Bachelor of Physiotherapy

Paper code- 03060201

Anatomy -II (Theory)

Teaching Hours: 64

Periods/Week	Credits	Max Marks: 100
L: 4	4	Internal: 40
		60
		Duration of Examination: 3 Hrs

Bachelor of Physiotherapy

Paper code- 03060201

Anatomy –II (Practical)

Teaching Hours: 64

Periods/Week	Credits	Max Marks: 50
P: 4 T: 0	2	Internal: 20

Course Description:

The study of anatomy will include identification of all gross anatomical structures. Particularly emphasis will be placed on description of bones, joints, muscles, the brain, cardio pulmonary and nervous system, as these are related to the application of physiotherapy and occupational therapy in patients.

Course Objectives:

The objective of this course is that after 128 hrs of lectures, demonstrations, and practical, the student will be able to demonstrate knowledge in human anatomy as needed for the study and practice of physiotherapy. In addition the student will be able to fulfill with 75% accuracy (as measured written & oral internal evaluation) the following objectives of the course.

Course Outcomes:

1. To understand the various parts and surfaces of Heart, Lungs and viscera.

2. To understand the bones, joints, muscles, vascular and nerve supply of lower limb.
3. To understand the various parts of bones and joints of thorax, intercostal muscles, movements of thorax.
4. To understand the various parts and surfaces of stomach, GIT, pancreas and liver.
5. To understand various anatomical parts of reproductive system.

Date	Theme/Topic	Duration (Hrs)	Learning Experiences & Learning Resources	Learning Objectives
	Circulatory system	16	SIS B D Chaurasia's Human Anatomy-Upper limb & Thorax,Vol.1 Textbook of Anatomy with color Atlas-Inderbir Singh.	Describe Gross anatomy of vessels. Explain Gross anatomy of the heart
	Lymphatic system	8	SIS B D Chaurasia's Human Anatomy-Upper limb & Thorax,Vol.1 Textbook of Anatomy with color Atlas-Inderbir Singh.	Describe general anatomy of Lymphatic organs, vessels, circulation
	Introduction To Lower Limb	40	SIS, demonstration of dissected part, bones B D Chaurasia's Human Anatomy-Lower Limb & Abdomen Vol.2 Textbook of Anatomy with color Atlas-Inderbir Singh.	Demonstrations of all bones of the lower limb. Explain anatomy of the lower limb joints with their applied anatomy. Explain venous and lymphatic drainage of the lower limbs
	Thorax	16	SIS Demonstration of dissected part, bones, Skeleton B D Chaurasia's Human Anatomy-Upper limb & Thorax,Vol.1. Textbook of Anatomy with color Atlas-Inderbir Singh.	Describe Anatomy of thoracic wall with its applied anatomy Describe Gross anatomy of pericardium, heart with applied anatomy. Explain Gross anatomy of the lungs.
	Respiratory System	16	SIS Demonstration of dissected part, bones, Skeleton B D Chaurasia's Human Anatomy-Upper limb & Thorax,Vol.1	Comprehend the functional anatomy of the parts of the respiratory system

			Textbook of Anatomy with color Atlas-Inderbir Singh.	
	Genito-Urinary System	16	SIS B D Chaurasia's Human Anatomy-Lower Limb & Abdomen Vol.2 Textbook of Anatomy with color Atlas-Inderbir Singh.	Describe brief outline of the anatomy of the male and female genitalia and excretory system
	Abdomen, Perineum and Pelvis.	16	SIS ,Demonstration of dissected part, bones, Skeleton B D Chaurasia's Human Anatomy-Lower Limb & Abdomen Vol.2 Textbook of Anatomy with color Atlas-Inderbir Singh.	Explain the anatomy in brief of the abdominal muscles, stomach, small and large intestine, and the inguinal region. Describe Gross anatomy of the abdomen and Explain in brief about the osteology of the abdomen and pelvis.

