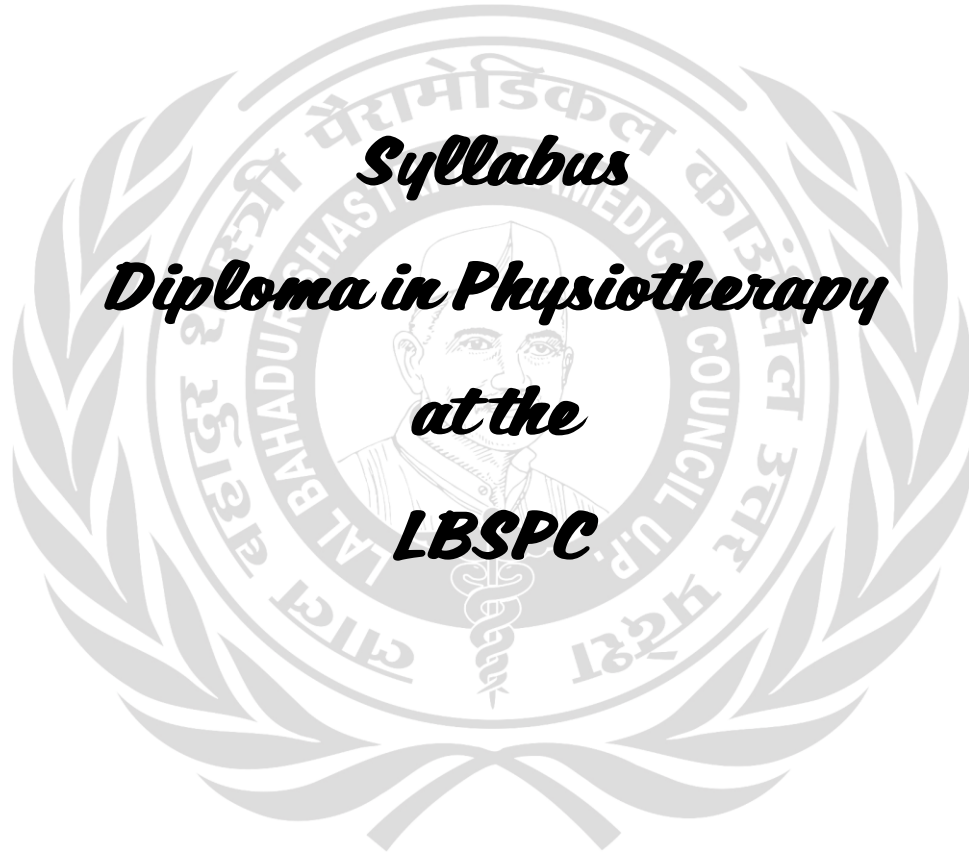




लाल बहादुर शास्त्री पैरामेडिकल काउंसिल उत्तर प्रदेश

Head Office: 2nd Floor Sunil Complex Near RG PG College Meerut



Syllabus
Diploma in Physiotherapy
at the
LBSPC

Exam: June & December

(To be implemented from 2023-24 session)

LAL BHADUR SHASTRI PARAMEDICAL COUNCIL

DIPLOMA IN PHYSIOTHERAPY

DURATION: 02 YEARS

SYLLABUS

FIRST YEAR

TOPICS

1. Introduction to Physiotherapy
2. Anatomy
3. Physiology
4. Elementary Nursing

5. Elementary Biochemistry, Pathology and Microbiology
6. Hygiene and Sanitation
7. Nutrition and dietics
8. Biomedical Waste Management
9. First Aid
10. Disaster Management
11. Anatomy and physiology as relevant to physiotherapy
12. Medical and Surgical Nursing
13. Elementary Pharmacology
14. Human relations
15. Community Health Nursing & Communicable diseases
16. Equipment management

SECOND YEAR

TOPICS

1. Pathology
2. Orthopaedics
3. Massage manipulation, exercises and physical drill and yoga
4. Management of Medical and Surgical Emergencies
5. Pharmacology
6. Medical Subjects
7. Elementary Physics and Minor Crafts
8. Physics of heat and heat therapy
9. Physics of light and light therapy
10. Physics of electricity and electro-therapy
11. Hydrotherapy
12. Occupational Therapy

FIRST YEAR					
PAPER	DURATION OF STUDY	SUBJECTS	DURATION OF PAPER	MARKS	
PAPER I	51	Anatomy & Physiology	03 HRS	15	100
	96	Elementary Nursing		15	
	15	Elementary Biochemistry, Pathology and Microbiology		15	
	12	Hygiene and Sanitation		05	
	15	Nutrition and dietics		05	
	7.5	Biomedical Waste Management		05	
	93	First Aid		10	
	7.5	Disaster Management		5	
	INTERNAL ASSESMENT			25	
PAPER II	90	Anatomy and physiology as relevant to physiotherapy	03 HRS	25	100
	90	Medical and Surgical Nursing		15	
	30	Elementary Pharmacology		10	
	30	Human relations		05	
	30	Community Health Nursing & Communicable diseases		10	
	30	Equipment management		10	
	INTERNAL ASSESMENT			25	
Practical	150	Anatomy & Physiology(gen and as relevant to physiotherapy)	03 HRS	15	100
	100	Fundamental Nursing, Medical Nursing and Surgical Nursing		15	
	60	Elementary Pathology, Microbiology, and Biochemistry		10	
	90	First Aid, Bandaging and Casualty Evacuation		10	
	100	Medical and Physiotherapy Equipment		15	
	100	General Biomechanics		10	
	INTERNAL ASSESMENT			25	

