GURU KASHI UNIVERSITY

B. Voc. (Physiotherapy)
Session: 2024-25

Department of Physiotherapy

Programme Structure

Semester –I						
Course Code	**Course Title**	**Type of Course**	**L**	**T**	**P**	**Credit**
BVY101	Human Anatomy-I	Core course	4	0	0	4
BVY102	Human Physiology-I	Core course	4	0	0	4
BVY103	Fundamentals of Computer	Compulsory Foundation	2	0	0	2
BVY104	Human Anatomy-I Lab	Skill Based	0	0	4	2
BVY105	Human Physiology-I Lab	Skill Based	0	0	4	2
BVY106	General Psychology	Skill Based	0	0	4	2
Discipline Elective (Any one of the following)						
BVY107	Introduction to Healthcare Delivery System	Discipline Elective	2	0	0	2
BVY108	Environmental Studies					
BVY109	English Communication and Skills	Multidisciplinary	2	0	0	2
Total			**14**	**0**	**12**	**20**

Semester- II						
Course Code	**Course Title**	**Course Type**	**L**	**T**	**P**	**Credit**
BVY201	Human Anatomy-II	Core Course	4	0	0	4
BVY202	Human Physiology-II	Core Course	4	0	0	4
BVY203	Basic Nursing & First Aid	Core Course	4	0	0	4
BVY204	Biochemistry	Compulsory Foundation	2	0	0	2
BVY205	Human Anatomy-II Lab	Skill Based	0	0	4	2

BVY206	Human Physiology-II Lab	Skill Based	0	0	4	2

Discipline Elective (Any one of the following)						
BVY207	Sociology	Discipline Elective	2	0	0	2
BVY208	Infection Prevention and control					
BVY209	Physiotherapy Ethics and laws	Multidisciplinary	2	0	0	2
Total			**18**	**0**	**08**	**22**

Semester-III						
Course Code	**Course Title**	**Course Type**	**L**	**T**	**P**	**Credit**
BVY301	Exercise Therapy-I	Core Course	4	0	0	4
BVY302	Electro Therapy-I	Core Course	4	0	0	4
BVY303	Microbiology	Compulsory Foundation	2	0	0	2
BVY304	Exercise Therapy-I Lab	Skill Based	0	0	4	2
BVY305	Electro Therapy-I Lab	Skill Based	0	0	4	2
BVY306	XXX	MOOC	--	--	--	2
Discipline Elective (Any one of the following)						
BVY307	Emergency Care	Discipline Elective	2	0	0	2
BVY308	Naturopathy					
BVY309	Drug Abuse	Multidisciplinary	2	0	0	2
Total			14	0	8	20

Semester-IV						
Course Code	**Course Title**	**Course Type**	**L**	**T**	**P**	**Credit**
BVY401	Physiotherapy in Orthopedic Conditions	Core Course	4	0	0	4
BVY402	Physiotherapy in Medical Conditions	Core Course	4	0	0	4
BVY403	Research Methodology	Core Course	4	0	0	4
BVY404	Physiotherapy in Orthopedics Conditions Lab	Skill Based	0	0	4	2
BVY405	Physiotherapy in Medical Conditions Lab	Skill Based	0	0	4	2
Discipline Elective (Any one of the following)						
BVY406	Community Based Rehabilitation	Discipline Elective	2	0	0	2
BVY407	Obstetrics & Gynecology					
BVY408	Wellness management	Ability Enhancement	2	0	0	2
Total			**16**	**0**	**08**	**20**

Semester-V						
Course Code	**Course Title**	**Course Type**	**L**	**T**	**P**	**Credit**
BVY501	Community Based Rehabilitation	Core Course	4	0	0	4
BVY502	Physiotherapy in Cardiopulmonary Conditions	Core Course	4	0	0	4
BVY503	Biostatics	Core Course	4	0	0	4
BVY504	Sports Physiotherapy	Core Course	4	0	0	4
BVY505	Physiotherapy in Cardiopulmonary Conditions (Lab)	Skill Based	0	0	4	2
Discipline Elective (Any one of the following)						
BVY506	Oedema Management	Discipline Elective	2	0	0	2
BVY507	Vestibular Rehabilitation					
Total			18	0	4	20

Semester-VI						
Course Code	**Course Title**	**Course Type**	**L**	**T**	**P**	**Credit**
BVY601	Physiotherapy in Neurological Conditions	Core Course	4	0	0	4

BVY602	Physiotherapy in Surgical Conditions	Core Course	4	0	0	4
BVY603	Physiotherapy Ethics	Core Course	4	0	0	4
BVY604	Clinical Reasoning and Evidence-Based Practice	Core Course	4	0	0	4
BVY605	Physiotherapy in Neurological Conditions Lab	Skill Based	0	0	4	2
BVY606	Physiotherapy in Surgical Conditions Lab	Skill Based	0	0	4	2
BVY607	ICU Management	Skill Based	0	0	4	2
Total			16	0	08	20

Evaluation Criteria for Theory Courses

A. Continuous Assessment: [25 marks]
   CA1-Surprise Test (Two best out of three)- (10 Marks)
   CA2-Assignment(s)- (10 Marks)
   CA3-Term Paper/Quiz/Presentations- (05 Marks)
B. Attendance: [05 Marks]
C. Mid Semester Test: [30 Marks]
D. End Semester Exam: [40 Marks]

SEMESTER-I

Course Title: HUMAN ANATOMY- I
Course Code: BVY101

L	T	P	Credits
4	0	0	4

Total Hours: 60

Course Outcomes

On the completion of the course the students will be able to

1. Identify and comprehend the structural organization of human body.
2. Evaluate the clinical significance of each bone, joint and muscle along with other anatomical structures.
3. Develop skills to examine anatomical and physiological disorders based on evidence.
4. Gain proficiency in palpating bony landmarks.

Course Content

UNIT I **16 Hours**

Musculoskeletal Anatomy - Definition-classification, structure of fibrous, cartilaginous joints, blood supply and nerve supply of joints. Anatomical positions of body, axes, planes, common anatomical terminologies (Groove, tuberosity, trochanter etc.), Upper Limb Anatomy- Arm, Forearm, Wrist, Hand (Joints, muscles, nerve supply)

UNIT II **15 Hours**

Lower Limb Anatomy- Pelvis, Hip, and Knee, Ankle (Joints, muscles, and nerve supply)

UNIT III

14

Hours

Regional Anatomy (Trunk, Thorax and Abdomen)

UNIT IV

15 Hours

Systems of the human body (Respiratory System), Anatomy of vertebral column

Transaction Mode

Video based teaching, Case based teaching, Team teaching Lecture, Seminar, e-Team Teaching, e-Tutoring, Dialogue, Peer Group Discussion, Mobile Teaching, Self-Learning, Collaborative Learning and Cooperative Learning.

Suggested Readings

- *SSingh Inderbir (2014). Textbook of Anatomy with colour Atlas. Vol. 1, 2, 3, Jaypee Brother*
- *Chaurasia B.D. (2017). Human Anatomy. Volume 1, 2, 3. CBS Publishers &Distributors.*
- *Singh V. (2012). Anatomy of Head, Neck & Brain. Elsevier*
- *Kinetics. Champaign; Illinois.*
- *Drake, R. L., Vogl, A. W., & Mitchell, A. W. M. (2020). Gray's anatomy for students (4th ed.). Elsevier.*
- *Netter, F. H. (2019). Atlas of human anatomy (7th ed.). Elsevier.*

Web Sources

- *https://www.healthdirect.gov.au/bones-muscles-and-joints*
- *https://www.kenhub.com/en/library/anatomy/human-body-systems*

Course Title: HUMAN PHYSIOLOGY- I
Course Code: BVY102

L	T	P	Credits
4	0	0	4

Total Hours: 60

Course Outcomes

On the completion of the course the students will be able to

1. Comprehend the inter-dependency between different body systems and their role in maintaining biological equilibrium.
2. Interpret and draw inference from the results of physiological function tests, ECG's and spirometer read outs.
3. Identify the course of physiological abnormalities which can lead to disease.
4. Draw conclusion on the basis of hematological parameters

Course Content

UNIT I **15 Hours**

Cell – morphology, structure and function of organelles,Transport mechanism across cell membrane,Blood,Body fluids (composition and distribution),Composition and function of blood Plasma proteins – composition, formation and their function. Structure, count, formation, functions and variations of R.B.C., W.B.C.s and platelets. Hemoglobin – structure and function. E.S.R,Immunity Hemostatic mechanisms – blood Coagulation – factors and mechanism, Bleeding and Clotting time. Blood groups and their significance, determination, Rh factor, Blood transfusion – cross matching, indications, complications, Lymph – composition, formation circulation and functions.

UNIT II 15 Hours

Cardiovascular System, Introduction: Organization of CVS. Properties of Cardiac muscles, Ionic basis of action potential and pacemaker potential, conducting system, Components, Impulse conduction. Cardiac Cycle: Definition. Phases of cardiac cycle, Heart sounds – causes, character, ECG: Definition. Different types of leads, Waves and their causes, P-R interval, Heart block. Cardiac Output: Definition, Normal value, Determinants, Stroke volume and its regulation, Heart rate and its regulation, Arterial Blood Pressure: Definition Normal values and its variations, Determinants, Peripheral resistance, Regulation of BP Arterial pulse, Regional Circulation: Coronary, Cerebral and Cutaneous circulation, Cardiovascular changes during exercise.

UNIT III 14 Hours

Digestive System, Introduction: Physiological anatomy and nerve supply of alimentary canal, Enteric nervous system Salivary Secretion: Saliva: Composition, Functions, Regulation, Stomach: Functions, Gastric juice: Gland, composition, function, regulation, Gastrin: Production, function and regulation, Pancreatic Secretion: Composition, production, function, Regulation, Liver: Functions of liver, Bile secretion: Composition, functions and regulation, Gall bladder: Functions, Intestine: Succus entericus: Composition, function and regulation of secretion, Intestinal motility and its function and regulation, Movements of GIT – Mastication, Swallowing, Vomiting. Mechanism of Defecation.

UNIT IV 16 Hours

Endocrine System:Outline of various hormones, mechanism of action and function Excretory System,Nephrons – cortical and juxtamedullary, Juxta-glomerular apparatus, Glomerular membrane, Renal blood flow and its regulation, Mechanism of Urine Formation: Glomerular Filtration: Mechanism of glomerular filtration, GFR – normal value and factors affecting, Renal clearance. Inulin clearance, Creatinine clearance. Tubular Reabsorption: Reabsorption of Na^+, glucose, HCO_3^-, urea and water, Renal tubular transport maximum, Tubular Secretion: Secretion of H^+ and K^+, Mechanism of concentrating and diluting the Urine: Counter-current mechanism, Regulation of water excretion, Diuresis, Diuretics, Micturition: Mechanism of micturition, Skin and temperature regulation, Respiratory System-Introduction: Functions of respiratory system. Respiratory muscles, Mechanics of breathing: Intra-pleural and Intrapulmonary pressure changes during respiration, Chest expansion, Lung compliance: Normal value, factors affecting compliance and its variations, Lung Volumes and capacities, Ventilation – Types, Ventilation-perfusion ratio and its importance, Dead Space: Types and their definition, Transport of respiratory gases: Diffusion across the respiratory membrane, Oxygen transport – Different forms, oxygen-hemoglobin dissociation curve, Factors affecting it, Carbon dioxide transport: Different forms, Regulation of Respiration: Neural Regulation, Chemical Regulation, Hypoxia: Effects of hypoxia. Types of hypoxia. Hyperbaric oxygen therapy, Acclimatization

Hypercapnia, Asphyxia, Cyanosis – types and features, Disorders of Respiration: Dyspnea, Orthopnea, Hyperpnea, hyperventilation, apnoea, tachypnea, Periodic breathing – types, Artificial respiration. Respiratory changes during exercise.

Transaction mode

Flipped teaching, Open learning, Group discussion, Video based teaching, Case based teaching, Team teaching Lecture, Seminar, e-Team Teaching, e-Tutoring, Dialogue, Peer Group Discussion, Mobile Teaching, Self-Learning, Collaborative Learning and Cooperative Learning.

Suggested readings

- *Ghai, C. L. (2012). A textbook of practical physiology. JP Medical Ltd.*
- *Sembulingam, K., & Sembulingam, P. (2012). Essentials of medical physiology. JP Medical Ltd.*
- *Hall, J. E., & Hall, M. E. (2020). Guyton and Hall textbook of medical physiology. Elsevier Health Sciences.*
- *Ganong, W. F. (2019). Review of medical physiology (26th ed.). McGraw-Hill Education.*
- *Jain, A. K. (2019). Textbook of physiology (7th ed.). Avichal Publishing Company.*

Web Sources

- *https://www.sciencedirect.com/topics/engineering/cell-morphology*
- *https://utswmed.org/conditions-treatments/respiratory-disorders*

Course Title:-Fundamentals of Computer

L	T	P	Credits
2	0	0	2

Course Code:-BVY103

Course Outcomes:-

1.Possess the knowledge of basic hardware peripherals.

2.Know and use different number systems and the basics of programming.

3.Solve basic computational problems with C language.

4.Apply the basic concepts into solving broader problems.

Course Content:-

UNIT-I
10 Hours

1. **Basics of computer**
2. **Hardware and software**
3.Input and output devices

UNIT-II
10 Hours
1. Operating system – DOS, Windows etc
2.MS- Office : MS-Word, MS- Excel, MS- Power point

UNIT-III
10 Hours
1. Internet- Email, social Media networking, application in medicine, browsing journals and article using internet, Web Browsers,

Transaction Mode

Demonstration method, Lecture, Seminar, e-Team Teaching, e-Tutoring, Dialogue, Peer Group Discussion, Mobile Teaching, Self-Learning, Collaborative Learning and Cooperative Learning.

Suggested Readings

- *Leon & Leon, "Introduction to Computers", Vikas Publishing House, NewDelhi*
- *Saxena S., "MS Office Xp for Everyone", Vikas Publishing House, New Delhi,2007*
- *June Jamrich Parsons, "Computer Concepts", Thomson Learning, 7th Edition,Bombay*
- *White, "Data Communications & Computer Network", Thomson Learning, Bombay*
- *Comer, "Computer networks and Internet", Pearson Education,4e*

Web Sources
- *https://www.researchgate.net*
- *https://www.youtube.com/playlist?list=PLWPirh4EWFpF_2T13UeEgZWZHc8nHBuXp*

Course Title: HUMAN ANATOMY I LAB
Course Code: BVY104

L	T	P	Credits
0	0	4	2

Course Outcomes **Total Hours- 30**

On successful completion of this course, the students will be able to:

1. Identify and demonstrate parts of human body on a model.
2. Recognize the structure of human organs.
3. Understand the structure and clinical relevance of each bone, joint and muscle.

4. Develop competency to palpate major surface landmarks.

Course Content

UNIT I **10 Hours**

Surface Anatomy: To study, identify and mark the surface landmarks on human body.

UNITII 5Hours

To study the bones and muscles of thorax and abdomen on human body models

UNIT III 8 Hours

Embryology using models and charts.