Bachelor of Physiotherapy
Paper code- 03060202
Physiology –II (Theory)

Teaching Hours: 64

Periods/Week Credits **Max Marks: 100**

L: 4 4

Internal: 40

: 60

Duration of Examination: 3 Hrs

Bachelor of Physiotherapy
Paper code- 03060202
Physiology –II (Practical)

Teaching Hours: 64

Periods/Week Credits

Max Marks: 50

P: 4 4

Internal: 20

Course Description:

The course is designed to assist the students to acquire knowledge of the normal human Physiology of various body systems and understand the alternation in physiology in disease and practice of Physiotherapy as applicable for each systemic disorder.

Course Objectives:

The objective of this course is that after lectures, demonstrations, practicals and clinics the student will be able to demonstrate an understanding of elementary human physiology.

Course Outcomes:

1. To understand the basic physiology of Autonomic Nervous System.
2. To understand the basic physiology of Cardio Vascular System.
3. To understand the basic physiology of Nervous System.
4. To understand the basic physiology of GIT and reproductive system.

5. To understand the basic function and composition of Skin.
6. To understand the normal physiological alteration on Altitude, space and underwater.

Date	Theme/Topic	Duration	Learning Experiences & Learning Resources	Learning Objectives
	Autonomic nervous system-	16 Hrs.	Student Interactive Session Explain using charts, models and films. Demonstrate nerve stimulus, reflex action reflexes. Concise medical physiology Dr. S.C. Choudhary Human Physiology- A K Jain	Describe the physiology of sympathetic & parasympathetic action & reflexes
	Cardiovascular system	24 Hrs.	Student Interactive Session Explain using, charts films. Concise medical physiology Dr. S.C. Choudhary Human Physiology- A K Jain Best and Taylor's physiological basic of Medical practice- C.H. Best aetal	Describe the physiology and functions of Heart Explain regulation of BP & Examine the CVS & record ECG.
	Nervous system.	48 Hrs.	Student Interactive Session Explain using charts films. Demonstration of Reflexes superficial & deep reflexes Concise medical physiology Dr. S.C. Choudhary Human Physiology- A K Jain Best and Taylor's physiological basic of Medical practice- C.H. Best aetal	Describe the physiology of nervous system Demonstrate reflex action and stimulus. Examine sensory & motor system
	Genito-urinary System	24 Hrs.	Student Interactive Session Explain using, charts films. Concise medical physiology Dr. S.C. Choudhary Human Physiology- A K Jain Best and Taylor's physiological basic of Medical practice- C.H. Best aetal	Describe the physiology of male and female reproductive system. Describe the physiology of excretory system.
	Skin:	8 Hrs.	Student Interactive session Explain using, charts films.	Describe the physiology of Skin

			Concise medical physiology Dr. S.C. Choudhary Human Physiology- A K Jain	and Sweating
	Environmental and applied Physiology:	8 Hrs.	.Student Interactive session Explain using, charts films. Concise medical physiology Dr. S.C. Choudhary Human Physiology- A K Jain Essential of Exercise Physiology- Frank I. Katch & Katch	Describe the effect of Environment on normal physiology. Describe the effect of physical stimuli and exercise and muscle & nerve.

Bachelor of Physiotherapy
Paper code- 03060203
Biochemistry-II

Teaching Hours: 64

Periods/Week Credits

Max Marks: 100

L: 3 T: 1 4

Internal: 40

60

Duration of Examination: 3 Hrs

Course Description:

This course is designed to develop a basic knowledge of biochemical changes in the body of various nucleic acids, minerals, vitamins. It will also emphasize the importance of nutrition and biochemical correlation with connective tissues, muscles and nerves.

Course Objectives:

The objective of the course is that after 64 hours of lectures, the students will be able to understand the biochemical change of the various elements of the body at cellular level and extra cellular level.

Course Outcomes:

1. To understand the metabolism, function and mechanism of action of various elements of the body like minerals, vitamins and nucleic acid.
2. To understand the role of nutrition on body with biochemical changes.
3. To understand the biochemical changes in connective tissues, muscles and nerves.
4. To understand the biochemical markers for diagnosis of various disease conditions.

