis, tumours

 Inner ear – Menier"s, Disease, labyrinthitis, ototoxicity, tumours

 Upper airway infections – Common cold, sinusitis, ethinitis, rhinitis, Pharyngitis tonsillitis, and adenoiditis, peritonsilar abscess,laryngitis.

- Upper respiratory airway – epistaxis
- Nasal obstruction, laryngeal obstruction, cancer of the larynx
- Cancer of the oral cavity
- Speech defects and speech therapy
- Deafness
- Prevention, control and rehabilitation
- Hearing Aids, implanted hearing devices

- Special therapies
- Nursing procedures
- Drugs used in treatment of disorders of Ear ,Nose and Throat
- Role of nurse Communicating with hearing impaired and muteness

UNIT II: Nursing management of patient with disorders of eye (15 Hours)

- Review of anatomy and physiology of the eye-
- Nursing Assessment – History and Physical assessment
- Etiology, pathophysiology, clinical manifestations, diagnosis, treatment modalities and medical and surgical nursing management of eye disorders:

- Refractive errors
- Eyelids-infection, tumours and deformities
- Conjunctiva-inflammation and infection, bleeding
- Cornea-inflammation and infection
- Lens-Cataracts
- Glaucoma
- Disorder of the uveal tract
- Ocular tumours
- Disorders of posterior chamber and retina: Retinal and vitreous problems
- Retinal detachment
- Ocular emergencies and their prevention

- Blindness
- National blindness control program

- Eye banking

- Eye prostheses and Rehabilitation
- Role of nurse – Communication with visually impaired patient,Eye camps
- Special therapies
- Nursing procedures
- Drugs used in treatment of disorders of eye

UNIT III:Nursing management of patient with neurological disorders (16 Hours)

- Review of anatomy and physiology of the neurological system
- Nursing Assessment – History and physical and neurological assessment and Glasgow coma scale
- Etiology, pathophysiology, clinical manifestations, diagnosis, treatment modalities and medical and surgical nursing management of neurological disorders:
- Congenital malformations
- Headache
- Head injuries
- Spinal injuries
- Paraplegia
- Hemiplegia
- Quadriplegia
- Spinal cord compression-herniation of intervertebral disc
- Tumours of the brain and spinal cord
- Intra cranial and cerebral aneurysms
- Infections:
- Meningitis, Encephalitis, Brain abscess, neurocysticercosis
- Movement disorders

- Chorea
- Seizures
- Epilepsies
- Cerebro Vascular Accidents (CVA)
- Cranial, Spinal Neuropathies – Bells'spalsy trigeminal neuralgia
- Peripheral Neuropathies; Guillain – Barr'e Syndrome
- Myasthenia gravis
- Multiple sclerosis
- Degenerative diseases
- Delirium
- Dementia
- Alzheimer's disease
- Parkinson's disease
- Management of unconscious patients and patients with stroke
- Role of the nurse in communicating with patient having neurological deficit
- Rehabilitation of patients with neurological deficit
- Role of nurse in long stay facility (institutions) and at home
- Special therapies
- Nursing procedures
- Drugs used in treatment of neurological disorders

UNIT IV: Nursing management of patients with disorders of female reproductive system (16 Hours)

- Review of anatomy and physiology of the female reproductive system
- Nursing assessment, History and Physical assessment

- Breast Self Examination
- Etiology, pathophysiology, clinical manifestations, diagnosis, , treatment
- modalities and medical and surgical nursing management of female
- reproductive system.
- Congenital abnormalities of female reproductive system
- Sexuality and Reproductive Health
- Sexual Health Assessment
- Menstrual disorders: Dysmenorrhea, Amenorrhea Premenstrual
- Syndrome
- Abnormal Uterine Bleeding; Menorrhagia, Metrorrhagia
- Pelvic inflammatory Disease
- Ovarian and fallopian tube disorders: infections, cysts, tumours
- Uterine and cervical disorders: Endometriosis, Polyps, Fibroids, cervical
- And uterine tumours, uterine displacement Cystocele
- /urethrocele/Rectocele
- Vaginal disorders: infections, and discharges, fistulas
- Vulval disorders: Infections, cysts, tumours
- Disorders of Breast: Deformities, Infections, cysts and tumours
- Menopause and Hormonal Replacement Therapy
- Infertility
- Contraception: Types Methods, Risks and effectiveness

 Spacing methods

 Barrier methods, Intra Uterine Devices, Hormonal, Post conceptional Methods etc.

 Terminal methods

- Sterilization
- Emergency contraception methods
- Abortion – Natural, Medical and surgical abortion – MTP Act
- Toxic shock syndrome
- Injuries and trauma : Sexual violence
- Special therapies
- Nursing procedures
- Drugs used in treatment of gynecological disorders
- National family welfare programme

UNIT V: Nursing Management of patients with Burns, reconstructive and cosmetic surgery (10 Hours)

- Review of anatomy and physiology of the skin and connective tissues and various deformities
- Nursing Assessment-History and Physical assessment and Assessment of burns and fluid electrolyte loss
- Etiology, Classification, Pathophysiology, clinical manifestations, diagnosis ,treatment modalities and medical and surgical nursing management of Burns and Re-constructive and cosmetic surgery
- Types of Re-constructive and Cosmetic Surgery; for burns, congenital deformities, injuries and cosmetic purposes
- Role of Nurse
- Legal aspects
- Rehabilitation
- Special therapies
- Psycho social aspects
- Nursing procedures
- Drugs used in treatment of Burns, reconstructive and cosmetic surgery

UNIT VI: Nursing management of patients with oncological conditions (10 Hours)

