

GURU KASHI UNIVERSITY



Bachelor of Physiotherapy

Session: 2019-20

University College of Physical Education

GURU KASHI UNIVERSITY Talwandi Sabo											
University College of Physical Education (Code : 7)											
Bachelor of Physiotherapy (Code-708)											
Academic Session -2019-20											
Study Scheme											
Semester - Ist											
S.No	Subject Code	Subject Name	Type of Subject	(Hours Per Week)			No. of Credits	Internal Marks	External Marks	Total Marks	
				L	T	P					
1	708101	Human Anatomy-I	T	4	0	0	4	50	50	100	
2	708102	Human Physiology-I	T	4	0	0	4	50	50	100	
3	708103	Exercise Therapy-I	T	4	0	0	4	50	50	100	
4	708104	Electro Therapy-I	T	3	0	0	3	50	50	100	
5	708105	Bio Chemistry	T	3	0	0	3	50	50	100	
6		Elective I	T	3	0	0	3	50	50	100	
7	708106	Human Anatomy-I Lab	P	0	0	2	1	60	40	100	
8	708107	Human Physiology-I Lab	P	0	0	2	1	60	40	100	
9	708108	Exercise Therapy-I Lab	P	0	0	2	1	60	40	100	
10	708109	Electro Therapy-I Lab	P	0	0	2	1	60	40	100	
Total number of Credits							25				

Elective-I (Select one of the following subjects)

S.No	Subject Code	Subject Name
1	A703106	General Punjabi-I
2	A703107	Punjab History & Culture-I

Semester - 2nd											
S.No	Subject Code	Subject Name	Type of Subject	(Hours Per Week)			No. of Credits	Internal Marks	External Marks	Total Marks	
				L	T	P					
1	708201	Human Anatomy-II	T	4	0	0	4	50	50	100	
2	708202	Human Physiology-II	T	4	0	0	4	50	50	100	
3	708203	Exercise Therapy-II	T	4	0	0	4	50	50	100	
4	708204	Electro Therapy-II	T	4	0	0	4	50	50	100	
5	708205	Psychology	T	3	0	0	3	50	50	100	
6	708206	Human Anatomy-II Lab	P	0	0	2	1	60	40	100	
7	708207	Human Physiology-II Lab	P	0	0	2	1	60	40	100	
8	708208	Exercise Therapy-II Lab	P	0	0	2	1	60	40	100	
9	708209	Electro Therapy-II Lab	P	0	0	2	1	60	40	100	
Total number of Credits							23				

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Semester-3rd										
S.No	Subject Code	Subject Name	Type of Subject	(Hours Per Week)			No. of Credits	Internal Marks	External Marks	Total Marks
				L	T	P				
1	708301	Exercise Therapy-III	T	4	0	0	4	50	50	100
2	708302	Electro Therapy-III	T	4	0	0	4	50	50	100
3	708303	Biomechanics & Kinesiology-I	T	4	0	0	4	50	50	100
4	708304	Pathology & Microbiology	T	3	0	0	3	50	50	100
5	708305	Pharmacology-I	T	3	0	0	3	50	50	100
6	708306	Sociology	T	2	0	0	2	50	50	100
7		Elective-II	T	3	0	0	3	50	50	100
8	708307	Exercise Therapy-III Lab	P	0	0	2	1	60	40	100
9	708308	Electro Therapy-III Lab	P	0	0	2	1	60	40	100
10	708309	Biomechanics & Kinesiology-I Lab	P	0	0	2	1	60	40	100
Total number of Credits				26						

Elective-II (Select one of the following subjects)		
S.No	Subject Code	Subject Name
1	A703304	General Punjabi-II
2	A703305	Punjab History & Culture-II

Semester-4th										
S.No	Subject Code	Subject Name	Type of Subject	(Hours Per Week)			No. of Credits	Internal Marks	External Marks	Total Marks
				L	T	P				
1	708401	Exercise Therapy-IV	T	4	0	0	4	50	50	100
2	708402	Electro Therapy-IV	T	4	0	0	4	50	50	100
3	708403	Biomechanics & Kinesiology-II	T	4	0	0	4	50	50	100
4	708404	Systemic Pathology	T	3	0	0	3	50	50	100
5	708405	Pharmacology-II	T	3	0	0	3	50	50	100
6	708406	Computer Applications	T	3	0	0	3	50	50	100
7	708407	Exercise Therapy-IV Lab	P	0	0	2	1	60	40	100
8	708408	Electro Therapy-IV Lab	P	0	0	2	1	60	40	100
9	708409	Biomechanics & Kinesiology-II Lab	P	0	0	2	1	60	40	100
10	708410	Computer Applications Lab	P	0	0	2	1	60	40	100
Total number of Credits				25						

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Semester-5th										
S.No	Subject Code	Subject Name	Type of Subject	(Hours Per Week)			No. of Credits	Internal Marks	External Marks	Total Marks
				L	T	P				
1	708501	Clinical Orthopedics-I	T	4	0	0	4	50	50	100
2	708502	General Medicine-I	T	4	0	0	4	50	50	100
3	708503	Physiotherapy in Orthopaedic Conditions- I	T	4	0	0	4	50	50	100
4	708504	Physiotherapy in Medical Conditions	T	4	0	0	4	50	50	100
5	708505	Research Methodology	T	3	0	0	3	50	50	100
6	708506	Clinical Orthopaedics-I Lab	P	0	0	2	1	60	40	100
7	708507	General Medicine-I Lab	P	0	0	2	1	60	40	100
8	708508	Physiotherapy in Orthopaedic Conditions- I Lab	P	0	0	4	2	60	40	100
9	708509	Physiotherapy in Medical Conditions Lab	P	0	0	4	2	60	40	100
Total number of Credits				25						
Semester-6th										
S.No	Subject Code	Subject Name	Type of Subject	(Hours Per Week)			No. of Credits	Internal Marks	External Marks	Total Marks
				L	T	P				
1	708601	Clinical Orthopedics-II	T	4	0	0	4	50	50	100
2	708602	General Medicine-II	T	4	0	0	4	50	50	100
3	708603	Physiotherapy in Orthopaedic Conditions-II	T	4	0	0	4	50	50	100
4	708604	Physiotherapy in Cardiopulmonary Conditions	T	4	0	0	4	50	50	100
5	708605	Biostatistics	T	3	0	0	3	50	50	100
6	708606	Clinical Orthopedics-II Lab	P	0	0	2	1	60	40	100
7	708607	General Medicine II Lab	P	0	0	2	1	60	40	100
8	708608	Physiotherapy in Orthopaedic Conditions- II Lab	P	0	0	4	2	60	40	100
9	708609	Physiotherapy in Cardiopulmonary Conditions Lab	P	0	0	4	2	60	40	100
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Semester-7th										
S.No	Subject Code	Subject Name	Type of Subject	(Hours Per Week)			No. of Credits	Internal Marks	External Marks	Total Marks
				L	T	P				
1	708701	Neurology-I	T	4	0	0	4	50	50	100
2	708702	General Surgery-I	T	4	0	0	4	50	50	100
3	708703	Physiotherapy in Neurological Conditions-I	T	4	0	0	4	50	50	100
4	708704	Physiotherapy in Surgical Conditions-I	T	4	0	0	4	50	50	100
5	708705	Disability Prevention and Rehabilitation-I	T	3	0	0	3	50	50	100
6	708706	Neurology-I Lab	P	0	0	2	1	60	40	100
7	708707	General Surgery-I Lab	P	0	0	2	1	60	40	100
8	708708	Physiotherapy in Neurological Conditions - I Lab	P	0	0	4	2	60	40	100
9	708709	Physiotherapy in Surgical Conditions-I Lab	P	0	0	4	2	60	40	100
Total number of Credits				25						

Semester-8th										
S.No	Subject Code	Subject Name	Type of Subject	(Hours Per Week)			No. of Credits	Internal Marks	External Marks	Total Marks
				L	T	P				
1	708801	Neurology-II	T	4	0	0	4	50	50	100
2	708802	General Surgery-II	T	4	0	0	4	50	50	100
3	708803	Physiotherapy in Neurological Conditions-II	T	4	0	0	4	50	50	100
4	708804	Physiotherapy in Surgical Conditions-II	T	4	0	0	4	50	50	100
5	708805	Disability Prevention and Rehabilitation-II	T	3	0	0	3	50	50	100
6	708806	Neurology-II Lab	P	0	0	2	1	60	40	100
7	708807	General Surgery-II Lab	P	0	0	2	1	60	40	100
8	708808	Physiotherapy in Neurological Conditions - II Lab	P	0	0	4	2	60	40	100
9	708809	Physiotherapy in Surgical Conditions-II Lab	P	0	0	4	2	60	40	100
Total number of Credits				25						

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Semester-9th				
S.No	Subject Code	Subject Name	Type of Subject	
1	708901	Internship (6 Months)	P	1. Internship of 6 months will be completed by students. 2. Certificates from the organization where the students have done internship will be submitted to the Dean of the faculty. 3. The certificate submitted by the students will be authenticated by dean faculty to be satisfactory and then forward to the COE for further action for issue of Degree.

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Semester – I

Subject Name: Human Anatomy - I

Subject Code: 708101

Paper-I

Credits: 4

L	T	P
4	0	0

I. General Anatomy

- **Introduction:** Definition & Scope of Anatomy, Anatomical Position, anatomical Terminology
- **Histology** - Cell, tissues of the body, epithelium, connective tissue, cartilage, bone, lymph, muscle, nerve etc.
- **Osteology** - Formation, function, growth and repair of bones.
- **General Embryology:** Cell, Male and Female Gametes; Fertilization; Germ Layers; Differentiation into various organs / systems; (outline only details not required).

II. Systemic Anatomy

- **Cardiovascular System** – General anatomy of heart, arteries, capillaries, veins and lymphatic system.
- **Respiratory System** Anatomy of upper and lower respiratory tract including nose, larynx, trachea, bronchi, pleura and lungs.
- **Digestive System** – General anatomy of digestive system.
- **Urogenital System** – A general anatomy of urogenital system of male and female
- **Integumentary System:** Structure of skin and its appendages.

III. Regional Anatomy

A. Trunk, Thorax and Abdomen :

- **Osteology** - parts of typical vertebra and its features, Intervertebral disc and its parts, Features of typical Rib and parts of sternum.
- **Myology** – Origin, insertion, nerve supply and action of Fascia and muscles of back, intercostals muscles, fascia and muscles of anterior and posterior abdominal wall.
- **Joints of thorax** - Manubriosternal joint, Costo vertebral joint, Costo transverse joint, Costo Chondral joint, Chondro sternal joints, Inter vertebral joint.
- Nerves, blood supply and lymphatic drainage of trunk, thorax and abdomen.

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- **Lumbar plexus** - Position, formation and branches.
- **Rectus sheath:** formation and contents.
- **Intercostal space** and its contents
- **Diaphragm**-structures passing through it.

B. Pelvis :

- Features of pubic symphysis and sacroiliac joints.
- Muscles of pubic floor and mention their attachments, action and nerve supply.
- Difference between male and female pelvis.
- Main features of subdivision, boundaries, walls and floor of pelvis.

Reference:

- L. Williams & Warwick, Gray's Anatomy – Churchill Livingstone.
- Inderbir Singh, Textbook of Anatomy with colour Atlas – Vol. 1, 2, 3. Jaypee Brothers.
- B.D. Chaurasia, Human Anatomy – Volume 1, 2, 3, CBS Publishers & Distributors.
- McMinn's Last's Anatomy – Regional and applied, Churchill Livingstone.
- McMinn, et al - A Colour Atlas of Human Anatomy, Mosby.
- Cunningham Manual of Practical Anatomy Vol. I, II, III, Churchill Livingstone.
- Snell – Clinical Anatomy- Lippincot

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Semester – I

Subject Name: Human Physiology-I

Subject Code: 708102

Paper-II

Credits: 4

L	T	P
4	0	0

- I. Cell Introduction:** Outline of basic concepts of cell structure, functions of components and transport across membranes.
- II. Blood:**
- Composition of blood, plasma proteins formation and their function.
 - Structure, formation and functions of R.B.C., W.B.C.s and platelets.
 - Haemoglobin and E.S.R.
 - Coagulation and its defects, Bleeding and Clotting time.
 - Blood groups and their significance, Rh Factor, Blood transfusion
- III. Cardiovascular System:**
- Structure, properties of Heart muscle and nerve supply of Heart.
 - Structure and function of Arteries, arterioles, capillaries and veins
 - Cardiac cycle and heart sounds, Cardiac output
 - Coronary circulation.
 - Heart rate and its regulation
 - Cardiovascular reflexes
 - Blood Pressure its regulations, E.C.G.
- IV. Respiratory System:**
- Respiratory gases, Pulmonary gas exchange.
 - Control and mechanics of breathing.
 - Lung Volumes and capacities.
 - Hypoxia, asphyxia, dyspnoea, oxygen therapy and resuscitation.
- V. Digestive System:**
- General outline and salivary digestion.
 - Gastric secretion and its mechanism of secretion and functions.
 - Mechanism of secretion of mucous, intestinal and pancreatic secretions and their functions.
 - Structure, secretions and functions of liver.

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VI. Endocrine System: Outline of various hormones and their actions,

- Pituitary gland
- Thyroid and parathyroid
- Adrenal glands
- Gonads.

VII. Excretory System:

- Structure and Functions of Kidney
- Renal Circulation, Auto regulation, G.F.R. Re-absorption of substances by renal tubule, counter current hypothesis.
- Physiology of micturition.

Books Recommended:

- Text book of Medical Physiology –Guyton Arthur (Mosby.)
- Text book of Physiology –Anand & Manchanda, Tata McGraw Hill.
- Human Physiology – Vol. 1 & 2, Chatterjee. CC, Calcutta. Medical Allied.
- Concise Medical Physiology. Chaudhari, S.K, New Central Agency, Calcutta.
- Principles of Anatomy and Physiology. Tortora & Grabowski –Harper Collins.
- Text book of Practical Physiology – Ghai – Jaypee

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Semester – I

Subject Name: Exercise Therapy-I

Subject Code: 708103

Paper-III

Credits: 4

L	T	P
4	0	0

- I. Introduction to exercise therapy** - Principles, techniques and general areas of its application.
- II. Review of the principles of mechanics applied to Exercise Therapy:**
 - Force, Composition, Resolution, Equilibrium stable, unstable, neutral gravity-LOG-COG,
 - Levers-types,
 - Speed, velocity, work, energy, power, acceleration, momentum, friction and inertia
 - Application in physiotherapy.
- III. Muscle work –**
 - Group action of muscles
 - Angle of pull
 - Mechanical efficiency of muscles.
- IV. Starting Positions:** Describe the following fundamental starting positions and their derived positions including joint position, their muscle work, effects and uses -
 - Standing
 - Kneeling
 - Sitting
 - Lying
 - Hanging.
- V. Introduction to Movements –**
 - Analysis of joint motion
 - Muscle work
 - Neuro – muscular co – ordination.
- VI. Classification of movements –** Describe the types, technique of application, indications, contraindications, effects and uses of the following:
 - Active movement
 - Passive movement
 - Active assisted movement
 - Resisted movement

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VII. Goniometers and its types:

- Principles, techniques and application of Goniometry.
- Testing position, procedure and measurement of R.O.M. of the joints of upper limbs, lower limbs and trunk.

Books Recommended

- Practical Exercise Therapy - Hollis - Blackwell Scientific Publications.
- Therapeutic Exercises - Basmajian - Williams and Wilkins.
- Therapeutic Exercises Foundations and Techniques - Kisner and Colby -F.A. Davis.
- Principle of Exercise Therapy -Gardiner - C.B.S. Delhi.
- Motor Control: Theory and Practical Applications Shummway - Cook & Woollacott - Lippincott.
- Measurement of Joint Motion: A Guide to Goniometry - Norkins & White - F.A. Davis.

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Semester – I

Subject Name: Electro Therapy-I

Subject Code: 708104

Paper-IV

Credits: 3

L	T	P
3	0	0

I. Physical Principles In Relation to Physiotherapy

- Structure and Properties of matter - solids, liquids and gases, adhesion, surface tension, viscosity, density and elasticity.
- Structure of atoms, molecules, elements and compounds, electron theory, static and current electricity.
- Conduction, Insulators, Potential difference, Resistance and Intensity.
- Ohm's Law its application to AC and DC currents.
 - i. Rectifying Devices-Thermionic valves, semiconductors, Transistors, Amplifiers, Transducers, Oscillator Circuits.
 - ii. Capacitance, Condensers in DC and AC circuits.
 - iii. Display devices and indicators-analogue & digital

II. Effects of Current Electricity

- Chemical effects- ions and electrolytes, ionization, production of E.M.F by chemical actions.
- Magnetic effects, Molecular theory of Magnetism. Magnetic fields, electromagnetic induction.
- Milli ammeter and voltmeter, transformers and choke coil, thermal effects-joules law and heat production.
- Physical principles of light and its properties.
- Physical principles of sound and its properties.
- Electromagnetic spectrum-biophysical application.

III. Electrical Supply

- Brief outline of main supply of electric current.
- Dangers short circuits, electric shocks.
- Precautions safety devices, earthing, fuses etc.
- First and initial management of electric shock.

IV. Transcutaneous Electrical Nerve Stimulations (TENS)

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- Types of low frequency, pulse widths, frequencies and intensities used as TENS applications.
- Theories of pain relief by TENS.
- Principles of clinical application, effects and uses, indications, contraindications, precautions.
- Operational skills of equipment and patient preparation.