Date	Theme/Topic	Duration	Learning Experiences & Learning Resources	Learning Objectives
	Nucleic Acid-	8	Student Interactive Session Explain using charts and models Biochemistry by U. Satyanarayana II Edition. Textbook of Medical Biochemistry-S.K. Das Gupta.	Explain brief outline of nucleic acid and its importance.
	Vitamins	8	Student Interactive Session	Learn functions and role of vitamins in

			Explain using charts. Biochemistry by U. Satyanarayana II Edition. Textbook of Medical Biochemistry-S.K. Das Gupta.	human body
	Nutrition	8	Student Interactive Session Explain using charts. Biochemistry by U. Satyanarayana II Edition. Textbook of Medical Biochemistry-S.K. Das Gupta.	Learn about the importance of nutrition
	Connective Tissue	8	Student Interactive Session Explain using charts Biochemistry by U. Satyanarayana II Edition. Textbook of Medical Biochemistry-S.K. Das Gupta.	Explain the connective tissue.
	Muscle And Nerve	14	Student Interactive Session Explain using charts. Biochemistry by U. Satyanarayana II Edition. Textbook of Medical Biochemistry-S.K. Das Gupta.	To understand the biochemical nature of nerve and muscle
	Mineral Metabolism	8	Student Interactive Session Explain using charts Biochemistry by U. Satyanarayana II Edition. Textbook of Medical Biochemistry-S.K. Das Gupta.	To understand steps involved in mineral metabolism
	Investigations	10	Student Interactive Session Explain using charts. Biochemistry by U. Satyanarayana II Edition. Textbook of Medical Biochemistry-S.K. Das Gupta.	To understand the interpretation of common investigations

Bachelor of Physiotherapy
Paper code- 03060204
Electrotherapy-II (Theory)

Teaching Hours: 64

Periods/Week	Credits
L: 4	4

Max Marks: 100

Internal: 40

60

Duration of Examination: 3 Hrs

Bachelor of Physiotherapy
Paper code- 03060204
Electrotherapy-II (Practical)

Teaching Hours: 64

Periods/Week	Credits
P: 4	2

Max Marks: 50

Internal: 20

Course Description:

In this course the student will learn the principles, technique, and effects of electrotherapy as a therapeutic modality in the restoration of physical function.

Course Objectives

The objective of this course is that the student will be able to list the indications and contra indications of various types of electrotherapeutic modalities, demonstrate the different techniques, and describe their effects.

Course Outcomes:

1. Able to demonstrate the techniques of application of various electrotherapy modalities.

2. Able to select the appropriate modalities in different conditions
3. Able to select the appropriate dosages of different Electrotherapy modalities to achieve the different goals

Date	Theme/ Topic	Duration	Learning Experiences & Learning Resources	Learning Objectives
	Low Frequency current	40 Hrs.	Student Interactive Session Practical Demonstration Poster Presentation Electrotherapy explained Principles and practice III Edition by John Low & And Reed. Clayton's electrotherapy theory and practice IX Edition by Angela Forester Nigel Palastanga Simplified Electrotherapy- Basant Kumar Nanada	Describe the direct, alternating & modified currents. Explain the different variations of modified currents Describe the pain gate theory Describe the Electrical and normal behavior nerve & muscle tissue Explain the physiological effects of Direct current, modified currents, iontophoresis, faradic current and Intermittent direct currents, & TENS Identify the indications and contraindications of different low frequency currents Identify the types of current to be used in differ conditions Understand the clinical implication of strength duration curve Demonstrate the techniques of application of various low frequency current Develop the operational skills of equipment and patients preparation
	High Frequency Currents	24 Hrs.	Student Interactive Session Poster Presentation Practical Demonstration Electrotherapy explained Principles and practice III Edition by John Low & And Reed. Clayton's electrotherapy theory and practice IX Edition by Angela Forester Nigel Palastanga Simplified Electrotherapy- Basant Kumar Nanada	Describe the heat production by High frequency current Explain the Physiological and therapeutic effects of different high frequencies current Explain the selection of different high frequencies current in different musculoskeletal conditions. Identify the indications and contraindications of different high frequencies current Demonstrate the techniques of application of high frequencies currents Develop the operational skills Calculation of doses of different high frequencies current
	Medium	24 Hrs.	Student Interactive Session	Describe the conceptual framework of