- Structure and characteristics of normal and cancer cells
- Nursing Assessment-History and Physical assessment
- Prevention, Screening, Early detection, Warning signs of cancer
- Epidemiology, Etiology, Classification, Pathophysiology, Staging, clinical manifestations, diagnosis, treatment modalities and medical and surgical nursing management of oncological conditions
- Common malignancies of various body systems; Oral, larynx, lung, Stomach and Colon, Liver, Leukemias and Lymphomas, Breast, Cervix, Ovary, Uterus, Sarcoma, Brain, Renal, Bladder, Prostate etc.
- Oncological emergencies
- Modalities of treatment
  - Immunotherapy
  - Chemotherapy
  - Radiotherapy
  - Surgical Interventions
  - Stem cell and Bone marrow transplants
  - Gene therapy
  - Other forms of treatment
- Psychosocial aspects of cancer
- Rehabilitation
- Palliative care; Symptom and Pain Management, Nutritional support
- Home care
- Hospice care
- Stomal therapy
- Special therapies

- Psycho social aspects
- Nursing procedures

UNIT VII: Nursing Management of patient in EMERGENCY & DISASTER situations

Disaster Nursing: (10 Hours)

- Concepts and principles of Disaster Nursing
- Causes and Types of Disaster: Natural and Man-made
- Earth quakes, Floods, Epidemics, cyclones
- Fire, Explosion, Accidents
- Violence, Terrorism; bio-chemical, War
- Policies related to emergency/disaster management; International, national, state, institutional
- Disaster Preparedness:
- Team, Guidelines, protocols, Equipments, Resources
- Coordination and involvement of; Community, various govt. department,
- non-govt. organizations and International agencies
- Role of nurse working
- Legal aspects of Disaster Nursing
- Impact on Health and after effects; Post Traumatic Stress Disorder
- Rehabilitation; physical, Psycho social, Financial, Relocation

Emergency Nursing

- Concept, priorities, principles and Scope of emergency nursing
- Organization of emergency services: physical setup, staffing, equipment

and supplies, protocols, Concepts of triage and role of triage nurse

- Coordination and involvement of different departments and facilities
- Nursing Assessment-History and Physical assessment
- Etiology, Pathophysiology, clinical manifestations, diagnosis, treatment

modalities and medical & surgical nursing management of patient with medical and surgical Emergency

- Principles of emergency management
- Common Emergencies
- Respiratory Emergencies
- Cardiac Emergencies
- Shock and Haemorrhage
- Pain
- Poly-Trauma, Road Accidents crush injuries, wound
- Bites
- Poisoning, Food, Gas, Drugs and Chemical poisoning
- Seizures
- Thermal Emergencies; Heat stroke & Cold injuries
- Pediatric Emergencies
- Psychiatric Emergencies
- Obstetrical Emergencies
- Violence, Abuse, Sexual assault
- Cardio Pulmonary Resuscitation
- Crisis Intervention
- Role of the nurse; Communication and inter Personal Relations

- Medico-Legal Aspects

UNIT VIII: Nursing care of the elderly (10 Hours)

- Nursing Assessment-History and Physical assessment
- Ageing;
- Demography; Myths and realities
- Concepts and theories of ageing
- Cognitive Aspects of Ageing
- Normal biological ageing
- Age related body systems changes
- Psychosocial Aspects of Aging
- Medications and elderly
- Stress and coping in older adults
- Common Health Problems & Nursing Management;
- Cardiovascular, Respiratory, Musculoskeletal
- Endocrine, genito-urinary, gastrointestinal
- Neurological, skin and other sensory organs
- Psychosocial and Sexual
- Abuse of elderly
- Role of nurse for care of elderly: ambulation, nutritional, communicational, psychosocial and spiritual
- Role of nurse for care givers of elderly
- Role of family and formal and non formal caregivers
- Use of aids and prosthesis (hearing aids, dentures,]

- Legal and Ethical Issues
- Provisions and Programmes for elderly; privileges, Community Programs and health services;
- Home and institutional care

UNIT IX: Nursing management of patient in critical care units: (10 Hours)

- Nursing Assessment-History and Physical assessment
- Classification
- Principles of critical care nursing
- Organization; Physical setup, Policies, staffing norms,
- Protocols, equipments and supplies
- Special equipments; ventilators, cardiac monitors, defibrillators, Resuscitation equipments
- Infection Control Protocols
- Nursing management of critically ill patient;
- Monitoring of critically ill patient;
- CPR-Advance Cardiac Life support
- Treatments and procedures
- Transitional care
- Ethical and Legal Aspects
- Communication with patient and family
- Intensive care records
- Crisis Intervention
- Death and Dying-coping with

- Drugs used in critical care unit

UNIT X: Nursing Management of patients adults including elderly with Occupational and Industrial disorders: (8 Hours)

- Nursing Assessment – History and Physical assessment
- Etiology, Pathophysiology, clinical manifestation, Diagnosis, treatment modalities and medical & surgical nursing management of Occupational and industrial health disorders
- Role of nurse
- Special therapies, alternative therapies
- Nursing procedures
- Drugs used in treatment of Occupational and Industrial disorders

REFERENCES:

1. Sharon L.Lewis, "Medical Surgical Nursing Assessment And Management Of Clinical Problems".
2. Linda .S. William, "Understanding Medical Surgical Nursing" 5th edition,Jaypee Brothers Publication.
3. Donna D Ignatavicius, M. Lind Workman, "Medical Surgical Nursing Patient Centered Collaborative Care", 7th Edition.
4. William "Basic Geriatric Nursing", Elsevier Publication, 6th Edition.
5. Le More P. Burke K.M Bauldolf,Gubrud.P, "Medical Surgical Nursing", Critical Reasoning In Patient Care", Pearson Publication, 6th Edition.
6. S.N Chugh"Medical Surgical Nursing",AvichalPublishing Company.
7. Lewis,"Medical Surgical Nursing", Mosby Publication, 6th Edition.
8. Long Phipps "Medical Surgical Nursing Process Approach", 3rd Edition, Allison Miller Publications.