BOOKS RECOMMENDED

- Electrotherapy Explained: Principles & Practice
- Low & Reed, Butterworth Heinemann.
- Claytons Electro therapy, Forster & Palastange Baillier Tindal.
- Therapeutic Heat & Cold, Lehmann, Willians & Wilkins.
- Principles & Practice of Electrotherapy, Kahn, Churchill Livingstone.

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Semester – I

Subject Name: Bio Chemistry

Subject Code: 708105

Paper-V

Credits: 3

L	T	P
3	0	0

- I. Concepts of pH and buffers, acid base equilibrium osmotic pressure and its physiological application.
- II. **Carbohydrates:** Definition, functions, sources, monosaccharides, Disaccharides, Polysaccharides, mucopolysaccharide and its importance.
- III. **Lipids:** Definition, function, sources classification, simple lipid, compound lipid, derived lipid, unsaturated and saturated fatty acid, Essential fatty acids and their importance.
- IV. **Proteins:** Definition, sources, Classification, simple protein conjugated protein, derived proteins, properties and varieties of proteins.
- V. **Bioenergetics:** Concept of free energy change, Exogenic and endogenic reactions, concepts regarding energy rich compounds. Respiratory chain and Biological oxidation
- VI. **Carbohydrate Metabolism:** Glycolysis, HMP shunt pathway, TCA cycle, glycogenesis, glycogenolysis, Glucogenesis, Maintenance of Blood glucose, inter-conversions of different sugars.
- VII. **Lipid Metabolism:** Fatty acid oxidation, fatty acid synthesis, Metabolism of cholesterol, Ketone bodies, Atherosclerosis and obesity.
- VIII. **Protein Metabolism:** Transamination, Deamination, Fate of ammonia, urea synthesis and synthesis of creatine, inborn errors of metabolism.
- IX. **Nucleic acid Structure and function of DNA and RNA.** Nucleosides, nucleotides, Genetic code, biologically important nucleotides. Gene Therapy.
- X. **Enzymes:** Definitions, mode of action, factor affecting enzyme action, clinical importance of enzyme.
- XI. **Vitamins:** Classification, fat soluble vitamins, A, D.E & K water soluble vit. B complex & C, Daily Requirements Physiological functions and diseases of Vitamin deficiency.
- XII. **Isotopes:** Isotopes and their role in treatment and diagnosis of diseases, Liver & Renal Function Tests
- XIII. **Connective tissue:** Mucopolysaccharide, connective tissue proteins, glycoprotein, chemistry & Metabolism of bone and tooth, metabolism of skin.
- XIV. **Nerve tissue:** Composition, metabolism, chemical mediators of Nerve activity.

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- XV. Water and Electrolyte:** Fluid compartment, daily intake and output sodium and potassium metabolism.
- XVI. Nutrition:** Balance, diet, metabolism in exercise and injury. Diet for chronically ill and terminally ill patients.

BOOKS RECOMMENDED

- Textbook of Biochemistry- Chatterjee M.N.-Jaypee Brothers.
- Textbook of Biochemistry for Medical Students Vasudeval D.M. Jaypee Brothers.
- Clinical Biochemistry- metabolic & Clinical aspects- Marshall & Bangert- Churchill Livingstone.
- Biochemistry Southerland-Churchill Livingstone.
- Drugs in Sports: 2nd Ed., David R. Mottram and Sally Gunnel E. & F.N.Span.
- Normal and Therapeutic Nutrition Robison H. Cortinne et al., 8th Edition. Mac Millian Publish Company, New York. Physiological Chemsitry 28th Ed. By Harpar.

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Subject Code: A703106

Paper-VI

Credits: 3

L	T	P
3	0	0

1. ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵਿਤਾ ਸਿਧਾਂਤ ਤੇ ਵਿਹਾਰ (ਕਾਵਿ-ਸੰਗ੍ਰਹਿ) ਡਾ ਜਸਵਿੰਦਰ ਕੌਰ,
 - 1.1) ਭਾਈ ਵੀਰ ਸਿੰਘ
 - 1.2) ਪ੍ਰੋ: ਪੂਰਨ ਸਿੰਘ
 - 1.3) ਲਾਲਾ ਕਿਰਪਾ ਸਾਗਰ,
 - 1.4) ਬਾਬੂ ਫੀਰੋਜ਼ਦੀਨ ਸਰਫ,
 - 1.5) ਗਿਆਨੀ ਗੁਰਮੁਖ ਸਿੰਘ
 - 1.6) ਲਾਲਾ ਧਨੀ ਰਾਮ ਚਾਤ੍ਰਕ,
 - 1.7) ਅੰਮ੍ਰਿਤਾ ਪ੍ਰੀਤਮ,
 - 1.8) ਮੋਹਨ ਸਿੰਘ
2. ਕਾਲੇ ਲਿਖ ਨਾ ਲੇਖ (ਲੇਖ ਸੰਗ੍ਰਹਿ) ਦਲੀਪ ਕੌਰ ਟਿਵਾਣਾ
 - 2.1) ਵਤਨ ਦਾ ਪਿਆਰ,
 - 2.2) ਪੈਰ ਦੀ ਜੁੱਤੀ,
 - 2.3) ਮੁਲਾਕਾਤੀ,
 - 2.4) ਵਿਹਲੀਆਂ ਗੱਲਾਂ,
 - 2.5) ਜੀਵਨ ਤੇ ਕਲਾਂ,
 - 2.6) ਮੇਰਾ ਨਿਸਫਲ ਪਿਆਰ,
 - 2.7) ਕਹਾਣੀਆਂ ਦੇ ਪਾਤਰ,
 - 2.8) ਫੂਕ ਵਿੱਦਿਆ।
3. ਪ੍ਰੈਰਾ ਰਚਨਾਂ ਤੇ ਸੰਖੇਪ ਰਚਨਾ
4. ਵਿਆਕਰਨ
 - 4.1) ਮੁਹਾਵਰੇ ਤੇ ਅਖੌਤਾ
 - 4.2) ਬਹੁਤੇ ਸ਼ਬਦਾਂ ਦੀ ਥਾਂ ਇਕ ਸ਼ਬਦ
 - 4.3) ਸਮਾਨਆਰਥਕ ਸ਼ਬਦ

ਸਹਾਇਕ ਪੁਸਤਕਾਂ:-

1. ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਵਿਤਾ ਕਾਵਿ ਸੰਗ੍ਰਹਿ”, ਡਾ: ਜਸਵੀਰ ਸਿੰਘ ਆਹਲੂਵਾਲੀਆ
2. ਤਿੰਦਰ ਸਿੰਘ ਨੂਰ ਆਧੁਨਿਕ ਪੰਜਾਬੀ ਕਾਵਿ ਸਿਧਾਂਤਕ ਪਰਿਪੇਖ” ਆਰਸ਼ੀ ਪਬਲੀਕੇਸ਼ਨਜ, ਦਿੱਲੀ
3. ਸਤਿੰਦਰ ਸਿੰਘ:ਭਾਈ ਵੀਰ ਸਿੰਘ ਜੀਵਨ ਤੇ ਰਚਨਾ”, ਪੰਜਾਬੀ ਯੂਨੀਵਰਸਿਟੀ ਪਟਿਆਲਾ

GURU KASHI UNIVERSITY
University College of Physical Education (Code: 7)
Bachelor in Physiotherapy (B.P.T.) (Code: 708)

Semester – I

Subject Name: Punjab History & Culture-I

Subject Code: A703107

Paper-VI

Credits: 3

L	T	P
3	0	0

- I. Physical features of the Punjab and their impact on history.
- II. Harappa Civilization: Antiquity, extent and important places, script, town planning. Political, social, economic and religious life of the Indus Valley people.
- III. The Indo–Aryans: Original home and settlement in Punjab; Social, Religious and Economic life during the Rig Vedic Age;
- IV. The Indo–Aryans: Social, Religious and Economic life during later Vedic Age.
- V. Teaching and impact of Buddhism in the Punjab.
- VI. Teaching and impact of Jainism in the Punjab.
- VII. Punjab under Chandra Gupta Maurya and Ashoka.
- VIII. The Punjab under the Gupta Emperors.

Books Recommended:

- L.M. Joshi (Ed.) History and Culture of the Punjab, Part–1, Patiala, 1989 (3rd Edition).
- L.M. Joshi and FaujaSingh (Ed.)History of Punjab, Vol. 1, Patiala, 1977.
- Buddha Prakash Glimpses of Ancient Punjab, Patiala, 1988.
- B.N. Sharma Life in Northern India, Delhi, 1966.
- R.S. Tripathi History of Ancient India.
- V.C. Pandey Political and Cultural History of India.
- Romila Thapar A History of India, Vol.1, Penguin Book, 1966.
- A.L. Bashem The Wonder That was India.
- Sukhninder Kaur Dhillon The Religious History of Early Medieval Punjab.

GURU KASHI UNIVERSITY
University College of Physical Education (Code: 7)
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Semester – I

Subject Name: Human Anatomy-I Lab

Subject Code: 708106

Credits: 1

L	T	P
0	0	2

- Surface Anatomy: To study, identify and mark the surface landmarks on human body.
- To study the muscles of thorax and abdomen on human body.
- To study the bones of human body with special emphasis on origin of human muscles and ligaments.
- To study the gross anatomy of Respiratory, Digestive, Endocrine, Urinary and Genital system on models, charts and Cds.

Books Recommended:

- L. Williams & Warwick, Gray's Anatomy – Churchill Livingstone.
- Inderbir Singh, Textbook of Anatomy with colour Atlas – Vol. 1, 2, 3. Jaypee Brothers.
- B.D. Chaurasia, Human Anatomy – Volume 1, 2, 3, CBS Publishers & Distributors.
- McMinn's Last's Anatomy – Regional and applied, Churchill Livingstone.
- McMinn, et al - A Colour Atlas of Human Anatomy, Mosby.
- Cunningham Manual of Practical Anatomy Vol. I, II, III, Churchill Livingstone.
- Snell – Clinical Anatomy- Lippincot

GURU KASHI UNIVERSITY
University College of Physical Education (Code: 7)
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Semester – I

Subject Name: Human Physiology-I lab

Subject Code: 708107

Credits: 1

L	T	P
0	0	2

To study the following Physiological Phenomenon: -

- Identification of blood cells and different counts.
- W.B.C. Count.
- R.B.C. Count.
- Haemoglobin percentage and color index.
- E.S.R. and Blood groups.
- Bleeding time and clotting time.
- Cardio - Respiratory efficiency tests.
- Artificial respiration and C.P.R.
- Pulse rate, Heart rate and measurement of Blood Pressure.
- Respiratory rate and Auscultation.
- Normal E.C.G.

Books Recommended:

- Text book of Medical Physiology –Guyton Arthur (Mosby.)
- Text book of Physiology –Anand & Manchanda, Tata McGraw Hill.
- Human Physiology – Vol. 1 & 2, Chatterjee. CC, Calcutta. Medical Allied.
- Concise Medical Physiology. Chaudhari, S.K, New Central Agency, Calcutta.
- Principles of Anatomy and Physiology. Tortora & Grabowski –Harper Collins.
- Text book of Practical Physiology – Ghai – Jaypee

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Semester – I

Subject Name: Exercise Therapy-I lab

Subject Code: 708108

Credits: 1

L	T	P
0	0	2

- To practice the measurement of ROM of joints – upper limb, lower limb & trunk.
- To practice the relaxed passive movement region wise.
- To study the position of joints, muscle work, and stability of various fundamental and derived positions.
- To practice assessment & evaluative procedures, including motor, sensory, neuromotor coordination, vital capacity, limb length & higher functions.
- To study the position of joints, muscle work, and stability of various fundamental and derived positions.
- To study the different types of muscle contraction, muscle work, group action of muscles and co-ordinated movements.

Books Recommended

- Practical Exercise Therapy - Hollis - Blackwell Scientific Publications.
- Therapeutic Exercises - Basmajian - Williams and Wilkins.
- Therapeutic Exercises Foundations and Techniques - Kisner and Colby -F.A. Davis.
- Principle of Exercise Therapy -Gardiner - C.B.S. Delhi.
- Motor Control: Theory and Practical Applications Shummway - Cook & Woollacott - Lippincott.
- Measurement of Joint Motion: A Guide to Goniometry - Norkins & White - F.A. Davis.

GURU KASHI UNIVERSITY
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Semester – I

Subject Name: Electro Therapy-I lab

Subject Code: 708109

Credits: 1

L	T	P
0	0	2

- To study the basic operation of electric supply to the equipment and safety devices.
- Therapeutic application of different low frequency current Faradic foot bath, faradism under pressure, Iontophoresis.
- To experience sensory and motor stimulation of nerves and muscles by various types of low frequency currents on self.
- To locate and stimulate different motor points region wise, including the upper & lower limb, trunk free.
- Therapeutic application of different low frequency currents Faradic foot bath, Faradism under pressure, Ionotophoresis.
- To plot strength duration curve
- To study a TENS simulator, its operator and application region wise.

BOOKS RECOMMENDED

- Electrotherapy Explained: Principles & Practice
- Low & Reed, Butterworth Heinemann.
- Claytons Electro therapy, Forster & Palastange Baillier Tindal.
- Therapeutic Heat & Cold, Lehmann, Willians & Wilkins.
- Principles & Practice of Electrotherapy, Kahn, Churchill Livingstone

GURU KASHI UNIVERSITY
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Bachelor in Physiotherapy (B.P.T.) (Code: 708)

Semester – II
Subject Name: Human Anatomy-II
Subject Code: 708201
Paper-I
Credits: 4

L	T	P
4	0	0

I. Upper extremity:

- Osteology - Clavicle, Scapula, Humerus, Radius, Ulna, Carpals, Metacarpals, Phalanges
- Myology - Origin, insertion, nerve supply and action of Muscles of upper arm, forearm and hand.
- Joints of upper limb - shoulder guide, Shoulder joint, Elbow, Wrist and joints of hand.
- Nerves, blood supply and lymphatic drainage of upper extremity.
- Regional Anatomy - Breast, axilla, pectoral region, scapular region, cubital fossa, important spaces of hand, brachial plexus.

II. Lower extremity :

- Osteology - Hip bone, femur, Tibia, Fibula, Patella, and bones of the foot
- Myology – – Origin, insertion, nerve supply and action of Muscles of thigh, lower leg and foot.
- Joints of lower limb - Pelvic Girdle, Hip, joint, Knee joint, Ankle joint, joints of foot.
- Nerves, blood supply and lymphatic drainage of lower extremity.
- Arches of foot and its applied anatomy
- Explain Femoral triangle, popliteal fossa, Greater & Lesser Sciatic Foramen

III. Neuro – Anatomy –

- Cranial bones
- Joints - temporo-mandibular joint, atlanto occipital joint, atlanto axial joint,
- Myology - fascial muscles
 - Peripheral Nerves, Neuromuscular Junction, Sensory End Organs
 - Spinal Cord Segments & Areas
 - Brainstem, Cerebellum, Inferior colliculi. Superior Colliculi
 - Hypothalamus, Epithalamus, Thalamus
 - Cerebral hemispheres, Corpus striatum
 - Rhinencephalon, Diencephalon

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- Lateral ventricles, Fourth ventricle, CSF circulation, Meninges,
- Blood supply of the brain Internal Capsule
- Thalamocortical radiations. Pyramidal systems, Extra – pyramidal systems
- Anatomic integration, Intra – cortical integration
- Sympathetic system, Para-sympathetic system
- Cranial nerves.

Books Recommended:

- L. Williams & Warwick, Gray's Anatomy – Churchill Livingstone.
- Inderbir Singh, Textbook of Anatomy with colour Atlas – Vol. 1, 2, 3. Jaypee Brothers.
- B.D. Chaurasia, Human Anatomy – Volume 1, 2, 3, CBS Publishers & Distributors.
- McMinn's Last's Anatomy – Regional and applied, Churchill Livingstone.
- McMinn, et al - A Colour Atlas of Human Anatomy, Mosby.
- Cunningham Manual of Practical Anatomy Vol. I, II, III, Churchill Livingstone.
- Snell – Clinical Anatomy- Lippincott.

GURU KASHI UNIVERSITY
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Semester – II
Subject Name: Human Physiology-II
Subject Code: 708202
Paper-II
Credits: 4

L	T	P
4	0	0

I. Muscle physiology:

- Types of muscle,
- Microscopic structure of Muscle,
- Properties of Muscle, comparison of various types.
- Thermal and chemical changes during muscular contraction.
- Starling’s law, isotonic, Isometric contractions.
- Clonus, tetanus, fatigue, summation,
- All or none law beneficial effect.
- Electromyography applied aspects.

II. Neuro physiology:

- Neuron and classification of nerve fibres.
- Special properties of nerve trunks and tracts.
- Motor units.
- Structure of synapse and synaptic transmission.
- Reflex arc and its properties.
- Types and properties of Receptors types of sensations.
- Sensory Tracts of Spinal cord.
- Motor Tracts, Pyramidal and Extra pyramidal.
- Hemi section and complete section of spinal cord, upper and lower motor neuron lesions.
- Cerebral Cortex, areas and functions
- E.E.G.
- Structure, connections and functions of Cerebellum and Hypothalamus.
- Basal ganglia and Thalamus, connection and functions.
- Automatic Nervous System.
- Physiology of Pain

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III. Physiology of exercise and work:

- Circulatory and respiratory response to exercise including effects on the heart, blood circulation, body fluid changes, pulmonary ventilation, gas exchange and transport, etc.
- Effects of exercise and work on other body functions.