SECOND YEAR					
PAPER	DURATION OF STUDY	SUBJECTS	DURATION OF PAPER	MARKS	
PAPER I	15	Pathology	03 HRS	10	100
	15	Orthopaedics.		10	
	150	Massage manipulation, exercises and physical drill and yoga		15	
	45	Management of Medical and Surgical Emergencies		15	
	15	Pharmacology		05	
	36	Medical subjects		15	
	24	Elementary Physics and Minor Crafts		05	
	INTERNAL ASSESMENT				
PAPER II	75	Physics of heat and heat therapy.	03 HRS	20	100
	75	Physics of light and light therapy.		20	
	75	Physics of electricity and electro-therapy.		20	
	30	Hydrotherapy		05	
	45	Occupational Therapy.		10	
	INTERNAL ASSESMENT				
Practical	50	General Duties	03 HRS	05	100
	75	Massage manipulation, exercises and physical drill and yoga		10	
	100	Physics of heat and heat therapy.		15	
	100	Physics of light and light therapy.		15	
	100	Physics of electricity and electro-therapy.		15	
	50	Occupational Therapy.		05	
	75	Hydrotherapy		05	
	50	Activity analysis		05	
INTERNAL ASSESMENT				25	

S NO	COURSE CONTENT OF FIRST YEAR	NO OF PERIODS (45 MINS EACH)	NO OF HOURS
FIRST YEAR PAPER I			
1.	Introduction to Physiotherapy	02	03 Hrs
	Orientation to college and Department	01	
	Details of the Diploma Programe	01	
2	ANATOMY	44	33 Hrs
(i)	Introduction - Tissues of the body	01	
(ii)	Skeletal System - The skull, the thorax, the vertebral column, the pelvic girdle, the upper limb, the lower limb	05	
(iii)	Arthrology - Types characteristics, varieties and movements. - Special joints - Sternoclavicular, acromioclavicular, shoulder, elbow, radioulnar, wrist, hip, knee, tibiofibular, ankle and joints of the hand and foot.	05	
(iv)	Myology - Muscles of head and face, chest, abdomen, back, upper and lower extremities. - Anatomical spaces.	05	
(v)	Circulatory System - Heart and blood vessels	05	
(vi)	Lymphatic system	02	
(vii)	Alimentary system - Alimentary canal and accessory organs.	03	
(viii)	Respiratory system - Respiratory passage, lungs and pleura.	02	
(ix)	Endocrine glands	02	
(x)	Urinary system - Kidney, Ureter and Urinary bladder.	02	
(xi)	Nervous system - Meninges, brain, spinal cord, nerves and their plexuses.	05	

(xii)	Organs of special senses - Tongue, nose, eye, ear and skin.	05	
(xiii)	Reproductive system - Male and female.	02	
3.	PHYSIOLOGY	24	
(i)	Circulatory system - Blood - Cardiac cycle and circulation of the blood - Blood pressure and pulse	03	18 Hrs
(ii)	Digestive system - Food - Digestion of food	02	
(iii)	Physiology of respiration	02	
(iv)	Metabolism	02	
(v)	Function of Endocrine Glands	03	
(vi)	Renal function	04	
(vii)	Nervous system and cerebrospinal fluid.	04	
(viii)	Taste, sight, smell and hearing.	04	
4.	ELEMENTARY NURSING	128	
(i)	HISTORY OF NURSING : - Pre-Nightingale reforms. St. Vincent De Paul and Mile Le Gras, John Howard, Elizabeth Fry, the work of the Fleidners at Kaisersworth. - Florence Nightingale – Her life, her work inthe Crimean war, the founding of Nursing School at St. Thomas Hospital. Her interest in India, in Military hospitaland sanitation. - Contemporary developments – Discoveries of Pasteur, Lister and Koch. The relationship of nursing to hospital reform. - Nursing in India in modern days, the introduction and growth of Nursing in India,developments of schools, examination and registration, a brief review of organization in India today.	04	96
(ii)	Bed making - Materials used for hospital beds and bedding. - Bed making - Special types of beds. - Positions in bed. - Moving and lifting of patients. - Additional appliances used for beds	24	

(iii)	<p>Observation of patient's conditions</p> <ul style="list-style-type: none"> - Importance of habit of observation, positions, expressions, delirium, appetite, sleep, cough, expectoration, vomit, tongue, mouth and skin, fluid intake and output. - Temperature, clinical thermometer and its care, taking of temperature, varieties of temperature. - Pulse : Definition, character, how to take pulse, abnormal pulse. - Respiration :Mechanism of normal respiration, measure rate of respiration. - Recording of temperature, pulse and respiration on charts. - Giving and writing of reports. 	24	
(iv)	<p>Caring of sick.</p> <ul style="list-style-type: none"> - Daily toilet of the patient, bathing in the bed and the bathroom. - Care of hair and the mouth tray. - Bed sores and tropic ulcers and their prevention. - Giving of bedpans and urinals, spittoons. - Feeding of the bed-ridden cases. 	20	
(v)	Aspiration and continuous drainage of stomach and duodenum.	06	
(vi)	Artificial feeding	04	
(vii)	Administration of oxygen.	04	
(viii)	Inhalations.	04	
(ix)	Preparation of patient for examination.	08	
(x)	Dressings and instruments commonly used in the wards.	15	
(xi)	Prepare nursing trays and trolleys.	15	
5.	ELEMENTARY BIOCHEMISTRY, PATHOLOGY & MICROBIOLOGY	20	
(i)	<p>Biochemistry</p> <ul style="list-style-type: none"> - Basics & fundamentals of biochemistry <p>Lab reports: Normal and abnormal values</p>	01	15 Hrs
(ii)	Characteristics of bacteria, virus, fungi and diseases produced by different kinds of organisms.	02	
(iii)	Manner in which organisms enter the body and produce disease. Local and general effects, immunity	01	