	Frequency Currents		Poster Presentation Practical Demonstration Electrotherapy explained Principles and practice III Edition by John Low & And Reed. Clayton's electrotherapy theory and practice IX Edition by Angela Forester Nigel Palastanga Simplified Electrotherapy- Basant Kumar Nanada	medium frequency current Explain the Physiological and therapeutic effects of different medium frequencies current Explain the selection of different medium frequencies current in different musculoskeletal conditions. Identify the indications and contraindications of different medium frequencies current Demonstrate the techniques of application of medium frequencies currents Develop the operational skills Calculation of doses of different medium, frequencies current
	High Frequency Sound waves	20 Hrs.	Student Interactive Session Poster Presentation Practical Demonstration Electrotherapy explained Principles and practice III Edition by John Low & And Reed. Clayton's electrotherapy theory and practice IX Edition by Angela Forester Nigel Palastanga Simplified Electrotherapy- Basant Kumar Nanada	Describe the production of sound waves. Enumerate different thermal and non thermal effects of sound waves Explain the therapeutic effects of Ultrasound waves Identify the indications and contraindications of Ultrasound waves Demonstrate the techniques of application of Ultrasound to achieve the desired effects Develop the operational skills Calculation of doses of ultrasound to achieve the desired effects
	Advanced Therapeuc tic Currents	20 Hrs	Student Interactive Session Practical Demonstration Electrotherapy explained Principles and practice III Edition by John Low & And Reed. Principle and practice of Electrotherapy by Joseph Kahn. Electrotherapy: Clinics in physical therapy- Wolf.	Describe the basics of other different types of therapeutic currents and their uses Explain the Types, production, dosimetry, indications, contraindications of Extracorporeal Shock wave therapy & Microcurrents Demonstrate the techniques of application of Extracorporeal Shock wave therapy & Microcurrents

Bachelor of Physiotherapy
Paper code-03060205
Psychology

Teaching Hours: 32

Periods/Week	Credits	
		Max Marks: 50
L: 2	**2**	**Internal: 20**
		0
		Duration of Examination: 3 Hrs

Course Description:

This course is to design to develop the basic knowledge of Psychology with respect to the normal development of a child. This course is also develops the Psychological condition of patient in terms of Health related Psychological introspection. This develops the utilization and importance of Psychology with respect to Physiotherapy treatment.

Course Objectives:

The objective of this course is that after 32hours of lectures, the student will be able to recognize and help with the psychological factors involved in disability, pain, disfigurement, unconscious patients, chronic illness, death, bereavement and medical surgical patients/conditions. They should also understand the elementary principles of behaviour for applying in the therapeutic environment. In addition, the students will be able to show their proficiency based on written and internal evaluation.

Course Outcomes:

1. Psychosocial assessment of patients in various developmental stages.
2. Concept of stress and its relationship to health, sickness and one's profession.
3. Ego defense mechanisms and learn counselling techniques to help those in need.
4. Reasons for non-compliance among patients and improving compliance behaviour

Date	Theme/ Topic	Duration	Learning Experiences & Learning Resources	Learning Objectives
	Nature, Methods	8 Hrs.	Student Interactive session Morgan, C. T., Rosen, J. W.,	Explain the concept of psychology, its scope and