Books Recommended:

- Text book of Medical Physiology –Guyton Arthur (Mosby.)
- Text book of Physiology –Anand & Manchanda, Tata McGraw Hill.
- Human Physiology – Vol. 1 & 2, Chatterjee. CC, Calcutta. Medical Allied.
- Concise Medical Physiology. Chaudhari, S.K, New Central Agency, Calcutta.
- Principles of Anatomy and Physiology. Tortora & Grabowski –Harper Collins.
- Text book of Practical Physiology – Ghai – Jaypee

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Semester – II
Subject Name: Exercise Therapy-II
Subject Code: 708203
Paper-III
Credits: 4

L	T	P
4	0	0

I. Manual Muscle Testing

- Principles and application techniques of Manual muscle testing.
- Testing position, procedure and grading of muscles of the upper limb, lower limb and trunk.

II. Soft tissue manipulation techniques (Therapeutic Massage)

- Physiological effects, therapeutic effects and contraindications of soft tissue manipulation.
- Classify, define and describe: effleurage, stroking, kneading, petrissage, deep friction, vibration and shaking etc.
- Preparation of patient: Effects, uses, indications and contraindications of the above manipulation.

III. Relaxation:

- Describe relaxation
- Muscle fatigue, muscle spasm and tension (mental & physical)
- Factors contributing to fatigue & tension
- Techniques of relaxation (local and general) including effects, uses & clinical application.

IV. Motor Learning and Functional Re-education:

- Introduction to Motor Learning:
 - Classification of Motor skills
 - Measurement of Motor Performance
- Introduction to motor control
 - Theories of Motor control
 - Application
- Learning Environment
 - Learning of skill

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- Instruction and augmented feedback.
- Practice Conditions

V. Introduction to Yoga –

- Conceptual framework
- Various “asanas”,
- The body – mind relationship
- Effects & precautions.

Books Recommended:

- Practical Exercise Therapy - Hollis - Blackwell Scientific Publications.
- Therapeutic Exercises - Basmajian - Williams and Wilkins.
- Therapeutic Exercises Foundations and Techniques - Kisner and Colby -F.A. Davis.
- Principle of Exercise Therapy -Gardiner - C.B.S. Delhi.
- Principles and practices of therapeutic massage - Sinha. Jaypee brothers Delhi
- Margaret Hollis-Textbook of Massage.
- Motor Control: Theory and Practical Applications Shumway - Cook & Wallcott - Lippincott.
- Muscle testing and functions - Kendall - Williams & Wilkins.
- Daniels and Worthingham’s - Muscle testing - Hislop & Montgomery- W.B. Saunders.

GURU KASHI UNIVERSITY
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Semester – II

Subject Name: Electro Therapy-II

Subject Code: 708204

Paper-IV

Credits: 4

L	T	P
4	0	0

I. Electrical Reactions and Electro-Diagnostic Tests

- Electrical stimuli and normal behavior of nerve and muscle tissue.
- Types of lesion and development of reaction of degeneration.
- Faradic/Intermittent direct current test.
- S.D. Curve and its application.
- Chronaxie, Rheobase and pulse ratio.

II. Low Frequency Currents

- Introduction to direct, alternating and modified currents.
- **Iontophoresis:** Biophysics, principles, therapeutic uses, indications, contra-indications, operational skills of equipment and patient preparation.
- **Faradic current:** Biophysics, principles, therapeutic uses, indications, contra- indications, operational skills of equipment and patient preparation
- **Interrupted direct current:** Biophysics, principles, therapeutic uses, indications, contra- indications, operational skills of equipment and patient preparation

III. Infrared rays-Wavelength, frequency, types and sources of IRR generation techniques of irradiation, physiological and therapeutic effects indications, contraindications, precautions, Operational skills of equipment and patient Preparation.

IV. Ultra Violet Rays(UVR)

- Wavelength, frequency, types& sources of UVR, generation techniques of irradiation, physiological and therapeutic effects, indications, contraindications. Precautions, Operational skills of equipment and patient preparation.
- Dosimetry of UVR.

V. Superficial Heat: Paraffin wax bath, moist heat, electrical heating pads.

- Mechanism of production.
- Mode of heat transfer.
- Physiological & therapeutic effects.

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- Indications, contraindications, precautions, operational skills of equipment and patient preparation.

BOOKS RECOMMENDED

- Electrotherapy Explained: Principles & Practice
- Low& Reed, Butterworth Heinemann.
- Claytons Electro therapy, Forster & Palastange Baillier Tindal.
- Therapeutic Heat & Cold, Lehmann, Willians & Wilkins.
- Principles & Practice of Electrotherapy, Kahn, Churchill Livingstone.

GURU KASHI UNIVERSITY
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Semester – II

Subject Name: Psychology

Subject Code: 708205

Paper-V

Credits: 3

L	T	P
3	0	0

SECTION-A

- I. Definition of psychology, basic information in relation to schools, methods and branches of psychology.
 - **Schools:** Structuralism, functionalism, behaviourism psychoanalysis, Gestalt psychology.
 - **b. Methods:** Introspection, observation, inventory and experimental method.
 - **c. Branches:** General, child, social, abnormal, industrial, clinical, counseling, educational.
- II. **Development and Growth Behaviour** - Infancy, childhood, adolescence, adulthood, middle age, old age.
- III. **Emotions** - Concept and definition, Physiological changes due to emotional state.
- IV. **Motivation** - Definition, types, importance and methods of motivation.
- V. **Learning** - Concepts, Characteristics, Types, Laws of Learning, Theories of learning.
- VI. **Personality** - Definition, Characteristics, Components of personality.
- VII. **Intelligence** - Definition Characteristics, Types, IQ, mental age, Assessment of intelligence.
- VIII. **Sensation, Perception and Attention** - Meaning and definition. Types of sensation and Perception. Principles of Perception. Illusion and hallucination concept of attention. Factors that determine attention.

SECTION- B

- I. **Frustration:** Definition. Causes, Sources of frustrations, Conflict, Different types of conflicts, Adjustment and maladjustment. Defense Mechanism.
- II. **Stress:** Anxiety, Tension, Physiological symptoms, psycho-somatic problems, coping strategies, professional stress burnout.
- III. **Mental disorders:** Psychoneurosis, psychosis, different types, symptoms and etiological

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factors.

- IV. Behavior modification:** Application of various conditioning and learning principles to modify patient behavior.
- V. Emotional needs and psychological factors** in relation to chronic illness
- VI. Psychological reactions of patient:** psychological reactions of a patient during admission and treatment. Anxiety, shock denial, suspicion. loneliness, shame, guilt, rejection, fear, withdrawal, depression, egocentric, justify and loss of hope.
- VII. Psychological aspects** of substance abuse and drug addiction.

Books Recommended

- Baron, Robert A Psychology, Printer Hall of India Pvt Ltd. New Delhi.
- Carson, Robert C. and James Buctcher, Normal Psychology and Modern Life. Herber colleen publishers.
- Hillgard EL, Attinson RC and Atinson RI, Introduction to Psychology. Oxford and IBH publisher Pvt. Ltd. New Delhi.
- Mergan CT, Introduction to Psychology.
- Mehta GC, Behavicarral Science in Medical Praction JP Brothers.
- Holloo Developmental Psychology, Tata Mcgrahill.
- Stonna GC Health psychology.
- Ethein LH Beharvioral Medicine.

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Semester – II

Subject Name: Human Anatomy-II Lab

Subject Code: 708206

Credits: 1

L	T	P
0	0	2

- Surface Anatomy: To study, identify and mark the surface landmarks on human body.
- To study the muscles of upper and lower extremities on a dissected human body.
- To study the bones of human body with special emphasis on origin on a dissected human muscles and ligaments..
- To study the anatomy of joints of upper and lower extremities and vertebral column on models, charts and Cds.
- To study the anatomy of C.N.S. and P.N.S. on models, charts and Cds.

Books Recommended:

- L. Williams & Warwick, Gray’s Anatomy – Churchill Livingstone.
- Inderbir Singh, Textbook of Anatomy with colour Atlas – Vol. 1, 2, 3. Jaypee Brothers.
- B.D. Chaurasia, Human Anatomy – Volume 1, 2, 3, CBS Publishers & Distributors.
- McMinn’s Last’s Anatomy – Regional and applied, Churchill Livingstone.
- McMinn, et al - A Colour Atlas of Human Anatomy, Mosby.
- Cunningham Manual of Practical Anatomy Vol. I, II, III, Churchill Livingstone.
- Snell – Clinical Anatomy- Lippincott.

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Semester – II

Subject Name: Human Physiology-II lab

Subject Code: 708207

Credits: 1

L	T	P
0	0	2

To study the following Physiological Phenomenon: -

- Reflexes – Superficial Deep.
- Sensations.
- Tests for functions of Cerebrum.
- Tests for functions of Cerebellum.

Books Recommended:

- Text book of Medical Physiology –Guyton Arthur (Mosby.)
- Text book of Physiology –Anand & Manchanda, Tata McGraw Hill.
- Human Physiology – Vol. 1 & 2, Chatterjee. CC, Calcutta. Medical Allied.
- Concise Medical Physiology. Chaudhari, S.K, New Central Agency, Calcutta.
- Principles of Anatomy and Physiology. Tortora & Grabowski –Harper Collins.
- Text book of Practical Physiology – Ghai – Jaypee

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Semester – II

Subject Name: Exercise Therapy-II lab

Subject Code: 708208

Credits: 1

L	T	P
0	0	2

- To practice the entire soft tissue manipulative techniques region wise – upper limb, lower limb, neck, back and face.
- To practice the grading of muscle strength region wise – upper limb, lower limb and trunk.
- To practice & experience effects of basic yoga “asanas”.
- To study & practice local & general relaxation techniques.

Books Recommended:

- Practical Exercise Therapy - Hollis - Blackwell Scientific Publications.
- Therapeutic Exercises - Basmajian - Williams and Wilkins.
- Therapeutic Exercises Foundations and Techniques - Kisner and Colby -F.A. Davis.
- Principle of Exercise Therapy -Gardiner - C.B.S. Delhi.
- Principles and practices of therapeutic massage - Sinha. Jaypee brothers Delhi
- Margaret Hollis-Textbook of Massage.
- Motor Control: Theory and Practical Applications Shumway - Cook & Wallcott - Lippincott.
- Muscle testing and functions - Kendall - Williams & Wilkins.
- Daniels and Worthingham“s - Muscle testing - Hislop & Montgomery- W.B. Saunders.

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Semester – II

Subject Name: Electro Therapy-II lab

Subject Code: 708209

Credits: 1

L	T	P
0	0	2

- To experience sensory and motor stimulation of nerves and muscles by various types of low frequency currents on self.
- To locate and stimulate different motor points region wise including the upper & lower limb, trunk face.
- To study a hydrocollator unit, its operations and therapeutic application of Hot packs – region wise.
- To study the various types of IR lamps and their application to body region wise.
- To study a paraffin wax bath unit, its operation and different methods of application region wise.
- To study the different types of UV unit, their operation assessment of test does and application of UVR region wise.

BOOKS RECOMMENDED

- Electrotherapy Explained: Principles & Practice
- Low& Reed, Butterworth Heinemann.
- Claytons Electro therapy, Forster & Palastange Baillier Tindal.
- Therapeutic Heat & Cold, Lehmann, Willians & Wilkins.
- Principles & Practice of Electrotherapy, Kahn, Churchill Livingstone.

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Semester – III

Subject Name: Exercise Therapy-III

Subject Code: 708301

Paper-I

Credits: 4

L	T	P
4	0	0

1. Therapeutic Exercises:

- Principle, classification and techniques
- Physiological & therapeutic effects
- Indications & contraindications of therapeutic exercises.
- Assessment & evaluation of a patient (region wise) to plan a therapeutic exercise program.

2. Joint Mobility –

- Etiogenesis of Joint stiffness,
- General techniques of mobilization
- Effects, indications, contraindications & precautions.

3. Stretching :

- Definition of terms related to stretching; tissue response towards immobilization and elongation
- Determinants of stretching exercise
- Effects of stretching
- Inhibition and relaxation procedures
- Precautions and contraindications of stretching
- Techniques of stretching.

4. Muscle Insufficiency –

- Etiogenesis of muscle insufficiency (strength, tone, power, endurance & volume)
- General techniques of strengthening.
- Effects, indication, contraindications & precautions.

5. Suspension Therapy:

- Definition, principles, equipments & accessories
- Indications & contraindications

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- Benefits of suspension therapy
- Types of suspension therapy – axial, vertical, pendulum
- Techniques of suspension therapy for upper limb & lower limb.

6. Functional re-education:

- General therapeutics techniques to re-educate ADLs functions
- Mat activities
- Starting and derived positions
- Hand Rehabilitation

7. Breathing Mechanism:

- Review normal breathing; types, techniques, indications, contraindications, therapeutic effects and precautions of breathing exercises,
- Chest expansion measurement and evaluation
- Postural drainage

8. Neuromuscular Inco-ordination:

- Review of normal neuromuscular coordination
- Etiogenesis of neuromuscular in co-ordination
- The general techniques of improving coordination including their effects, indications, contraindications & precautions.

9. Group Exercises:

- Advantages and Disadvantages
- Organization of Group exercises
- Recreational Activities and Sports.

10. Posture and Balance

- Normal Posture – Overview of the mechanism of normal posture.
- Abnormal Posture – Assessment, Types, etiogenesis, management, including therapeutic exercises.
- Static and Dynamic Balance – Assessment & management including therapeutic exercises.

Books Recommended

- Practical Exercise Therapy: Hollis, Blackwell, Scientific Publications.

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- Therapeutic Exercises: Basmajian, Williams &Wilkins.
- Therapeutic Exercise: Foundations and Techniques, Kisner & Colby.
- Principles Of Exercise Therapy: Gardiner
- Orthopedic Physical Therapy: Woods, Churchill Livingstone
- Manipulation and Mobilization: Extremities and Spinal Techniques, Edmond, Mosby.
- Manual Examination and Treatment of Spine & Extremities: Wadsworth, Lippincott.
- Motor Control: Theory and Practical Applications, Shumway Walcott-Lippincott

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Semester – III

Subject Name: Electro Therapy-III

Subject Code: 708302

Paper-II

Credits: 4

L	T	P
4	0	0

- I. Physiological responses to heat gain or loss on various tissues of the body.
- II. Physical principles of electromagnetic radiation.
- III. Physics of sound including characteristics and propagation.
- IV. **High frequency sound waves** (therapeutic Ultrasound) -Production, biophysical effects, types, therapeutics types, technique of application, indication, contraindication, precautions, operational skills and patient preparation.
- V. **High frequency currents** (SWD, MWD)-Production, Biophysical effects, types, therapeutic effects, techniques of application, indication, contraindications, precautions, operational skills and patient preparation.
- VI. **Medium frequency currents** (Russian currents, interferential therapy)- Conceptual framework of medium frequency currents therapy , production, biophysical effects, types, therapeutic effects , techniques of applications, indications, contraindications, precautions, operational skills and patient preparation.

Books Recommended

- Electrotherapy Explained: Principle and Practice, Low and Reed, Butterworth Heinemann.
- Claytons Electrotherapy -Kitchen and Basin.
- Therapeutic Heat and Cold Lehman- Williams and Wilkins.
- Principles and Practice of Electrotherapy -Kahn Church hill Livingstone.
- Electrotherapy: Clinics in Physical therapy- Wolf Churchill Livingstone

GURU KASHI UNIVERSITY
University College of Physical Education (Code: 7)
Bachelor in Physiotherapy (B.P.T.) (Code: 708)

Semester – III

Subject Name: Biomechanics & Kinesiology-I

Subject Code: 708303

Paper-III

Credits: 4

L	T	P
4	0	0

I. Basic Concepts of Biomechanics:

- Introduction to mechanics including motion, forces, parallel forces system
- Newton's law of motion, concurrent force systems – composition forces, muscle action line etc.
- Axis & Planes
- Centre of Gravity, line of gravity, stability and equilibrium

II. Introduction to Biomechanical Analysis:

- Starting Positions
- Introduction to Bio-Mechanics and kinesiology. Introduction to the techniques of biomechanical analysis.

III. Joint Structure and Function:

- Basic principles of Joint design and a human joint.
- Tissues present in human joint including fibrous tissue, bone cartilage and connective tissue.
- Classification of joints.
- Joint function, Kinematics chains and range of motion
- Levers & their efficiency, anatomical levers
- Pulley & anatomical pulley

IV. Muscle Structure and function:

- Mobility and stability functions of muscle.
- Elements of muscle structure and its properties.
- Types of muscle contractions and muscle work.
- Classification of muscles and their functions.
- Group action of muscles
- Co-ordinated movement.

V. Biomechanics of vertebral column (Spine)

GURU KASHI UNIVERSITY
University College of Physical Education (Code: 7)
Bachelor in Physiotherapy (B.P.T.) (Code: 708)

Books Recommended

- Joint Structure and Function – A Comprehensive Analysis - Norkins & Levangie - F.A. Davis.
- Measurement of Joint Motion – A Guide to Goniometry - Norkins & White - F.A. Davis.
- Brunnstrom’s Clinical Kinesiology - Smith et al - F.A. Davis.
- Basic Biomechanics explained - Low & Reed - Butterworth Heinmann.
- Kinesiology: Applied to Pathological Motion - Soderberg Lippincott.