(iv)	Sources of infection. soil, water, air, food, insects and animals.	02	12 Hrs
(v)	Mode of spread. persons, ward articles, food, clothing, insects (emphasis on the fly as a carrier of disease), droplets and dust.	02	
(vi)	Destruction of bacteria. sterilization, pasteurization, disinfection. Meaning and importance of cross-infection, prevention of cross-infection in wards, meaning of medical and surgical asepsis. Control of contact infection, hand washing, laundry, food, milk, surgical dressings, instruments, thermometers.	02	
(vii)	Routes of Infection- Skin and mucous membrane, gastrointestinal, mouth, stomach, colon, respiratory, nose and throat.	01	
(viii)	Types of antimicrobial lotions and their use	01	
(ix)	Control of infection.	01	
(x)	Inflammation, healing and repair.	01	
(xi)	Infection, wounds, ulcers, blisters, boils, fractures, burns, scalds, gangrene and haemorrhage.	02	
(xii)	Urine - Characteristics of normal urine, variations in diseases, collection of samples and routine tests.	02	
(xiii)	Faeces - Characteristics of normal faeces, variation in diseases, collection of samples and routine tests.	01	
(xiv)	Sputum and vomit - Characteristics in different diseases, collection of samples.	01	
6.	HYGIENE AND SANITATION	16	
(i)	Definition and historical background.	01	
(ii)	Personal hygiene - Sleep, washing, eating and drinking, exercises, skin disease and their prevention.	02	
(iii)	Water Sources - Rain, surface, underground. Purification - Reasons, principles and methods. Sterilization - Physical and chemical methods, individual water sterilizing outfit and its use. Storage - Water bottle, chagul, pakhal, canvas and iron cisterns, water truck. Water point. Water borne disease.	08	

(iv)	Water supply	03	
(v)	Spray techniques	02	
7.	NUTRITION AND DIETETICS	20	
(i)	Food and nutrition - Composition of food. - Common articles of diet.	02	15 Hrs
(ii)	Principles of Nutrition and dietetics.	02	
(iii)	Food requirements.	02	
(iv)	Cookery - Reasons for cooking and dietetics. - Effects of different methods on cooking. - Storage of food in ward.	02	
(v)	Preparation of tray and serving of food.	02	
(vi)	Preparation of - Tea, coffee, cocoa, imperial drink, barley water, lemon squash, fruit juices. - Lockey, junket curds, buttermilk, jelly ice cream. Eggs flip, albumin water.	02	
(vii)	Calories, BMR and caloric requirements.	02	
(viii)	Common articles of diet.	01	
(ix)	Special diets.	02	
(x)	Sick room recipes.	01	
(xi)	Nutritional diseases	02	
8.	BIO MEDICAL WASTE MANAGEMENT	10	
(i)	- Definition, Hazards and infection control, Principles - Categories of BMW - Color coding - Waste management in hospital - Present scenario, System, Steps - Waste treatment and disposal - Bio safety	10	7.5 Hrs

9.	FIRST AID AND BANDAGING	124	93 Hrs
(i)	Definition of first aid, scope, principles and essentials, methods of approach and qualifications of a first aider.	10	
(ii)	First field dressing and shell dressing, routine dressing, bandaging including use of triangular bandage.	08	
(iii)	Fractures - Varieties, general signs and symptoms, general rules for treatment, padding of splints, individual fractures and treatment. Thomas splint.	15	
(iv)	Injuries to joints and muscles, sprains and strains.	07	
(v)	Wounds - Types, first aid and treatment.	10	
(vi)	Snake bite, bite by rabid animal, and stings of insects.	10	
(vii)	Haemorrhage - Varieties, arrest of external haemorrhage, arrest of haemorrhage from special regions, mouth nose and ear.	10	
(viii)	Artificial respiration.	10	
(ix)	Asphyxia - Definition and causes.	07	
(x)	Poisons, classification, general rules for the treatment of poisoning.	10	
(xi)	Burn injury	06	
(xii)	Shock	06	
(xiii)	Effects of heat and cold.	06	
(xiv)	BLS, ATLS, ACLS	09	
10.	DISASTER MANAGEMENT	10	7.5 Hrs
(i)	Introduction, Principle, Outline plan and disaster cycle	01	
(ii)	Basics of NBC warfare	02	
(iii)	Pre hospital phase, Hospital phase, Triage	02	
(iv)	Supportive services and misc- Responsibilities of various organization, Disaster management protocol	02	
(v)	Effects and their management, Prevention and mitigation	01	
(vi)	Preparedness and response	01	
(vii)	Present setup	01	