UNIT IV 7 Hours

To study the gross anatomy of Respiratory, Digestive, Endocrine, Urinary and Genital system on models, charts and Cds.

Transaction Mode

Demonstration method, Lecture, Seminar, e-Team Teaching, e-Tutoring, Dialogue, Peer Group Discussion, Mobile Teaching, Self-Learning, Collaborative Learning and Cooperative Learning.

Suggested Readings

- Singh, I. (2011). Textbook of Anatomy: Volume 1: Upper Extremity, Lower Extremity (Vol. 1). Elsevier Health Sciences.
- Singh, I. (2011). Textbook of Anatomy: Volume 3: Head and Neck, Central Nervous System (Vol. 3). Elsevier Health Sciences.

- Singh, V. (2014). Textbook of Anatomy Abdomen and Lower Limb; Volume II (Vol. 2). Elsevier Health Sciences.

Course Title: HUMAN PHYSIOLOGY I LAB

Course Code: BVY105

L	T	P	Credits
0	0	4	2

Course Outcome
Total Hours:30

On the completion of the course the students will be able to

1. Examine human vital signs and draw inference on their basis.
2. Identify and differentiate between normal and abnormal heart sounds.
3. Identify and differentiate between normal and abnormal lung sounds.
4. Develop skills to examine various hematological parameters.

Course Content

UNITI **15 Hours**

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.

UNITII 15 Hours

To study the following Physiological Phenomenon: -

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.

Transaction Mode

Demonstration method, Case based teaching, Video based teaching, Group Discussion.

Suggested Readings

- Ghai, C. L. (2012). A textbook of practical physiology. JP Medical Ltd.
- Sembulingam, K., & Sembulingam, P. (2012). Essentials of medical physiology. JP Medical Ltd.
- Hall, J. E., & Hall, M. E. (2020). Guyton and Hall textbook of medical physiology. Elsevier Health Sciences.

Course Title: GENERAL PSYCHOLOGY
Course Code: BVY106

L	T	P	Credits
0	0	4	2

Total Hours: 30 Hours

Course Outcomes

On the completion of the course the students will be able to

1. Develop Scientist-Practitioner approach and identify the economic, cultural and political factors affecting structure of society.
2. Comprehend the importance of gender inequality and inculcate advanced clinical skills in the field of mental health.
3. Recognize the social norms, values and become proficient in-patient counseling and support.
4. Describe the major approaches to understanding behavioral processes involved in learning and memory

Course Content

UNIT I **10 Hours**

Definition of psychology, basic information in relation to schools, methods and branches of psychology; Schools: Structuralism, functionalism, behaviourism psychoanalysis; Methods: Introspection, observation, inventory and experimental method; Branches: General, child, social, industrial, clinical, counseling, educational; Psychology and physiotherapy; Development and Growth Behaviour; Life span - Infancy, childhood, adolescence, adulthood,

middle age, old age; Heredity and environment – its importance and role in physical and psychological development; Emotions: Definition and differentiate from feelings, Three levels of analysis of emotions, (physiological level, subjective state, and overt behavior), Theories of emotion, Stress and management of stress.

UNIT II **10 Hours**

Motivation: Motivation cycle (need, drive, incentive, reward), Classification of motives, Abraham Maslow's theory of need hierarchy; Learning: Factors effecting learning, Theories of learning: trial and error learning, classical conditioning, Operant conditioning, insight learning, social learning theory, The effective ways to learn: Massed/Spaced, Whole/Part, Recitation/Reading, Serial/Free recall, Incidental/Intentional learning, Knowledge of results, association, organization, and mnemonic methods; Personality: Definitions: List of components, Physical characteristics, character, abilities,temperament, interest and attitudes, Discuss briefly the role of heredity, nervous system, physical characteristics, abilities,family and culture of personality development, Basic concepts of Freud: unconscious, conscious, Id, ego and superego, List and define the oral, anal and phallic stages of personality department list and define the 8 stages as proposed by Erickson, 4 concepts of learning as proposed by Dollard and Miller; drive, cue, response and reinforcement.

UNIT III **10 Hours**

Intelligence: Theories of intelligence, Distribution of intelligence, Assessment of intelligence; Sensation, Perception and Attention: Attention: Types of attention, Determinants of attention (subjective determinants and objective determinants), Sensation: Vision, Hearing, Olfactory, Gustatory and Cutaneous sensation, movement, equilibrium and visceral sense, Illusion and hallucination: different types.

Transaction Mode

Open learning, Problem solving, Flipped teaching, Lecture, Seminar, e-Team Teaching, e-Tutoring, Dialogue, Peer Group Discussion, Mobile Teaching, Self-Learning, Collaborative Learning and Cooperative Learning

Suggested Readings

- *Carson, R.C., Butcher, J.N., &Mineka, S. (2001). Abnormal psychology in modern life (11th ed). New York. Allynand Bacon.*
- *Kaplan, H.I., Saddock, B.J. &Gribb, J.A. (1994). Synopsis of Psychiatry. New Delhi. B.I Waruly.*
- *Barlow, D.H. & Durand, V.M. (1999). Abnormal psychology: An integrative approach (2nd ed.). Pacific Grove: Brooks/Cole.*

- *Davison, G.C. &Neals J.M. (1996). Abnormal psychology (Revised ed.). New York: John Wiley.*
- *Baron, Robert A Psychology, Printer Hall of India Pvt Ltd. New Delhi.*

Web Sources

- *https://www.webmd.com/anxiety-panic/guide/anxiety-disorders*
- *https://www.sciencedirect.com/topics/medicine-and-dentistry/child-psychopathology*
- *https://www.merriam-webster.com/dictionary/family*

Course Title: INTRODUCTION TO HEALTHCARE DELIVERY SYSTEM
Course Code: BVY107

L	T	P	Credits
2	0	0	2

Total Hours: 30

Course Outcomes

On the completion of the course the students will be able to
1. Identify the social, legal, and economic factors that affect the delivery of healthcare.

2. Explain the development of the health information profession from its beginnings until the present and into the future.

3. Describe the critical health policy issues in the U.S. and explain the future trend in health care.

4. Discuss documentation requirement for various hospitals and healthcare organizations.

Course Content

UNIT I **10 Hours**

Healthcare Providers, Historical Perspective of the Healthcare Delivery System, Health Promotion and Disease Prevention, Managed Care Organizations Regulations

UNIT II **10 Hours**

Introduction of Operating System: introduction, operating system concepts, types of operating system. Computer networks: introduction, types of network (LAN, MAN, WAN, Internet, Intranet), network topologies (star, ring, bus, mesh, tree, hybrid), components of network.

UNIT III **10 Hours**

Introduction to MS- Word: introduction, components of a word window, creating, opening and inserting files, editing a document file, page setting and formatting the text, saving the document, spell checking, printing the document file, creating and editing of table, mail merge; Introduction to Excel: introduction, about worksheet, entering information, saving work books and formatting, printing the worksheet, creating graphs; Introduction to power-point: introduction, creating and manipulating presentation, views, formatting and enhancing text, slide with graphs.

Transaction Mode

Open learning, Problem solving, Flipped teaching, Lecture, Seminar, e-Team Teaching, e-Tutoring, Dialogue, Peer Group Discussion, Mobile Teaching, Self-Learning, Collaborative Learning and Cooperative Learning

Suggested Readings

- *Computer Fundamentals - P.K. Sinha – 2004 – BPB Publications*
- *Computer fundamental and PC Softwares - Rachpal Singh & Gurinder Singh – 2015 – Kalyani Publishers.*
- *R.K. Texali - PC Softwares – 2017 – Mc Graw hill.*
- *Internet to Go - Alan Simpson – 1999 – Sybax Inc.*
- Miller, M. (2015). *Computer basics absolute beginner's guide, Windows 10 edition.* Que Publishing.

Web Sources

- *https://www.researchgate.net/publication/46055947_Computers_in_Physical_Therapy_Education_Interactive_Multimedia_Learning_with_MuStreT*
- *https://nsuworks.nova.edu/gscis_etd/584/*
- *https://www.hindawi.com/journals/bmri/2022/4552974/*

Course Title: ENVIRONMENTAL STUDIES
Course Code: BVY108

L	T	P	Credits
2	0	0	2

Total Hours: 30

Course Outcomes

On successful completion of this course, the students will be able to:

1. To gain knowledge to assess and evaluate patient with neurological disorder.
2. To be skilled in evaluating balance and coordination.
3. To gain skill of assessing unconscious patients.
4. Learn to apply measurement tools on neurological ill patients.

UNIT I **10 Hours**

The multidisciplinary nature of environmental studies: Definition, scope and importance, Need for public awareness; Natural Resources: Renewable and non-renewable resources: Natural resources and associated problems, Forest resources: Use and over-exploitation, deforestation, case studies. Timber extraction, mining, dams and their effects on forests and tribal people, Water resources: Use and over-utilization of surface and ground water, floods, drought, conflicts over water, dams-benefits and problems, Mineral resources: Use and exploitation, environmental effects of extracting and using mineral resources, case studies, Food resources: World food problems, changes caused by agriculture and overgrazing, effects of modern agriculture, fertilizer-pesticide problems, water logging, salinity, case studies, Energy resources: Growing energy needs, renewable and non-renewable energy sources, use of alternate energy sources, case studies, Land resources: Land as a resource, land degradation, man induced landslides, soil erosion and desertification.

UNIT II **10 Hours**

Ecosystems: Concept of an ecosystem, Structure and function of an ecosystem, Producers, consumers and decomposers, Energy flow in the ecosystem, Ecological succession, Food chains, food webs and ecological pyramids, Introduction, types, characteristic features, structure and function of the following ecosystem: Forest ecosystem, Grassland ecosystem, Desert ecosystem, Aquatic ecosystems (ponds, streams, lakes, rivers, ocean estuaries)

UNIT III **10 Hours**

Biodiversity and its conservation: Introduction – Definition: genetic, species and ecosystem diversity, Bio-geographical classification of India, Value of biodiversity: consumptive use, productive use, social, ethical aesthetic and option values, Biodiversity at global, national and local levels, India as a mega-diversity nation, Hot-spots of biodiversity, Threats to biodiversity: habitat loss, poaching of wildlife, man wildlife conflicts, Endangered and endemic species of India, Conservation of biodiversity: In-situ and Ex-situ conservation of biodiversity

Transaction mode

Demonstration method, Video based teaching, Lecture, Seminar, e-Team Teaching, e-Tutoring, Dialogue, Peer Group Discussion, Mobile Teaching, Self-Learning, Collaborative Learning and Cooperative Learning

Suggested readings:

- *Bharucha, E. 2005. Textbook of Environmental Studies, Universities Press, Hyderabad.*
- *Down to Earth, Centre for Science and Environment, New Delhi.*

- *Heywood, V.H. &Waston, R.T. 1995. Global Biodiversity Assessment, Cambridge House, Delhi.*
- *Joseph, K. &Nagendran, R. 2004. Essentials of Environmental Studies, Pearson Education (Singapore) Pte. Ltd., Delhi.*
- *Kaushik, A. & Kaushik, C.P. 2004. Perspective in Environmental Studies, New Age International (P) Ltd, New Delh*i.

Web Sources

- *https://jgu.edu.in/blog/2024/03/07/what-is-environmental-studies/*
- *https://www.taxmann.com/post/blog/understand-environmental-studies-scope-importance-sustainability-history*
- *https://www.wesleyancollege.edu/registrar/catalog/Environmental-Studies.cfm*

Course Title: English Communication and Skills
Course Code: BVY109

L	T	P	Credits
2	0	0	2

Total Hours: 30

Course Outcomes

On the completion of the course the students will be able to

1. To enhance the personality of students.
2. Understand about the grammatical and idiomatic usages.
3. Gain knowledge about various methods of patient education, barriers of communication and how to overcome them.
4. Become fluent in speaking and enhance the ability to communicate effectively with colleagues, doctors, patients etc. and writing various official letters, writing patients reports and summarize scientific sessions.

Course Content

UNIT I **10 Hours**

Tense, Articles, Determiners, Conversations, discussions, dialogues, short presentations, pronunciation, Preposition, Voice, Narration

UNIT II **10 Hours**

Paragraph writing; Letter writing; Resume writing, Email writing; Notice writing; Advertisement writing , Teaching the different methods of writing report, case study, collecting the patient data etc.

UNIT III **10 Hours**

Basic concepts & principles of good communication, Special characteristics of health communication, Types & process of communication–verbal, non-verbal and written

communication, Therapeutic communication: empathy versus sympathy, Communication methods for patient education.

Transaction Mode

Open learning, Problem solving, Flipped teaching, Lecture, Seminar, e-Team Teaching, e-Tutoring, Dialogue, Peer Group Discussion, Mobile Teaching, Self-Learning, Collaborative Learning and Cooperative Learning

Suggested Readings

- *English Grammar Composition & Usage by J.C. Nesfield, Macmillan Publishers.*
- *The Business letters by Madan Sood.*
- *Communication Skills by Sanjay Kumar & Pushp Lata.*

Web Sources

- *https://www.physio-pedia.com/Effective_Communication_Techniques*
- *https://www.collegept.org/rules-and-resources/communication-skills*
- *https://www.physio-pedia.com/Communication_Skills*

Course Title: HUMAN ANATOMY- II
Course Code: BVY201

L	T	P	Credits
4	0	0	4

Total Hours: 60

Course Outcomes

On the completion of the course the students will be able to

1. Identify the bony structures and the soft tissues present in scalp, face and cranium.
2. Understand the anatomy and clinical significance of neuroanatomical structures.
3. Develop skills to examine anatomical and physiological disorders of brain based on evidence.
4. Identify physical deformities.

Course Content

UNIT I **16 Hours**

Regional Anatomy- Head & Scalp, Gross anatomy of eyeball, nose.

UNIT II **15 Hours**

Muscles of the face and neck and their nerve and blood supply-extra ocular muscles, triangles of the neck, Gross anatomy of ears and tongue, Temporomandibular joint

UNIT III **14 Hours**

Cranial nerves, Sensory End Organs, Internal Capsule, Pyramidal systems, Extra – pyramidal systems.

UNIT IV **15 Hours**

Neuro – Anatomy, Spinal Cord Segments & Areas. CNS & PNS, Brainstem, Cerebellum, Inferior colliculi, Superior Colliculi, Hypothalamus, Thalamus, Cerebral hemispheres, Functional areas of brain, Corpus striatum, Ventricles of the brain, and Meninges.

Transaction Mode

Lecture, Seminar, e-Team teaching, e-Tutoring, Dialogue, Case based studies Peer Group Discussion, Mobile Teaching, Self-Learning, Collaborative Learning and Cooperative Learning

Suggested Readings

- *Singh Inderbir (2014). Textbook of Anatomy with colour Atlas. Vol. 1, 2, 3, Jaypee Brother*
- *Chaurasia B.D. (2017). Human Anatomy. Volume 1, 2, 3. CBS Publishers &Distributors.*
- *Singh V. (2012). Anatomy of Head, Neck & Brain. Elsevier*
- *Kinetics. Champaign; Illinois.*
- *Drake, R. L., Vogl, A. W., & Mitchell, A. W. M. (2020). Gray's anatomy for students (4th ed.). Elsevier.*
- *Netter, F. H. (2019). Atlas of human anatomy (7th ed.). Elsevier.*

Web Sources

- *https://www.kenhub.com/en/library/anatomy/extrapyramidal-system*
- *https://my.clevelandclinic.org/health/body/21598-brainstem*

Course Title: HUMAN PHYSIOLOGY- II
Course Code: BVY202

L	T	P	Credits
4	0	0	4

Total Hours: 60

Course Outcomes

On the completion of the course the students will be able to

1. Understand the functioning of human neurological system.
2. Analyse about the physiological effects of exercise on human body systems.
3. Identify sense organs of the human body and their associated abnormalities.
4. Interpret results of haematological tests.