GURU KASHI UNIVERSITY
University College of Physical Education (Code: 7)
Bachelor in Physiotherapy (B.P.T.) (Code: 708)

Semester – III**Subject Name: Pathology & Microbiology****Subject Code: 708304****Paper-IV****Credits: 3**

L	T	P
3	0	0

- I. Aims and objectives of the study of pathology. Meaning of terms, etiology, pathogenesis and lesions
- II. Causes of disease, cell injury – causes of cell injury
- III. Cell injury: Feature, mechanism of cell injury – hypoxia, free radical injury. Necrosis and gangrene,
- IV. Inflammation- definition, events of acute inflammation, chemical mediator of Inflammation, morphological types of acute inflammation, chronic inflammation, Difference between acute and chronic inflammation
- V. Repair –primary healing, secondary healing, factors affecting healing and repair Healing of skin, muscle and bone.
- VI. Fluid and hemodynamic derangements – oedema, hyperemia, Haemorrhage, shock, embolism, thrombosis, infarction
- VII. Immunity – natural and acquired, Immunological mechanisms of tissue injury, hypersensitivity reactions, general features of autoimmune diseases and immunodeficiency diseases.
- VIII. Neoplasia : characteristic of benign and malignant tumors ,grading and staging of malignant tumors, general effects of malignancy on the host , a brief outline of the carcinogenic agents, a brief outline of the methods of diagnosis of malignancy
- IX. An introduction to microbiology, a brief out line of classification of microorganisms, Infection– types, source, portals of entry and spread
- X. Prevention and control of infection, Disinfection and antiseptics, Sterilization

Books Recommended

- Robbins Pathological Basis of Disease - Cotran, Kumar & Robbins - W.B. Saunders.
- General Pathology - Walter & Israel - Churchill Livingstone.
- Text book of Pathology - Harsh Mohan - Jaypee Brothers.
- Pathology: Implications for Physical Therapists - Goodmann and Boissonnault - W.B. Saunders.
- Essential of Medical Microbiology - Bhatia & Lal - Jaypee Brothers.

GURU KASHI UNIVERSITY
University College of Physical Education (Code: 7)
Bachelor in Physiotherapy (B.P.T.) (Code: 708)

Semester – III

Subject Name: Pharmacology-I

Subject Code: 708305

Paper-V

Credits: 3

L	T	P
3	0	0

I. Introduction of pharmacology & scope in physiotherapy

II. Brief introduction of following-

- Chemical character of drugs
- General Action of Drugs
- Drug Allergy and Idiosyncrasy
- Drug Toxicity
- Metabolic fate of drugs
- Methods of administration
- Process of Drug Absorption
- Dosage forms

I. Drugs acting on peripheral nervous system- stimulating and inhibiting cholinergic and adrenergic activity.

II. Drugs acting on neuromuscular junction and muscles-

- Neuromuscular blockers
- Muscle Relaxants
- Anti inflammatory

III. Drugs acting on cardio-vascular system

Books Recommended

- Pharmacology and Pharmacotherapeutics - R.S. Satoskar – Popular Publications, Bombay.
- The Pharmacologic Principles of Medical Practice - Krantg & Jelleff - Calcutta Scientific Book Agency.
- Pharmacology - Praseem K. Das. – Churchill Livingstone
- Essential of Medical Pharmacology - K.D. Tripathi - Jaypee Brothers.

GURU KASHI UNIVERSITY
University College of Physical Education (Code: 7)
Bachelor in Physiotherapy (B.P.T.) (Code: 708)

Semester – III

Subject Name: Sociology

Subject Code: 708306

Paper-VI

Credits: 2

L	T	P
2	0	0

SECTION A

- I. Introduction:** Meaning, Definition and scope.
- II. Socialization:** Meaning, process and agencies.
- III. Socialization** in hospitals, socialization in the rehabilitation of patients
- IV. Social Groups:** Meaning, definition, features and types.
- V. Family:** Meaning, definition, types, features and functions.
- VI. Social Process:** Concepts, meaning, kinds.

SECTION B

- I. Social Control:** Meaning, definition, types and agencies.
- II. Social Worker:** Role of medical social worker.
- III. Social Change:** Meaning, factors, social change and stress, social change and health programmes.
- IV. Social Problems:** Meaning, definition and characteristics.
- V. Social Problems of disabled :**
 - Poverty
 - Drugs
 - Crime
 - Alcoholism
 - Problems of working women.

Books Recommended

- McGee - Sociology - Drydon Press Illinois.
- Kupuswamy - Social Changes in India - Vikas, Delhi.
- Ahuja - Social Problems - Bookhive, Delhi.
- Ginnsberg - Principles of Sociology - Sterling Publications.
- Parter & Alder - Psychology & Sociology applied to medicine - W.B. Saunders.
- Julian - Social Problems - Prentice Hall.

Semester – III

GURU KASHI UNIVERSITY
University College of Physical Education (Code: 7)
Bachelor in Physiotherapy (B.P.T.) (Code: 708)

Subject Name: General Punjabi-II

Subject Code: A703304

Paper-VII

Credits: 3

L	T	P
3	0	0

1. khwxI sMgRih 'kQw rMg' (sMpwdk virAwm sMDU Aqy fwH bldyv isMG cImw)
 - 1.1. muV ivDvw
 - 1.2. pTwx dI DI
 - 1.3. iqRSnw
 - 1.4. G/d vwlI g`l
 - 1.5. iek bwlVI do pqwsy
 - 1.6. bTlU cimAwr[
2. 1960 qoN ip`Co dy iekwgIAW dw sMgRih ;zgzde fw. mnjIq kOr qy fw. jsivMdr isMG sYxI[
 - 2.1 gZ`qx dI byVI
 - 2.2 pzd kmry
 - 2.3 qUVI vwlw koTw
 - 2.4 icVIAw
 - 2.5 bMDn qy srwp
 - 2.6 glI ik`Qy jwvy[
3. dPqrI ic`TI p`qr
4. ivAwkrn
 - 4.1. pMjwbI qo AMgryjI Anuvwd[
 - 4.2. vwk dIAW iksmW[
 - 4.3. Agyqr qy ipCyqr[
 - 4.4. nWv Aqy pVnWv dIAW iksmW

shwiek ikqwbW:-

- 1) fw. joigMdr isMG puAwr Aqy hor, "pMjwbI Bsw dw ivAwkrn Bwg^ II", gzikph GkPk nekdw ibzXo, 1991
- 2) o'PB bkb nkj{ik, "fJeKrh ebk", gzikp ;N/N :{Bhtof;Nh, N?e;N p[Ze p'ov, uzvhrV
- 3) vkH r[ofdnkB f;zx c[Zb, "gzikph fJeKrh", f;XKs, fJfsjk; s/gqftoshnK, gzikph :{Bhtof;Nh gfNnkBk
- 4) tfonkw f;zx ;zX{ "e[btzs f;zx ftoe dh ejkDh ;z;ko", bkj"o p[Ze Pkg, b[fXnkDk, 1979
- 5) ;ftzdo f;zx T[Zgb, "gzikph ejkDh d/ bZSD ns/ gfotosB" g[Pg, gqekPB fdZbh, 1991

Semester – III

Subject Name: Punjab History & Culture-II

Subject Code: A703305

Paper-VII

GURU KASHI UNIVERSITY
University College of Physical Education (Code: 7)
Bachelor in Physiotherapy (B.P.T.) (Code: 708)

Credits: 3

L	T	P
3	0	0

1. The Punjab from 7th Century to 1000 A.D. (A Survey of Socio-cultural History of Punjab).
2. Development of Art up to 1000 A.D.
3. Development of Architecture up to 1000 A.D.
4. The Punjab under Turke-Afgan Sultans.
5. The Punjab under the great Mughals.
6. Salient features for the Bhakti Movement and Sufism in the Punjab.

Books Recommended:

- L.M. Joshi (Ed.) History and Culture of the Punjab, Part-1, Patiala, 1989 (3rd Edition).
- L.M. Joshi and FaujaSingh (Ed.) History of Punjab, Vol. 1, Patiala, 1977.
- Buddha Prakash Glimpses of Ancient Punjab, Patiala, 1988.
- B.N. Sharma Life in Northern India, Delhi, 1966.
- R.S. Tripathi History of Ancient India.
- V.C. Pandey Political and Cultural History of India.
- Romila Thapar A History of India, Vol.1, Penguin Book, 1966.
- A.L. Bashem The Wonder That was India.
- Sukhninder Kaur Dhillon- The Religious History of Early Medieval Punjab.

GURU KASHI UNIVERSITY
University College of Physical Education (Code: 7)
Bachelor in Physiotherapy (B.P.T.) (Code: 708)

Semester – III**Subject Name: Exercise Therapy-III Lab****Subject Code: 708307****Credits: 1****P****L****T****0****0****2**

- To study and practice various techniques of mobilizations and stretching of joint region wise.
- To practice the various techniques of suspension therapy region wise
- To study & practice the various techniques of mobilization of joints region wise.
- To study & practice the various techniques of progressive strengthening exercises of muscles region wise.
- To assess & evaluate ADL's and practice various training techniques.
- To study & practice mat exercises.
- To assess & evaluate normal & abnormal posture & practice various corrective techniques.
- To assess & evaluate equilibrium / balance & practice various techniques to improve balance.

Books Recommended

- Practical Exercise Therapy: Hollis, Blackwell, Scientific Publications.
- Therapeutic Exercises: Basmajian, Williams & Wilkins.
- Therapeutic Exercise: Foundations and Techniques, Kisner & Colby.
- Principles Of Exercise Therapy: Gardiner
- Orthopedic Physical Therapy: Woods, Churchill Livingstone
- Manipulation and Mobilization: Extremities and Spinal Techniques, Edmond, Mosby.
- Manual Examination and Treatment of Spine & Extremities: Wadsworth, Lippincott.
- Motor Control: Theory and Practical Applications, Shumway Walcott-Lippincott

GURU KASHI UNIVERSITY
University College of Physical Education (Code: 7)
Bachelor in Physiotherapy (B.P.T.) (Code: 708)

Semester – III

Subject Name: Electro Therapy–III Lab

Subject Code: 708308

Credits: 1

P

L

T

2

0

0

- To study a short wave diathermy unit, its operation unit, its operation and different methods of application region wise.
- To study a microwave diathermy unit its operation and different methods of application region wise.
- To study ultrasound unit, its operation and different methods of application region wise.

Books Recommended

- Electrotherapy Explained: Principle and Practice, Low and Reed, Butterworth Heinemann.
- Claytons Electrotherapy -Kitchen and Basin.
- Therapeutic Heat and Cold Lehman- Williams and Wilkins.
- Principles and Practice of Electrotherapy -Kahn Church hill Livingstone.
- Electrotherapy: Clinics in Physical therapy- Wolf Churchill Livingstone

GURU KASHI UNIVERSITY
University College of Physical Education (Code: 7)
Bachelor in Physiotherapy (B.P.T.) (Code: 708)

Semester – III**Subject Name: Biomechanics & Kinesiology-I Lab****Subject Code: 708309****Credits: 1****P****L****T****0****0****2**

- To study the effects of forces on objects.
- To find out the C.G. of an object.
- To study anatomical levers.
- To name and sketch the anatomical movements at different joints in various planes, as observed
- To study different types of muscle contraction, muscle work, group action of muscles, resolution of muscular forces at different joints, coordinated movements.

Books Recommended

- Joint Structure and Function – A Comprehensive Analysis - Norkins & Levangie - F.A. Davis.
- Measurement of Joint Motion – A Guide to Goniometry - Norkins & White - F.A. Davis.
- Brunnstrom’s Clinical Kinesiology - Smith et al - F.A. Davis.
- Basic Biomechanics explained - Low & Reed - Butterworth Heinmann.
- Kinesiology: Applied to Pathological Motion - Soderberg Lippincott.

GURU KASHI UNIVERSITY
University College of Physical Education (Code: 7)
Bachelor in Physiotherapy (B.P.T.) (Code: 708)

Semester – IV

Subject Name: Exercise Therapy-IV

Subject Code: 708401

Paper-I

Credits: 4

L	T	P
4	0	0

I. Hydrotherapy: Basic principles of fluid mechanics as they relate to hydrotherapy; Physiological and therapeutic effects of hydrotherapy including, joint mobility, muscle strengthening and wound care; Types of Hydrotherapy equipment including indications, contraindications, operational skills and patient preparation.

II. Therapeutic Gymnasium:

- Gymnasium and its importance
- Various equipments in gymnasium
- Operational skills including effects and uses of each equipment.

III. Aerobic Exercise:

- Definition and key terms
- Determinants of an Exercise Program
- designing the aerobic Exercise Program
- types and phases of aerobic training
- Effects of aerobic exercises acute and long term (in brief)

IV. Manual Therapy & Peripheral Joint Mobilization:

- Introduction to special mobilization and manipulation techniques
- Principles of Mobilizing Techniques
- Physiological & accessory movements Schools of Manual Therapy (Maitland, Kaltenborn, Mulligan, Cyriax); Principles, Grades, Indications and Contraindications, Effects and Uses

V. Traction:

- Principle of traction
- Physiological and therapeutic effects
- Classification and types,
- Indications and contraindications,
- Techniques applications, operational skills and precautions.

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VI. PNF :

- Conceptual framework
- Principle of Proprioceptive neuromuscular facilitation techniques
- General techniques
- Special techniques

VII. Gait training:

- Normal gait cycle and its phases
- Principles of gait selection and training
- Types of walking aids
- Indications, effects and various training techniques
- Transfer techniques
- Stair climbing training
- Gait Deviations.

VIII. Therapeutic Exercises for various clinical conditions and principles of Exercise Prescription.

BOOKS RECOMMENDED

- Practical Exercise Therapy: Hollis, Blackwell, Scientific Publications.
- Therapeutic Exercises: Basmajian, Williams & Wilkins.
- Therapeutic Exercise: Foundations and Techniques, Kisner & Colby.
- Proprioceptive Neuromuscular Facilitation: Voss et al, Williams & Wilkins
- Principles Of Exercise Therapy: Gardiner
- Orthopedic Physical Therapy: Woods, Churchill Livingstone
- Manipulation and Mobilization: Extremities and Spinal Techniques, Edmond, Mosby.
- Aquatic Exercise Therapy-Bates and Hanson -W.B. Saunders.
- Hydrotherapy: Principles & Practices, Campion, Butterworth & Heinemann.

GURU KASHI UNIVERSITY
University College of Physical Education (Code: 7)
Bachelor in Physiotherapy (B.P.T.) (Code: 708)

Semester – IV

Subject Name: Electro Therapy-IV

Subject Code: 708402

Paper-II

Credits: 4

L	T	P
4	0	0

- I. **Radiation therapy-**, LASER- Definition , historical background ,physical principles, biophysical effects , types, therapeutic effects ,techniques of applications, indications, contraindications , precautions, operational skills and patient preparation.
- II. **Therapeutic Cold (Cryotherapy)-** Sources, biophysical effects, types, therapeutic effects, techniques of applications, indication, contraindications, precaution, operational skills and patient preparation.
- III. **Therapeutic mechanical pressure (Intermittent Compression Therapy)** - Principle, biophysical effects, types, therapeutic effects, indications, contraindications, precautions, operational skills and patient preparation.
- IV. **Review** of Neuromuscular physiology including effects of electrical stimulation
- V. **Electro- diagnosis:** Instrumentation, definition and basic techniques of Strength Duration Techniques, EMG and NCV.
- VI. **Biofeedback:** instrumentation, principles, therapeutic effects, indications, precautions, operational skills and patient preparation.

Books Recommended

- Electrotherapy Explained: Principle and Practice, Low and Reed, Butterworth Heinemann.
- Claytons Electrotherapy -Kitchen and Basin.
- Therapeutic Heat and Cold Lehman- Williams and Wilkins.
- Principles and Practice of Electrotherapy -Kahn Church hill Livingstone.
- Electrotherapy: Clinics in Physical therapy- Wolf Churchill Livingstone.

GURU KASHI UNIVERSITY
University College of Physical Education (Code: 7)
Bachelor in Physiotherapy (B.P.T.) (Code: 708)

Semester – IV

Subject Name: Biomechanics & Kinesiology-II

Subject Code: 708403

Paper-III

Credits: 4

L	T	P
4	0	0

I. The Biomechanics of:

- Shoulder joint
- Elbow Joint
- Wrist & Hand
- Hip joint
- Knee joint
- Ankle joint

II. Posture:

- Definition, factors responsible for posture, relationship of gravity on posture.
- Postural imbalance – factors responsible for imbalance in Static and dynamic positions.
- Introduction to ergonomics

III. Gait:

- Description of Normal gait, determinants of gait, spatio temporal features and analysis.
- Gait deviations – Types, Causative factors and analysis.

IV. Activities of daily living (ADLs): BADL, IADL.

Books Recommended

- Joint Structure and Function – A Comprehensive Analysis - Norkins & Levangie - F.A. Davis.
- Measurement of Joint Motion – A Guide to Goniometry - Norkins & White - F.A. Davis.
- Brunnstrom's Clinical Kinesiology - Smith et al - F.A. Davis.
- Basic Biomechanics explained - Low & Reed - Butterworth Heinmann.
- Kinesiology: Applied to Pathological Motion - Soderberg Lippincott.