FIRST YEAR PAPER II			
11.	ANATOMY AS RELEVANT TO PHYSIOTHERAPY	100	
(i)	Bones- revision with special reference significance of grooves, ridges, processes, surfaces and borders. Ligamentous and muscular attachments, arches of the foot and their functions.	05	
(ii)	Joints-revision with special reference to types of movements, their limitations, muscles acting on various joints, ligaments tendons and cartilages.	04	
(iii)	Muscles- muscle groups of the body, their origin, insertion and actions, nerve supply of main muscles, fasciae and aponeurosis of main muscles.	04	
(iv)	Nerves-cranial nerves, their origin and areas of distribution, spinal cord and spinal nerves, main nerve plexuses and their trunks, autonomic nervous system.	04	
(v)	Blood vessels-blood supply of bones, joints and muscles	04	
(vi)	Skin-structure and function	04	
(vii)	Radio Anatomy- <ul style="list-style-type: none"> - Introduction : Principles of radiography, identification of anatomical features in plain radiographs. - Radiographs of : <ul style="list-style-type: none"> - Upper Limb - Shoulder region, Elbow region, Wrist and hand. - Lower Limb - Hip region, Knee region, Ankle region and Foot. - Abdomen - Plain Radiograph, AP/Lat - Thorax- Plain Radiographs : Male, female. - Head, Face & Neck - Plain Radiograph skull, AP, Lat, Plain Radiograph Neck, AP 	10	75 Hrs
(viii)	Living/ Surface Anatomy :- Upper Limb Joints (DEMONSTRATION OF MOVEMENTS) : Shoulder girdle, Shoulder joint, Elbow joint, Radio-	60	

ulnar joints, Wrist joint, 1st carpo- metacarpal joint, MP and IP joint,.

Muscles (DEMONSTRATION OF ACTION) :
Principle of testing : Trapezius, Serratus anterior, Latissimusdorsi, Pectoralis major, Deltoid, Biceps Brachii, Brachioradialis, Brachialis, Extensors at the elbow, Supinators, Wrist extensors, Wrist flexors, Small muscles of the hand.

Nerves : Dermatomes, Ulnar nerve thickening in Leprosy.

Vessels (PALPATION OF) : Axillary artery , Brachial artery, Radial artery

Others : Axillary groups of lymph nodes, Anatomical snuff-box (boundaries)

Lower Limb :

Bony Landmarks (PALPATION OF) : Anterior superior iliac spine, Iliac crest ,tubercle of the iliac crest, Ischial tuberosity, Greater trochanter, Adductor tubercle, Head and neck of fibula, Lateral and medial malleoli, Tibial tuberosity, subcutaneous surface of tibia, Patella

Joint (DEMONSTRATION OF MOVMENTS): Hip, Knee, Ankle, Subtalar Joints

Muscles (DEMONSTRATION ACTION) :
Principles of testing - Sartorius, quadriceps, femoris, psoas major, Gluteus maximus, gluteusmedius, hamstring muscles, Gastrocnemius, soleus, popliteus, tibialis- anterior, tibialis posterior, peroneus longus & peroneus brevis, Hip- Flexors, Extensors, Abductors, Adductors, Knee- Flexors,Extensors : Ankle- Dorsiflexors , Plantar flexors, Subtalar- Invertors, Evertors

Nerves : Dermatomes, Thinning of common peroneal nerve in Leprosy
Vessels : (PALPATION OF) : Femoral , Popliteal, Dorsalispedis, Posterior tibial

Others :Ligamentum patellae, Inguinal lymph nodes.
Tendons : Semitendinosus, Semimembranosus, Biceps femoris, Iliotibial tract

Abdomen :

Bony Landmarks (PALPATION OF) : Anterior superior iliac spine, Pubic tubercle.

Joints (DEMONSTRATION OF MOVMENTS) :
Intervertebral

	<p>Nerves : Dermatomes</p> <p>Thorax : Bony Landmarks (PALPATION OF): Sternal angle, Counting of ribs, Inter costal spaces, locating thoracic spines.</p> <p>Joint (DEMONSTRATION OF MOVMENTS) : Intervertebral</p> <p>Others : Apex beat, Apices of the lungs, Triangle of auscultation.</p> <p>Head, Face, Neck : Bony Landmarks (PALPATION OF) : Nasion, Glabella, Inion, Mastoid process, Superameatal triangle, Symphysiment, Hyoid bone, Thyroid cartilage, Cricoid cartilage, Tracheal rings, Suprasternal notch, Transverse process of atlas, Spine of C7</p> <p>Joints (DEMONSTRATION OF MOVEMENTS): Temporomandibular joint, Atlantooccipital joint, Cervical joints</p> <p>Muscles (DEMONSTRATION ACTION) : Of Mastication, Face, Sternocleidomastoid, Neck flexors and extensors</p> <p>Cranial nerves : Testing of oculomotor, trochlear, trigeminal, abducent, facial, glossopharyngeal, accessory, hypoglossal.</p> <p>Others: Thyroid gland, Cervical lymph nodes, (Horizontal and vertical) Midline structures in the neck.</p>		
(ix)	Limb length measurement (only lower limb- apparent, true supratrochanteric) and girth measurements	05	
12.	PHYSIOLOGY AS RELEVANT TO PHYSIOTHERAPY	20	
(i)	Nervous system- general features of central nervous system and spinal cord, structure of nerve fibers, degeneration and regeneration.	10	
(ii)	<p>Muscles:-</p> <ul style="list-style-type: none"> - Varieties of muscles-voluntary, involuntary and cardiac. - Striated muscle-composition, nerve supply, excitability, mechanical changes and properties. 	10	15 Hrs