	and Scope of Psychology; Intelligence and Learning		Morgan, C. T., & King, R. A. (1975). *Study guide for Morgan and King Introduction to psychology: Fifth edition*. New York: McGraw-Hill. Baron, R.A., (2001). Introduction to Psychology: Fifth edition. New Delhi : Pearson Publicatio	methods. Understanding of Intelligence and develop the skills of its assessment. Describe the theories of intelligence Understand the learning process and its principles. Explain the nature of learning & theories of learning
	Motivation, Frustration and Personality	8 Hrs.	Student Interactive session Books Recommended: Morgan, C. T., Rosen, J. W., Morgan, C. T., & King, R. A. (1975). *Study guide for Morgan and King Introduction to psychology: Fifth edition*. New York: McGraw-Hill. Baron, R.A., (2001). Introduction to Psychology: Fifth edition. New Delhi : Pearson Publication	Describe the concept of human motivation Explain the types of motives- Biological, Psychological and Social motives. Understand the psychological aspects of conflicts and frustrations. Explain the nature & types of conflicts Discuss nature, determinants and theories of personality.
	Emotion and Health; Reactions to Loss and Disability	8 Hrs.	Student Interactive session Morgan, C. T., Rosen, J. W., Morgan, C. T., & King, R. A. (1975). *Study guide for Morgan and King Introduction to psychology: Fifth edition*. New York: McGraw-Hill. Baron, R.A., (2001). Introduction to Psychology: Fifth edition. New Delhi : Pearson Publication	Describe the nature & theories of Emotions Explain the types of Emotions Understand the Emotional needs and psychological factors in relation to health. Explain the reaction to loss and disability
	Stress; Compliance and Applications of	8 Hrs.	SIS Morgan, C. T., Rosen, J. W., Morgan, C. T., & King, R. A. (1975). *Study guide for Morgan and King*	Describe the physiological and psychological reactions to daily stress and life event stress Explain Nature and factors contributing to non compliance,

	Counseling		*Introduction to psychology: Fifth edition*. New York: McGraw-Hill. Baron, R.A., (2001). Introduction to Psychology: Fifth edition. New Delhi : Pearson Publication	improving compliance Discuss the Nature and techniques of counseling Understand the applications of counseling.

Bachelor of Physiotherapy
Paper code- 03060206
Applied Computer-Practical

Teaching Hours: 32

Periods/Week Credits

Max Marks: 50

P: 4 2 **Internal: 20**

Course Description:
Course describes – Introduction to Softwares and various types of Softwares, Operating system and its types, Windows and its components, Languages and its types (High Level and Low Level), Compilers, Assemblers and Interpreters, Introduction to HTML and its various tags and Introduction to Dos Operating System and its commands

Course Objectives:
Objective of this course is to make students learn about softwares, creating webpages and DOS Commands

Course Outcomes:
After completing the course students would be able to describe the softwares and be able to create the WebPages

Date	Theme/ Topic	Duration	Learning Experiences & Learning Resources	Learning Objectives
	Network	*8*	Student Interactive session Practical demonstrations of the Word processing software. Introduction to Computer- Renu Kapoor.	Difference between Intranet, Extranet and Internet To learn skills *of* web surfing- For literature, research relevance to the field *of* medicine
	Microsoft	*8*	Student Interactive session Practical demonstrations of the	Learn the working of MS –Excel, various formulas used in MS-Excel

			Word processing software. Introduction to Computer- Renu Kapoor.	inserting charts etc To learn the skill of spreadsheet software.
	Power point presentation preparation	*8*	Student Interactive session Practical demonstrations Introduction to Computer- Renu Kapoor.	Learn to prepare ppt
	Scientific poster designing	*8*	Practical demonstrations	Learn how to design scientific Posters using Microsoft office publisher.

Bachelor of Physiotherapy
Paper code- 03060207
English

Teaching Hours: 32

Periods/Week Credits

Max Marks: 50

T: 2 2 **Internal: 20**

Course Description:

The course is designed to enable students to enhance ability to comprehend spoken and written English, required for effective communication in their professional work.

Course Objectives:

The objectives of this course are to write grammatically correct English, to develop writing skills, to understand and express meaningfully the prescribed tent.