Semester – IV

Subject Name: Systemic Pathology

GURU KASHI UNIVERSITY
University College of Physical Education (Code: 7)
Bachelor in Physiotherapy (B.P.T.) (Code: 708)

Subject Code: 708404

Paper-IV

Credits: 3

L	T	P
3	0	0

- I. Nutritional disorders:** deficiency disorders (protein deficiency, vitamin deficiency (A,B,C,D,E,) causes and features, iodine deficiency
- II. Infectious diseases :** An outline of the following infectious diseases with respect to the causative organism, mode of transmission, pathogenesis, prevention, and diagnostic tests (details of the execution and interpretation of the tests not required) : Chicken Pox, Measles, Mumps, Influenza, Diphtheria, Whooping Cough, poliomyelitis, Tetanus, Tuberculosis, Leprosy, Rubella, Cholera, Hepatitis, AIDS, Typhoid, Rabies, STD, Ameobiasis, Kalaazar, Malaria, Filaria
- III.** A brief outline of etiology, pathogenesis and general features of disease of the following systems. (The morphology, microscopic details and details of diagnostic procedures are not required).
- **Disease of blood:** classification, etiology, pathogenesis and general features of disorders of RBC, WBC & Platelets.
 - **Disease of circulatory system :** etiology, pathogenesis and general features of disease - atherosclerosis, thromboangitis obliterance, varicose vein, DVT, thrombophlebitis , lymphoedema , congestive cardiac failure, ischemic heart disease, rheumatic heart disease,) Congenital Heart disease.
 - **Disease of Respiratory System:**__etiology, pathogenesis and general features of Pneumonias, Bronchiactesis, Emphysema, Chronic bronchitis, Asthma, Tuberclosis, Occupational lung diseases, Carcinoma of lungs.
 - **Disease of Joints:** etiology, pathogenesis and general features of Arthritis- rheumatoid, degenerative, infective, metabolic.
 - **Disease of Bone:** etiology, pathogenesis and general features of osteoporosis, pagets disease, osteogenesis imperfecta, osteomyelitis, a brief outline of bone tumors.
 - **Diseases of Muscles:** etiology, pathogenesis and general features of muscular dystrophy, mysthenia gravis, myocitis.

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- **Diseases of Nervous system:** etiology, pathogenesis and general features of meningitis, encephalitis, vascular diseases of brain, peripheral nerve lesions.
- **Diseases of endocrine system:** etiology, pathogenesis and general features of Diabetes Mellitus:, Thyroiditis, Thyrotoxicosis, myxedema.

Books Recommended

- Robbins Pathological Basis of Disease - Cotran, Kumar & Robbins - W.B. Saunders.
- General Pathology - Walter & Israel - Churchill Livingstone.
- Muirs Textbook of Pathology - Anderson - Edward Arnold Ltd.
- Text book of Pathology - Harsh Mohan - Jaypee Brothers.
- Pathology: Implications for Physical Therapists - Goodmann and Boissonnault - W.B. Saunders.
- Essential of Medical Microbiology - Bhatia & Lal - Jaypee Brothers.
- Medical Microbiology - Mims - Jaypee Brothers.
- Microbiology: An Introduction for the Health Sciences – Ackerman and Richards - W.B. Saunders Co.

GURU KASHI UNIVERSITY
University College of Physical Education (Code: 7)
Bachelor in Physiotherapy (B.P.T.) (Code: 708)

Semester – IV

Subject Name: Pharmacology-II

Subject Code: 708405

Paper-V

Credits: 3

L	T	P
3	0	0

I. Drugs acting on central nervous system:

- Anesthetics,
- Alcoholics,
- Alkaloids,
- Narcotics,
- Antipyretics,
- Hypnotics,
- Sedatives,
- Anticonvulsants,
- Anti-Anxiety
- Stimulants and Psychotherapies

II. Drugs acting on respiratory system

III. Drugs for pain management

IV. Chemotherapeutic agents

V. Hormones and drugs affecting endocrine functions

VI. Metabolic and other inorganic compounds

VII. Vitamins

VIII. Immunologic agents

Books Recommended

- Pharmacology and Pharmacotherapeutics - R.S. Satoskar – Popular Publications, Bombay.
- The Pharmacologic Principles of Medical Practice - Krantg & Jelleff - Calcutta Scientific Book Agency.
- Pharmacology - Praseem K. Das. – Churchill Livingstone
- Essential of Medical Pharmacology - K.D. Tripathi - Jaypee Brothers.

Semester – IV

Subject Name: Computer Applications

GURU KASHI UNIVERSITY
University College of Physical Education (Code: 7)
Bachelor in Physiotherapy (B.P.T.) (Code: 708)

Subject Code: 708406

Paper-I

Credits: 3

L	T	P
3	0	0

- I. Computer Fundamentals:** Computer Concepts and its components, characteristics of computer, Storage device, input output devices, software, application of computers in different areas.
- II. Operating System:** Introduction, Functions, Characteristics of operating system, user interface, types: DOS, DOS Commands, Windows its features.
- III. Application Packages:** Working knowledge of MS-WORD, MS EXCEL and MS-POWERPOINT.
- IV. Multimedia and Internet:** Introduction of multimedia, its components, application areas, Networks: LAN, WAN, MAN. Internet and its applications: www, e-mail, Surfing, Browsing, Modem

Books Recommended

- P.K. Sinha, Introduction to Computers.
- Rachpal Singh & Gurinder Singh, PC Softwares
- R.K. Texali, PC Softwares
- Alan Simpson, Internet to Go.

GURU KASHI UNIVERSITY
University College of Physical Education (Code: 7)
Bachelor in Physiotherapy (B.P.T.) (Code: 708)

Semester – IV

Subject Name: Exercise Therapy-IV Lab

Subject Code: 708407

Credits: 1

L	T	P
0	0	2

- To study the structure and functions along with application of various equipment in gymnasium.
- To demonstrate the exercises to improve coordination and balance
- To study and practice the uses of various ambulation aids in gait training.
- To study the various structures and functions of hydrotherapy equipments and their applications.
- To study and practice various traction techniques including manual and mechanical procedures.
- To study plan and practice various exercise programs for normal persons of various age groups.
- To study & practice the various techniques of mobilization of joints region wise.

BOOKS RECOMMENDED

- Practical Exercise Therapy: Hollis, Blackwell, Scientific Publications.
- Therapeutic Exercises: Basmajian, Williams & Wilkins.
- Therapeutic Exercise: Foundations and Techniques, Kisner & Colby.
- Proprioceptive Neuromuscular Facilitation: Voss et al, Williams & Wilkins
- Principles Of Exercise Therapy: Gardiner
- Orthopedic Physical Therapy: Woods, Churchill Livingstone
- Manipulation and Mobilization: Extremities and Spinal Techniques, Edmond, Mosby.
- Aquatic Exercise Therapy-Bates and Hanson -W.B. Saunders.
- Hydrotherapy: Principles & Practices, Campion, Butterworth & Heinemann.

GURU KASHI UNIVERSITY
University College of Physical Education (Code: 7)
Bachelor in Physiotherapy (B.P.T.) (Code: 708)

Semester – IV

Subject Name: Electro Therapy-IV Lab

Subject Code: 708408

Credits: 1

L	T	P
0	0	2

- To study a laser unit its operation and different methods of application region wise.
- To study various forms of therapeutic cold application region wise including - ice, cold packs, vapor coolant sprays, etc.
- To study an intermittent compression therapy unit, its operation and different methods of application region wise.
- To observe various Electromyography procedures.
- To study a Biofeedback unit its operation and different methods of application region wise.

Books Recommended

- Electrotherapy Explained: Principle and Practice, Low and Reed, Butterworth Heinemann.
- Claytons Electrotherapy -Kitchen and Basin.
- Therapeutic Heat and Cold Lehman- Williams and Wilkins.
- Principles and Practice of Electrotherapy -Kahn Church hill Livingstone.
- Electrotherapy: Clinics in Physical therapy- Wolf Churchill Livingstone.

GURU KASHI UNIVERSITY
University College of Physical Education (Code: 7)
Bachelor in Physiotherapy (B.P.T.) (Code: 708)

Semester – IV

Subject Name: Biomechanics & Kinesiology-II Lab

Subject Code: 708409

Credits: 1

L	T	P
0	0	2

- I.** To identify axis and planes of motion at the joints of spine, shoulder girdle, joints of upper extremity, Pelvic girdle and joints of lower extremity.
- II.** To measure angle of torsions.
- III.** Analysis of normal posture with respect to COG and optimal position of joints in anterior, posterior and lateral views.
- IV.** Analysis of normal gait, measurement of spatio temporal features - step length, stride length, cadence.

Books Recommended

- Joint Structure and Function – A Comprehensive Analysis - Norkins & Levangie - F.A. Davis.
- Measurement of Joint Motion – A Guide to Goniometry - Norkins & White - F.A. Davis.
- Brunnstrom’s Clinical Kinesiology - Smith et al - F.A. Davis.
- Basic Biomechanics explained - Low & Reed - Butterworth Heinmann.
- Kinesiology: Applied to Pathological Motion - Soderberg Lippincott.

GURU KASHI UNIVERSITY
University College of Physical Education (Code: 7)
Bachelor in Physiotherapy (B.P.T.) (Code: 708)

Semester – IV

Subject Name: Computer Applications Lab

Subject Code: 708410

Credits: 1

L	T	P
0	0	2

- To study the various components of a personal computer.
- To have working knowledge of hardware and software.
- To practice the operational skills of common computer applications, including word processing & spread sheet software.
- To have a basic knowledge of utility of multi – media.

Books Recommended

- P.K. Sinha, Introduction to Computers.
- Rachpal Singh & Gurinder Singh, PC Softwares
- R.K. Texali, PC Softwares
- Alan Simpson, Internet to Go.

GURU KASHI UNIVERSITY
University College of Physical Education (Code: 7)
Bachelor in Physiotherapy (B.P.T.) (Code: 708)

Semester – V

Subject Name: Clinical Orthopedics-I

Subject Code: 708501

Paper-I

Credits: 4

L	T	P
4	0	0

I. Introduction:

- Introduction to Orthopaedics
- Clinical examination in an Orthopaedic patient.
- Common investigative procedures.
- Radiological and Imaging techniques in Orthopaedics.

II. Orthopedic Surgeries Indications, Classification, Types, Principles of management of the following Surgeries:

- Arthrodesis
- Arthroplasty (partial and total replacement)
- Osteotomy ,
- Bone Grafting
- Tendon Transfers
- Arthroscopy

III. Fractures and Dislocations:

- Fracture: definition, types, signs and symptoms. Fracture healing. Complications of fractures. Principles of management – (conservative and operative).
- Subluxation/ dislocations – definition, signs and symptoms, principles of management (conservative and operative).
- **Upper Limb Fractures and Dislocations:** Causes, clinical features, mechanism of injury, complications, conservative and surgical management of the major long bone fractures and joint injuries.
- **Lower Limb Fractures and Dislocations:** Causes, clinical features, mechanism of injury, complications, conservative and surgical management of the major long bone fractures and joint injuries.
- **Spinal Fractures and Dislocations:** Mechanism of injury, clinical features, complications and management of Spinal injuries.

IV. Hand Injuries: Mechanism of injury, clinical features, and management of the following :

- Crush injuries
- Flexor and extensor injuries

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- Bone and Joint Injuries

V. Metabolic Bone Diseases: Rickets. Osteomalacia, Osteopenia. Osteoporosis.

VI. Deformities clinical features, complications, medical and surgical management of the following:

- **Congenital Deformities:** CTEV, CDH, Torticollis, Scoliosis, Flatfoot, Vertical talus, Ankylosing spondilitis.
- **Hand anomalies:** syndactyly, polydactyly and ectrodactyly, Arthrogryposis multiplex congenital (amyoplasia congenita), Cervical rib.
- **Acquired Deformities:** Acquired Torticollis. Scoliosis. Kyphosis. Lordosis. Genu varum. Genu valgum. Genu recurvatum. Coxa vara. Pes cavus. Hallux rigidus. Hallux valgus. Hammer toe.
- **Genetic Deformities:** Amelia and Phocomelia. Klippel feil syndrome. Osteogenesis imperfecta, Arthrogryphosis multiplex congenital.

VII. Poliomyelitis: Describe the pathology, microbiology, prevention, management and residual problems of polio (PRPS). Outline the treatment of residual paralysis including use of orthoses, principles of muscle transfers.

Books Recommended

- Outline of Fracture-Adams- Churchill Livingstone.
- Outline of Orthopaedics-Adams - Churchill Livingstone.
- Watson – Zones, Fractures and Joint Injuries – Wilson – Churchill Livingstone.
- Clinical Orthopaedic Examination – Mcrae – Churchill Livingstone.
- Physical Examination in Orthopaedics – Apley – Butterworth Heinmann.
- Clinical Orthopaedics Diagnosis – Pandey & Pandey – Jaypee Brothers.
- Cambells Operative Orthopaedics.
- Textbook of orthopaedics- Maheshwari

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Semester – V

Subject Name: General Medicine-I

Subject Code: 708502

Paper-II

Credits: 4

L	T	P
4	0	0

- I. Introduction** to modes of transfer of communicable diseases & general preventive measures.
- II. Bacterial Diseases:** Tuberculosis, Leprosy, Rheumatic fever, Tetanus, Typhoid fever, Diphtheria, Pneumonia, Bacillary Dysentery.
- III. Viral Diseases:** Herpes – simplex and zoster, Varicella, Measles, Mumps, Hepatitis B & C, AIDS & influenza.
- IV. Metabolic and Deficiency Diseases:** Diabetes, Anemia, Vitamin & Mineral Deficiency diseases, diseases of the endocrine glands (brief outline).
- V. Paediatrics:**
 - Review normal foetal development & child birth, including assessment of a neonate.
 - Development of a normal child – neuromotor, physical growth, cognitive, intellectual, social etc.
 - The examination & assessment of a pediatric patient.
 - Congenital & acquired musculo skeletal disorders – etiogenesis, clinical manifestation & principles of management.
 - Congenital & acquired Cardio - pulmonary disorders – etiogenesis, clinical manifestation & principles of management.
 - Congenital & acquired neurological disorders (CNS & PNS) – etiogenesis, clinical manifestation & principles of management.
 - Hereditary disorders - etiogenesis, clinical manifestation & principles of management.
 - Nutritional Deficiency & Development Disorders – etiogenesis, clinical manifestation & principles of management.
- VI. Geriatrics:**
 - Normal aging – definition, the anatomical, physiological and cognitive changes related to aging.
 - Epidemiology and socio- economic impact of aging.
 - Diet & Nutritional requirement of the elderly. Nutritional disorders & their management

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- Musculo skeletal disorders – etiogenesis, clinical manifestation & principles of management.
- Cardio - pulmonary disorders – etiogenesis, clinical manifestation & principles of management.
- Neurological disorders (CNS & PNS) – etiogenesis, clinical manifestation & principles of management.

Books Recommended

- Davidson's principles and Practices of Medicine - Edward - Churchill Livingstone.
- Hutchinson's Clinical Methods - Swash - Bailliere Tindall.
- A Short Text book of Medicine - Krishna Rao - Jaypee Brothers.
- A Short Text book of Psychiatry - Ahuja Niraj - Jaypee Brothers.

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Semester – V

Subject Name: Physiotherapy in Orthopaedic Conditions-I

Subject Code: 708503

Paper-III

Credits: 4

L	T	P
4	0	0

- I. Orthopaedics:** Introduction to orthopaedics terminology, types of pathology, clinical examination, common investigation and outline of operative, non-operative and detailed physiotherapy management.
- II. Traumatology** – General Physiotherapy approach for following conditions -
- Fractures and Dislocations : Classification and type of displacement, method of immobilisation, factors affecting union, non-union, delayed union, common complication their prevention
- III. Specific fractures** - Complete physiotherapy management of fractures of:
- Upper limb – Clavicle, humerus, radius, ulna, crush injuries of hand.
 - Lower limb – neck of femur, shaft of femur, patella, tibia, fibula, pott’s fracture, fracture of tarsals and metatarsals.
 - Spine – Fracture and dislocations of cervical, thoracic and lumbar vertebrae with and without neurological deficits.
- IV. Physiotherapy assessment** and evaluation and clinical decision making in orthopaedic conditions:
- a. Congenital disorders or Deformities:
 - Congenital Torticollis
 - Cervical rib
 - Sprengels shoulder
 - Coxa vara & valga
 - CTEV
 - Pes Planus
 - Pes cavus
 - b. Review clinical features and describe PT management of Ankylosing spondylitis.
 - c. Acquired Deformities:
 - Scoliosis

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- Kyphosis
 - Lordosis
 - Coxa vara
 - Genu valgum
 - Genu varum and Recurvatum
- d. Corrective Surgery: Pre and post operative physiotherapy management of
- Arthrodesis
 - Osteotomy
 - Tendon transplantation
 - Soft tissue release
 - Bone grafting
 - Arthroplasty
- e. Leprosy: Common deformities, Clinical Features, Rehabilitation.
- f. Poliomyelitis

BOOKS RECOMMENDED

- Apley's system of Orthopaedics and fractures -Louis Solomon, David J. Warwick
Arnold Publishers, London
- Turek's Orthopaedics: Principles and their Application , Weinstein SL and Buckwalter
JA, Lippincott
- Clinical Orthopaedic Rehabilitation, Brent Brotzman.
- Orthopaedic Physiotherapy, Robert A Donatelli, Churchill Livingstone.
- Tidy's Physiotherapy, Ann Thomasons ,Varghese publishing House.
- Physical Rehabilitation Assessment and Treatment, Susan Sullivan, Japee brothers
- Textbook of Orthopaedics, John Ebnezar, Jaypee Brothers.
- Textbook of Orthopaedics and Rheumatology for Physiotherapists, Patricia A Downie.
- Orthopedic Physical Assessment – David Magee
- Clinical Orthopaedic Diagnosis – Surishwar Pandey
- Text book of Orthopaedics – SN Maheswari
- Peripheral Mobilisation – GD Maitlant, Butterworth
- Vertebral Mobilisation – GD Maitland, Butterworth and Heinmann Publication.
- Orthopaedics for Physiotherapist – Jayant Joshi.