Course Content

UNIT I **16 Hours**

Neuromuscular Physiology, Nerve - structure and function of neurons, Classification, properties and impulse transmission of nerve fibres, Nerve injury - degeneration and regeneration, Neuroglia - types and functions, Muscle – classification, Skeletal muscle – structure, Neuromuscular junction – structure, Neuromuscular transmission, Introduction - Resting membrane potential, Action potential - ionic basis and properties.

UNIT II **15 Hours**

Nerve Physiology: Introduction - organization of Nervous System - central and peripheral system, Functions of nervous system, Neuron and classification of nerve fibers, Motor units, Structure of synapse and synaptic transmission, Types and properties of sensory Receptors, types of sensations, Sensory Tracts of Spinal cord - Ascending tracts - posterior column tract, lateral spinothalamic tract and anterior spinothalamic tract - their origin, course, termination and function, Somatic sensations - crude touch, fine touch, tactile localization, tactile discrimination, vibration sense, kinesthetic sensations and stereo gnosis, Pain sensation - mechanism of pain, Cutaneous pain -slow and fast pain, hyperalgesia, Deep pain - visceral pain - referred pain, Gate control theory of pain, Motor Mechanism - Motor pathway, descending tracts - Pyramidal and Extrapyramidal Tracts -origin, course, termination and function. UMN and LMN, Reflex action - component, Bell-magendie law, classification and properties. Monosynaptic and polysynaptic reflexes, superficial reflexes, deep reflexes, Stretch reflex -structure of muscle spindle, pathway, higher control and functions, Inverse stretch reflex, muscle tone, definition and properties. Hypotonia, atonia and hypertonia, UMNL and LMNL, Hemi section and complete section of spinal cord, upper and lower motor neuron lesions, Cerebral Cortex - lobes and Brodmann's area and their functions. Higher functions of cerebral cortex-learning, memory and speech, Blood supply of brain, EEG - Waves and features, Posture and equilibrium - postural reflexes - spinal, medullary, midbrain and cerebral reflexes, Functions of Cerebellum Thalamus and Hypothalamus- functions, Basal ganglia- structure and function, CSF - formation, composition, circulation and functions, Automatic Nervous System - Functions and actions of parasympathetic and sympathetic.

UNIT III **14 Hours**

Special senses, Vision - Introduction, Functional anatomy of eyeball, Functions of cornea, iris, pupil, aqueous humor - glaucoma, lens - cataract, vitreous humor, rods and cones. Photopic vision, scotopic vision, visual pathway, Refractive errors - myopia, hypermetropia, presbyopia, and astigmatism, Visual reflexes - accommodation - pupillary and light, Visual acuity and visual field, Light adaptation, Dark adaptation Color vision -color blindness, Audition- physiological anatomy of ear Functions of

external ear, middle ear and inner ear, Structure of cochlea and organ of corti. Auditory pathway, Types of deafness, Test for hearing. Audiometry, Taste - taste buds, primary taste, gustatory pathway ,Smell - Olfactory membrane, olfactory pathway.

UNIT IV **15 Hours**

Physiology of exercise and work: Effects of acute and chronic exercise on - O2 transport, Muscle strength/power/endurance, Cardiovascular system and Respiratory system, Body fluids and electrolyte, Effect of gravity/altitude/acceleration/pressure on physical parameters.

Transaction Mode

Lecture, Seminar, Case based teaching, Dialogue, Peer Group Discussion, Mobile Teaching, Self-Learning, Collaborative Learning and Cooperative Learning**,** Flipped teaching

Suggested Readings

- *Ghai, C. L. (2012). A textbook of practical physiology. JP Medical Ltd.*
- *Sembulingam, K., & Sembulingam, P. (2012). Essentials of medical physiology. JP Medical Ltd.*
- *Hall, J. E., & Hall, M. E. (2020). Guyton and Hall textbook of medical physiology. Elsevier Health Sciences.*
- *Ganong, W. F. (2019). Review of medical physiology (26th ed.). McGraw-Hill Education.*
- *Jain, A. K. (2019). Textbook of physiology (7th ed.). Avichal Publishing Company.*

Web Sources

- *https://www.prepladder.com/neet-pg-study-material/physiology/nerve-muscle-physiology*
- *https://thebiotechnotes.com/2019/05/21/special-senses-taste/*

Basic Nursing:

Course Title: Basic Nursing & First Aid
Course Code: BVY203

L	T	P	Credits
4	0	0	4

Total Hours: 60

UNIT-I
20 Hours

1. What is Nursing ? Nursing principles. Inter-Personnel relationships, Bandaging

: Basic turns, Bandaging extremities, Triangular Bandages and their application.

2. Nursing Position: Environment safety, Bed making, prone, lateral, dorsal, dorsal recumbent, Flower's positions, comfort measures, Aids & rest and sleep.

UNIT-II

20 Hours

3. Methods of Giving Nourishment: Feeding, Tube feeding, drips, transfusion.
4. Surgical Dressing: Observation of dressing procedures.
5. Lifting and transporting patients : Lifting patient up in the bed, transferring from bed to wheel chair, transferring from bed to stretcher.

UNIT-III

20 Hours

First Aid

Syllabus as for Certificate of Red Cross Society of St. John's Ambulance Brigade.

Course Outcomes:-

Understanding first aid Students learn the concept of first aid, the difference between first aid and emergency treatment, and how to apply basic first aid.

Understanding the body Students learn about the body's systems, including the respiratory and circulatory systems, and how temperature changes affect the body.

First aid for injuries Students learn how to provide first aid for injuries such as fractures, dislocations, sprains, burns, and frostbite.

First aid for poisoning Students learn about poisoning and how to provide first aid for poisonings, including those caused by inhalation.

Transaction mode

Open learning, Problem solving, Task based teaching

Suggested readings

- *Behara, R., Wears, R. L., Perry, S. J., Eisenberg, E., Murphy, L., Vanderhoef, M., ... & Cosby, K. (2005). A conceptual framework for studying the safety of transitions in emergency care.*
- *Caroline, N. L. (2007). Emergency care in the streets. Jones & Bartlett Learning.*
- *Watkinson, D., & Neal, V. (1998). First aid for finds. Rescue.*
- *Limmer, D., O'Keefe, M. F., & Grant, H. T. (2020). Emergency care (14th ed.). Pearson.*
- *American Academy of Orthopaedic Surgeons (AAOS). (2018). Emergency medical responder: Your first response in emergency care (7th ed.). Jones & Bartlett Learning.*

Web Sources

- *https://www.medicalnewstoday.com/articles/153849*
- *https://www.verywellhealth.com/basic-first-aid-procedures-1298578*
- *https://www.healthline.com/health/first-aid*

Course Title: BIOCHEMISTRY
Course Code: BVY204

L	T	P	Credits
2	0	0	2

Total Hours: 30

Course Outcomes

On successful completion of this course, the students will be able to:

1. Analyse the basic concepts of nutrition and its role in maintenance of good health.
2. Identify the source and metabolism of carbohydrates, lipids, proteins and vitamins in human body.
3. Identify structures of biomolecules and their chemical reactions essential to life.
4. Relate bio chemistry with clinical outcomes and conduct treatment accordingly.

Course Content

UNIT I **08 Hours**

Carbohydrates: Concepts of pH and buffers, acid base equilibrium osmotic pressure and its physiological application. Definition, structure, functions, sources, monosaccharaides, Disaccharides, Polysaccharides, muco polysaccharide and its importance, Carbohydrate Metabolism**:** Glycolysis, citric acid cycle, glycogenesis, glycogenolysis, Glucogenesis, Cori cycle, Maintenance of Blood glucose.

UNIT II **07 Hours**

Lipids: Definition, function, sources, classification and properties of fatty acids, triacylglycerol, phospholipids, cholesterol and lipoproteins. Essential fatty acids and their importance, Lipid Metabolism**:** Lipolysis, Fatty acid oxidation, lipogenesis, fatty acid synthesis, Metabolism of cholesterol, Ketone body metabolism, Atherosclerosis, fatty liver.

UNIT III **08 Hours**

Proteins: Definition, sources, Classification and functions of proteins,Protein Metabolism: Transamination, Deamination, Fate of ammonia and urea cycle, Muscle Contraction: contractile elements, Biochemical events during contraction and Energy metabolism in skeleton & cardiac muscle.

UNIT IV **07 Hours**

Connective tissue & Nerve tissue: Mucopolysaccharide, connective tissue proteins, glycoprotein, chemistry & Metabolism of bone and tooth, metabolism of skin. Composition, metabolism, chemical mediators of Nerve activity.

Transaction Mode

Open learning, Seminars, Group discussions, Lecture, Seminar, e-Team teaching, e-Tutoring, Dialogue, Peer Group Discussion

Suggested Reading

- *Satyanarayana, U., & Chakrapani, U. (2008). Essentials of biochemistry. Book and Allied, Kolkata, India, Textbook of Biochemistry for Medical Students - Vasudeval D.M. (2019) - Jaypee Brothers.*
- *Marshall, W. J., Lapsley, M., Day, A., & Ayling, R. (2014). Clinical Biochemistry: Metabolic and Clinical Aspects. Elsevier Health Sciences.*
- *Murray [Robert Kk], Harper's Bio Chemistry Ed 24, Prentice Hall. 1996*
- *Rodwell, V. W., Bender, D., Botham, K. M., Kennelly, P. J., & Weil, P. A. (2018). Harper's illustrated biochemistry (31st ed.). McGraw-Hill Education.*
- *Vasudevan, D. M., Sreekumari, S., & Vaidyanathan, K. (2019). Textbook of biochemistry for medical students (8th ed.). Jaypee Brothers Medical Publishers.*

Web Sources

- *https://mi01000971.schoolwires.net/cms/lib/MI01000971/Centricity/Domain/442/Chapter%205%20lipid%20proteins%20carbohydrates*
- *https://www.kenhub.com/en/library/anatomy/introduction-to-tissues-epithelial-connective-muscle-and-nervous-tissue*

Course Title: HUMAN ANATOMY- II LAB
Course Code: BVY205

L	T	P	Credits
0	0	4	2

Total Hours: 30

Course Outcomes

On the completion of the course the students will be able to

1. Identify and demonstrate parts of human nervous system on a model.
2. Recognize the structure of human organs.
3. Analyse the structure and clinical relevance of each bone, joint and muscle.
4. Develop competency to palpate major surface landmarks.

Course Content

Surface Anatomy: To study, identify and mark the surface landmarks on human body, To study the muscles of face, upper and lower extremities on a dissected human body, To study the bones of human body including cranium, Temporomandibular joint with special emphasis on origin on a dissected human muscles and ligaments, To study the anatomy of joints of upper and lower extremities, face and cranium on models, charts and CDs, To study motor areas of brain, To study the anatomy of C.N.S. and P.N.S. on models, charts and CDs.

Transaction Mode

Demonstration method, Team teaching, Video based teaching

Suggested Readings

- *Singh, I. (2011). Textbook of Anatomy: Volume 1: Upper Extremity, Lower Extremity (Vol. 1). Elsevier Health Sciences.*
- *Singh, I. (2011). Textbook of Anatomy: Volume 3: Head and Neck, Central Nervous System (Vol. 3). Elsevier Health Sciences.*
- *Singh, V. (2014). Textbook of Anatomy Abdomen and Lower Limb; Volume II (Vol. 2). Elsevier Health Sciences.*
- *Chaurasia, B. D. (1996). BD Chaurasia's Handbook of General Anatomy. CBS.*
- *Koshi, R. (2017). Cunningham's manual of practical anatomy (16th ed.). Oxford University Press.*
- *Rohen, J. W., Yokochi, C., & Lütjen-Drecoll, E. (2015). Color atlas of anatomy: A photographic study of the human body (8th ed.). Lippincott Williams & Wilkins.*

Web Sources

- *https://courses.lumenlearning.com/wm-biology2/chapter/the-central-and-peripheral-nervous-systems/*
- *https://www.kenhub.com/en/library/anatomy/upper-extremity-anatomy*

Course Title: HUMAN PHYSIOLOGY - II LAB
Course Code: BVY206

L	T	P	Credits
0	0	4	2

Total Hours: 30

Course Outcomes

On the completion of the course the students will be able to

1. Examine hemoglobin percentage draw inference on their basis.
2. Identify bleeding and clotting time.
3. Identify values of ESR and to study different types of blood group.

4. Develop skills to examine auscultation and ECG.

Course Content

Hemoglobin percentage and color index, Bleeding time and clotting time, E.S.R. and Blood groups, To study the following Physiological Phenomenon: -Respiratory rate and Auscultation. Normal E.C.G.

Transaction Mode

Demonstration method, Case based teaching, Video based teaching, Group Discussion.

Suggested Readings

- *Ghai, C. L. (2012). A textbook of practical physiology. JP Medical Ltd.*
- *Sembulingam, K., & Sembulingam, P. (2012). Essentials of medical physiology. JP Medical Ltd.*
- *Hall, J. E., & Hall, M. E. (2020). Guyton and Hall textbook of medical physiology. Elsevier Health Sciences.*
- *Jain, A. K. (2019). Practical physiology (4th ed.). Avichal Publishing Company.*
- *Jaypee, A. K. (2016). Manual of practical physiology for BDS and MBBS students (2nd ed.). Jaypee Brothers Medical Publishers.*

Web Sources

- *https://www.medicine.mcgill.ca/physio/vlab/bloodlab/hemostasis_n.htm*
- *https://www.testing.com/tests/erythrocyte-sedimentation-rate-esr/*

Course Title: SOCIOLOGY
Course Code: BPVT207

L	T	P	Credits
2	0	0	2

Course Outcomes **Total Hours-30**

On the completion of the course the students will be able to

1. Identify the economic, cultural and political factors affecting structure of society.
2. Understand the importance of race, class and gender inequality

3. Recognize the social norms and values.
4. Understand the role of socialization in patient rehabilitation process.

Course Content

UNIT I

10 Hours

1. Introduction - Meaning, definition and scope of sociology. Its relation to social psychology.
2. Socialization - Meaning, process and agencies. Primary, Secondary and Anticipatory socialization.
3. Social Groups - In hospitals, socialization in the rehabilitation of patients. Meaning, definition, features and influence of formal and informal groups on health and sickness.

UNIT II 5

Hours

1. **Family -** Meaning, definition, types, features and functions.
2. **Social factors in health and disease situations:** Meaning of social factors. Role of social factors

UNIT III

8 Hours

1. Community - Rural community – meaning and features – health hazards to ruralities. Urban community - meaning and features – health hazards to urbanities.
2. Social Worker - Meaning and Role of medical social worker.
3. Social Change - Meaning, factors, human adaptation and social change, social change and stress, social change and health programmes.