9. Phipps “Medical Surgical Nursing Health Illness Perspective”, Mosby Publication.

10. Janice L. Hinkle “Medical Surgical Nursing”,Wolker Kluwer publication South Asian 13th Edition.

CHILD HEALTH NURSING

CONTENT

UNIT I:Introduction (15 Hours)

Modern Concepts of Childcare

- Internationally accepted right of the child
- National policy and legislations in relation to child health and welfare
- National programmes related to child health and welfare
- Agencies related to welfare services to the children
- Changing trends in hospital care, preventive, promotive and curative aspects of child health
- Child morbidity and mortality rates
- Differences between an adult and child
- Hospital environment for a sick child
- Impact of hospitalization on the child and family
- Grief and bereavement
- The role of a child health nurse in caring for a hospitalized child
- Principles of pre and post operative care of infants and children
- Child Health Nursing procedures

UNIT II: The Healthy Child (20 Hours)

- Principles of growth and development
- Factors affecting growth & development

- Growth and development from birth to adolescence
- The needs of normal children through the stages of developmental and parental guidance
- Nutritional needs of children & infants: breast feeding, exclusive breast feeding supplementary/artificial feeding and weaning
- Baby friendly hospital concept
- Accidents: causes and prevention
- Value of play and selection of play material
- Preventive immunization, immunization programme and cold chain
- Preventive pediatrics
- Care of under five& under five clinics/well baby clinics

UNIT III: Nursing Care of a Neonate (15 Hours)

- Nursing care of a normal newborn/essential newborn care
- Neonatal resuscitation
- Nursing management of a low birth weight baby
- Kangaroo mother care
- Nursing management of common neonatal disorders
- Organization of neonatal unit
- Identification & nursing management of common congenital malformations

UNIT IV: Integrated management of neonatal and childhood illnesses (IMNCI) (10 Hours)

UNIT V: Nursing management in common childhood diseases (20 Hours)

- Nutritional deficiency disorders
- Respiratory disorders and infections
- Gastrointestinal infections, infestations and congenital disorders
- Cardio vascular problem: congenital defects and rheumatic fever rheumatic heart disease
- Genito-urinary disorders: Acute Glomerulo Nephritis, Nephrotic syndrome, Wilms' tumor, infection and congenital disorders.
- Neurological infections and disorders: convulsions, epilepsy, meningitis, hydrocephalus, spinabifida
- Hematological disorders: Anemias, thalassemia, ITP, Leukemia, hemophilia
- Endocrine disorders: Juvenile diabetes mellitus
- Orthopedic disorders: club feet, hip dislocation and fracture.
- Disorders of skin, eye and ears
- Common communicable diseases in children, their identification, Nursing management in hospital and home and prevention
- Child Health emergencies: poisoning, foreign bodies, hemorrhage, burns and drowning
- Nursing care of infant and children with HIV/AIDS

UNIT VI: Management of behavioral & social problems in children (10 Hours)

- Management of common behavioral disorders
- Management of common psychiatric problems
- Management of challenged children: Mentally, physically, & socially challenged
- Welfare services for challenged children in India
- Child guidance clinics

Methods of Teaching:

- Lecture with discussions
- Clinical presentations
- Demonstration
- Field visits
- Observation of children

Methods of Evaluation:

- Written assignment and tests
- Evaluation of clinical experience and Nursing care study
- Care study evaluation
- Practical and oral tests

REFERENCES:

1. ParulDatta (2014), "Pediatric Nursing", 3rd edition, Jaypee Brothers Medical publishers (P)ltd.
2. Piyush Gupta (2014), "Essential paediatric nursing" ,4th Edition, CBS Publishers & Distributors Pvt.Ltd.
3. K.N.Agarwal (2010), "Textbook of paediatrics", 1stedition, Anne books pvt.ltd.
4. Achar's (2009), "Textbook of paediatrics", 4thedition, Universities Press Private Limited.
5. OP Ghai , Vinod K Paul, Arvind Bagga (2010),"Essential paediatrics",7th Edition, CBS Publishers & Distributors Pvt.Ltd.
6. Marylin Hockenberry& David Wilson (2011),"Wong's Nursing care of infants and children",9th edition, Elsevier publication.
7. Tambulwadler (2014),"Paediatric nursing", 3rd edition , Vora publication.
8. Suraj Gupta (2013),"The Shortbook of pediatrics" 11th edition, Jaypee Brothers Medical publishers (P)ltd.
9. Meharban Singh (2010),"Care of Newborn",8th edition, CBS Publishers & Distributors Pvt.Ltd.

10. Dorathy. R. Marlow & Barbara A. Redding (2013), “Textbook of Pediatric Nursing (South Asian edition)”,1st edition, Elsevier Publications.

11. David Wilson (2011), “Wong’s Clinical Manual of Pediatric Nursing”,8thedition, Elsevier Publications.

MENTAL HEALTH NURSING

CONTENT

UNIT I: Introduction (5 Hours)

- Perspectives of mental health and mental health nursing: evolution of mentalhealth services, treatments and nursing practices.
- Prevalence and incidence of mental health problems and disorders.
- National mental health act: Act, sections, articles and their implications etc.
- National mental health policy vis a vis national health policy.
- National mental health programme.
- Mental health team.
- Nature and scope of mental health nursing
- Role and functions of mental health nurse in various settings and factors affecting the level of nursing practice.
- Concepts of normal and abnormal behaviour.