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Semester – V

Subject Name: Physiotherapy in Medical Conditions

Subject Code: 708504

Paper-IV

Credits: 4

L	T	P
4	0	0

I. Physiotherapy management in general medical conditions:

- Role of Physiotherapy in wounds and local infections
- Types of oedema-Traumatic, Obstructive, Paralytic, oedema due to poor muscle and laxity of fascia
- Vestibular Rehabilitation: Exercise Prescription in Vertigo
- Physiotherapy in management of burns
- Physiotherapy in wounds, ulcers and pressure sores.
- Common skin conditions – Acne, Psoriasis, Alopecia, Leucoderma, and Leprosy.
- Deficiency Diseases – Rickets, Diabetes, Osteoporosis, Osteomalacia, osteopenia, Obesity.

II. Pediatrics –

1. Review of the examination & assessment of a pediatric patient.
2. Review of pathological changes and principle of management by physiotherapy of the following conditions-
 - Congenital & acquired musculo-skeletal disorders
 - Congenital & acquired Cardio - pulmonary disorders
 - Congenital & acquired neurological disorders (CNS & PNS)
 - Hereditary disorders
 - Nutritional Vitamins Deficiency & Development Disorders

III. Geriatrics:

1. Review of the examination & assessment of a geriatric patient.
2. Review of pathological changes and principle of management by physiotherapy of the following conditions –
 - Musculo skeletal disorders
 - Cardio - pulmonary disorders
 - Neurological disorders (CNS & PNS)
 - Dementia – types and principles of management

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Books Recommended:

- Guccione – Geriatric Physical Therapy
- Multani and Verma – Principles of Geriatric Physiotherapy
- Tidy’s Textbooks of Physiotherapy. Elsevier
- Cash Textbook of Physiotherapy in Medical and Surgical Conditions.
- Physical Rehabilitation, Assessment and management; Susan Sullivan
- Physiotherapy in Obstetrics and Gynecology, Polden

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Semester – V

Subject Name: Research Methodology

Subject Code: 708505

Paper-V

Credits: 3

L	T	P
3	0	0

- I.** Research- Definition, history, objectives, scope, research methods versus methodology, morality and ethical issues in research in Physiotherapy.
- II.** Experimental methods- Definition and types – trial and error, controlled observational study, natural laboratory experiments, validity of results and merits of experimental methods.
- III.** Sample – Sampling methods – importance, types of sampling (probability and non-probability methods) – random, purposive, stratified and convenient.
- IV.** Schedules – Definition, purpose, essentials of good schedule, advantages and limitations.
- V.** Questionnaire – Types, problem of response, reliability and validity of questionnaire, advantages and limitations, difference between questionnaire and schedule.
- VI.** Interview – Types – structured and unstructured, focused, repetitive, preparation and techniques of interview, limitations.
- VII.** Observations – Types – participant, non-participant, controlled, uncontrolled observations, importance and limitations.
- VIII.** Case study – Definitions, sources, characteristics, evolution and scope, advantages, limitations and improvements.

Books Recommended

- Bajpai S.R. –Methods of Social Survey and Research, Kitab Ghar, Kanpur.
- Mohsin S.M. – Research methods in Behavioral Sciences. Orient publications, New Delhi.
- Hicks – Research for Physiotherapists, Churchill Livingstone, London.
- Meenakshi – First course in Methodology of Research. Kalia Prakashan, Patiala.
- Kumar R. – Research Methodology. Pearson Education, Australia.

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Semester – V

Subject Name: Clinical Orthopaedics-I Lab

Subject Code: 708506

Credits: 1

L	T	P
0	0	2

Practical shall be conducted for all relevant topics discussed in theory in the following forms:

- Evaluation and clinical reasoning in orthopaedics
- Examination of upper extremity: Shoulder, Elbow, Forearm, Wrist and Hand
- Examination of lower extremity: Hip, Knee, Ankle and Foot
- Examination of spine: Cervical spine, Thoracic Spine, Lumbar Spine
- Case presentations and Case discussions
- Discussion on various orthopaedic treatment techniques

Books Recommended

- Outline of Fracture-Adams- Churchill Livingstone.
- Outline of Orthopaedics-Adams - Churchill Livingstone.
- Watson – Zones, Fractures and Joint Injuries – Wilson – Churchill Livingstone.
- Clinical Orthopaedic Examination – Mcrae – Churchill Livingstone.
- Physical Examination in Orthopaedics – Apley – Butterworth Heinmann.
- Clinical Orthopaedics Diagnosis – Pandey & Pandey – Jaypee Brothers.
- Cambells Operative Orthopaedics.
- Textbook of orthopaedics- Maheshwari

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Semester – V

Subject Name: General Medicine-I Lab

Subject Code: 708507

Credits: 1

L	T	P
0	0	2

Practical shall be conducted for all relevant topics discussed in theory in the following forms:

- Recording of blood pressure
- Recording of ECG
- Pulmonary function test
- Bedside case presentations and case discussions
- Lab sessions consisting of evaluation and assessment methods on student models, treatment techniques and practice sessions.
- Practical including evaluation, clinical diagnosis and treatment for the conditions covered in Paediatrics & Geriatrics.

Books Recommended

- Davidson's principles and Practices of Medicine - Edward - Churchill Livingstone.
- Hutchinson's Clinical Methods - Swash - Bailliere Tindall.
- A Short Text book of Medicine - Krishna Rao - Jaypee Brothers.
- A Short Text book of Psychiatry - Ahuja Niraj - Jaypee Brothers.

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Semester – V

Subject Name: Physiotherapy in Orthopaedic Conditions-I Lab

Subject Code: 708508

Credits: 2

L	T	P
0	0	4

- Various physiotherapy modalities and treatment techniques for the conditions mentioned in “Clinical Orthopaedics I” to be demonstrated and practiced by the students in clinical setup.
- Case presentations and Case discussions emphasizing on differential diagnosis and clinical reasoning skills.

BOOKS RECOMMENDED

- Apley’s system of Orthopaedics and fractures -Louis Solomon, David J. Warwick
Arnold Publishers, London
- Turek’s Orthopaedics: Principles and their Application , Weinstein SL and Buckwalter
JA, Lippincott
- Clinical Orthopaedic Rehabilitation, Brent Brotzman.
- Orthopaedic Physiotherapy, Robert A Donatelli, Churchill Livingstone.
- Tidy’s Physiotherapy, Ann Thomasons ,Varghese publishing House.
- Physical Rehabilitation Assessment and Treatment, Susan Sullivan, Japee brothers
- Textbook of Orthopaedics, John Ebnezar, Jaypee Brothers.
- Textbook of Orthopaedics and Rheumatology for Physiotherapists, Patricia A Downie.
- Orthopedic Physical Assessment – David Magee
- Clinical Orthopaedic Diagnosis – Surishwar Pandey
- Text book of Orthopaedics – SN Maheswari
- Peripheral Mobilisation – GD Maitlant, Butterworth
- Vertebral Mobilisation – GD Maitland, Butterworth and Heinmann Publication.
- Orthopaedics for Physiotherapist – Jayant Joshi.

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Semester – V

Subject Name: Physiotherapy in Medical Conditions Lab

Subject Code: 708509

Credits: 2

L	T	P
0	0	4

- Various physiotherapy modalities and treatment techniques for the conditions mentioned in “General Medicine I” to be demonstrated and practiced by the students in clinical setup.
- Case presentations and Case discussions emphasizing on differential diagnosis and clinical reasoning skills.

Books Recommended:

- Guccione – Geriatric Physical Therapy
- Multani and Verma – Principles of Geriatric Physiotherapy
- Tidy’s Textbooks of Physiotherapy. Elsevier
- Cash Textbook of Physiotherapy in Medical and Surgical Conditions.
- Physical Rehabilitation, Assessment and management; Susan Sullivan
- Physiotherapy in Obstetrics and Gynecology, Polden

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Semester – VI

Subject Name: Clinical Orthopedics II

Subject Code: 708601

Paper-I

Credits: 4

L	T	P
4	0	0

I. Definition, Clinical features and management of the following regional conditions:

- **Shoulder:** Periarthritic shoulder (adhesive capsulitis), Rotator cuff tendinitis, Supraspinatus Tendinitis, Infraspinatus Tendinitis, Bicipital Tendinitis, Subacromial Bursitis.
- **Elbow:** Tennis Elbow, Golfer's Elbow, Olecranon Bursitis (student's elbow), Triceps Tendinitis.
- **Wrist and Hand:** De Quervain's Tenosynovitis, Ganglion, Trigger Finger/ Thumb, Mallet Finger, Carpal Tunnel Syndrome, Dupuytren's Contracture.
- **Pelvis and Hip:** Perthes disease, Slipped Capital Femoral Epiphysis and Avascular Necrosis, Trochanteric Bursitis, Hamstring strain, quadriceps contusion.
- **Knee:** Meniscal injuries of knee, Cruciate injuries of knee, Medial and lateral collateral injuries of knee, Osteochondritis Dissecans, Prepatellar and Suprapatellar Bursitis, Patellar Tendinitis, Chondromalacia Patella.
- **Ankle and Foot:** Ankle Sprains, Plantar Fasciitis, Calcaneal Spur, Achilles Tendinitis, Metatarsalgia, Morton's Neuroma, Rupture Achilles tendon, shin pain & shin leg (calf strain).
- **Spine** - Prolapsed intervertebral disc (PID), Spinal Canal Stenosis, Spondylosis (cervical and lumbar) Spondylolysis, Spondylolisthesis, Lumbago, Lumbosacral strain, Sacralisation, Lumbarisation, Coccydynia, Hemivertebral.

II. Bone & Joint Infections: Outline the etiology, clinical features, management and complications of osteomyelitis, Septic, Tuberculosis (including spinal T.B.).

III. Bone Joint Tumors: Classify and outline the clinical features, management and complications of the following (benign / malignant bone and joint tumors, osteomas, osteosarcomas, osteoclastomas, Ewing's sarcoma, multiplemyeloma, Gait cell tumor.

IV. Chronic Arthritis: Outline of pathology: clinical features, mechanism of deformities, management and complications of: Rheumatoid arthritis. Osteoarthritis of major joints and spine, Ankylosing spondylitis, Gout, Pseudogout.

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- V. Amputations:** Classify amputations, list indications for surgery. Outline pre-operative, operative and prosthetic management. Outline prevention and treatment of complications.
- VI. Peripheral Nerve Injuries:** Outline the clinical features and management, including reconstructive surgery of: Radial, median and ulnar nerve, Sciatic and lateral popliteal nerve lesions, Brachial plexus injuries including Erbs Palsy, Klumpke's paralysis.

Books Recommended

- Outline of Fracture-Adams- Churchill Livingstone.
- Outline of Orthopaedics-Adams - Churchill Livingstone.
- Watson – Zones, Fractures and Joint Injuries – Wilson – Churchill Livingstone.
- Clinical Orthopaedic Examination – Mcrae – Churchill Livingstone.
- Physical Examination in Orthopaedics – Apley – Butterworth Heinmann.
- Clinical Orthopaedics Diagnosis – Pandey & Pandey – Jaypee Brothers.
- Cambells Operative Orthopaedics.
- Textbook of orthopaedics- Maheshwari

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Semester – VI

Subject Name: General Medicine-II

Subject Code: 708602

Paper-II

Credits: 4

L	T	P
4	0	0

- I. Diseases of Digestive Systems:** Hemetemesis, Pharyngitis, spasm of the Oesophagus(GERD), Gastric ulcer, Crohn's disease ulcerative colitis, Pyloric stenosis, Malabsorption, Dyspepsia, Vomiting, Diarrhoea, Duodenal ulcer
- II. Disease of Liver:** Jaundice, Hepatitis, Cirrhosis of liver, Abscess of liver, Ascitis.
- III. Diseases of Kidney:** Renal Failure, Nephrotic Syndrome, Nephritis, Urinary tract infections, Urinary calculi.
- IV. Diseases of Skin:** Acne, Boil, Carbuncles, Impetigo, Herpes, Urticaria, Psoriasis, Warts, Corn, Psoriasis, Fungal infections, Leprosy, Dermatitis, Eczema, Venereal diseases.
- V. Diseases of Respiratory System:** Asthma, Bronchitis, Massive collapse of lungs, Bronchiectasis, Bronchial Pneumonia, lung abscess, Emphysema, Pleural effusion, Pneumothorax, Paralysis of diaphragm & vocal cords, chronic infection of larynx and trachea, Abnormalities of trachea, infract of lungs, chronic obstructive pulmonary disease, chest wall deformities.
- VI. Diseases of Circulatory System:** Atherosclerosis, Thrombosis, Embolism, Gangrene, Hemorrhage, various diseases of arteries, diseases of blood forming organs, Anemia, Leukaemia, Peripheral Vascular diseases, diseases of the lymphatic systems.
- VII. Diseases of the heart:** ischemic heart disease, rheumatic heart disease, congenital heart disease, cardiac arrest, Hypertension, Hypotension, Aortic Aneurysm, Coronary heart disease.

Books Recommended

- Davidson's principles and Practices of Medicine - Edward - Churchill Livingstone.
- Hutchinson's Clinical Methods - Swash - Bailliere Tindall.
- A Short Text book of Medicine - Krishna Rao - Jaypee Brothers.
- A Short Text book of Psychiatry - Ahuja Niraj - Jaypee Brothers.

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Semester – VI

Subject Name: Physiotherapy in Orthopaedic Conditions-II

Subject Code: 708603

Paper- III

Credits: 4

L	T	P
4	0	0

- I.** Physiotherapy management for Soft Tissue injuries and inflammatory condition of upper and lower limb:
 - Periarthritis
 - Capsulitis
 - Tendinitis
 - Synovitis
 - Volkmann’s ischemic contracture
 - Compartment syndrome
 - Bursitis
 - Ligament injuries around shoulder, elbow, wrist knee and ankle.
- II.** Conservative and pre and post operative physiotherapy management of
 - Injuries of semi lunar cartilage
 - Meniscus and cruciate ligament of knee
 - Internal derangement of knee
 - Meniscectomy
 - Patellectomy.
- III.** **Amputation** – level of amputation of upper limb and lower limb, stump care, stump bandaging, pre and post prosthetic management including check out of prosthesis, training, etc.
- IV.** **Infections in bones and joints:-** Acute and Chronic
- V.** **Rheumatic Arthritis:** Review its sign and symptoms radiological features, pathology, common deformities and medial surgical, PT management in acute and chronic stage and detailed home programme.
- VI.** **Osteoarthritis:** Review its sign and symptom, radiological features, pathology, common deformities, medical and surgical management and detailed physiotherapy and home programme with special emphasis on osteoarthritis of hip, knee, ankle and shoulder.
- VII.** **Cervical and lumbar spinal disorders:** spondylosis, spondylitis, spondylolisthesis, Stenosis outline PT assessment, PT aims and management.

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- VIII. Intervertebral disc prolapsed (PIVD):** Review basic anatomy and Biomechanics of spine, causes, symptoms, investigation, done, describe in detail PT aim and treatment.
- IX. Principles of sports physiotherapy** – causes of sports injury, prevention of sports injuries, management of acute sports injuries, commonly occurring unjuries. Role of physiotherapy in sports, principle and advanced rehabilitation of the injured athlete.

BOOKS RECOMMENDED

- Cash text book of Orthopaedics and Rheumatology for Physiotherapists – Downie – Jaypee Brothers.
- Tidy's Physiotherapy, Ann Thomasons, Varghese publishing House.
- Orthopaedics for Physiotherapist – Jayant Joshi.
- Orthopaedic Physiotherapy, Robert A Donatelli, Churchill Livingstone.
- Physical Rehabilitation Assessment and Treatment, Susan Sullivan, Jaypee brothers
- Textbook of Orthopaedics, John Ebnezar, Japee Brothers.
- Orthopedic Physical Assessment – David Magee
- Clinical Orthopaedic Diagnosis – Surishwar Pandey
- Hand Book and Text Book of Orthopaedic Rehabilitation Brent Brotzman.
- Text book of Orthopaedics – SN Maheswari
- Peripheral Mobilisation – GD Maitlant, Butterworth
- Vertebral Mobilisation – GD Maitland, Butterworth and Heinmann Publication

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Semester – VI

Subject Name: Physiotherapy in Cardiopulmonary Conditions

Subject Code: 708604

Paper-IV

Credits: 4

L	T	P
4	0	0

- I. Review** of Anatomy and Physiology of the Cardio Respiratory System
- II. Principles of Cardio Respiratory Evaluation** including Physical assessment in Cardio respiratory dysfunction
- III. Postural Drainage** - Indications, general precautions and contraindications, drainage on individual bronchopulmonary segments, modified postural drainage and continuing postural drainage as a home programme.
- IV. Physiotherapy in cardiac conditions** - Indication, goals and procedure of -
 - Breathing exercise
 - Diaphragmatic breathing
 - Localized basal expansion
 - Apical expansion
 - Specific segmental exercise
 - Chest Mobilization Exercise
 - Relaxation Positions for the breathless patient
 - Controlled berating during walking and during functional activity
 - Huffing and coughing
 - Forced expiratory technique
 - Chest shaking
 - Percussion and vibration.
- V. Review of pathological changes and principle of management by physiotherapy in following conditions –**
 - Thrombosis
 - Embolism
 - Arteriosclerosis
 - Thrombophlebitis
 - Gangrene
 - Congestive cardiac failure
 - Hypertension
 - Hypotension.
- VI. Physiotherapy in Obstructive Lung Diseases:**

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- Decreased outflow due to bronchospasm, anxiety due to difficulty in ventilation, exertion due to increased work or breathing
- Treatment techniques- relaxation posture and techniques, reassurance and education about disease, controlled breathing, breathing exercise, postural drainage, vibratory shaking, huffing and coughing, graduated exercise programme and posture correction.
- Application of the above evaluation and intervention tools in Asthma, Bronchiectasis, Chronic Bronchitis and Emphysema

VII. Physiotherapy in Restrictive lung disorders:

- Decreased expansion of lung due to restriction of chest wall movement causing decreased ventilation, defective posture and decreased exercise tolerance,
- Treatment techniques- mobilizing exercise to thorax and spine breathing exercise to increase ventilation, exercise for posture correction, graduated exercise to increase tolerance.
- Application of the above evaluation in intervention techniques in Maturational Restrictive lung dysfunction, Pulmonary Causes of Restrictive lung dysfunction including Pneumonia, Bronchogenic Carcinoma, Pleura Effusion, Occupational Lung diseases, Cardio vascular cause of Restrictive Lung dysfunction, Various causes of Restrictive Lung dysfunction.