UNIT IV

7 Hours

1. Social Problems - Meaning, definition and characteristics.
2. Social Problems of disabled - Population explosion. Poverty. Beggary. Juvenile delinquency. Prostitution. Drugs. Crime. Alcoholism. Problems of working women.

Transaction Mode

Open learning, Problem solving, Flipped teaching, Lecture, Seminar, e-Team Teaching, e-Tutoring, Dialogue, Peer Group Discussion, Mobile Teaching, Self-Learning, Collaborative Learning and Cooperative Learning

Suggested Readings

- Kupuswamy - Social Changes in India – (2006) - Vikas, Delhi.
- Ahuja - Social Problems – (2014) - Bookhive, Delhi.

Course Title: INFECTION PREVENTION AND CONTROL	**L**	**T**	**P**	**Credits**

Course Code: BVY208

2	0	0	2

Course Outcomes **Total**

Hours- 30

1. Recognize the benefit to patients and healthcare workers of adhering to scientifically accepted principles and practices of infection prevention and control
2. Become well oriented with professional's responsibility to adhere to scientifically accepted infection prevention and control practices in all healthcare settings and the consequences of failing to comply; and
3. Identify the professional's responsibility to monitor infection prevention and control practices of those medical and ancillary personnel for whom he or she is responsible and intervene as necessary to assure compliance and safety.
4. Describe how infection control concepts are applied in professional practice.

Course Content

UNIT I
10 Hours

Methods to prevent the spread of pathogenic organisms in healthcare settings**.**

1. Standard precautions:
2. Respiratory hygiene/cough etiquette
3. Safe injection practices
4. Use of masks during spinal/epidural access procedures.
   For patients infected with organisms other than blood borne pathogens:

1. Early identification
2. Prompt isolation
3. Appropriate treatment

UNIT II

5 Hours

Control of routes of transmission:

1. Hand hygiene: a. Appropriate selection and use of agents (e.g., soap and water, alcohol-based hand sanitizers); b. Factors influencing hand hygiene efficacy; c. Sources of potential contamination or cross- contamination of hand hygiene materials.
2. Use of appropriate barriers: a. appropriate selection, donning, doffing, and disposal of personal protective equipment (PPE).
3. Appropriate isolation/cohorting of patients infected with communicable diseases: a. Standard precautions for all patients; b. Transmission based precautions for other pathogens: 1) Contact (direct, indirect); 2) Droplet; 3) Airborne.

UNIT III

8 Hours

Host support and protection:

1. Vaccination
2. Pre-and post-exposure prophylaxis
3. Protecting skin and immune system integrity
4. Environmental control measures: 1) Cleaning, disinfection, and sterilization of patient care equipment 2) Environmental cleaning (housekeeping); 3) Appropriate ventilation; 4) Waste management; 5) Linen and laundry management; 6) Food services.

UNIT IV

7 Hours

Proper infection control technique requires that healthcare providers must**:**

1. Maintain aseptic technique throughout all aspects of injection preparation and administration Medications should be drawn up in a designated "clean" medication area that is not adjacent to areas where potentially contaminated items are placed.

2. Use a new sterile syringe and needle to draw up medications while preventing contact between the injection materials and the non- sterile environment.
3. Ensure proper hand hygiene (i.e., hand sanitizing or hand washing if hands are visibly soiled) before handling medications

Transaction Mode

Lecture, Seminar, Dialogue, Peer Group Discussion, Self-Learning, Collaborative Learning and Cooperative Learning

Suggested Readings

- Grasso, P. (2002). Essentials of pathology for toxicologists. CRC Press.
- Castle, M. (1980). Hospital infection control: principles and practice. John Wiley & Sons Limited, Baffins Lane, Chichester, West Sussex PO19 1UD.

Course Title: Physiotherapy Ethics and Laws

L	T	P	Credits
2	0	0	2

Course Code: BVY208

Course Outcomes **Total Hours-30**

On the completion of the course the students will be able to

1. To be aware of History of physiotherapy.
2. To be aware of ethics and laws of physiotherapy.
3. To be aware of the rules that govern the profession.
4. To follow ethical guidelines while dealing with patients.

Course Content

UNIT I

10 Hours

1. History of Physiotherapy
2. History of physiotherapy
3. Ethical principles in health care
4. Ethical principles related to physiotherapy,
5. Scope of practice
6. Enforcing standards in health profession-promoting quality care
7. Professional ethics in research
8. education and patient care delivery
9. Informed consent issues
10. Medical ethics and Economics in clinical decision-making

UNIT II 5

Hours

1. Ethical issues
2. Ethical issues in physiotherapy
3. Ethical issues in clinical practice
4. Ethical issues in private practice

UNIT III

8 Hours

Laws and legal concepts

1. Concepts.
2. Protection from Malpractice claims.
3. Consumer protection Act.
4. Liability and Documentation.
5. Laws vs. Regulations
6. Professional ethics

Standards of practice for physical therapy assistant (PTA)

1. Value based behaviors for PTA
2. Palliative care
3. Bioethics

UNIT IV 7

Hours

Rules of professional conduct

1. Physiotherapy as a profession
2. Relationship with patients
3. Relationship with health care institutions
4. Relationship with colleagues and peers
5. Relationship with medical and other professional.
6. Confidentiality and Responsibility,
7. Malpractice and negligence,
8. Provision of services and, advertising
9. Resolution of conflicts

Role of physiotherapy

1. Role of PT in health care
2. Ethical responsibilities of a PT

3. Core values
4. Decision Making process

Policy statement -World Confederation of Physical Therapy

Transaction Mode

Open learning, Problem solving, Flipped teaching, Lecture, Seminar, e-Team Teaching, e-Tutoring, Dialogue, Peer Group Discussion, Mobile Teaching, Self-Learning, Collaborative Learning and Cooperative Learning

Suggested Readings

- Ethical Issues Perspectives for the physiotherapists – Kavita Raja, Fiddy Davis
- Essentials of Community Physiotherapy and Ethics – Prof.Dr. Rajinder Rajput
- Physical Therapy Ethics-Donald L Gabard

Semester-III

Course Title: EXERCISE THERAPY- I
Course Code: BVY301

L	T	P	Credits
4	0	0	4

Total Hours: 60

Course Outcomes

On the completion of the course the students will be able to

1. Describe the basic concepts of therapeutic exercises.
2. Design a protocol including therapeutic exercises for different conditions.
3. Plan an exercise protocol specific to a particular condition.
4. Modify and improve exercise therapy outcomes according to the needs and abilities of the patient.

Course Content

UNIT I **16 Hours**

Introduction to exercise therapy and Muscle Work, Aims, techniques of exercise therapy and general areas of its application, Group action of muscles, Angle of pull, Mechanical efficiency o muscles, Muscle fibre type, motor unit, Causes of decreased muscle performance, Causes o immobility.

UNIT II **15 Hours**

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, and Hanging, Derived Positions, Introduction to Movements Analysis of joint motion, Muscle work, Neuro – muscular coordination.

UNIT III **14 Hours**

Free exercise, and: Classification, principles, techniques, indications, contraindications, effects and uses. Principles, techniques, indications, contraindications, effects and uses; Active Movements: Classification, principles, techniques, indications, contraindications, effects and uses. Principles, techniques, indications, contraindications, effects and uses; Active assisted exercises- Definition, principles, techniques, indications, contraindications, precautions, effects and uses; Classification of Passive movements: Principles of giving passive movements, Indications, contraindications, effects and uses, Techniques of giving passive movements.

UNIT IV **15 Hours**

Definition of strength, power & work, endurance, muscle actions, Physiology of muscle performance: structure of skeletal muscle, chemical & mechanical events during contraction &relaxation, Physiologic adaptation to training: Strength & Power, Endurance, Resisted exercises- Types of resisted exercises: Manual and Mechanical resistance exercise, Isometric exercise, Dynamic exercise: Concentric and Eccentric, Dynamic exercise: Constant versus variable resistance, Isokinetic exercise, Open-Chain and Closed-Chain exercise.

Transaction Mode

Lecture, Demonstration method, flipped teaching, Group Discussion, Mobile Teaching, Self-Learning, Collaborative Learning and Cooperative Learning, Video based teaching, Demonstration method, Flipped teaching

Suggested Readings

- *Kisner, C., Colby, L. A., & Borstad, J. (2017). Therapeutic exercise: foundations and techniques. Fa Davis.The Principle of Exercise Therapy -Gardiner (2005) - C.B.S.Delhi.*
- *Norkin, C. C., & White, D. J. (2016). Measurement of joint motion: a guide to goniometry. FA Davis.*
- *Gardiner, M. D. (1973). Principles of Exercise Therapy: M Dena Gardiner.*
- *Powers, S. K., & Howley, E. T. (2020). Exercise physiology: Theory and application to fitness and performance (11th ed.). McGraw-Hill Education.*
- *Ehrman, J. K., Gordon, P. M., Visich, P. S., & Keteyian, S. J. (2019). Clinical exercise physiology (5th ed.). Human Kinetics.*

Web Sources

- *https://www.vedantu.com/evs/muscle-fibre*
- *https://mgumst.org/pdf/naac/Final_Nsg.PPT_PDF/Medical/Physiotherapy/DR%20CHANDAN/Resisted%20exercises.pdf*

Course Title: ELECTRO THERAPY- I
Course Code: BVY302

L	T	P	Credits
4	0	0	4

Total Hours: 60

Course Outcomes

On the completion of the course the students will be able to

1. Understand the clinical relevance of various electrotherapy modalities.
2. Choose appropriate modality for treatment based on patient assessment.
3. Apply therapeutic modalities clinically.
4. Become proficient in conducting electro-diagnostic tests.

Course Content

UNIT I **16 Hours**

Superficial Heating modalities, Moist heat - Hydro collator packs – in brief, Methods of applications, Therapeutic uses, Indications & Contraindications, Paraffin wax bath - Principle of Wax Therapy application – latent Heat, Composition of Wax Bath Therapy unit, Methods of application of Wax, Physiological & Therapeutic effects, Indications & Contraindication, Dangers, Electrical heating pads.

UNIT II **15 Hours**

Low Frequency Currents: Basic types of current – Direct Current: types, physiological & therapeutic effects, Alternating Current, Types of Current used in Therapeutics. Modified D.C - Faradic Current and Galvanic Current Modified A.C - Sinusoidal Current, Faradic Current: Definition, Modifications, Techniques of Application of Individual, Muscle and Group Muscle stimulation, Physiological & Therapeutic effects of Faradic Current, Precautions, Indications & Contra-Indications, and Dangers, Faradic foot bath, Faradism under pressure.

UNIT III **14 Hours**

Galvanic Current: Definition, Modifications, Physiological & Therapeutic effects of Galvanic Current, Indications & Contra-Indications, Dangers, Effect of interrupted galvanic current on normally innervated and denervated muscles and partially Denervated muscles, Iontophoresis: Techniques of Application of Iontophoresis, Indications, Selection of Current, commonly used Ions (Drugs) for pain, hyperhidrosis, would healing, Principles of Application: Electrode tissue interface, Tissue Impedance, Types of Electrode, Size of Electrode – Water bath, Unipolar, Bi-polar, Electrode coupling, Current flow in tissues, Lowering of Skin Resistance.

UNIT IV **15 Hours**

Transcutaneous Electrical Nerve Stimulation (TENS): Theories of Pain, Define TENS.
Types of TENS - Conventional TENS, Acupuncture TENS, Burst TENS, Brief & Intense TENS, Modulated TENS, Theories of pain relief by TENS, Principles of clinical application, Dosage parameters, Physiological & Therapeutic effects, Indications & Contraindications, Ultrasound:

Piezoelectric Effect, Definitions, Methods of application Principles of clinical application, Dosage parameters, Physiological & Therapeutic effects, Indications & Contraindications.

Transaction Mode

Lecture, Demonstration method, flipped teaching, Group Discussion, Mobile Teaching, Self-Learning, Collaborative Learning and Cooperative Learning, Video based teaching, Demonstration method, Flipped teaching

Suggested Readings

- *Electrotherapy Explained:Principles & Practice Low& Reed, Butterworth Heinemann.*
- *Claytons Electro therapy, Forster & Palastange (2005), CBS publishers*
- *Therapeutic Heat & Cold, Lehmann, Willians & Wilkins.*
- *Textbook of Electrotherapy, Jagmohan Singh (2012), Jay pee publishers.*
- *Principles & Practice of Electrotherapy, Joseph Kahn(2000) Churchill Livingstone.*

Web Sources

- *https://mobilephysiotherapyclinic.in/strength-duration-curvesdc/*
- *https://uihc.org/health-topics/transcutaneous-electrical-nerve-stimulator-tens*
- *https://recover.centre.uq.edu.au/treatment/galvanic-current*

Course Title: MICROBIOLOGY

Course Code: BVY303

L	T	P	Credits
3	0	0	3

Total Hours: 45

Course Outcomes

On the completion of the course the students will be able to

- Understand various mechanisms causing injury.
- Apply the knowledge of functioning of immune system while dealing with patients.
- To learn about various disorders affecting human body.
- Understanding and differentiating infections caused by variety of microbes.

Course Content

UNIT I **11 Hours**

General Microbiology, Definitions: infections, parasite, host, vector, fomite, contagious disease, infectious disease, epidemic, endemic, pandemic, Zoonosis, Epizootic, Attack rate, Normal flora of the human body, Routes of infection and spread; endogenous and exogenous infections; source at reservoir of infections, Bacterial cell. Morphology limited to recognizing bacteria in clinical samples Shape, motility and arrangement.

Unit II **11 Hours**

Virulent Structures, Essentials of bacterial growth requirements, Sterilization, disinfection and universal precautions in relation to patient care and disease prevention,
Definition of asepsis, sterilization, disinfection.
Hospital acquired infections, Basic methods of sterilization.
Waste Management.

UNIT III **12 Hours**

Basic principles of immunity immunobiology: lymphoid organs and tissues, Antigen, Antibodies, antigen and antibody reactions with relevance to pathogenesis and serological diagnosis, Humoral immunity and its role in immunity Cell mediated immunity and its role in immunity. Immunology of hypersensitivity, measuring immune functions,

Unit IV **11 Hours**

Streptococcal infections: Rheumatic fever and Rheumatic heart disease, Meningitis, Tuberculosis, Pyrexia of unknown origin, leprosy, Poliomyelitis, Hepatitis, Acute respiratory infections, Central nervous System infections, Urinary tract infections, Pelvic inflammatory disease, Wound infection Opportunistic infections, HlV infection, Malaria, Filariasis, Zoonotic diseases.