UNIT II: Principles and Concepts of Mental Health Nursing (5 Hours)

- Definition: mental health nursing and terminology used.
- Classification of mental disorders: ICD
- Review of personality development, defense mechanisms.
- Maladaptive behaviour of individuals and groups: stress, crisis and disaster(s).
- Etiology: bio-psycho-social factors.
- Psychopathology of mental disorders; review of structure and function of

brain, limbic system and abnormal neuro transmission.

- Principles of mental health nursing.
- Standards of mental health nursing practice.
- Conceptual models and the role of nurse:
  - Existential model
  - Psycho-analytical models
  - Behavioural model
  - Interpersonal model

UNIT III: Assessment of Mental Health Status (8 Hours)

- History taking
- Mental status examination
- Mini mental status examination
- Neurological examination; Review
- Investigations; Related Blood chemistry EEG, CT & MRI
- Psychological tests
- Role and responsibilities of nurse

UNIT IV: Therapeutic Communication and Nurse-Patient Relationship (6 Hours)

- Therapeutic communication: Types, techniques, characteristics.
- Types of relationship
- Ethics and responsibilities
- Elements of nurse patient contract
- Review of technique of IPR – Johari Window

- Goals, phases, tasks, therapeutic techniques
- Therapeutic impasse and its intervention

UNIT V: Treatment Modalities and Therapies used in Mental Disorders (14 Hours)

- Psycho Pharmacology
- Psychological therapies: Therapeutic community, psychotherapy
- Individual: psycho-analytical, cognitive and supportive, family, group

  behavioural, play, psycho-drama, music, dance, recreational and light therapy, relaxation therapies: yoga, meditation, bio feedback
- Alternative systems of medicine
- Occupational Therapy
- Physical Therapy: electro convulsive therapy
- Geriatric considerations
- Role of nurse in above therapies

UNIT VI: Nursing management of patient with Schizophrenia, and other psychotic disorders (5 Hours)

- Classification: ICD
- Etiology, psycho-pathology,types, clinical manifestations, diagnosis
- Nursing assessment-history, physical and mental assessment
- Treatment modalities and nursing management of patients with

  Schizophrenia and other psychotic disorders
- Geriatric considerations
- Follow-up and home care and rehabilitation

UNIT VII: Nursing management of patient with mood disorders (5 Hours)

- Mood disorders: Bipolar affective disorder: Mania and depression and dysthymia
- Etiology, psycho-pathology, clinical manifestations, diagnosis,
- Nursing assessment-history, physical and mental assessment
- Treatment modalities and nursing management of patients with mood disorders
- Geriatric considerations
- Follow-up and home care and rehabilitation

UNIT VIII: Nursing management of patient with neurotic, stress related and somatization disorders (8 Hours)

- Anxiety disorder, phobias, Dissociation and Conversion disorder, Obsessive compulsive disorder, Somatoform disorders, Post traumatic stress disorder
- Etiology, psycho-pathology, clinical manifestations, diagnosis,
- Nursing assessment-history, physical and mental assessment
- Treatment modalities and nursing management of patients with neurotic, stress related and somatization disorders
- Geriatric considerations
- Follow-up and home care and rehabilitation

UNIT IX: Nursing management of patient with substance use disorders (5 Hours)

- Commonly used psychotropic substance: Classification, forms, routes, action, Intoxication and withdrawal.
- Etiology of dependence: tolerance, psychological and physical, dependence, withdrawal syndrome, diagnosis,
- Nursing assessment-history, physical mental assessment and drug assay
- Treatment (detoxification, antabuse and narcotic antagonist therapy and harm reduction) and nursing management of patients with substance use disorders
- Geriatric considerations

- Follow-up and home care and rehabilitation

UNIT X: Nursing management of patient with personality, sexual and eating disorders (4 Hours)

- Classification of disorders
- Etiology, psycho-pathology, characteristics, diagnosis, Nursing assessment-history, physical and mental assessment
- Treatment modalities and nursing management of patients with personality, sexual and eating disorders
- Geriatric considerations
- Follow-up and home care and rehabilitation

UNIT XI: Nursing management of childhood and adolescent disorders including mental deficiency (6 Hours)

- Classifications of disorders
- Etiology, psycho-pathology, characteristics, diagnosis,
- Nursing assessment-history, physical, mental and IQ assessment
- Treatment modalities and nursing management of childhood disorders including mental deficiency
- Follow-up and home care and rehabilitation

UNIT XII: Nursing management of organic brain disorders (5 Hours)

- Classification: ICD
- Etiology, psycho-pathology, clinical features, diagnosis and differential diagnosis (Parkinsons and Alzheimers).
- Nursing assessment-history, physical, mental and neurological assessment
- Treatment modalities and nursing management of organic brain disorders
- Geriatric considerations

- Follow-up and home care and rehabilitation

UNIT XIII: Psychiatric emergencies and crisis intervention (6 Hours)

- Types of psychiatric emergencies and their management
- Stress adaptation model: stress and stressor, coping, resources and mechanism
- Grief: Theories of grieving process, principles, techniques of counseling
- Types of crisis
- Crisis intervention: principles, techniques and process
- Geriatric considerations
- Role and responsibilities of nurse

UNIT XIV: Legal issues in mental health nursing (4 Hours)

- The mental health act 1987: Act, Sections, Articles and their implications etc.
- Indian lunacy act 1912
- Rights of mentally ill clients
- Forensic psychiatry
- Acts related to narcotic and psychotropic substances and illegal drug trafficking
- Admission and discharge procedures
- Role and responsibilities of nurse

UNIT XV: Community Mental Health Nursing (4 Hours)

- Development of community mental health services
- National mental health programme
- Institutionalization versus deinstitutionalization

- Model of preventive psychiatry: levels of prevention
- Mental health services available at the primary, secondary, tertiary levels including rehabilitation and role of nurse
- Mental health agencies: Government and voluntary, national and international
- Mental health nursing issues for special populations: children, adolescence, women, elderly, victims of violence and abuse, handicapped, HIV/AIDS etc.