BOOKS RECOMMENDED

- Cash Textbook of Cardio Respiratory Disease for Physiotherapistis, Elsevier : Jaypee Brothers Publications
- Tidys Textbooks of Physiotherapy, Elsevier
- Physiotherapy in Cardio Respiratory Disease, Jenifor Pryou and Ammani Prasad.
- Physical Rehabilitation – Assessment and Treatment. Susan Sullivan.
- Cardio Pulmonary Rehabilitation – Scott Irwin.
- Essentials of Cardio Pulmonary Physical Therapy: Ellen Hilleglass; Steven Sadowsky : W. B. SAUNDERS COMPANY
- Physical Rehabilitation Assessment and Treatment, Susan Sullivan, Jaypee Brother Publications.

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Semester – VI

Subject Name: Biostatistics

Subject Code: 708605

Paper-V

Credits: 3

L	T	P
3	0	0

- I. **Statistics:** Definition, origin and growth, functions, applications in physiotherapy and limitations of statistics.
- II. **Presentation of data:** Types of diagrams, techniques of construction of graph, graphs of frequency distribution, histograms, frequency polygons, limitations of diagrams and graphs.
- III. **Central tendencies:** Measures of central values, types of averages – mathematical, average of location, mean, mode, median, limitations.
- IV. **Measures of Dispersion:** Significance of variation, Range- interquartile range, standard deviation, standard error of mean, skewness and kurtosis.
- VIII. **Correlation analysis:** types of correlation, methods of correlation, scatter diagram, Karl Pearson's coefficient of correlation, Rank correlation coefficient.
- IX. **Regression analysis:** linear and curvilinear regression, binomial distribution – normal distribution and poisson distribution.
- X. **Test of significance:** Tests of hypothesis- t-test – one tailed and two tailed, chi-square test, misuse and limitations, F – test, and ANOVA.
- XI. **Univariate and bivariate analysis:** parametric and non-parametric tests, Mann-whitney U test, Spearman's rank correlation, Kruskal-Wallis test.

Books Recommended

- Bailey N.T.J. – Statistical methods in Biology. The English University Press, London.
- Colton – Statistics in medicine. Little Brown Company, Boston.
- Gupta S.P. – Statistical Methods. Sultan Chand and sons Publishers, New Delhi.
- Mahajan – Methods in Biostatistics. Jaypee Brothers. Medical Publishers (P) Ltd. New Delhi.
- Goulden C.H. – Methods of Statistical Analysis. Asia Publishing House, New Delhi.
- Snedecor G.W. – Statistical Methods. Allied Pacific Pvt. Ltd., London.

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- Singh I. – Elementary Statistics for Medical Workers. Jaypee Brothers Medical Publishers (P) Ltd. New Delhi.
- Indrayan A. and Satyanarayana L. – Biostatistics for Medical, Nursing and Pharmacy students. Prentice Hall of India, Pvt. Ltd. New Delhi.

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Semester – VI

Subject Name: Clinical Orthopedics-II Lab

Subject Code: 708606

Credits: 1

L	T	P
0	0	2

Practical shall be conducted for all relevant topics discussed in theory in the following forms:

- Evaluation and clinical reasoning in orthopaedics
- Neurological Examination including sensory examination, Dermatomes, Myotomes, Deep tendon reflexes
- Case presentations and Case discussions
- Discussion on various orthopedic treatment techniques

Books Recommended

- Outline of Fracture-Adams- Churchill Livingstone.
- Outline of Orthopaedics-Adams - Churchill Livingstone.
- Watson – Zones, Fractures and Joint Injuries – Wilson – Churchill Livingstone.
- Clinical Orthopaedic Examination – Mcrae – Churchill Livingstone.
- Physical Examination in Orthopaedics – Apley – Butterworth Heinmann.
- Clinical Orthopaedics Diagnosis – Pandey & Pandey – Jaypee Brothers.
- Cambells Operative Orthopaedics.
- Textbook of orthopaedics- Maheshwari

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Semester – VI

Subject Name: General Medicine II Lab

Subject Code: 708607

Credits: 1

L	T	P
0	0	2

Practical shall be conducted for all relevant topics discussed in theory in the following forms:

- Clinical examination of respiratory system
- Clinical examination of cardiovascular system
- Clinical examination of digestive system and abdomen
- Clinical examination of nervous system
- Bedside case presentations and case discussions
- Lab sessions consisting of evaluation and assessment methods on student models, treatment techniques and practice sessions.

Books Recommended

- Davidson's principles and Practices of Medicine - Edward - Churchill Livingstone.
- Hutchinson's Clinical Methods - Swash - Bailliere Tindall.
- A Short Text book of Medicine - Krishna Rao - Jaypee Brothers.
- A Short Text book of Psychiatry - Ahuja Niraj - Jaypee Brothers.

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Semester – VI

Subject Name: Physiotherapy in Orthopaedic Conditions-II Lab

Subject Code: 708608

Credits: 2

L	T	P
0	0	4

- Various physiotherapy modalities and treatment techniques for the conditions mentioned in “Physiotherapy in Orthopaedic Conditions-II” to be demonstrated and practiced by the students in clinical setup.
- Case presentations and Case discussions

BOOKS RECOMMENDED

- Cash text book of Orthopaedics and Rheumatology for Physiotherapists – Downie – Jaypee Brothers.
- Tidy’s Physiotherapy, Ann Thomasons, Varghese publishing House.
- Orthopaedics for Physiotherapist – Jayant Joshi.
- Orthopaedic Physiotherapy, Robert A Donatelli, Churchill Livingstone.
- Physical Rehabilitation Assessment and Treatment, Susan Sullivan, Jaypee brothers
- Textbook of Orthopaedics, John Ebnezar, Japee Brothers.
- Orthopedic Physical Assessment – David Magee
- Clinical Orthopaedic Diagnosis – Surishwar Pandey
- Hand Book and Text Book of Orthopaedic Rehabilitation Brent Brotzman.
- Text book of Orthopaedics – SN Maheswari
- Peripheral Mobilisation – GD Maitlant, Butterworth
- Vertebral Mobilisation – GD Maitland, Butterworth and Heinmann Publication

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Semester – VI

Subject Name: Physiotherapy in Cardiopulmonary Conditions Lab

Subject Code: 708609

Credits: 2

L	T	P
0	0	4

- Include Clinical hours on patient examination and Physiotherapy intervention under supervision on the various conditions as outlined in “Physiotherapy in Cardiopulmonary Conditions”.
- Includes case presentations emphasizing on differential diagnosis and clinical reasoning skills.

BOOKS RECOMMENDED

- Cash Textbook of Cardio Respiratory Disease for Physiotherapistis, Elsevier : Jaypee Brothers Publications
- Tidys Textbooks of Physiotherapy, Elsevier
- Physiotherapy in Cardio Respiratory Disease, Jenifor Pryou and Ammani Prasad.
- Physical Rehabilitation – Assessment and Treatment. Susan Sullivan.
- Cardio Pulmonary Rehabilitation – Scott Irwin.
- Essentials of Cardio Pulmonary Physical Therapy: Ellen Hilleglass; Steven Sadowsky : W. B. SAUNDERS COMPANY
- Physical Rehabilitation Assessment and Treatment, Susan Sullivan, Jaypee Brother Publications.

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Semester – VII

Subject Name: Neurology-I

Subject Code: 708701

Paper-I

Credits: 4

L	T	P
4	0	0

I. Neuroanatomy:

Review the basic anatomy of the brain and spinal cord including:

- Blood supply of the brain(Circle of willis) and spinal cord
- Anatomy of the visual & auditory pathway
- Connections of the cerebellum and extrapyramidal system with brainstem & other parts of the brain & its function.
- Relationship of the spinal nerves to the spinal cord segments.
- Ascending & Descending tracts of the spinal cord
- Brachial and lumbar plexus
- Cranial nerves.

II. Neurophysiology:

Review in brief the Neurophysiological basis of:

- Tone and its disorders
- Postural control
- Bowel & bladder control
- Muscle contraction(cross bridge cycle)
- Mechanism of pain

III. Assessment and evaluative procedures for the neurological patient:

Neurological assessment:

- History taking
- Higher mental function
- Cranial nerve examination
- Tone assessment
- Sensory examination
- Balance & Corrdination Examination
- Principles of clinical diagnosis
- Evaluation of autonomic nervous system

IV. Investigations:

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- Brief introduction of various investigatory procedures- CT, MRI, evoked potentials, lumbar puncture, CSF examination, EMG, NCV, skull X-ray.

V. Review of the principles of the management of a neurological patient:

- Handling & positioning
- Management

VI. Briefly outline the Etiology, Pathogenesis, clinical features and management of the following Neurological disorders:

- **Cerebrovascular accidents:**
 - Difference between stroke & TIA
 - Types of stroke (Hemorrhagic, thrombotic, embolitic origin)
 - Stroke syndromes (MCA, PCA, ACA, Vestibulobasilar)

- **Diseases & Disorders of the spinal cord:**
 - Craniovertebral junction anomalies
 - Syringomyelia
 - Cervical and lumbar disc lesions
 - Spinal Tumors and Spinal arachnoiditis.
 - Tabes dorsalis

- **Demyelinating diseases (central and peripheral):**
 - Guillain – Barre syndrome
 - Acute disseminated encephalomyelitis
 - Transverse myelitis
 - Multiple sclerosis.

- **Degenerative& Movement disorders:**
 - Parkinson’s disease & Kinetic disorders
 - Dementia(Alzheimer’s disease)
 - Motor neuron diseases (MNDs)

- **Infections of brain & spinal cord:**
 - Poliomyelitis
 - Meningitis
 - Encephalitis
 - Brain Abscess
 - Tuberculous infection of central nervous system

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- VII. Trauma** – localization, first aid and management of sequelae of head injury and spinal cord injury.
- VIII. Epilepsy-** Definition, Classification & Management
- IX. Intracranial Tumors-** Broad Classification, Signs & Symptoms.

Books Recommended

- Brain's Diseases of the Nervous System - Nalton – ELBS.
- Guided to clinical Neurology - Mohn & Gaectier - Churchill Livingstone.
- Principles of Neurology - Victor – McGraw Hill International edition.
- Davidson's Principles and practices of medicine - Edward - Churchill Livingstone.
- Medicine and Neurology by Golewala.

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Semester – VII

Subject Name: General Surgery-I

Subject Code: 708702

Paper-II

Credits: 4

L	T	P
4	0	0

- I. Introduction** to principles of surgery and its procedure.
- II. Shock:** definition, types, clinical feature, pathology & management
- III. Haemorrhage:** common sites, complication, clinical features & management
- IV. Blood Transfusion:** Blood group matching, indication & complication
- V. Anaesthesia:** Principles of anaesthesia, types & procedure
- VI. Wounds:** wound healing, Tissue repair, Classification – Acute Wounds, Chronic wounds, Scars & their Management
- VII. Wound Infections:** manifestation, Types of infections & their Management
- VIII. Tumors and Ulcers:** Types & Management
- IX. Abdominal Surgery** – Types of Incisions, indications, pre operative preparation, types of incision used and, post operative complications of Nephrectomy, Appendicectomy, herniorrhaphy, colostomy, adrenalectomy, cystectomy, hysterectomy, prostatectomy, cholecystectomy, ileostomy.
- X. Transplant Surgery:** Heart, Lung and Kidney – Indications, Physiological changes and Complications.
- XI. Burns:** Causes, Classification, Clinical features & Management.
- XII. Skin Grafting:** Indications, Types & Procedures
- XIII. Hand Infections:** Types & Management.
- XIV. General Injuries :** Types & Management

Books Recommended

- Davidson's Text book of medicine.
- Harrisons Text book of internal medicine.
- Baily and Love - Short Practice of Surgery - Mann and Rains - H.K. Levis Publications, London.
- Undergraduate Surgery - Nan - Academic Publishers, Calcutta.
- Textbook of Surgery - Gupta R.L. - Jaypee.
- Principles and Practices of Trauma Care - Kocher - Jaypee.

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Semester – VII

Subject Name: Physiotherapy in Neurological Conditions-I

Subject Code: 708703

Paper-III

Credits: 4

L	T	P
4	0	0

I. Basic review of Neuroanatomy & Neurophysiology of movement and function

Physiotherapy assessment, evaluation and clinical decision making in neurological conditions

II. Approaches of neurological physiotherapy

Basic outline of principles of treatment techniques & approaches used in

- N.D.T. Therapy
- Motor Relearning Programme
- P.N.F. Roods Approach
- Sensory Re-education
- Facilitatory & Inhibitory Techniques.

III. Review of pathological changes, assessment & Physiotherapy Management and Rehabilitation in following conditions

- Hemiplegia
- Paraplegia
- Tabes Dorsalis
- Syringomyelia
- Infections –
 - a) Poliomyelitis,
 - b) Meningitis,
 - c) Encephalitis,
 - d) Polyneuritis,
 - e) Transverse Myelitis.
- Parkinsonism
- Multiple sclerosis
- Cerebellar Ataxia

IV. Physiotherapy in Psychiatric Conditions: How to handle a patient.

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BOOKS RECOMMENDED

- Cash Textbook of Neurology for Physiotherapists - Downi - J.P. Brothers.
- Physical Rehabilitation Susan Sullivan.
- Tetraplegia and Paraplegia, Ida Bromely
- Adult Hemiplegia - Evaluation & Treatment - Bobath - Oxford Butterworth Heinmann
- Neurological Rehabilitation, Carr and Shepard
- Neurological Rehabilitation, Darcy Umphred, Mosby.
- Tidy's Physiotherapy

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Semester – VII

Subject Name: Physiotherapy in Surgical Conditions-I

Subject Code: 708704

Paper-IV

Credits: 4

L	T	P
4	0	0

Review of pathological changes and principles of pre and post operative management by physiotherapy of the following conditions:

I. Wounds, Burns & Plastic Surgery

- Wounds, ulcers, pressure sores.
- Burns & their complications.
- Common reconstructive surgical proceedings of the management of wounds, ulcers, burns & consequent contractures & deformities.

II. Abdominal and transplant surgeries

- Common abdominal surgeries, including GIT, liver, spleen, kidney, bladder etc.
- Common organ transplant surgeries – heart, liver, bone marrow etc.

III. Principles of Intensive Care Physiotherapy:

- Knowledge of the following equipments: Endotracheal tubes, tracheostomy tube, Humidifier, Different Ventilators, Suction Pump, Electrocardiogram, Pressure monitors (arterial, central venous pressure), Pulmonary Wedge, intracranial and temperature monitors.
- Evaluation of the patient in the intensive care Unit including Glasgow Coma Scale
- Outline the history of mechanical Respiration.
- Define the terms: (a) Respirator (b) Lung Ventilator (c) Resuscitators (d) IPPB (e) PEEP (f) CPAP (g) SIMV.
- Outline the principles of Aerosol Therapy.
- Humidification therapy
- Describe techniques of sterile nasopharyngeal and endotracheal sectioning.

Books Recommended:

- Cash Textbook of general medical and surgical conditions for physiotherapists – Downie – Jaypee Brothers.

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- Cash textbook of heart, chest and vascular disorders for physiotherapists – Downie – Jaypee Brothers.
- Principles and practices of cardiopulmonary physical therapy – Frown Felter – Mosby.
- Chest physiotherapy in intensive care unit – Mackenzie – Williams & Wilkins.
- Restoration of Motor Functions in stroke patient: A Physiotherapist Approach - Johnstone Churchill Livingstone.

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Semester – VII

Subject Name: Disability Prevention and Rehabilitation-I

Subject Code: 708705

Paper-V

Credits: 3

L	T	P
3	0	0

- I. **Conceptual framework of rehabilitation**, roles of rehabilitation team members, definitions and various models of rehabilitation
- II. **Epidemiology of disability with emphasis on locomotor disability**, its implications- individual, family, social, economic and the state
- III. Preventive aspects of disability and organizational skills to manage it
- IV. **Community based rehabilitation** and outreach programme to rehabilitate persons with disabilities living in rural areas
- V. **Statutory provisions**. Schemes of assistance to persons with disabilities.
- VI. **Role of NGO's in rehabilitation of persons with disabilities**.
- VII. **Principles of Orthotics** – types, indications, contra indications assessment (check out),
 - a. **Uses and fitting**- region wise
 - b. **Fabrication of simple splints and self help devices for upper and lower extremity** – indications and applications
 - c. **Principles of Prosthetics** – types, indications, contraindications, assessment check out, uses and fitting – region wise

Books Recommended:

- I. Physical Rehabilitation – Assessment and Treatment – Sullivan & Schmitz F. A. Davis.
- II. Occupational Therapy and Physical Dysfunction. Principles, Skills and Practices – Hand Splinting - Tuner, Forster & Johnson – Churchill Livingstone
- III. Hand Splinting – Wilson – W. B. Saunders.
- IV. Orthotics in Rehabilitation : Mckee and Morgan – F. A. Davis
- V. Atlas of Limb Orthotics and Limb Prosthetics American Academy of Orthopedic Surgeons – Mosby.
- VI. Krusens Handbook of Physical Medicine and Rehabilitation.
- VII. Handbook of Rehabilitation – Sunder.