Transaction Mode

Lecture, Mobile Teaching, Self-Learning, Collaborative Learning and Cooperative Learning

Suggested Readings

- *Murray, P. R., Rosenthal, K. S., & Pfaller, M. A. (2020). Medical microbiology E-book. Elsevier Health Sciences.*
- *Microbiology: An Introduction for the Health Science - Ackerman and Richards -W.B. Saunders Co.*
- *Essential of Medical Microbiology- Bhatia & Lal Japyee Brothers.*
- *Microbiology: An Introduction" by Gerard J. Tortora, Berdell R. Funke, and Christine L. Case*
- *Microbiology: Principles and Explorations" by Jacquelyn G. Black and Laura J. Black*

Web Sources

- *https://thrombosis.org/patients/what-is-thrombosis/*
- *https://www.oregon.gov/oha/ph/diseasesconditions/communicabledisease/pages/transmission.aspx*
- *https://www.who.int/news-room/fact-sheets/detail/sexually-transmitted-infections-*
- *https://www.sciencedirect.com/topics/medicine-and-dentistry/central-nervous-system-infection*

Course Title: EXERCISE THERAPY - I LAB
Course Code: BVY304

L	T	P	Credits
0	0	4	2

Total Hours: 30

Course Outcomes

On the completion of the course the students will be able to

1. Classify various types of exercises.
2. Identify the fundamental positions of various joints of the body.
3. Analyse different types of muscle work and muscle contraction.
4. Identify group action of muscles.

Course Content

To practice the relaxed passive movement, assisted movements and resisted movements region wise, 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, To study group action of muscles and co-ordinated movements.

Transaction Mode

Demonstration method, Team teaching, Video based teaching

Suggested Readings

- *Kisner, C., Colby, L. A., & Borstad, J. (2017). Therapeutic exercise: foundations and techniques. Fa Davis.The Principle of Exercise Therapy -Gardiner (2005) - C.B.S.Delhi.*
- *Norkin, C. C., & White, D. J. (2016). Measurement of joint motion: a guide to goniometry. FA Davis.*
- *Gardiner, M. D. (1973). Principles of Exercise Therapy: M Dena Gardiner.*
- *Powers, S. K., & Howley, E. T. (2020). Exercise physiology: Theory and application to fitness and performance (11th ed.). McGraw-Hill Education.*
- *Ehrman, J. K., Gordon, P. M., Visich, P. S., & Keteyian, S. J. (2019). Clinical exercise physiology (5th ed.). Human Kinetics.*

Web Sources

- *https://www.webmd.com/fitness-exercise/difference-between-passive-range-of-motion-and-active-range-of-motion*
- *https://link.springer.com/referenceworkentry/10.1007/978-0-387-30440-3_341*

Course Title: ELECTRO THERAPY-I LAB
Course Code: BVY305

L	T	P	Credits
0	0	4	2

Total Hours- 30

Course Outcomes

On successful completion of this course, the students will be able to

1. Differentiate between the types of therapeutic currents based on their frequency
2. Choose appropriate modality for treatment based on patient assessment
3. Apply therapeutic modalities clinically
4. Conduct electro-diagnostic tests with proficiency

Course Content

To experience sensory and motor stimulation of nerves and muscles by various types of low frequency currents oneself, To locate and stimulate different motor points region wise including the upper & lower limb, trunk and face, To study a Biofeedback unit its operation and different methods of application region wise, Therapeutic application of different low frequency current, Faradic foot bath, faradism under pressure, Iontophoresis, To plot strength duration curve, To study a TENS simulator, its operator and application region wise.

Transaction mode

Open learning, Case based teaching, Video based teaching

Suggested readings

- *Robertson, V., Ward, A., Low, J., Reed, A., & MCSP, D. (2006). Electrotherapy explained: principles and practice. Elsevier Health Sciences.Claytons Electro therapy, Forster & Palastange (2005), CBS publishers.*
- *Watson, T. (Ed.). (2008). Electrotherapy: evidence-based practice. Elsevier Health Sciences.*
- *Singh, J. (2012). Textbook of electrotherapy. Jaypee Brothers Publishers.*
- *Nelson, R. M., & Gesch, D. H. (1998). Clinical electrotherapy (2nd ed.). Prentice Hall.*
- *Kitchen, S., & Watson, T. (2011). Electrotherapy in rehabilitation (3rd ed.). Churchill Livingstone.*

- **Web Sources**
- *https://www.yourphysio.in/blogs/how-faradic-foot-bath-helps-people-with-flat-foot*
- *https://www.verywellhealth.com/iontophoresis-in-physical-therapy-2696534*

Course Title: BASICS OF EMERGENCY MANAGEMENT

Course Code: BVY307

L	T	P	Credits
2	0	0	2

Total Hours: 30

Course Outcomes

On successful completion of this course, the students will be able to

1. Identify the organization and functioning of an emergency unit
2. Accomplish patient transfers efficiently
3. Provide resuscitation in case of emergencies
4. Examine the vital signs to establish the condition of the patient

Course Content

UNIT I **08 Hours**

Functioning of an ideal emergency medicine department, Concept of triage a. Components of triage b. Triage officer c. Triage procedure, Multiple and mass casualties: Difference between multiple and mass casualties, Disaster preparedness, Basic principle, description, types, usage, calibration and maintenance of: Electrocardiograph, Multi-parameter monitors, Defibrillator, AED, ventilator.

UNIT II **08 Hours**

Ambulance services, Responding to a call, Emergency vehicle operations, Position and Transport of patient, Patient position, prone, lateral, dorsal, dorsal recumbent, Fowler's positions, comfort measures, bed making, rest and sleep, Lifting and transporting patients: lifting patients up in the bed, transferring from bed to wheel chair, transferring from bed to stretcher.

UNIT III **07 Hours**

Principles of resuscitation, Sudden cardiac death, Cardiac, respiratory arrest, Basic cardiopulmonary resuscitation in adults, Advanced cardiac life support, Resuscitation in neonates, pediatrics and resuscitation in pregnancy, Hand washing and hygiene, Injuries and Personal protection, Insulation and safety procedures, Aseptic techniques, sterilization and disinfection.

UNIT IV **07 Hours**

Specific resuscitation procedures, Airway management, Breathing and ventilation management, Venous and intraosseous access, Defibrillation and cardio version, Fluid and blood resuscitation, Vasoactive agents in resuscitation, Arrhythmias.

Transaction mode

Open learning, Problem solving, Task based teaching

Suggested readings

- *Behara, R., Wears, R. L., Perry, S. J., Eisenberg, E., Murphy, L., Vanderhoef, M., ... & Cosby, K. (2005). A conceptual framework for studying the safety of transitions in emergency care.*
- *Caroline, N. L. (2007). Emergency care in the streets. Jones & Bartlett Learning.*
- *Watkinson, D., & Neal, V. (1998). First aid for finds. Rescue.*
- *Limmer, D., O'Keefe, M. F., & Grant, H. T. (2020). Emergency care (14th ed.). Pearson.*

- *American Academy of Orthopaedic Surgeons (AAOS). (2018). Emergency medical responder: Your first response in emergency care (7th ed.). Jones & Bartlett Learning.*

Web Sources

- *https://www.medicalnewstoday.com/articles/153849*
- *https://www.verywellhealth.com/basic-first-aid-procedures-1298578*
- *https://www.healthline.com/health/first-aid*

Course Name Naturopathy	L	T	P	Cr
Course Code BVY308	3	0	0	3

Unit 1: **Hours 10**

Naturopathy: Introduction, History & Basic Principles
Water Therapy: -Hot & Cold Compress and Wet Packs sheet, Mud/Clay therapy: Importance of Soil, Use of mud-packs. (Chest-Pack, Abdomen-Pack & Knee Puck)

Sun-therapy: Importance of sun rays, Sunbath & its uses in different diseases

Unit 2: **Hours 10**

Air-therapy: Importance of air, Air-bath & its uses

Eather/Space therapy: Fasting & its principles, Action & reaction of fasting on human body for maintaining health & management of diseases

Unit 3: **Hours 10**

Diet- Meaning, Definitions, components & Benefits of Balance-died, Sprouted diet & Mitahara, Rules of Yogic-dict, Demerits of Non-vegetarian-diet & merits of Vegetarian diet.

Transaction Mode

Lecture, Seminar, Dialogue, Peer Group Discussion, Mobile Teaching, Self- Learning, Collaborative Learning and Cooperative Learning

Suggested Readings

- Feuerstein, G. (1975).Text Book of Yoga. MotilalBansaridass Published

(P)Ltd., London.

- Gore (1990).Anatomy and Physiology of Yogac Practices. Kanchan Prakashan, Lonavata.
- Purperhart, H. (2004).The Yoga Adventure for Children. A Hunter House book, Netherlands.
- Iyengar, B.K.S. (2000).LightonYoga. Harper Collins Publishers, New Delhi.

Total Hours: 45

Course Title: DRUG ABUSE

Course Code: BPT720

L	T	P	Credits
3	0	0	3

Course Outcomes

On the completion of the course the students will be able to

1. Comprehend the Meaning, Nature, and Extent of Drug Abuse
2. Evaluate the impact on the individual, including physical and mental health.
3. Understand the role of healthcare professionals in medical management.
4. Study the importance of strict enforcement of laws and time-bound trials.

Course Content

UNIT I **11 hours**

Meaning of Drug Abuse: Meaning, Nature and Extent of Drug Abuse in India and Punjab, Consequences of Drug Abuse for Individual, Education, Employment, Income, Family; Prescription Drug Abuse, Intravenous Drug Abuse.

UNIT II **11 Hours**

Management of Drug Abuse: Medical Management: Medication for treatment and to reduce withdrawal effects, Psychiatric Management: Counselling, Behavioural and Cognitive therapy, Social Management: Family, Group therapy and Environmental Intervention, Rehabilitation, Substance Use Disorder.

UNIT III **11 Hours**

Prevention of Drug abuse: Role of family: Parent child relationship, Family support, Supervision, Shaping values, Active Scrutiny, School: Counselling, Teacher as role-model, Parent-teacher-Health Professional, Coordination, Random testing on students.

UNIT IV **12 Hours**

Controlling Drug Abuse: Media: Restraint on advertisements of drugs, advertisements on bad effects of drugs, Publicity and media, Campaigns against drug abuse, Educational and awareness program, Legislation: NDPs act, Statutory warnings, Policing of Borders, Checking, Supply/Smuggling of Drugs, Strict enforcement of laws, Time bound trials.

Transaction Mode

Video based teaching, Case based teaching, Team teaching Lecture, Seminar, e-Team Teaching, e-Tutoring, Dialogue, Peer Group Discussion, Mobile Teaching, Self-Learning, Collaborative Learning and Cooperative Learning

Suggested Readings

- *Ahuja, Ram (2003), Social Problems in India, Rawat Publication, Jaipur.*
- *Extent, Pattern and Trend of Drug Use in India, Ministry of Social Justice and Empowerment, Government of India, 2004.*
- *Inciardi, J.A. 1981. The Drug Crime Connection. Beverly Hills: Sage Publications.*
- *Kapoor. T. (1985) Drug epidemic among Indian Youth, New Delhi: Mittal Pub.*
- *Kessel, Neil and Henry Walton. 1982, Alcohalism. Harmond Worth: Penguin Books.*
- *Modi, Ishwar and Modi, Shalini (1997) Drugs: Addiction and Prevention, Jaipur: Rawat Publication.*
- *National Household Survey of Alcohol and Drug abuse. (2003) New Delhi, Clinical*
- *Epidemiological Unit, All India Institute of Medical Sciences, 2004.*

Web Sources

- *https://www.physio-pedia.com/Prescription_Drug_Abuse*
- *https://www.physio-pedia.com/Intraveneous_Drug_Abuse*

Semester-IV

Course Title: PHYSIOTHERAPY IN ORTHOPEDIC CONDITIONS

Course Code: BVY401

L	T	P	Credits
4	0	0	4

Total Hours: 60

Course Outcomes

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

1. Develop skills to assess various Orthopaedic conditions.
2. Draw out a provisional diagnosis based on patient history and evaluation.
3. Gain proficiency in planning physiotherapy treatment for various bone and joint deformities.
4. Learn about the principles of physiotherapy management of fractures.

Course Content

UNIT I **14 Hours**

PT assessment for Orthopaedic conditions; SOAP format Selection and application of physiotherapeutic techniques, manoeuvres, modalities for preventive, curative and rehabilitation means in all conditions; Traumatology; Physiotherapy assessment in fracture

cases (Upper limb, Lower Limb and spine) Principles of PT management in fracture cases – guidelines for treatment during immobilization and after immobilization period.PT management in complications (early and late).

UNIT II **15 Hours**

Physiotherapy assessment, goals, precautions and PT management in following deformities**:** Congenital disorders or Deformities, Congenital Torticollis, Cervical rib, Sprengels shoulder, Coxa vara & valga, CTEV, Pes Planus, Pes cavus; Acquired Deformities: Scoliosis, Kyphosis, Lordosis, Coxa vara, Genu valgum, Genu varum and Recurvatum, Physiotherapy management for Soft Tissue injuries and inflammatory condition of upper and lower limb

UNIT III **15 Hours**

Amputation- level of amputation of upper limb and lower limb, PT assessment, aims, pre and postoperative PT management, stump care, stump bandaging, pre and post prosthetic management including check out of prosthesis, training, complications and its management; Pre and post-operative physiotherapy assessment, goals, precautions and PT management for Arthrodesis, Osteotomy, Tendon transplantation; Soft tissue release – tenotomy, myotomy, lengthening. Bone grafting. Arthroplasty – partial and total, External fixators, Synovectomy. Leprosy: Common deformities; Clinical Features, PT assessment, aims and management after surgical procedures; Poliomyelitis - Common deformities, Clinical Features, PT assessment, aims and management after surgical corrections and reconstructive surgeries

UNIT IV **16 Hours**

Infective conditions; Review sign and symptoms, radiological features, pathology, common deformities and medial surgical management, PT assessment and management for, Osteomyelitis – acute and chronic, Septic arthritis, Pyogenic arthritis, TB spine and major joints (knee and hip); Degenerative and inflammatory conditions, Review sign and symptoms, radiological features, pathology, common deformities and medial surgical management, PT assessment and management in acute and chronic stage and detailed home programme for Rheumatic Arthritis Osteoarthritis – emphasis on hip, knee and hand. Ankylosing spondylitis Periarthritic shoulder, Gout, Perthes disease; Spinal Conditions **-** Outline PT assessment, PT aims, management and home program for Cervical and lumbar spondylosis, Spondylitis, Spondylolisthesis, Spinal canal Stenosis Spinal postural abnormalities, SI joint dysfunction, Sacralisation, Lumbarisation Intervertebral disc prolapsed, Coccydynia, Spina bifida. Treatment guidelines for soft tissue injuries – acute, sub-acute and chronic stages, Repair of soft tissues – rupture of muscle, tendon and ligamentous tear,

Transaction mode

Demonstration method, Flipped learning, Lecture, Seminar, e-Team Teaching, e-Tutoring, Dialogue, Peer Group Discussion, Mobile Teaching, Self-Learning, Collaborative Learning and Cooperative Learning

Suggested Readings

- *Thompson, A. (2013). Tidy's Physiotherapy. Varghese publishing House.*
- *Sullivan, S. (2013). Physical Rehabilitation Assessment and Treatment. Jaypee brothers, Delhi.*
- *Clarkson, H. M. (2000). Musculoskeletal Assessment: Joint Range of Motion and Manual Muscle Strength. Lippincott Williams & Wilkins.*
- *Magee, D. J. (2014). Orthopedic Physical Assessment. Elsevier.*
- *Donatelli, R. A. (2019). Orthopaedic Physical Therapy. Elsevier.*

Web Sources

- *https://www.physio-pedia.com/SOAP_Notes*
- *https://www.versusarthritis.org/about-arthritis/conditions/ankylosing-spondylitis/*

Course Title: PHYSIOTHERAPYIN MEDICAL CONDITIONS LAB

Course Code: BVY402

L	T	P	Credits
0	0	4	2

Course Outcomes Total Hours- 30

On the completion of the course the students will be able to

1. Become proficient in pulmonary and cardiac assessment.
2. Draw provisional diagnosis on the basis of patient assessment.
3. Provide post-operative physiotherapy.
4. Gain expertise in cardiopulmonary physiotherapy management.