REFERENCES:

1. R. Sreevani(2012), “A Guide To Mental Health and Psychiatric Nursing”, 4th edition, Jaypee publication.
2. Mary C. Town Send (2012), “Psychiatric Mental Health Nursing”, 6th edition, Jaypee pub.
3. Dr. Lalitha. K. (2009),“Mental health and psychiatric nursing”, An Indian perspective, 1st edition. Banglore: VMG Book House.
4. K.P. Neeraja(2011),“Essentials Of Mental Health and Psychiatric Nursing”, Vol-I,II, JB Brothers publications.
5. Benjamin J. Sadock, Harold I. Kaplan, Virginia A. Sadock, (2007). “Kaplan &Sadock's Synopsis of Psychiatry: Behavioral Sciences/Clinical Psychiatry”, 10th edition, Philadelphia: Lippincott Williams & Wilkins.
6. Niraj Ahuja(2012), “A short text book of psychiatry”, 5th edition, Jaypee brothers medical publications.
7. Dr. Bimla Kapoor. (2007),“Textbook of Psychiatric Nursing”, volume I & II, 2nd edition, New Delhi: Kumar Publishing House.
8. Alphonsa Jacob,(1999) “Hand book of Psychiatry Nursing”, 1st edition, vilcar publishing house.
9. Elizabeth M V. (1998),“Foundation of Psychiatric Health Nursing”, 3rd edition, Philadelphia: W.B.Saunders Company.
10. Churchill Livinstone Freedman A.M. (1962),“Comprehensive Textbook of Psychiatry”, 1st edition, Philadelphia; Lippincott Williams and Wilkins Company.

Master of Physiotherapy

Question Pattern: Multiple Choices with one single answerTotal questions: 100 Numbers

Time duration: 2 HoursMarks: 100

Courses to be covered	Distribution of marks
Anatomy	5
Physiology	5
Biomechanics	10
Exercise Therapy	10
Electro Therapy	10
Physiotherapy in Neurological Conditions	15
Physiotherapy in Orthopedic Conditions	15
Physiotherapy in Cardio Respiratory Conditions	15
Rehabilitation Medicine, Community rehabilitation & Ethics	10
Basic Research Methodology	5

Model Questions

1. Which of the following statements regarding constraint-induced movement therapy (CIMT) is true?

A) It requires constraint of the affected extremity
B) It is based on principles of repeated practice and intense activity
C) It utilizes a passive no intensive approach
D) It aims to increase the use of the unaffected extremity

2. Although a multitude of tests can be done to help diagnose multiple sclerosis (MS), which of the following is **not** suggestive of this diagnosis?

A) Multifocal bright T2- weighted periventricularimages
B) Increased latency seen in somato sensory evoked potentials(SSEP)
C) Increased cerebro spinal fluid(CSF) protein with oligoclonalbands
D) Decreased amplitudes of sensory nerve action potentials (SNAPs) and compound motor action potentials (CMAPs) innerve conduction studies (NCSs)

3. The following are all common symptoms inpatients with multiplesclerosis(MS),**except**:

A) Bowel/bladderdysfunction
B) Decreased IQ
C) Pain
D) Fatigue

4. What is one normal age -related charge related to the integumentary system?

a. Increased inflammatory response
b. Increased risk of injury
c. Increased subcutaneous fat
d. Decreased pain perception

5. If the ultrasound head is not continuously moving during the treatment, what adverse effect can this have on tissues?

a. Unstable cavitation
b. Cyclic vasoconstriction and dilatation
c. Refraction
d. Reflection

MOT- Master of Occupation Therapy

Entrance Examination Syllabus

Unit 1: Anatomy & Physiology **Marks: 30 Marks**

- Anatomy of cell, tissues, Cardiovascular system, respiratory system, lymphatic system, Digestive System, Endocrine system, ANS,PNS,CNS
- Anatomy of bone, Muscles, Joints, Nerves, Artery
- Anatomy of Upper limb, lower limb, thorax and abdomen, Head and Neck
- Physiology of cell, tissues, Blood, Cardiovascular system, respiratory system,
- Physiology of Circulation, Muscles, bones, lymphatic system, Digestive System, Endocrine system, ANS, PNS, CNS, Reproductive System

Unit 2: Biomechanics & Applied Anatomy **Marks: 30 Marks**

- Kinetics and kinematics of movement
- Muscle Structure and Function and Vertebral Column
- The biomechanics of upper limb
- The biomechanics of Lower limb
- Posture and Gait

Unit 3: Occupational therapy in Rehabilitation **Marks: 40 Marks**

- Occupational therapy process and practices
- Intervention for occupational therapy function
- Work evaluation and work programs, Mobility
- Rehabilitation to promote occupational therapy function to Conditions
- Early development in mental health