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Semester – VII

Subject Name: Neurology-I Lab

Subject Code: 708706

Credits: 1

L	T	P
0	0	2

Clinical assessment of neurological function by -

- Basic history taking to determine whether the brain, spinal cord or peripheral nerve is involved.
- Assessment of higher mental function such as Orientation, Memory, Attention, Speech and Language.
- Assessment of Cranial Nerves.
- Assessment of Motor System.
- Assessment of Sensory function, Touch, Pain and Position.
- Assessment of Tone-Spasiticity, Rigidity and Hypotonia.
- Assessment of Cerebral Function.
- Assessment of Balance & Coordination.
- Assessment of Gait Abnormalities.

Books Recommended

- Brain's Diseases of the Nervous System - Nalton – ELBS.
- Guided to clinical Neurology - Mohn & Gaectier - Churchill Livingstone.
- Principles of Neurology - Victor – McGraw Hill International edition.
- Davidson's Principles and practices of medicine - Edward - Churchill Livingstone.
- Medicine and Neurology by Golewala.

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Semester – VII

Subject Name: General Surgery-I Lab

Subject Code: 708707

Credits: 1

L	T	P
0	0	2

Practical shall be conducted for all relevant topics discussed in theory in the following forms:

- I.** Demonstration of procedure of anaesthesia
- II.** Dressing of wounds
- III.** Practicing technique of CPR
- IV.** Demonstration of procedure of skin grafting
- V.** Clinical examination of incisions of abdominal surgeries Exercise tolerance tests
- VI.** Bedside case presentations and case discussions
- VII.** Lab sessions consisting of evaluation and assessment methods on student models, treatment techniques and practice sessions.

Books Recommended

- Davidson's Text book of medicine.
- Harrisons Text book of internal medicine.
- Baily and Love - Short Practice of Surgery - Mann and Rains - H.K. Levis Publications, London.
- Undergraduate Surgery - Nan - Academic Publishers, Calcutta.
- Textbook of Surgery - Gupta R.L. - Jaypee.
- Principles and Practices of Trauma Care - Kocher - Jaypee.

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Semester – VII

Subject Name: Physiotherapy in Neurological Conditions-I Lab

Subject Code: 708708

Credits: 2

L	T	P
0	0	4

- Includes Clinical hours on patient examination and Physiotherapy intervention under supervision on the various conditions as outline in “Physiotherapy in Neurological Conditions-I”.
- Includes case presentations emphasizing on differential diagnosis and clinical reasoning skills

BOOKS RECOMMENDED

- Cash Textbook of Neurology for Physiotherapists - Downi - J.P. Brothers.
- Physical Rehabilitation Susan Sullivan.
- Tetraplegia and Paraplegia, Ida Bromely
- Adult Hemiplegia - Evaluation & Treatment - Bobath - Oxford Butterworth Heinmann
- Neurological Rehabilitation, Carr and Shepard
- Neurological Rehabilitation, Darcy Umphred, Mosby.
- Tidy’s Physiotherapy

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Semester – VII

Subject Name: Physiotherapy in Surgical Conditions-I Lab

Subject Code: 708709

Credits: 2

L	T	P
0	0	4

- Includes Clinical hours on patient examination and Physiotherapy intervention under supervision on the various conditions as outlined in “Physiotherapy in Surgical Conditions I”.
- Includes case presentations emphasizing on differential diagnosis and clinical reasoning skills

Books Recommended:

- Cash Textbook of general medical and surgical conditions for physiotherapists – Downie – Jaypee Brothers.
- Cash textbook of heart, chest and vascular disorders for physiotherapists – Downie – Jaypee Brothers.
- Principles and practices of cardiopulmonary physical therapy – Frown Felter – Mosby.
- Chest physiotherapy in intensive care unit – Mackenzie – Williams & Wilkins.
- Restoration of Motor Functions in stroke patient: A Physiotherapist Approach - Johnstone Churchill Livingstone.

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Semester – VIII

Subject Name: Neurology-II

Subject Code: 708801

Paper-I

Credits: 4

L	T	P
4	0	0

I. Briefly outline the Etiology, Pathogenesis, clinical features and management of the following Neurological disorders:

- **Disorders of the muscle & neuromuscular junction:**
 - Classification of Myopathies
 - Types of Muscular Dystrophies
 - Floppy Muscular Dystrophy
 - Myasthenia Gravis
- **Peripheral & Cranial nerve disorders –**
 - Peripheral nerve injuries (Sedans' & Sunderland Classification)
 - Peripheral Neuropathies & Plexus injuries
 - RSD & Causalgia
 - Cranial Nerve Disorders- Types of Disorders, clinical manifestation & management.
- **Congenital and childhood disorders –**
 - Cerebral palsy
 - Hydrocephalus
 - Spina Bifida
- **Introduction to Neuropsychology**

II. Psychiatry: Definition, defense mechanism, symptomatology, types & causes of mental disorders, psychosomatic disorders.

a. Psychiatric Disorders: -

- Psychosis – Schizophrenia (including paranoid), maniac depressive psychosis
- Psychoneurosis – Anxiety, hysteria, anxiety states, neurasthesis, reactive depression, obsessive compulsive neurosis.
- Organic reaction to – toxins, trauma & infection.
- Senile dementia

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- b. **Mental retardation** – Definition, causes manifestation and management.
- c. **Methods of Treatment in Psychiatry** (A Brief Out Line)
- d. **Psychotherapy** – Group therapy, Psychodrama, behaviour modification, family therapy, play therapy, CBT, REBT, psychoanalysis, hypnosis & NLP
- e. **Drug therapy**
- f. **Electro convulsive therapy.**

Books Recommended

- Brain's Diseases of the Nervous System - Nalton – ELBS.
- Guided to clinical Neurology - Mohn & Gaectier - Churchill Livingstone.
- Principles of Neurology - Victor – McGraw Hill International edition.
- Davidson's Principles and practices of medicine - Edward - Churchill Livingstone.
- Medicine and Neurology by Golewala.
- A Short Text Book of Psychiatry - Ahuja Niraj - Jaypee Brothers.

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Semester – VIII

Subject Name: General Surgery-II

Subject Code: 708802

Paper-II

Credits: 4

L	T	P
4	0	0

- I. Thoracic surgery-** Thoracotomy, Mastectomy – Definition, Types of Incisions with complications.
- II. Lung surgeries -** Pneumonectomy, Lobectomy, segmentectomy – Indications, Physiological changes and Complications; Thoracoplasty, Pleurectomy, Pleurodesis and Decortication of the Lung.
- III. Cardiac surgeries –** An overview of the Cardio-Pulmonary Bypass Machine – Extracardiac Operations, Closed Heart surgery, Open Heart surgery. Valvotomy and Valve Replacement, Pacemaker surgery, Coronary Angioplasty, surgery for congenital heart disorders.
- IV. Obstetrics & Gynaecology:**
 - Pregnancy, stages of labour & its complications, indications & types of surgical procedures involved in child birth.
 - Gynaecological disorders , Infections and sexually transmitted disease in female Salpingitis, parametritis, retro-uterus, prolapse of uterus, pelvic inflammatory diseases, urinary incontinence
 - Cancer of the female reproductive organs- Definition, Indications , pre and post operative complications of– Hysterosalphyngography, Dilatation and Curettage, Laproscopy, Colposcopy, Hysterectomy.
- V. Ophthalmology:** Common inflammations and other infections of eye, optic neuritis, Ptosis, Blindness – common causes & management, Refractions – testing, errors & remedies, Strabismus – types, features & corrective measures.
- VI. Ear, Nose & Throat (ENT):** A brief outline of features and management of common ENT infections & lesions(sinusitis, common cold, sleep apnea, tonsillitis,otitis media, URT infection), which affect hearing, breathing, speech & their management, Outline the function of vestibular organ, its common disorders & their management .

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Books Recommended

- Baily and Love - Short Practice of Surgery - Mann and Rains - H.K. Levis Publications, London.
- Undergraduate Surgery - Nan - Academic Publishers, Calcutta.
- Textbook of Surgery - Gupta R.L. - Jaypee.
- Principles and Practices of Trauma Care - Kocher - Jaypee.
- Clinical Methods - S. Das - Calcutta.

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Semester – VIII

Subject Name: Physiotherapy in Neurological conditions-II

Subject Code: 708803

Paper-III

Credits: 4

L	T	P
4	0	0

- I.** Motor Development, Milestones, Neo-natal & Primitive Reflexes.
- II.** Review of pathological changes, assessment & Physiotherapy Management and Rehabilitation of the following conditions:
 - Cerebral Palsy,
 - Spina Bifida
 - Hydrocephalus
 - Reflex Sympathetic Dystrophy
 - Polyneuropathies (classification, types, pathophysiology):Alcoholic, Diabetic, Sensory.
 - Guillian Barre syndrome
 - Myopathies and Muscular Dystrophies
 - Motor Neuron Disorder
 - Disseminated Sclerosis
 - Amyotrophic Lateral Sclerosis
 - Spinal cord lesions & infections
 - Traumatic Spinal cord injuries and heade injuries
 - Physiotherapy Rehabilitation in Surgeries of Nerve
- III. Peripheral and Cranial nerve injuries :**
 - Brachial Plexus Injuries
 - Neuritis, Neuralgia
 - Injuries of nerves of upper & lower extremities
 - Facial Nerve Palsy.

BOOKS RECOMMENDED

- Cash Textbook of Neurology for Physiotherapists - Downi - J.P. Brothers.
- Physical Rehabilitation Susan Sullivan.
- Tetraplegia and Paraplegia, Ida Bromely
- Adult Hemiplegia - Evaluation & Treatment - Bobath - Oxford Butterworth Heinmann
- Treatment of Cerebral Palsy and Motor Delay - Levitts - Blackwell Scientific Publications, London.

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- Physiotherapy in Paediatrics - Shepherd - Butterworth Heinmann.
- Neurological Rehabilitation, Carr and Shepard
- Neurological Rehabilitation, Darcy Umphred, Mosby.
- Tidy's Physiotherapy.

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Semester – VIII

Subject Name: Physiotherapy in Surgical conditions-II

Subject Code: 708804

Paper-IV

Credits: 4

L	T	P
4	0	0

Review of pathological changes and principle of pre and post operative management by physiotherapy of the following conditions:

- I. Thoracic Surgery** - Lobectomy, Pneumonectomy, Thoracotomy, Thoracoplasty, Endoscopy & eye hole surgeries.
- II. Cardiac Surgery** - Corrective surgeries of congenital heart defects, angioplasties, blood vessel grafting, open heart surgeries & heart transplant.
- III. Gynaecology and Obstetrics and ENT –**
 - Common operation of reproductive system, including surgical intervention for child delivery. Ante natal & post natal physiotherapy
 - Common operations of the ear, nose, throat & jaw as related to physiotherapy.
- IV. Neurosurgery** - Review of pathological changes and principle of pre and post operative management by physiotherapy of the following conditions:
 - Common surgeries of the cranium & brain.
 - Common surgeries of vertebral column & spinal cord.
 - Common surgeries of peripheral nerves.
 - Surgical interventions in traumatic head injuries.

Books Recommended:

- Cash Textbook of general medical and surgical conditions for physiotherapists – Downie – Jaypee Brothers.
- Cash textbook of heart, chest and vascular disorders for physiotherapists – Downie – Jaypee Brothers.
- Principles and practices of cardiopulmonary physical therapy – Frown Felter – Mosby.
- Chest physiotherapy in intensive care unit – Mackenzie – Williams & Wilkins.
- Restoration of Motor Functions in stroke patient: A Physiotherapist Approach – Johnstone Churchill Livingstone.
- Physiotherapy in obstetrics and gynaecology – Polden – F.A. Davis.

GURU KASHI UNIVERSITY
University College of Physical Education (Code: 7)
Bachelor in Physiotherapy (B.P.T.) (Code: 708)

Semester – VIII

Subject Name: Disability Prevention and Rehabilitation-II

Subject Code: 708805

Paper-V

Credits: 3

L	T	P
3	0	0

- I. Communication** - Principles & mechanisms including speech & hearing
- II. Commons disorders of speech & hearing** – etiogenesis, clinical features assessment & principles of management
- III. Vocational problems** - Principles of vocational problems, including evaluation & vocational goals for people with disability
- IV. Mentally subnormal** –
 - a. Identification, assessment and classification.
 - b. Etiogenesis and principles of management including prevention.
 - c. Rehabilitation of the mentally subnormal, including vocational training & home education programme
- V. Occupational therapy** - Introduction
- VI. Activities of Daily Living (ADLs)** - Definition, scope and importance.
- VII. Teaching and training of**
 - (a) wheel chair activities
 - (b) bed activities
 - (c) transfer activities
 - (d) locomotor activities
 - (e) self care activities, such as toilet, eating, dressing etc
- VIII. Architectural Barriers:** Describe architectural barriers and possible modifications with reference to Rheumatoid Arthritis, CVA, Spinal Cord Injury and other disabling conditions
- IX. Disability evaluation:** Outline the principles of disability evaluation

Books Recommended:

- Physical Rehabilitation – Assessment and Treatment – Sullivan & Schmitz F. A. Davis.
- Occupational Therapy and Physical Dysfunction. Principles, Skills and Practices – Hand Splinting - Tuner, Forster & Johnson – Churchill Livingstone
- Hand Splinting – Wilson – W. B. Saunders.
- Orthotics in Rehabilitation : Mckee and Morgan – F. A. Davis

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- Atlas of Limb Orthotics and Limb Prosthetics American Academy of Orthopedic Surgeons – Mosby.
- Handbook of Rehabilitation – Sunder.

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Semester – VIII

Subject Name: Neurology-II Lab

Subject Code: 708806

Credits: 1

L	T	P
0	0	2

- Evaluation, clinical diagnosis and treatment for the conditions covered in “Neurology II”.

Books Recommended

- Brain’s Diseases of the Nervous System - Nalton – ELBS.
- Guided to clinical Neurology - Mohn & Gaectier - Churchill Livingstone.
- Principles of Neurology - Victor – McGraw Hill International edition.
- Davidson’s Principles and practices of medicine - Edward - Churchill Livingstone.
- Medicine and Neurology by Golewala.
- A Short Text Book of Psychiatry - Ahuja Niraj - Jaypee Brothers.

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Semester – VIII

Subject Name: General Surgery-II Lab

Subject Code: 708807

Credits: 1

L	T	P
0	0	2

Practical shall be conducted for all relevant topics discussed in theory in the following forms:

- Post-operative examination of thoracic and cardiac surgeries
- Antenatal examination
- Demonstration of normal as well as surgical procedures involved in child birth
- Exercise tolerance tests
- Bedside case presentations and case discussions
- Lab sessions consisting of evaluation and assessment methods on student models, treatment techniques and practice sessions.

Books Recommended

- Baily and Love - Short Practice of Surgery - Mann and Rains - H.K. Levis Publications, London.
- Undergraduate Surgery - Nan - Academic Publishers, Calcutta.
- Textbook of Surgery - Gupta R.L. - Jaypee.
- Principles and Practices of Trauma Care - Kocher - Jaypee.
- Clinical Methods - S. Das - Calcutta.

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Semester – VIII

Subject Name: Physiotherapy in Neurological Conditions-II Lab

Subject Code: 708808

Credits: 2

L	T	P
0	0	4

- Includes Clinical hours on patient examination and Physiotherapy intervention under supervision on the various conditions as outline in “Physiotherapy in Neurological Conditions II”.
- Includes case presentations emphasizing on differential diagnosis and clinical reasoning skills.

BOOKS RECOMMENDED

- Cash Textbook of Neurology for Physiotherapists - Downi - J.P. Brothers.
- Physical Rehabilitation Susan Sullivan.
- Tetraplegia and Paraplegia, Ida Bromely
- Adult Hemiplegia - Evaluation & Treatment - Bobath - Oxford Butterworth Heinmann
- Treatment of Cerebral Palsy and Motor Delay - Levitts - Blackwell Scientific Publications, London.
- Physiotherapy in Paediatrics - Shepherd - Butterworth Heinmann.
- Neurological Rehabilitation, Carr and Shepard
- Neurological Rehabilitation, Darcy Umphred, Mosby.
- Tidy’s Physiotherapy

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Semester – VIII

Subject Name: Physiotherapy in Surgical Conditions-II Lab

Subject Code: 708809

Credits: 2

L	T	P
0	0	4

- Includes Clinical hours on patient examination and Physiotherapy intervention under supervision on the various conditions as outline in “Physiotherapy in Surgical conditions II”.
- Includes case presentations emphasizing on differential diagnosis and clinical reasoning skills

Books Recommended:

- Cash Textbook of general medical and surgical conditions for physiotherapists – Downie – Jaypee Brothers.
- Cash textbook of heart, chest and vascular disorders for physiotherapists – Downie – Jaypee Brothers.
- Principles and practices of cardiopulmonary physical therapy – Frown Felter – Mosby.
- Chest physiotherapy in intensive care unit – Mackenzie – Williams & Wilkins.
- Restoration of Motor Functions in stroke patient: A Physiotherapist Approach – Johnstone Churchill Livingstone.
- Physiotherapy in obstetrics and gynaecology – Polden – F.A. Davis.