Course Content

UNIT I **8 Hours**

1. Various physiotherapy modalities and treatment techniques for the following conditions:
   - Oedema
   - Vertigo
   - Burns

UNIT II 7 Hours

1. Various physiotherapy modalities and treatment techniques for the following conditions:
   - Acne
   - Alopecia
   - Rickets
   - Psoriasis
   - Osteoporosis
   - Osteomalacia

UNIT III 10 Hours

1. Various physiotherapy modalities and treatment techniques for the following paediatric conditions:
   - Congenital & acquired musculo-skeletal disorders.
   - Congenital & acquired Cardio - pulmonary disorders.
   - Congenital & acquired neurological disorders (CNS & PNS)

UNIT IV 5 Hours

1. Various physiotherapy modalities and treatment techniques for the following geriatrics conditions:
   - Congenital & acquired musculo-skeletal disorders.
   - Congenital & acquired Cardio - pulmonary disorders.
   - Congenital & acquired neurological disorders (CNS & PNS)

Transaction Mode

Lecture, Seminar, e-Team Teaching, e-Tutoring, Mobile Teaching, Self- Learning and Cooperative Learning

Suggested Readings

- Porter, S. (2013). Tidy's Physiotherapy E-Book. Elsevier Health Sciences.
- Cash, J. E. (1951). A Textbook of Medical Conditions for Physiotherapists. American Journal of Physical Medicine & Rehabilitation, 30(6), 388.

Course Title: RESEARCH METHODLOGY

Course Code: BVY403

L	T	P	Credits
4	0	0	4

Total Hours: 60

Course Outcomes

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

1. To gain skills about basic ethical principles and techniques of conducting research.
2. To know about types and techniques of sampling.
3. To know about various experimental methods.
4. To analyse and process data various data.

Course Content

UNIT I **15 Hours**

Research- Definition, history, objectives, scope, research methods versus methodology, criteria for good research, Research problem - statement of research problem, its purpose and objectives, Research design – meaning and need of design, features of good design, types and basic principles of design, Informed Consent, Research Proposal, funding and its significance, Biasness, Ethical Principles while conducting research.

UNIT II **14 Hours**

Sampling design – criteria for selecting sampling procedure, steps in sampling design, types of sampling (probability and non-probability method), characteristics of good sample design, Measurement and scaling techniques – measurement scale, source of error in measurement, technique of developing measurement tool, meaning of scaling, its importance and different types of scaling.

UNIT III **16 Hours**

Methods of data collection – collection of primary data, collection of data through schedules and questionnaire; Schedules – Definition, purpose, essentials of good schedule, advantages and limitations; Questionnaire – Types, problem of response, reliability and validity of questionnaire, advantages and limitations, difference between questionnaire and schedule; Review of Literature, Interview, Reliability, Validity, Variables in research; Sampling fundamentals, need for sampling, important sampling distributions.

UNIT IV **15 Hours**

Processing and analysis of data – processing operations, problems in processing, types of analysis, stats in research, measures of central tendency, dispersion, asymmetry, relationship; Hypothesis – definition, tests of hypothesis and limitations of the tests; Testing of hypothesis – basic concepts of testing, procedure of hypothesis testing, measuring the power of hypothesis test, tests of hypothesis, and limitations of the tests; Case study – Definitions, sources, characteristics, evolution and scope, advantages, limitations and improvements.

Transaction Mode

Lecture, Seminar, e-Team Teaching, e-Tutoring, Dialogue, Peer Group Discussion, Mobile Teaching, Self-Learning, Collaborative Learning and Cooperative Learning

Suggested Readings

- *Research methods in Behavioral Sciences. Mohsin S.M. – 2011 - Orient publications, New Delhi.*
- *Methods of Social Survey and Research, Bajpai S.R. – 2010 - Kitab Ghar, Kanpur.*
- *First course in Methodology of Research. Meenakshi –2015 - Kalia Prakashan, Patiala.*
- *Research Methodology. Kumar R. – 2017 - Pearson Education, Australia.*
- *Research Methods for Clinical Therapists, by Carolyn M. Hicks : Applied Project Design and Analysis Paperback – Illustrated, 7 August 2009*

Web Sources

- *https://www.scribbr.com/methodology/sampling-methods*
- *https://www.scribbr.com/methodology/hypothesis/*

Course Title: PHYSIOTHERAPY IN ORTHOPEDIC CONDITIONS LAB

Course Code: BVY404

L	T	P	Credits
0	0	4	2

Total Hours: 30

Course Outcomes

On successful completion of this course, the students will be able to

1. Become proficient in conducting of special tests.
2. Read and interpret radiographic films.
3. To evaluate the red and yellow flags of physiotherapy.
4. Plan out short- and long-term goals of physiotherapy treatment.

Course Content

General Physiotherapy approach for following conditions - Fractures and Dislocations
Various physiotherapy modalities and treatment techniques for the conditions mentioned in "Physiotherapy in Orthopaedic Conditions" to be demonstrated and practiced by the students in clinical setup.
PT management of various congenital disorders or Deformities.
Case presentations and Case discussions.

Transaction mode

Demonstration method, Video based teaching, Lecture, Seminar, e-Team Teaching, e-Tutoring, Dialogue, Peer Group Discussion, Mobile Teaching, Self-Learning, Collaborative Learning and Cooperative Learning

Suggested readings

- *Loudon, J. K., Swift, M., & Bell, S. (2008). The clinical orthopedic assessment guide. Human Kinetics.*
- *Joshi, J. (1999). Essentials of orthopaedics & applied physiotherapy. Elsevier India.*
- *Clarkson, H. M. (2000). Musculoskeletal Assessment: Joint Range of Motion and Manual Muscle Strength. Lippincott Williams & Wilkins.*
- *Magee, D. J. (2014). Orthopedic Physical Assessment. Elsevier.*
- *Donatelli, R. A. (2019). Orthopaedic Physical Therapy. Elsevier.*

Web Sources

- *https://www.physio-pedia.com/Fracture*
- *https://*calgaryyouthphysio.com/orthopaedic-congenital-conditions/

Course Title: PHYSIOTHERAPYIN MEDICAL CONDITIONS LAB

Course Code: BVY405

L	T	P	Credits
0	0	4	2

Course Outcomes Total Hours- 30

On the completion of the course the students will be able to

1. Become proficient in pulmonary and cardiac assessment.
2. Draw provisional diagnosis on the basis of patient assessment.
3. Provide post-operative physiotherapy.
4. Gain expertise in cardiopulmonary physiotherapy management.

Course Content

UNIT I **8 Hours**

1. Various physiotherapy modalities and treatment techniques for the following conditions:
   - Oedema
   - Vertigo
   - Burns

UNIT II 7 Hours

2. Various physiotherapy modalities and treatment techniques for the following conditions:
   - Acne
   - Alopecia
   - Rickets
   - Psoriasis
   - Osteoporosis
   - Osteomalacia

UNIT III 10 Hours

2. Various physiotherapy modalities and treatment techniques for the following paediatric conditions:
   - Congenital & acquired musculo-skeletal disorders.
   - Congenital & acquired Cardio - pulmonary disorders.
   - Congenital & acquired neurological disorders (CNS & PNS)

UNIT IV 5 Hours

2. Various physiotherapy modalities and treatment techniques for the following geriatrics conditions:
   - Congenital & acquired musculo-skeletal disorders.
   - Congenital & acquired Cardio - pulmonary disorders.
   - Congenital & acquired neurological disorders (CNS & PNS)

Transaction Mode

Lecture, Seminar, e-Team Teaching, e-Tutoring, Mobile Teaching, Self- Learning and Cooperative Learning

Suggested Readings

- Porter, S. (2013). Tidy's Physiotherapy E-Book. Elsevier Health Sciences.
- Cash, J. E. (1951). A Textbook of Medical Conditions for

Physiotherapists. American Journal of Physical Medicine & Rehabilitation, 30(6), 388.

Course Title: COMMUNITY BASED REHABILITATION

Course Code: BVY406

L	T	P	Credits
3	0	0	3

Total Hours: 45

Course Outcomes

On successful completion of this course, the students will be able to:

1. Understand the principles and strategies of CBR
2. Comprehend the various components and programmes of CBR
3. Gain knowledge of disability and development
4. Acquire knowledge on vocational rehabilitation and schemes provided by the government to prevent disabilities.

Course content:

UNIT I **11 Hours**

Introduction, Principles and Strategies of CBR, Meaning, scope, basic principles and strategies of Community Based Rehabilitation, Difference between Community Based Rehabilitation and Institutional Based Rehabilitation, Existing poverty alleviation/developmental programs and inclusion of Community

UNIT II **11 Hours**

Community Based Rehabilitation as a context specific program as in different socio cultural and economic conditions such as urban, rural, tribal, hilly regions, Different team approaches in Community Based Rehabilitation, Building and use of existing resources of the community in sustaining Community Based Rehabilitation such as primary health, primary education,

rural development and corporate sectors and development of referral and resource directory.

UNIT III **12 Hours**

Disability and Development: Human growth & development across life span – pre-natal, infancy, early childhood and adults, Theories & principles, Milestones in different domains (gross & fine motor, cognition, vision, hearing, Social-emotional and daily living skills), Basic anatomy & physiology of human body, Concept of disability (including mental illness), definitions and classification, Poverty, disability and developmental programs, Global, National, State and Local legislations concerning disability and development, Schemes & concessions for persons with disabilities, Advocacy and rights of persons with disabilities, History of disability rehabilitation**.**

UNIT IV **11 Hours**

Programmes implemented by the Government for the prevention of disabilities. Association between nutrition, health care and disability, Factors contributing to disability such as maternal care, accidents, ageing and others, Role of community in the prevention of disabilities, Guidance & counseling to persons with disabilities and their family (need for early, Detection and intervention), Identification of behavioral problems and application of appropriate teaching and learning, Independence / management of daily living skills and mobility, Identifying trades and need for vocational training, Planning for placements, developing marketing linkages.

Transaction Mode

Lecture, Seminar, e-Team Teaching, e-Tutoring, Dialogue, Peer Group Discussion, Mobile Teaching, Self-Learning, Collaborative Learning and Cooperative Learning

Suggested Readings

- *Physiotherapy in Community Health and Rehabilitation-Waqar Naqvi- Jaypee*
- *Essentials of Community-based Rehabilitation By Nagar Satya Bhushan-Jaypee*
- *Essentials of community physiotherapy & ethics by Prof (Dr)Rajendra Rajput*

- *Textbook of Rehabilitation by S Sunder*
- *World Health Organization. (2010). Community-Based Rehabilitation: CBR Guidelines. World Health Organization.*

Web Sources

- *https://apps.who.int/iris/bitstream/handle/10665/279966/WPR-2017-DNH-005-factsheet-03-cbr-eng.pdf?sequence=4*
- *https://www.ncbi.nlm.nih.gov/books/NBK310933/*
- *https://www.3ieimpact.org/sites/default/files/2019-05/srs4-commbasedrehab_0.pdf*

Course Title: OBSTETRICS & GYNECOLOGY

Course Code: BVY407

L	T	P	Credits
2	0	0	2

Total Hours: 30

Course Outcomes

On successful completion of this course, the students will be able to

1. Examine physiological changes in pregnancy.
2. Identify common abnormalities of labour, delivery and puerperium.
3. Develop skills to manage post-surgical patients.
4. Learn to diagnose and manage the gynecological malignancies.

Course Content

UNIT I

10 Hours

Pregnancy, Diagnosis of pregnancy, Abortion, Physiological changes during pregnancy

Importance of antenatal care exercise, Prenatal common complications – investigation and management, Normal labor, Multiple child birth

UNIT II

10 Hours

Child birth complications, investigation and management, Normal puerperium, lactation and importance of post-natal exercises

UNIT III

10 Hours

Surgical procedures involving childbirth – pelvic repair, cesarian section, colposcopy, dilatation and curettage, Gynecological disorders, Infections and sexually transmitted disease in female Salpingitis, parametritis, retro-uterus, prolapse of uterus, pelvic inflammatory diseases, urinary incontinence

Transaction mode

Demonstration method, Video based teaching, Lecture, Seminar, e-Team Teaching, e-Tutoring, Dialogue, Peer Group Discussion, Mobile Teaching, Self-Learning, Collaborative Learning and Cooperative Learning

Suggested readings:

- *Physiotherapy in obstetrics and gynaecology- Polden- F.A.DAVIS*
- *Textbook of Gynecology including contraception-DC DUTTA*
- *Essentials of Obstetrics and Gynecology- Neville F. Hacker, J. George Moore, Joseph C. Gambone*
- *Leveno, K. J., Dashe, J. S., Corton, M. M., Spong, C. Y., & Bloom, S. L. (2018). Williams Obstetrics (25th ed.). McGraw-Hill Education.*
- *Beckmann, R. C., Beckmann, C. R. B., Smith, R. P., & Ling, F. W. (2019). Beckmann and Ling's Obstetrics and Gynecology (8th ed.). Lippincott Williams & Wilkins.*

Web Sources

- *https://www.nice.org.uk/guidance/conditions-and-diseases/gynaecological-conditions*
- *https://www.nichd.nih.gov/health/topics/pregnancy/conditioning*

Course Title: WELLNESS MANAGEMENT

Course Code: BVY408

L	T	P	Credits
2	0	0	2

Total Hours: 30

Course Outcomes

On successful completion of this course, the students will be able to:

1. Understand the evolution of health and the components and spectrum of health.
2. Analyse the behavioral habits associated with illness.
3. Evaluate the concept WOW on life style diseases.
4. Rationalise nutritional habits with lifestyle management

UNIT I
10 Hours

History Of Health Care & Wellness: Definition and evolution of health. Components and spectrum of health.Wellness continuum, plan for prevention.

UNIT II
10 Hours

Medical, Physical, Nutritional, Psycho-social and behavioral aspects of health, Importance of Body Mass Index (BMI), skin-fold test, nutritional habits, Psycho-social symptoms of illness, behavioral habits associated with illness.

UNIT III
10 Hours

Evolutionary causes of diseases, lifestyle related diseases- Cardiovascular disease, diabetes, obesity, hypertension, cancers, HIV and AIDS working on wellness (WOW) and overview of WOW- dimensions of wellness model.