Course Outcomes:

- Able to communicate effectively
- Development of personality

Date	Theme/ Topic	Duration	Learning Experiences & Learning Resources	Learning Objectives
	Communication Skills	8 Hrs	Student Interactive Sessions Group Discussion and Panel Discussion	Explain the types of communication Identify barriers to communication and understand the ways to overcome them
	Presentation Skills and Pronunciation)	10 Hrs	Student Interactive Sessions Student Presentation on Given topics	Explain the mode of presentation Describe the Kinesics & Proxemics

			Group Discussion and Panel Discussion	Identify the Presentation Strategies Understand the importance of Phonetics, Syllable, Intonation & Modulation
	Writing Comprehension	14 Hrs	Student Interactive Sessions Student Presentation on Given topics Group Discussion and Panel Discussion Assignments to Students	Explain Tense, Voice, Narration Describe Letters types, format, style Develop report writing and project writing skills

Bachelor of Physiotherapy
Paper code- BPT-OE-
Basics of Yoga Therapy

Teaching Hours: 32

Periods/Week Credits

Max Marks: 50

T: 2 2 **Internal: 20**

Course Description:

Course Objectives:

At the completion of this course each student will be able to meet the following student learning objectives:

1. To understand different perspectives of Philosophy.
2. To understand different perspectives of Yoga
3. To acquaint with the effect of Yoga on various systems of human body.
4. To perform various Asanas correctly and to know their benefits.
5. To perform various Pranayamas, Bandhas, Mudras and Meditation correctly and to know their benefits.

Course Outcomes:

- Understand the importance of Yoga on various systems of human body
- Demonstrate various Asanas correctly
- Demonstrate various Pranayamas, Bandhas, Mudras and Meditation correctly

Date	Theme/ Topic	Duration	Learning Experiences & Learning Resources	Learning Objectives
	Introduction, Nature,	3 Hrs	Student Interactive Session Student	Explain the concept of Yoga in Indian Philosophy

	History of Yoga		Seminar Gupta,S.N. Das.(1987). Yoga Philosophy in Relation to other system of Indian Thought, New Delhi, Moti Lal Banarsi Dass. Hiriyanna, M., (1995). The Essentials of Indian Philosophy. New Delhi, Motilal Banarasidas Publishers.	Describe the History of Yoga Describe in brief six schools of Philosophy
	Asanas, Pranayamas , Bandhas, Mudras & Meditative Relaxation	18 Hrs	Student Interactive Session Student Seminar Practical Demonstration Ghore, M.M. (2004). Anatomy and Physiology of Yogic Practices. Lonawala, (Pune), Kaivalyadhama. Iyengar, B.K.S. (2009). The Tree of Yoga. New Delhi, Harper Collins.	Understand the Meaning of Asanas, Pranayamas, Bandhas, Mudras & Meditative Relaxation Discuss the Aims and Objectives of different Asanas, Pranayamas, Bandhas, Mudras & Meditative Relaxation Explain the Classification, & Principles of Asanas, Pranayamas, Bandhas, Mudras & Meditative Relaxation Identify the Precautions of Asanas, Pranayamas, Bandhas, Mudras & Meditative Relaxation Explain the Physiological and Therapeutic effects of Asanas, Pranayamas, Bandhas, Mudras & Meditative Relaxation on human body
	Role of Yoga Therapy in different disorders	11 Hrs	Student Interactive Session Student Seminar Ghore, M.M. (2004). Anatomy and Physiology of Yogic Practices. Lonawala, (Pune), Kaivalyadhama. Iyengar, B.K.S. (2009). The Tree of Yoga. New Delhi, Harper Collins.	Explain the Effects of yoga techniques on different systems of the body such as Musculoskeletal Skeletal System, Cardiovascular System, Respiratory System, Urinary System, Endocrine Glands, their functions (Pituitary, Thyroid, Pancreas, Adrenal and Sex glands), Nervous System, Digestive Organs. Discuss the role of Yoga therapy in different disorders like Obesity, Cervical Spondylosis, Arthritis, Bronchial Asthma, Constipation, Acidity, Hyper and Hypo Tension, Diabetes, Common Cold, Backache, Stress, Anxiety, Depression & Suicidal tendencies