- Intervention techniques and Rehabilitation
- Delivery of services in various settings and the role of occupational therapy
- Child development from birth to five year
- Treatment approaches in pediatric, orthopedics, neurology and mental health
- Occupational Therapy Intervention for Pediatric Conditions, mental health, Neurological and Orthopedic conditions
- Occupational therapy evaluation for specific areas of dysfunction
- splinting
- Performance components and skills for in Occupational Therapy
- Groups in Occupational therapy, Group dynamics, Planning group, Group leadership, Ability to plan and organize the following groups

REFERENCES

1. Ross and Wilson – "Anatomy and Physiology in Health andIIIness".
2. Ranganathan T.S.- "Text book of Human Anatomy"
3. Gray's Anatomy 38th Edition for Reference only
4. Pedretti's Practice skills for physical dysfunction edited by Heidi McHugh Pendleton ,Winifred Schultz Krohn (7th edition)
5. Occupational Therapy for Physical Dysfunction by Mary Vining Radomski, Catherine A Trombly (7th edition)
6. Occupational Therapy and Physical Dysfunction , Principles ,Skills and Practice by Ann Turner, Margaret Foster, Sybil E Johnson (4th edition)
7. Willard and Spackman's Occupational Therapy (12th edition)
8. Low back disorders –evidence based prevention and Rehab by Mc. Gill (3rd edition)
9. Movement : Functional movement systems : screening , Assessment corrective stratergies by Gray cook

Pharmacy - M.Pharm

Entrance model questions

1. The range of visible light is
    a) 400nm – 800nm
    b) 200nm – 400nm
    c) Lessthan 200 nm
    d) Above 800nm

2. The introduction of _____ alpha methyl group in testosterone gives methyl testosterone?
    a) 17
    b) 15
    c) 16
    d) 24

3. The term ____ refers to a system in which one substance dispersed (dispersed phase) throughout another substance (continuous phase).
    a) Disperse system
    b) Solution
    c) Syrup
    d) Elixir

4. Shatavari consists of dried roots and the leaves of the plant known as
    a) Asparagus Aacemosus
    b) Boerhavia diffusa
    c) Glycyrrizha glabra
    d) Prunus serotina

5. Which of the following drug is not a synthetic drug to cure malaria.
    a) Quinine
    b) Paludrin
    c) Pamaquin
    d) Plasmachin

6. Quartan malaria is caused by
    a) Plasmodium vivax

b) plasmodium falciparum
c) Plasmodium ovale
d) Plasmodiummalariae

7. Which of the following is an antifungal drug that acts by inhibiting fungal DNA synthesis?
    a) Fluorouracil
    b) Cytarabine
    c) Flucytosine
    d) Griseofulvin

8. Which of the following fungal disease is resistant to azole treatment?
    a) Coccidioidomycosis
    b) Aspergillosis
    c) Mucormycosis
    d) Cryptococcosis

9. Why may esomeprazole be considered a “Me-too” drug?
    a) Because it is comparable in dose, dosage form and intended use of an already known drug
    b) Because it is manufactured by the same company as that of an already known drug
    c) Because its structure is identical to an already known drug
    d) Because it is a drug which works through the same mechanism as an already known drug

10. What is 'simplification' when referred to in drug development terms?
    a) The process by which a drug candidate is synthesised as simply as possible
    b) The process of adding more chiral centres to a compound to make it bind more easily to its biological target
    c) The process of removing unimportant groups from a lead compound in the hope of maintaining activity but rendering the resulting compounds cheaper and easier to make
    d) The process of shortening the drug development process from the discovery stage to its clinical trials stage

M.PHARMACY ENTRANCE EXAMINATION SYLLABUS

PHARMACEUTICS

UNIT – I

Pilot plant scale up techniques: General considerations - including significance of personnel requirements, space requirements, raw materials, Pilot plant scale up considerations for solids, liquid orals, semi solids and relevant documentation, SUPAC guidelines, Introduction to Platform technology

UNIT – II

Technology development and transfer: WHO guidelines for Technology Transfer: Terminologies, Technology transfer protocol, Quality risk management, Transfer from R and D to production (Process, packaging and cleaning), Granularity of TT Process (API, excipients, finished products, packing materials) Documentation, Premises and equipments, qualification and validation, quality control, analytical method transfer, Approved regulatory bodies and agencies, Commercialization - practical aspects and problems (case studies), TOT agencies in India - APCTD, NRDC, TIFAC, BCIL, TBSE

/ SIDBI; Technology of Transfer (TOT) related documentation – confidentiality agreements, licensing, MoUs, legal issues.

UNIT – III

Regulatory affairs: Introduction, Historical overview of Regulatory Affairs, Regulatory authorities, Role of Regulatory affairs department, Responsibility of Regulatory Affairs Professionals

Regulatory requirements for drug approval: Drug Development Teams, Non- Clinical Drug Development, Pharmacology, Drug Metabolism and Toxicology, General considerations of Investigational New Drug (IND) Application, Investigator's Brochure (IB) and New Drug Application (NDA), Clinical research / BE studies, Clinical Research Protocols, Biostatistics in Pharmaceutical Product Development, Data Presentation for FDA Submissions, Management of Clinical Studies.

UNIT – IV

Quality management systems: Quality management and Certifications: Concept of Quality, Total Quality Management, Quality by design, Six Sigma concept, Out of Specifications (OOS), Change control, Introduction to ISO 9000 series of quality systems standards, ISO 14000, NABL, GLP.

UNIT – V

Indian Regulatory Requirements: Central Drug Standard Control Organization (CDSCO) and State Licensing Authority: Organization, Responsibilities, Common Technical Document (CTD), Certificate of Pharmaceutical Product (COPP), Regulatory requirements and approval procedures for New Drugs.