Transaction mode

Demonstration method, Video based teaching, Lecture, Seminar, e-Team Teaching, e-Tutoring, Dialogue, Peer Group Discussion, Mobile Teaching, Self-Learning, Collaborative Learning and Cooperative Learning

Suggested readings:

- *Wellness Coaching for Lasting Lifestyle Change" by Michael Arloski*
- *Essentials of Lifestyle Medicine by James M. Rippe*
- *ACSM's Guidelines for Exercise Testing and Prescription by the American College of Sports Medicine (ACSM)*

- *Therapeutic Exercise: Foundations and Techniques by Carolyn Kisner and Lynn Allen Colby*
- *Mindfulness-Based Stress Reduction Workbook by Bob Stahl and Elisha Goldstein*

Web Sources

- *https://www.physiopedia.com/The_Concept_of_Wellness#:~:text=Wellness%20is%20directed%20towards%20a,mental%20wellbeing%2C%20and%20the%20environment.*
- https://www.physio-pedia.com/Promoting_Health_and_Wellness

Course Title: COMMUNITY BASED REHABILITATION

Course Code: BVY501

L	T	P	Credits
4	0	0	4

Total Hours: 60

Course Outcomes

On successful completion of this course, the students will be able to:

5. Understand the principles and strategies of CBR
6. Comprehend the various components and programmes of CBR
7. Gain knowledge of disability and development
8. Acquire knowledge on vocational rehabilitation and schemes provided by the government to prevent disabilities.

Course content:

UNIT I **20 Hours**

Introduction, Principles and Strategies of CBR, Meaning, scope, basic principles and strategies of Community Based Rehabilitation, Difference between Community Based Rehabilitation and Institutional Based Rehabilitation, Existing poverty alleviation/developmental programs and inclusion of Community

UNIT II **20 Hours**

Community Based Rehabilitation as a context specific program as in different socio cultural and economic conditions such as urban, rural, tribal, hilly regions, Different team approaches in Community Based Rehabilitation, Building and use of existing resources of the community in sustaining Community Based Rehabilitation such as primary health, primary education, rural development and corporate sectors and development of referral and resource directory.

UNIT III **10 Hours**

Disability and Development: Human growth & development across life span – pre-natal, infancy, early childhood and adults, Theories & principles, Milestones in different domains (gross & fine motor, cognition, vision, hearing, Social-emotional and daily living skills), Basic anatomy & physiology of human body, Concept of disability (including mental illness), definitions and classification, Poverty, disability and developmental programs, Global, National, State and Local legislations concerning disability and development, Schemes & concessions for persons with disabilities, Advocacy and rights of persons with disabilities, History of disability rehabilitation**.**

UNIT IV **10 Hours**

Programmes implemented by the Government for the prevention of disabilities. Association between nutrition, health care and disability, Factors contributing to disability such as maternal care, accidents, ageing and others, Role of community in the prevention of disabilities, Guidance & counseling to persons with disabilities and their family (need for early, Detection and intervention), Identification of behavioral problems and application of appropriate teaching and learning, Independence / management of daily living skills and mobility, Identifying trades and need for vocational training, Planning for placements, developing marketing linkages.

Transaction Mode

Lecture, Seminar, e-Team Teaching, e-Tutoring, Dialogue, Peer Group Discussion, Mobile Teaching, Self-Learning, Collaborative Learning and Cooperative Learning

Suggested Readings

- *Physiotherapy in Community Health and Rehabilitation-Waqar Naqvi- Jaypee*
- *Essentials of Community-based Rehabilitation By Nagar Satya Bhushan-Jaypee*
- *Essentials of community physiotherapy & ethics by Prof (Dr)Rajendra Rajput*
- *Textbook of Rehabilitation by S Sunder*
- *World Health Organization. (2010). Community-Based Rehabilitation: CBR Guidelines. World Health Organization.*

Web Sources

- *https://apps.who.int/iris/bitstream/handle/10665/279966/WPR-2017-DNH-005-factsheet-03-cbr-eng.pdf?sequence=4*
- *https://www.ncbi.nlm.nih.gov/books/NBK310933/*
- *https://www.3ieimpact.org/sites/default/files/2019-05/srs4-commbasedrehab_0.pdf*

Course Title: PHYSIOTHERAPY IN CARDIOPULMONARY CONDITIONS

Course Code: BVY502

L	T	P	Credits
4	0	0	4

Total Hours: 60

Course Outcomes

On successful completion of this course, the students will be able to

1. Gain knowledge about anatomy and physiology of pulmonary and circulatory system.
2. Gain knowledge about the lung volumes and capacities
3. Develop skills to differentiate normal and abnormal heart and lung sounds based on auscultation.
4. Plan and provide cardiac and pulmonary rehabilitation programme.

Course Content

UNIT I

16 Hours

Review of Anatomy and Physiology of the Cardio Respiratory System Patient assessment – Bedside assessment of patient.

Investigations and tests – exercise tolerance test, radiographs, ECG, ABG, Haematological and biochemical tests.

UNIT II **15 Hours**

Physiotherapy techniques to increase lung volume – controlled mobilization, positioning, breathing exercises, incentive spirometry; To decrease work of breathing – positioning, breathing re-education, breathing control techniques, mechanical aids – IPPB, CPAP, BiPAP; To clear secretions – hydration, humidification and nebulisation, mobilization and breathing exercises, postural drainage, manual techniques – percussion, vibration and shaking, autogenic drainage, mechanical aids – PEP, IPPB, facilitation of cuff and huff, nasopharyngeal suctioning. Physiotherapy management in breathlessness; Review of pathological changes and principle of management by physiotherapy in following conditions **–** Thrombosis**,** Embolism, Arteriosclerosis, Thrombophlebitis, Gangrene, Congestive cardiac failure, Hypertension, Hypotension.

UNIT III **15 Hours**

Physiotherapy in Obstructive Lung Diseases: Treatment techniques for Asthma, Bronchiectasis, Chronic Bronchitis and Emphysema; 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.

UNIT IV **14 Hours**

Physiotherapy in Restrictive lung disorders; Treatment techniques for Restrictive lung dysfunction including Pneumonia, Bronchogenic Carcinoma, Pleura Effusion, Occupational Lung diseases - mobilizing exercise to thorax and spine breathing exercise to increase ventilation, Exercise for posture correction, graduated exercise to increase tolerance, Pulmonary rehabilitation and cardiac rehabilitation.

Transaction mode

Demonstration method, Flipped learning, Lecture, Seminar, e-Team Teaching, e-Tutoring, Dialogue, Peer Group Discussion, Mobile Teaching, Self-Learning, Collaborative Learning and Cooperative Learning

Suggested Readings

- *Downie, A. (1979). Cash's Textbook of Chest, Heart and Vascular Disorders for Physiotherapists. Faber & Faber, Budapest (1979).*
- *Porter, S. (2013). Tidy's Physiotherapy E-Book. Elsevier Health Sciences.*
- *DeTurk, W., & Cahalin, L. (2019). Cardiovascular and Pulmonary Physical Therapy: An Evidence-Based Approach (3rd ed.). McGraw-Hill Education.*
- *Kisner, C., & Colby, L. A. (2007). Physical Therapy for the Cardiovascular System. F.A. Davis Company.*
- *Frownfelter, D., & Dean, E. (2016). Cardiovascular and Pulmonary Physical Therapy: Evidence to Practice (6th ed.). Wolters Kluwer.*

Web Sources

- *https://www.lung.org/lung-health-diseases/lung-procedures-and-tests/spirometry*
- *https://www.nhlbi.nih.gov/health/pulmonary-rehabilitation*

Course Title: BIOSTATISTICS

Course Code: BVY503

L	T	P	Credits
4	0	0	4

Total Hours: 60

Course Outcomes

To gain knowledge about the role of statistics in the field of rehabilitation.

1. Develop skills to calculate central tendencies and plot graph.
2. Differentiate between parametric and non-parametric tests and use them appropriately.
3. Gain expertise in data analysis to obtain result of the undertaken research.
4. Gain knowledge about analysis of variance.

Course Content

UNIT I **15 Hours**

Statistics - Definition, characteristics, importance of study of stats, branches of statistics, applications in physiotherapy,

Presentation of data -Descriptive and inferential statistics, variables and their types, measurement scales. basic principles of presentation, Types of diagrams, techniques of construction of graph, graphs of frequency distribution, histograms, frequency polygons, limitations of diagrams and graphs.

UNIT II **15 Hours**

Central tendencies - Definition and need for measures of central values, meaning and calculation of mean, mode, median, limitations.
Probability and standard distributions - meaning, the normal distribution, divergence from normality - skewness and kurtosis.

UNIT III **15 Hours**

Correlation analysis - Types of correlation, methods of correlation, scatter diagram
Karl Pearson's coefficient of correlation, Rank correlation coefficient.
Parametric Test, SPSS

UNIT IV **15 Hours**

Sampling techniques: need and criteria for good sample, procedures of sampling and sampling design errors, sampling variation and test of significance.

Analysis of variance & covariance – basic principle of ANOVA.

Transaction mode

Lecture, Seminar, e-Team Teaching, e-Tutoring, Dialogue, Peer Group Discussion, Mobile Teaching, Self-Learning, Collaborative Learning and Cooperative Learning

Suggested readings

- *Hogg, R. V., McKean, J., & Craig, A. T. (2005). Introduction to mathematical statistics. Pearson Education.*
- *Gupta, S. P. (1978). Statistical Methods. Sultan Chand and sons Publishers, New Delhi.*
- *Motulsky, H. (2019). Essential Biostatistics: A Nonmathematical Approach. Oxford University Press.*
- *Daniel, W. W., & Cross, C. L. (2019). Biostatistics: A Foundation for Analysis in the Health Sciences (11th ed.). Wiley.*
- *Gerstman, B. B. (2020). Basic Biostatistics: Statistics for Public Health Practice (3rd ed.). Jones & Bartlett Learning.*

Web Sources

- *https://statistics.laerd.com/statistical-guides/measures-central-tendency-mean-mode-median.ph*
- *https://towardsdatascience.com/sampling-techniques-a4e34111d808*

Course Title: SPORTS PHYSIOTHERAPY

Course Code: BVY504

L	T	P	Credits
4	0	0	4

Total Hours: 60

Course Outcomes

On successful completion of this course, the students will be able to:

1. Introduction to various types of sports injuries.
2. Assess and examine common sports injuries.
3. Develop skills to prevent field injuries.
4. Learn to diagnose and manage the gynecological malignancies.

Course Content

UNIT I **15 Hours**

Sports injuries – Types of Injuries – Definition, Causes, Clinical Features, Management and Prevention of Soft Tissue Injuries: Skin Injuries – strain – Sprain – contusion – cramp Tendon injuries – Bursitis. Bone injuries: Fracture – Subluxation –Dislocation.

UNIT II **15 Hours**

Assessment & evaluation - Methods of evaluation – documentation, Clinical Examination - Investigative Procedures, Causes & Mechanism of Sports Injuries, Principle of management of sports injuries- Onsite management of the collapsed athlete triage - The primary abcd survey : airway and cervical spine – breathing – circulation – defibrillation – the glasgow coma scale

UNIT III **15 Hours**

Principles of Injury prevention: Warm up – Cool down – Stretching – Types of stretching, Principles of stretching. PRICE technique – Immobilization and Early mobilisation, Splinting – Handling & Transfer, Cryotherapy: Methods of application (Ice packs, Ice towel, Ice Immersion, Ice cube massage, Excitatory cold, Vapocoolant spray, cryokinetics & Cold whirlpool).

UNIT IV **15 Hours**

Taping and Bracing - Soft tissue Massage – Trigger point release – Muscle energy techniques – Manual therapy

Transaction mode

Demonstration method, Video based teaching, Lecture, Seminar, e-Team Teaching, e-Tutoring, Dialogue, Peer Group Discussion, Mobile Teaching, Self-Learning, Collaborative Learning and Cooperative Learning

Suggested readings:

- *Norkin & White: Measurement of Joint Motion – A Guide to Goniometry -*
- *F.A.Davis.*
- *Dvir: Isokinetics: Muscle Testing, Interpretation and Clinical Applications,*
- *W.B.Saunders.*
- *Reed: Sports Injuries – Assessment and Rehabilitation, W.B. Saunders.*
- *Lillegard, Butcher & Rucker: Handbook of Sports Medicine: A symptom – Oriented*
- *Approach, Butterworth & Heinemann*
- *Richard B. Birrer: Sports Medicine for the primary care Physician, CRC Press.*
- *Torg, Welsh & Shephard: Current Therapy in Sports Medicine III - Mosby.*
- *Zulunga et al: Sports Physiotherapy, W.B. Saunders*
- *Gould: Orthopaedic Sports Physical Therapy, Mosby.*
- *C. Norris: Sports Injuries – Diagnosis and Management for Physiotherapists,*
- *Heinmann*
- *C. Norris: Sports Injuries – Diagnosis and Management for Physiotherapists,*
- *Heinmann.*

Web Sources

- *https://www.niams.nih.gov/health-topics/sports-injuries*
- *https://medicine.umich.edu/sites/default/files/content/downloads/Anacker%20Michael%20On-Field%20Assessment%20%26%20Management%20of%20Injuries%2010-2.pdf*
- *http://www.drraghuveer.com/sports-medicine/management-of-sports-injuries/*

- *https://www.verywellfit.com/sports-injury-first-aid-treatment-3120820*

Course Title: PHYSIOTHERAPY IN CARDIOPULMONARY CONDITIONS LAB

Course Code: BVY505

L	T	P	Credits
0	0	4	2

Total Hours: 30

Course Outcomes

On successful completion of this course, the students will be able to:

1. To gain skills about the thoracic surface marking and important landmarks.
2. Read and interpret chest X-Ray.
3. Gain expertise in recording and interpreting ECG.
4. Outline a plan for providing cardiac and pulmonary rehabilitation.

Course content

Include Clinical Hours on patient examination under supervision on the various conditions as outlined in "Physiotherapy in Cardiopulmonary Conditions".
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.
To reach the diagnosis and making of plan of care of the disorder.

Transaction mode

Demonstration method, Video based teaching, Lecture, Seminar, e-Team Teaching, e-Tutoring, Dialogue, Peer Group Discussion, Mobile Teaching, Self-Learning, Collaborative Learning and Cooperative Learning

Suggested readings

- *Downie, A. (1979). Cash's Textbook of Chest, Heart and Vascular Disorders for Physiotherapists. Faber & Faber, Budapest (1979).*
- *Porter, S. (2013). Tidy's Physiotherapy E-Book. Elsevier Health Sciences.*
- *DeTurk, W., & Cahalin, L. (2019). Cardiovascular and Pulmonary Physical Therapy: An Evidence-Based Approach (3rd ed.). McGraw-Hill Education.*

- *Kisner, C., & Colby, L. A. (2007). Physical Therapy for the Cardiovascular System. F.A. Davis Company.*
- *Frownfelter, D., & Dean, E. (2016). Cardiovascular and Pulmonary Physical Therapy: Evidence to Practice (6th ed.). Wolters Kluwer.*

Web Source

- *https://www.ncbi.nlm.nih.gov/pmc/articles/PMC6490271/*
- *https://www.hopkinsmedicine.org/health/conditions-and-diseases/restrictive-lung-disease*

Course Title: OEDEMA MANAGEMENT

Course Code: BVY506

L	T	P	Credits
2	0	0	2

Total Hours: 30

Course Outcomes

On successful completion of this course, the students will be able to:

1. Discuss the anatomy and physiology of the lymphatic system
2. Determine the lymphatic system's role in fluid homeostasis (edema/swelling management)
3. Apply differential diagnosis of edema
4. Describe problem-solving rationale and appropriate MEM techniques in relation to specific diagnoses.