13	MEDICAL NURSING.	80	
(i)	General application: - <ul style="list-style-type: none"> - Pyrexia and hyper pyrexia. - General treatment for reducing temperature - Administration of oxygen 	20	60 Hrs
(ii)	Minor procedures :- <ul style="list-style-type: none"> - Enema – varieties, how to administer enema. - Flatus tube. - Nasogastric aspiration and gastric lavage. - Suction and airway patency 	20	
(iii)	Procedures: <ul style="list-style-type: none"> - Types of procedures: lumbar puncture, bone marrow aspiration, pleural and asitic taps - Preparation of procedure trays and collection of samples 	40	
14.	SURGICAL NURSING.	40	
(i)	Principles of sepsis and anti-sepsis <ul style="list-style-type: none"> - General principles, definition and methods used. - Preparation of hands and use of gloves. - Sterilization of instruments, dressings, rubber goods, utensils: ligatures and sutures, sponges, mackintosh, towels, trays, syringes. - Care and maintenance of the above. 	40	30 Hrs
15.	PHARMACOLOGY	40	
(i)	Weights and measures.	10	30 Hrs
(ii)	Routes and Mode of administration	10	
(iii)	Forms of medicament – powder, pills, lotions.	10	
(iv)	Common drugs used in OPDs and wards.	10	
16.	HUMAN RELATIONS	40	
(i)	Hospital Public relation management <ul style="list-style-type: none"> - Introduction, Human behavior, PR - Operation methods, KRA - Communication skills - Care of dying & dead 	20	30 Hrs
(ii)	Doctor patient relationship <ul style="list-style-type: none"> - Right & duties of patient - Right & duties of doctors - Consent - CPA - MLC - Medical ethics - The female patient 	20	

17.	COMMUNITY HEALTH NSG & COMMUNICABLE DISEASES	40	30 Hrs
(i)	Health Determinants	01	
(ii)	Indicators of Health	01	
(iii)	Levels of Health Care	01	
(iv)	Primary Health Care	01	
(v)	National Health Policy, National Population Policy	01	
(vi)	National Health Programmes - NAMP - RCH - RNTCP - NACP - Pulse Polio	05	
(vii)	Immunization schedule.	02	
(viii)	Preventable diseases - Classification and mode of spread. - Common disease and their prevention - diarrhoeas and dysenteries, malaria, rabies, round worm, small pox, tuberculosis, typhoid, typhus, venereal diseases.	10	
(ix)	Life history and prevention against housefly and mosquito.	02	
(x)	Effects of heat and cold and their prevention.	02	
(xi)	Hygiene and sanitation of ward and ancillaries.	02	
(xii)	Infection, Isolation, Disinfection methods.	02	
(xiii)	Communicable diseases: Nursing care -general management, Specific diseases : Diphtheria, measles, whooping cough, chicken pox, mumps, influenza, typhoid and paratyphoid, typhus, dysentery, food poisoning, cholera, plague, tetanus, malaria, dengue, HIV/AIDS.	10	
18.	EQUIPMENT MANAGEMENT	40	30 Hrs
(i)	General Medical Equipments - Pulse oximeter - Nebulizer - Glucometer	10	

	<ul style="list-style-type: none"> - ECG machine - Cardiac monitor - Defibrillator - Total patient bed side monitor - SWD - Oxygen concentrator 		
(ii)	<p>Equipments of Physiotherapy</p> <ul style="list-style-type: none"> - Smart-Bristow Faradic Battery. - Portable galvanic battery. - Combines treatment table. - Surgical sinusoidal apparatus. - Radiant heat cradles- small, medium and large. - Radiant heat clamp with stand. - Infra-red lamp with stand - Radiant heat cabinet. - Ultra-violet lamp (Hanovia) - Shortwave diathermy apparatus. - Sehnee bath (4 cells) with electrodes. - Zinc electrodes for low tension currents of varying sizes and shapes. - Protective goggles for ultra-violet ray treatment. - Flexible drum electrodes for shortwave diathermy. - Portable vibrator. - Valves for shortwave diathermy apparatus. - Carbon filament lamps for radiant heat treatment - Paraffin wax bath. 	30	
19.	PRACTICAL	600 Hrs	
(i)	<p>Anatomy and Physiology</p> <ul style="list-style-type: none"> - General - As relevant to Physiotherapy 	150 Hrs	
(ii)	Elementary, Medical and Surgical Nursing	100 Hrs	
(iii)	Elementary Biochemistry, Pathology and Microbiology	60 Hrs	
(iv)	First Aid and Bandaging	90 Hrs	
(v)	Equipment Management	100 Hrs	
(vi)	<p>General Biomechanics :</p> <ul style="list-style-type: none"> - Force- Analysis of Force - Mechanics to Position -Gravity, Centre of Gravity, Line of Gravity, Base Equilibrium, Fixation & Stabilisation - Mechanics of movements -Axes & planes, Speed, Velocity, Work, Mechanical Advantage, Energy, Power, Acceleration, Momentum - Inertia & Friction Simple Machine :- <ul style="list-style-type: none"> - Levers: Types & Uses, Angle of Pull - Pulleys- Types & Uses - Pendulum - Elasticity - Springs 	150	