PHARMACOLOGY

UNIT – I

Pharmacotheraphy – I

a. Anti -asthmatic drugs b. Drugs used in the management of COPD

c. Expectorants and antitussives d. Nasal decongestants

e. Respiratory stimulants f. Antiulcer agents.

g. Drugs for constipation and diarrhoea. h. Emetics and anti-emetics.

i. Antitubercular agents j. Antileprotic agents

k. Antifungal agents l. Antiviral drugs

m.Anthelmintics n. Antimalarial drugs

o. Antiamoebic agents

UNIT – II

Chemotherapy

a. General principles of chemotherapy.

b. Sulfonamides and cotrimoxazole.

c. Antibiotics- Penicillins, cephalosporins, chloramphenicol, macrolides, quinolones and fluoroquinolins, tetracycline and aminoglycosides.

UNIT – III

a. Urinary tract infections and sexually transmitted diseases.

b. Chemotherapy of malignancy. Immunopharmacology Immunostimulants Immunosuppressant

Protein drugs, monoclonal antibodies, target drugs to antigen, biosimilars

UNIT – IV

Principles of toxicology

a. Definition and basic knowledge of acute, subacute and chronic toxicity.

b. Definition and basic knowledge of genotoxicity, carcinogenicity, teratogenicity and mutagenicity

c. General principles of treatment of poisoning

d. Clinical symptoms and management of barbiturates, morphine, organophosphosphorus compound and lead, mercury and arsenic poisoning.

Chronopharmacology

a. Definition of rhythm and cycles.

b. Biological clock and their significance leading to chronotherapy

UNIT – V

Adverse drug reactions

Classifications - Excessive pharmacological effects, secondary pharmacological effects, idiosyncrasy, allergic drug reactions, genetically determined toxicity, toxicity following sudden withdrawal of drugs, Drug interaction- beneficial. interactions, adverse interactions, and pharmacokinetic drug interactions Methods for detecting drug interactions, spontaneous case reports and record linkage studies, and Adverse drug reaction reporting and management.

Clinical Pharmacy

Introduction to Clinical Pharmacy, Concept of clinical pharmacy, functions and responsibilities of clinical pharmacist, Drug therapy monitoring - medication chart review, clinical review, pharmacist intervention, Ward round participation, Medication history and Pharmaceutical care.

INSTRUMENTAL METHODS OF ANALYSIS THEORY

UNIT – I

UV Visible spectroscopy: Electronic transitions, chromophores, auxochromes, spectral shifts, solvent effect on absorption spectra, Beer and Lambert's law, Derivation and deviations.

Instrumentation - Sources of radiation, wavelength selectors, sample cells, detectors Photo tube, Photomultiplier tube, Photo voltaic cell, Silicon Photodiode. Applications - Spectrophotometric titrations, Single component and multi component analysis.

Fluorimetry: Theory, Concepts of singlet, doublet and triplet electronic states, internal and external conversions, factors affecting fluorescence, quenching, instrumentation and applications.

UNIT – II

IR spectroscopy: Introduction, fundamental modes of vibrations in poly atomic molecules, sample handling, factors affecting vibrations Instrumentation - Sources of radiation, wavelength selectors, detectors - Golay cell, Bolometer, Thermocouple, Thermister, Pyroelectric detector and applications.

Flame Photometry-Principle, interferences, instrumentation and applications

Atomic absorption spectroscopy- Principle, interferences, instrumentation and applications

Nepheloturbidometry - Principle, instrumentation and applications

UNIT – III

Introduction to chromatography Adsorption and partition column chromatography-Methodology, advantages, disadvantages and applications.

Thin layer chromatography- Introduction, Principle, Methodology, Rf values, advantages, disadvantages and applications.

Paper chromatography-Introduction, methodology, development techniques, advantages, disadvantages and applications

Electrophoresis– Introduction, factors affecting electrophoretic mobility, Techniques of paper, gel, capillary electrophoresis, applications.

UNIT – IV

Gas chromatography - Introduction, theory, instrumentation, derivatization, temperature programming, advantages, disadvantages and applications High performance liquid chromatography (HPLC) Introduction, theory instrumentation, advantages and applications.

UNIT – V

Ion exchange chromatography- Introduction, classification, ion exchange resins, properties, mechanism of ion exchange process, factors affecting ion exchange, methodology and applications

Gel chromatography- Introduction, theory, instrumentation and applications

Affinity chromatography- Introduction, theory, instrumentation and applications

MEDICINAL CHEMISTRY

Study of the development of the following classes of drugs, Classification, mechanism of action, uses of drugs mentioned in the course, Structure activity relationship of selective class of drugs as specified in the course and synthesis of drugs superscripted by (*)

UNIT – I

Antibiotics

Historical background, Nomenclature, Stereochemistry, Structure activity relationship, Chemical degradation classification and important products of the following classes.

- β-Lactam antibiotics: Penicillin, Cepholosporins, β- Lactamase inhibitors, Monobactams
- Aminoglycosides: Streptomycin, Neomycin, Kanamycin
- Tetracyclines: Tetracycline,Oxytetracycline, Chlortetracycline, Minocycline, Doxycycline

UNIT – II

Antibiotics: Historical background, Nomenclature, Stereochemistry, Structure activity relationship, Chemical degradation classification and important products of the following classes.

Macrolide: Erythromycin Clarithromycin, Azithromycin.

Miscellaneous: Chloramphenicol*, Clindamycin.

Prodrugs: Basic concepts and application of prodrugs design.

Antimalarials: Etiology of malaria.