SECOND YEAR PAPER I			
16.	PATHOLOGY	20	15 Hrs
(i)	Inflammation and repair.	02	
(ii)	Wounds, ulcers, sinuses.	03	
(iii)	Bones:-fracture, types of fractures, healing of fractures, factors affecting the healing of fractures, delayed union, common fractures of upper and lower extremity, methods of fixation, complications.	03	
(iv)	Joints:-dislocation of the major joints of upper and lower extremities-displacement, fixation, complications, internal derangement of knee, sacroiliac strain, Synovitis, acute and chronic Osteo-Arthritis, Rheumatoid Arthritis	03	
(v)	Muscles-sprain, wounds, rupture, scars, burns, amputations, fibrositis, Myalgia, Myositis.	03	
(vi)	Nerves-inflammation and repair, degeneration, lesions of upper motor neuron, hemiplegia, paraplegia, lesions of lower motor neuron-acute anterior polio myelitis, facial palsy, neuritis, neuralgia.	03	
(vii)	Deformities of upper and lower extremities, Sprengel shoulder, Dupuytren's Contracture, Genu Valgum, Genu Varum, Flat foot, Metatarsalgia.	03	
17.	ORTHOPAEDICS	20	15 Hrs
(i)	Plaster of Paris techniques	06	
(ii)	Different types of splints, slings and bandages used in physiotherapy.	07	
(iii)	Orthopaedic apparatus, manufacture of appliances like dynamic and static splints.	07	
18.	MASSAGE	70	52.5 Hrs
(i)	General principles of massage treatment.	05	
(ii)	Points to be considered in giving massage.	05	
(iii)	Classification of manipulations-stroking, pressure, percussion and shaking, effects and uses of different manipulations and their contraindications.	10	

(iv)	Physiological effects of massage on the different systems of the body excretory, circulatory, muscular and nervous systems.	10	
(v)	Manual muscle testing.	05	
(vi)	Elements of electro-therapy.	05	
(vii)	Suspension therapy.	10	
(viii)	General technique of massage for the different parts of the body.	10	
(ix)	Modifications for special conditions and their contraindications.	10	
19.	EXERCISE AND PHYSICAL DRILL	60	
(i)	Mechanics of movement-centre of gravity, equilibrium, axis and planes of movement, levels, range of path of movement.	20	45 Hrs
(ii)	Classification of movements, and passive and active movements	20	
(iii)	Effects of movements on the different parts of the body	20	
20.	YOGA	70	
(i)	Principles of Yoga, Basic Yogic postures & their physiological effects :	10	52.5 Hrs
(ii)	In Standing Position <ul style="list-style-type: none"> - Padahasthasana/Padangusthasana - Trikonasana - Utkatasana - Tadasana 	15	
(iii)	In Siting position <ul style="list-style-type: none"> - Padmasana/ Siddhasana/ Sukhasana - Paschimottanasana - Yogamudrasana - Virasana - Vajrasana - Gomukhasana 	15	
(iv)	In Supine Lying Position <ul style="list-style-type: none"> - ArdhaHalasana / Halasana - Setubandhasana - Pavan- muktasana - Sarvangasana - Shavasana 	15	

(v)	In Prone Position <ul style="list-style-type: none"> - Bhujangasana - Ardha- Shalabhasana/ Shalabhasana - Dhanurasana - Naukasana 	15	
21.	MANAGEMENT OF MEDICAL AND SURGICAL EMERGENCIES	60	
(i)	<ul style="list-style-type: none"> - Shock - Haemorrhage - Asphyxia - Injuries - Fractures - APH & PPH - Burns - Effects of Heat - Poisoning - Snake bite - Syncope - Myocardial Infarction - Dehydration - Paediatric Emergencies - Anaphylaxis - Head Injuries - Spine Injuries - Chest Injuries 	60	45 Hrs
22.	PHARMACOLOGY	20	
(i)	Drug Pharmaco-kinetics, Pharmacology-adverse reaction, factors modifying drug effects	03	
(ii)	Drug Activity of CNS : Introduction, Alcohols, Sedatives & Hypnotics, Anti- convulsants.	03	
(iii)	Drugs acting on peripheral nervous system: Adrenergic, Cholinergic.	02	
(iv)	Drug therapy in Parkinsonism	02	15 Hrs
(v)	Skeletal muscle relaxants	02	
(vi)	Vitamin D, Calcium, Phosphorus, Magnesium.	02	
(vii)	Analgesics & Drugs used in Gout & Rheumatoid Arthritis	02	
(viii)	Psycho Therapeutics	02	
(ix)	General anaesthetic, Local anaesthetic.	02	

23.	MEDICAL SUBJECTS	48	36Hrs
(i)	General psychology and child psychology.	04	
(ii)	Postures, gaits and analysis of different movements	04	
(iii)	Disease of nervous system-Frenkel's exercises for tabes dorsalis, Weit-Mitchell treatment of neurasthenia	04	
(iv)	Diseases of heart and circulatory system-anatomy of heart, compensation, how to obtain compensation by carefully graduated schemes of exercises and contraindications.	05	
(v)	Diseases of respiratory system-anatomy of respiratory system, chest exercises for the different respiratory conditions, chest clapping, unilateral breathing exercises forempyema and emphysema.	04	
(vi)	Abdominal conditions-treatment by massage, exercises and treatment of atonic muscles by Faradism and contraindication	05	
(vii)	Deformities- treatment of early deformities in children by fixation massage and manipulation, post operative treatmentof severe cases, examination of spine-postural and structural scoliosis mobility exercises in the treatment of postural scoliosis, active and passive corrective exercises in the treatment of structural scoliosis, self corrective exercises anduse of mirrors to help in self correction.	06	
(viii)	Diseases of bones, joints and synovial sheaths and bursaeand bursae-treatment by heat, light and medical electricity	04	
(ix)	Muscle dystrophies-amyotonic and myasthenic reactions to faradic current.	04	
(x)	Diseases of nervous system-treatment of conditions by means of low-tension current and contra-indications.	04	
(xi)	Functional disease-treatment of hysterical paralysis by Faradic Stimulation and suggestion	04	
24.	ELEMENTARY PHYSICS	12	9 Hrs
(i)	Structure of matter ,definition of molecule, atom, proton, electron, and ion.	12	

25.	MINOR CRAFTS	20	15 Hrs
(i)	Cleanliness of the Physiotherapy and Occupational Therapy Department.	04	
(ii)	Care and maintenance of Occupational Therapy equipment.	04	
(iii)	Professional etiquette in the care patients.	04	
(iv)	Sterilisation of instruments and proper handling of dressings.	04	
(v)	Organisation of ward class or class in Gymnasium	04	
SECOND YEAR - 2ND PAPER			
26.	PHYSICS OF HEAT AND HEAT THERAPY	100	75 Hrs
(i)	Methods of heating :- <ul style="list-style-type: none"> - Conduction, convection, radiation. - Application of these methods in heat therapy. 	20	
(ii)	Paraffin wax baths. <ul style="list-style-type: none"> - Effects and uses. - Technique of application. - Conditions treated by means of these baths. 	40	
(iii)	Infra-red radiations <ul style="list-style-type: none"> - Discovery in the spectrum of light - Properties of radiations. - Classification according to wave lengths and penetrability. - Sources of infra-red radiation-luminous and non-luminous sources, the carbon filament lamp, its use in radiant heat baths, cradles. - The non-luminous infra-red generators. - Effects of infra-red radiations on the human body. - Indications and contra-indications for infra red therapy. - Technique of treatment-general and local treatments and dangers and precautions. 	40	

27.	PHYSICS OF LIGHT AND LIGHT THERAPY	100	75 Hrs
(i)	The wave theory of light	06	
(ii)	Electro-magnetic spectrum	06	
(iii)	The position of ultra violet and infra-red radiations in the electro-magnetic	08	
(iv)	Wave lengths and their measurement	08	
(v)	Laws of reflection of light.	08	
(vi)	Properties of rays	08	
(vii)	Transmission and absorption of radiations.	08	
(viii)	Laws of refraction.	08	
(ix)	Intensity of rays.	08	
(x)	Law of inverse squares.	08	
(xi)	Production of ultra violet radiations:- <ul style="list-style-type: none"> - The carbon-arc lamp, advantages and disadvantages of carbon-arc lamps, - Mercury vapour lamps and the electronic discharge tube and operation and care of lamps. - Digress of erythematic factors affecting the intensity of radiations. - Dosage and frequency of treatment. - Dangers and precautions. 	08	
(xii)	Effects of exposure to radiations-physical and biological	08	
(xiii).	Technique of treatment-indications and contra-indications.	08	
28.	PHYSICS OF ELECTRICITY AND ELECTRO-THERAPY	100	75 Hrs
(i)	Simple electrical phenomena explained according to the electron theory-electric charges, conduction, insulation, capacity ionization.	10	
(ii)	Simple static, magnetic and electro-magnetic phenomena:- <ul style="list-style-type: none"> - Electrical circuits, potential difference, electromotive force resistance, intensity of current - Definition of volt, amp, ohm, milliamp, watt, farad, Henry, microfarad, kilowatt-hour. 	60	

	<ul style="list-style-type: none"> - Low tension currents:- <ul style="list-style-type: none"> - Galvanic current, source of galvanic current-the voltaic cell, dynamo, direct current ammeter and voltmetershunts, medical galvanism technique, ionization-use of ions and their polarity, how ions are driven into the body, uses ofgalvanic current for ionization, technique and effects of human body. - Sinusoidal current-methods of production A.C. dynamo, alternating current ammeter. - Faradic current-methods of production, induction coil, Smart Bristow Faradic battery. - Uses and effects of Low tension currents on human body, electric burns, Sheen bath treatments. - Diagnosis of lesions of muscle and nerve, electrical responses in health and disease, motor points, reaction of degeneration and its estimation, maintenance of charts and notes 		
(iii)	<p>High frequency currents.</p> <ul style="list-style-type: none"> - The D'Arsonval transformer, valve diathermy, effects of diathermy, technique of application, indications and contra-indications. - Short wave or ultra diathermy-effects and uses, technique of application, conditions treated and precautions. 	30	
29.	HYDROTHERAPY	40	30 Hrs
(i)	Principles, Description of the Tank, Application, Effects, Indications & contraindications.	40	
30.	OCCUPATIONAL THERAPY	60	45 Hrs
(i)	Definition, history and scope of occupation therapy.	06	
(ii)	Principles of occupation therapy.	06	
(iii)	General aim and object of occupational therapy.	08	
(iv)	Activities in occupational therapy.	08	
(v)	<p>Classification of different crafts with their therapeutic values</p> <ul style="list-style-type: none"> - Wood work with study of motions and muscles 	08	