Quinolines: SAR, Quinine sulphate, Chloroquine*, Amodiaquine, Primaquine phosphate, Pamaquine*, Quinacrine hydrochloride, Mefloquine.

Biguanides and dihydro triazines: Cycloguanil pamoate, Proguanil.

Miscellaneous: Pyrimethamine, Artesunete, Artemether, Atovoquone.

UNIT – III

Anti-tubercular Agents:

Synthetic anti tubercular agents: Isoniozid*, Ethionamide, Ethambutol, Pyrazinamide, Para amino salicylic acid.*

Anti tubercular antibiotics: Rifampicin, Rifabutin, Cycloserine Streptomycin, Capreomycin sulphate.

Urinary tract anti-infective agents

Quinolones: SAR of quinolones, Nalidixic Acid,Norfloxacin, Enoxacin, Ciprofloxacin*, Ofloxacin, Lomefloxacin, Sparfloxacin, Gatifloxacin, Moxifloxacin Miscellaneous: Furazolidine, Nitrofurantoin*, Methanamine.

Antiviral agents:

Amantadine hydrochloride, Rimantadine hydrochloride, Idoxuridine trifluoride, Acyclovir*, Gancyclovir, Zidovudine, Didanosine, Zalcitabine, Lamivudine, Loviride, Delavirdine, Ribavirin, Saquinavir, Indinavir, Ritonavir.

UNIT – IV

Antifungal agents:

Antifungal antibiotics: Amphotericin-B, Nystatin, Natamycin, Griseofulvin. Synthetic Antifungal agents: Clotrimazole, Econazole, Butoconazole, Oxiconazole Tioconozole, Miconazole*, Ketoconazole, Terconazole, Itraconazole, Fluconazole, Naftifine hydrochloride, Tolnaftate*.

Anti-protozoal Agents: Metronidazole*, Tinidazole, Ornidazole, Diloxanide, Iodoquinol, Pentamidine Isethionate, Atovaquone, Eflornithine.

Anthelmintics: Diethylcarbamazine citrate*, Thiabendazole, Mebendazole*, Albendazole, Niclosamide, Oxamniquine, Praziquantal, Ivermectin.

Sulphonamides and Sulfones: Historical development, chemistry, classification and SAR of Sulfonamides: Sulphamethizole, Sulfisoxazole, Sulphamethizine, Sulfacetamide*, Sulphapyridine, Sulfamethoxaole*, Sulphadiazine, Mefenide acetate, Sulfasalazine.

Folate reductase inhibitors: Trimethoprim*, Cotrimoxazole.

Sulfones: Dapsone*.

UNIT – V

Introduction to Drug Design

- Various approaches used in drug design.
- Physicochemical parameters used in quantitative structure activity relationship (QSAR) such as partition coefficient, Hammet's electronic parameter, Tafts steric parameter and Hansch analysis.
- Pharmacophore modeling and docking techniques.

Combinatorial Chemistry: Concept and applications of combinatorial chemistry: solid phase and solution phase synthesis.

PHARMACOGNOSY AND PHYTOCHEMISTRY

UNIT – I

Introduction to Pharmacognosy:

(a) Definition, history, scope and development of Pharmacognosy

(b) Sources of Drugs – Plants, Animals, Marine and Tissue culture

(c) Organized drugs, unorganized drugs (dried latex, dried juices, dried extracts, gums and mucilages, oleoresins and oleo- gum -resins).

Classification of drugs:

Alphabetical, morphological, taxonomical, chemical, pharmacological, chemo and sero taxonomical classification of drugs

Quality control of Drugs of Natural Origin:

Adulteration of drugs of natural origin. Evaluation by organoleptic, microscopic, physical, chemical and biological methods and properties.

Quantitative microscopy of crude drugs including lycopodium spore method, leafconstants, camera lucida and diagrams of microscopic objects to scale with camera lucida.

UNIT – II

Cultivation, Collection, Processing and storage of drugs of natural origin:

Cultivation and Collection of drugs of natural origin Factors influencing cultivation of medicinal plants. Plant hormones and their applications.

Polyploidy, mutation and hybridization with reference to medicinal plants

Conservation of medicinal plants

UNIT – III

Plant tissue culture: Historical development of plant tissue culture, types of cultures, Nutritional requirements, growth and their maintenance.Applications of plant tissue culture in pharmacognosy.

Edible vaccines

UNIT – IV

Pharmacognosy in various systems of medicine:

Role of Pharmacognosy in allopathy and traditional systems of medicine namely, Ayurveda, Unani, Siddha, Homeopathy and Chinese systems of medicine.

Introduction to secondary metabolites:

Definition, classification, properties and test for identification of Alkaloids, Glycosides, Flavonoids, Tannins, Volatile oil and Resins.

UNIT – V

Study of biological source, chemical nature and uses of drugs of natural origin containing following drugs

Plant Products: Fibers - Cotton, Jute, Hemp Hallucinogens, Teratogens, Natural allergens

Primary metabolites: General introduction, detailed study with respect to chemistry, sources, preparation, evaluation, preservation, storage, therapeutic used and commercial utility as Pharmaceutical Aids and/or Medicines for the following Primary metabolites:

Carbohydrates: Acacia, Agar, Tragacanth, Honey

Proteins and Enzymes: Gelatin, casein, proteolytic enzymes (Papain, bromelain, serratiopeptidase, urokinase, streptokinase, pepsin).

Lipids (Waxes, fats, fixed oils): Castor oil, Chaulmoogra oil, Wool Fat, Bees Wax

Marine Drugs: Novel medicinal agents from marine sources