	<p>involved at different joints, sawing, sanding, filing, gig-saw cutting on bicycle, gig-saw or fret saw, wood turning, hammering and nailing.</p> <ul style="list-style-type: none"> - Weaving with study of motions and muscles involved, floor loom weaving, table loom weaving, spinning and winding tread, braid weaving and cord knotting. - Printing with study of motions and muscles involved, composition, inking and printing. 	
(vi)	<p>Application of occupational therapy in different conditions:-</p> <ul style="list-style-type: none"> - Occupational therapy in physical disabilities like paraplegia, hemiplegia, crush injuries. - Occupational therapy in paediatrics such as cerebral palsy, polio, traumatic injuries, congenital deformities, mentally retarded. - Helping in teaching activities of daily living. - Pre-vocational testing and evaluation. 	08
(vii)	<p>Recreational therapy:-</p> <ul style="list-style-type: none"> - Uses of music as therapy - Uses of following various sports and games as therapy, out-door games such as volley ball, bowling, cricket, basket/net ball and teniquoit, indoor games such as carrom, table tennis, Chinese checkers, dart game. 	08
(viii)	Walking aids eg Calipers, braces.	08
31.	PRACTICALS	600
(i)	<p>General Duties</p> <ul style="list-style-type: none"> - Take independent charge of a Physiotherapy Department in a hospital. - Take care of and carry out minor repairs of all apparatus in the department. - Assist in all procedures in Physiotherapy Deptt, - Assist in physiotherapy of all ward patients 	50
(ii)	Massage manipulation, exercises and physical drill and yoga	75
(iii)	Physics of heat and heat therapy.	100
(iv)	Physics of light and light therapy.	100
(v)	Physics of electricity and electro-therapy.	100
(vi)	Hydrotherapy	75

(vii)	Occupational Therapy.	50
(viii)	Activity analysis-crafts and realistic mechanical and electrical task analysis.	50

RECOMMENDED BOOKS

(i)	Sr. Nancy- Principles and Practice of Nursing, N.R Brothers, M.Y. Road. Indore	
(ii)	Suzanne C. Smeltzer, Brenda G. Bare, Janice L. Hinkle, Kerry H. Cheever- Textbook of Medical- Surgical Nursing Volume-1, Wolters Kluwer India Pvt. Ltd, 501-A, Devika Tower, 6, Nehru Place New Delhi-110019	
(iii)	Suzanne C. Smeltzer, Brenda G. Bare, Janice L. Hinkle, Kerry H. Cheever- Textbook of Medical- Surgical Nursing Volume-2, Wolters Kluwer India Pvt. Ltd, 501-A, Devika Tower, 6, Nehru Place New Delhi-110019	
(iv)	Patricia A, Potter, RN, MSN, PhD, CMAC, FAAN, Anne Griffin Perry, RN, MSN, EdD, FAAN- Fundamentals of Nursing, Printed and bound at International Print-O-Pac- Limited C/4-11, Phase-II Extn, NOIDA-201201 (U.P)	
(v)	L.C Gupta, MD,MNAMS, Abhitabh Gupta- Manual of First Aid, Jaypee Brothers Medical Publishers (PVT) LTD, B-# EMCA House, 23/23B Ansari Road, Daryaganj,, Post Box 7193,New Delhi-11002	
(vi)	Virendra N Shgal, GovindSrivastava- Diagnosis and Treatment of Common Skin Diseases, Jaypee Brothers Medical Publishers (P) LTD New Delhi	
(vii)	Lippincott Williams & Wilkins - Pharmacology, A Wolters Kluwer Company Philadelphia	
(viii)	Annamma Jacob, Rekha R, JadhavSonaliTarachand- Pharmacology for Nurses, Jaypee Brother Medical Publishers (P) LTD New Delhi	
(ix)	Virendra N Sehgal- Textbook of Clinical Dermatology, Jaypee Brother Medical Publishers (P) LTD New Delhi	
(x)	S Nambi- Psychiatry for Nurses, Jaypee Brother Medical Publishers (P) LTD , B-3,EMCA House, 23/23B Ansari Road. Daryaganj Post Box 7193,New Delhi	
(xi)	BT Basavanthappa- Psychiatric Mental Health Nursing, Jaypee Brother Medical Publishers (P) LTD New Delhi	
(xii)	Harsh Mohan - Textbook of Pathology, Jaypee Brother Medical Publishers (P) LTD New Delhi T K Indrani- Nursing Manual of Nutrition and Therapeutic Diet, Jaypee Brother Medical Publishers (P) LTD New Delhi	
(xiii)	K Park- Preventive and Social Medicine, M/s Banarsidas Bhanot, Publishers, 1167, Prem Nagar, Jabalpur -482001 (India)	
(xiv)	Rattn Lal Ichhpujani, Rajesh Bhatia- Microbiology for Nurses, Jaypee Brother Medical	

	Publishers (P) LTD New Delhi
(xv)	Ross and Wilson- Anatomy and Physiology, Edinburgh
(xvi)	PR Ashalatha- Text book of Anatomy and Physiology for Nurses, Jaypee Brother Medical Publishers (P) LTD New Delhi
(xvii)	UN Panda- Essentials of Physiotherapy, Jaypee Brother Medical Publishers (P) LTD New Delhi
(xviii)	Praveen Kumar, Parvathi Raju, Venkata Prasad- Fundamentals of Physiotherapy, Jaypee Brother Medical Publishers (P) LTD New Delhi
(xix)	Carolyn Kisner- Therapeutic Exercise, Jaypee Brother Medical Publishers (P) LTD New Delhi
(xxi)	S Dutta Ray- Yogic Exercises, Jaypee Brother Medical Publishers (P) LTD New Delhi