Course content:

UNIT I **10 Hours**

Tissue response to trauma, Anatomy and physiology of the cardiovascular and lymphatic system

UNIT II **10 Hours**

Types of edema & differential diagnosis; Key Components of Manual Edema Mobilization (MEM); Diaphragmatic breathing and practice, Light manual lymphatic system stimulation and practice: Pump Points, Clear and Flow; Exercise incorporation; Adjuncts: Compression/bandaging/garments, Kinesiology taping, neutral warmth devices, Self-management home program design.

UNIT III **10 Hours**

MEM method for the upper extremity: Diaphragmatic breathing & exercise, Manual technique for UE: pump point stimulation, Manual techniques for UE: clear and flow (including hand and fingers), Compression/bandaging/garments, Kinesiology taping, Neutral warmth devices, Self-management home program design

Transaction mode

Lecture, Seminar, e-Team Teaching, e-Tutoring, Dialogue, Peer Group Discussion, Mobile Teaching, Self-Learning, Collaborative Learning and Cooperative Learning

Suggested Readings

- *Edema: Medical Causes and Management" by Stanley G. Rockson*
- *Lymphedema Management: The Comprehensive Guide for Practitioners*
- *Lymphedema: A Concise Compendium of Theory and Practice by Arin K. Greene, Sumner A. Slavin, and Hakan Brorson*
- *Lymphoedema Care" edited by Mary Elizabeth Woods and Michelle Draper*
- *Physical Therapy for Lymphedema: Complete Decongestive Therap by Lisa Levick*

Web Sources

- *https://www.physio-pedia.com/Peripheral_Edema*
- *https://propelphysiotherapy.com/physiotherapy/edema-treatment/*

Course Title: VESTIBULAR REHABILITATION

Course Code: BVY507

L	T	P	Credits
2	0	0	2

Total Hours:30

Course Outcomes

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

1. Identify and describe various nystagmus patterns associated with BPPV.
2. Differentiate between the common variants of BPPV based on clinical presentation and diagnostic tests.
3. Implement advanced diagnostic and therapeutic techniques for managing complex horizontal canal BPPV.
4. Recognize and describe various psychogenic dizziness conditions.

Course Content

UNIT I
10 Hours
Migraine: Overview and Demographic, Pathophysiology of Migraine, Genetic/Familial Influence, Migraine Variants, Vestibular and balance manifestations, VRT/Other treatment modalities with migraine

UNIT II
10 Hours
Benign Paroxysmal Positional Vertigo (BPPV): Review of nystagmus patterns, Review of common variants of BPPV o Biochemistry and co-morbidities associated with BPPV, Atypical variants of BPPV

UNIT III
10 Hours
Apogeotropic and Anterior Canal-BPPV: Complex Horizontal Canal, Advanced Technique and Management Complicating factors, Complex Diagnoses presenting with Dizziness and Management, Parkinson's Disease / Multiple Sclerosis / Diabetes, Cerebellar Disease / POTS / Bilateral Vestibulopathies, Vestibulotoxicity.

Transaction Mode

Open learning, Group discussions,Lecture, Seminar, e-Tutoring, Dialogue, Peer Group Discussion, Self-Learning and Cooperative Learning

Suggested Readings

- *Kisner, C., Colby, L. A., & Borstad, J. (2017). Therapeutic exercise: foundations and techniques. Fa Davis.The Principle of Exercise Therapy -Gardiner (2005) - C.B.S.Delhi.*
- *Vestibular Rehabilitation, Susan J. Herdman, Richard Clendaniel, 2014.*
- *Jacobson, G. P., & Shepard, N. T. (2008). Balance Function Assessment and Management. Plural Publishing.*
- *Newman-Toker, D. E. (Ed.). (2019). Dizziness and Vertigo Across the Lifespan. Elsevier.*
- *Burkard, R. F., Halmagyi, J. M., & López-Escámez, M. A. (2016). Clinical Neurophysiology of the Vestibular System. Oxford University Press.*

Web Sources

- *https://my.clevelandclinic.org/health/treatments/15298-vestibular-rehabilitation*
- *https://vestibular.org/article/diagnosis-treatment/treatments/vestibular-rehabilitation-therapy-vrt/*
- *https://www.physiopedia.com/Vestibular_Treatment*

Semester-VI

Course Title: PHYSIOTHERAPY IN NEUROLOGICAL CONDITIONS

Course Code: BVY601

L	T	P	Credits
4	0	0	4

Total Hours: 60

Course Outcomes

On successful completion of this course, the students will be able to:

1. To identify basic principles of various treatment techniques used for neurological conditions.
2. Develop skill in planning physiotherapy treatment and rehabilitation in neurological diseases.
3. Become competent to handle a psychiatric patient.
4. Gain expertise in providing post neuro surgery rehabilitation.

Course content

UNIT I **16 Hours**

Neurological assessment, Higher mental functions, Motor examination, Reflexes Sensory
Examination, Special tests, Gait analysis, Functional analysis, Assessment tools and scales, Pediatric neurology, Motor Development, Milestones, Neo-natal & Primitive Reflexes, Evaluation and management in Cerebral Palsy, developmental disorders, autism, hydrocephalus, Spina Bifida and syringomyelia.

UNIT II **15 Hours**

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, Muscle re-education approach, Peripheral and Cranial nerve injuries –Evaluation and management of Brachial Plexus Injuries, Lumbosacral plexus lesion, Axillary nerve palsy, Sciatic nerve palsy, Neuritis, Neuralgia, Injuries of nerves of upper & lower extremities, Facial Nerve Palsy

UNIT III **14 Hours**

Review of pathological changes, assessment & Physiotherapy Management and Rehabilitation in following conditions: Hemiplegia, Tabes Dorsalis, Syringomyelia, Meningitis, Encephalitis, Transverse Myelitis, Parkinsonism, Multiple sclerosis, Cerebellar Ataxia.

UNIT IV **15 Hours**

Review of pathological changes, assessment & Physiotherapy Management and Rehabilitation of the following conditions: Reflex Sympathetic Dystrophy, Polyneuropathies (classification, types, and pathophysiology): Alcoholic, Diabetic, and Sensory.
Guillain Barre syndrome, Myopathies and Muscular Dystrophies, Motor Neuron Disorder, Disseminated Sclerosis, Amyotrophic Lateral Sclerosis, Spinal cord lesions & infections
Traumatic Spinal cord injuries and head injuries, Physiotherapy Rehabilitation in Surgeries of Nerve

Transaction mode

Demonstration method, Video based teaching, Lecture, Seminar, e-Team Teaching, e-Tutoring, Dialogue, Peer Group Discussion, Mobile Teaching, Self-Learning, Collaborative Learning and Cooperative Learning

Suggested readings:

- *Neurological Physiotherapy - A problem solving approach - Susan Edwards - Churchill Livingstone.*
- *Neurological Rehabilitation - Umpherd - Mosby.*
- *Treatment of Cerebral Palsy and Motor Delay-Sophie Levitt*
- *Guided to clinical Neurology - Mohn & Gaectier - Churchill Livingstone.*
- *Examination in Neurology examination- Dejong.*
- *Differential Diagnosis-John PatternNeurology in Clinical Practice – Bradley&Daroff*
- *Neurological Assessment-Blicker staff.*
- *Clinical Evaluation of Muscle Function-Lacote- Churchill Living*

Web Sources

- *https://www.albertahealthservices.ca/assets/about/scn/ahs-scn-bjh-hf-barthel-index-of-adls.pdf*
- *https://www.stgeorges.nhs.uk/service/audiology/vestibular-balance-and-dizziness-service/vestibular-function-tests/*

Course title: PHYSIOTHERAPY IN SURGICAL CONDITIONS

Course Code: BVY602

L	T	P	Credits
4	0	0	4

Total Hours: 60

Course Outcomes

On successful completion of this course, the students will be able to:

1. Gain skills about the incision lines used in different surgeries.
2. Gain expertise in providing relaxation techniques.

3. Develop skills to administer pre- and post-operative physiotherapy intervention
4. Become competent in scar and burn management

UNIT I **16 Hours**

Review of pathological changes and principles of pre- and post-operative management by physiotherapy of the following conditions: Wounds, Burns & Plastic Surgery: ulcers, pressure sores; Burns & their complications; Common reconstructive surgical proceedings of the management of wounds, ulcers, burns & consequent contractures & deformities.

UNIT II **15 Hours**

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

UNIT III **15 Hours**

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.

UNIT IV **14 Hours**

Define the terms: Respirator, Lung Ventilator, Resuscitators, IPPB, PEEP, CPAP, SIMV; Outline the principles of Aerosol Therapy. Humidification therapy; Describe techniques of sterile nasopharyngeal and endotracheal suctioning.

Transaction mode

Demonstration methods, Group discussion, Peer Group Discussion, Mobile Teaching, Self-Learning, Collaborative Learning and Cooperative Learning

Suggested readings

- *Thompson, A. (2013). Tidy's Physiotherapy. Varghese publishing House.*
- *Sullivan, S. (2013). Physical Rehabilitation Assessment and Treatment. Jaypee brothers, Delhi*
- *Magee, D. J. (2021). Orthopedic Physical Assessment (7th ed.). Saunders.*
- *Pryor, J. A., & Prasad, A. (2016). Physiotherapy for Respiratory and Cardiac Problems: Adults and Paediatrics (4th ed.). Churchill Livingstone.*
- *Donatelli, R. A. (2011). Physical Therapy of the Shoulder (5th ed.). Churchill Livingstone.*

Web Sources

- *https://www.researchgate.net/publication/342199130_Burns_Definition_Classification_Pathophysiology_and_Initial_Approach*
- *https://www.news-medical.net/health/Transplant-Surgery.aspx*

Course Title: PHYSIOTHERAPY ETHICS
Course Code: BVY604

L	T	P	Credits
4	0	0	4

Total Hours: 60

Course Outcomes

On the completion of the course the students will be able to
1. Be aware of History of physiotherapy.
2. Be aware of ethics and laws of physiotherapy.
3. Be aware of the rules that govern the profession.
4. Apply the ethical guidelines while dealing with patients.

Course Content

UNIT I **10 Hours**

History of physiotherapy, Ethical principles in health care, Ethical principles related to physiotherapy, Scope of practice, Consumer Protection Law, Law of disability and discrimination.

UNIT II **15 Hours**

Enforcing standards in health profession-promoting quality care, Professional ethics in research, Education and patient care delivery, Informed consent issues, Medical ethics and Economics in clinical decision-making.

UNIT III **15 Hours**

Ethical issues in physiotherapy, Ethical issues in clinical practice, Ethical issues in private practice, Professional ethics, Palliative care.

UNIT IV **20 Hours**

Rules of professional conduct, Physiotherapy as a profession, Relationship with patients, Relationship with medical and other professional.
Confidentiality and Responsibility, Malpractice and negligence, Resolution of conflicts, Role of physiotherapy, Role of PT in health care, Ethical responsibilities of a PT,Core values, Decision making process

Transaction Mode
Open learning, Problem solving, Flipped teaching, Lecture, Seminar, e-Team Teaching, e-Tutoring, Dialogue, Peer Group Discussion, Mobile Teaching, Self-Learning, Collaborative Learning and Cooperative Learning

Suggested Readings

- *Ethical Issues Perspectives for the physiotherapists – Kavita Raja, Fiddy Davis*
- *Essentials of Community Physiotherapy and Ethics – Prof.Dr. Rajinder Rajput*
- *Physical Therapy Ethics-Donald L Gabard*
- *Michael, J. (2011). Practical ethics for the physical therapist. F.A. Davis Company.*
- *Swisher, L. L., Page, C. G., & Harker, C. W. (2005). Professionalism in physical therapy: History, practice, & development. Elsevier Health Sciences.*
- *Swisher, L. L., & Page, C. G. (2005). Clinical ethics in physical therapy: A guide for practice. W.B. Saunders Company.*

Web Sources

- *https://www.ipcb.pt/sites/default/files/upload/rh/files/concursos/WCPT%20-%20Ethical%20responsibilities%20of%20physical%20therapists_0.pdf*

Course Title: CLINICAL REASONING AND EVIDENCE-BASED PRACTICE

Course Code: BVY604

L	T	P	Credits
4	0	0	4
Total			

Hours:60

Course Outcomes

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

1. Comprehend the clinical reasoning in physiotherapy practice.
2. To understand the concepts behind evidence based practice.
3. To gain knowledge about evidence based practice.
4. Apply evidence based practice in clinical situations.

Course Content

UNIT I
10 Hours
Evidence Based Practice: an overview; Need for Evidence-Based Practice; History of Evidence Based Health Care and Evidence-Based Practice.

UNIT II
15 Hours
Evidence Based Practice: Process, Research Strategies, Assessing validity of evidence, Critical appraisal of evidence about prognosis, Meaning of evidence for physiotherapy practice.

UNIT III
15 Hours

Clinical Guidelines as resource for Evidence-Based Practice: Historical Guidelines and their importance, Implementing the guidelines, Evidence based practice in quality improvement, Assessing patient outcomes.

UNIT IV **20 Hours**

Context of physical assessment and clinical reasoning; Legal/ethical principles, Clinical governance, Evidence based practice, National and local initiatives for changing roles in practice, Health promotion.

Transaction Mode

Open learning, Group discussions,Lecture, Seminar, e-Tutoring, Dialogue, Peer Group Discussion, Self-Learning and Cooperative Learning

Suggested Readings

- *Clinical Reasoning in the Health Professions 4th Edition - October 15, 2018 byJoy Higgs, Gail M. Jensen, Stephen Loftus, Nicole Christensen*
- *Clinical Reasoning in the Health Professions, Joy Higgs, Mark A Jones, Stephen Loftus, PhD, MSc, BDS, Nicole Christensen, 14 Feb 2008*
- *Herbert et al, Practical Evidence-Based Physiotherapy Elseiveir Publishers.*
- *Fetters, L., & Tilson, J. (2020). Evidence-Based Practice in Physical Therapy. F.A. Davis Company.*
- *Moseley, A. M., Sherrington, C., & Elkins, M. (2009). Physiotherapy Evidence Database (PEDro) Scale. Centre for Evidence-Based Physiotherapy.*

Web Sources

- *https://www.physio-pedia.com/Clinical_Reasoning*
- *https://www.physio-pedia.com/Evidence_Based_Practice(EBP)_in_Physiotherapy*

Course Title: PHYSIOTHERAPY IN NEUROLOGICAL CONDITIONS LAB

Course Code: BVY605

L	T	P	Credits
0	0	4	2

Course Outcomes **Total Hours- 30**

On successful completion of this course, the students will be able to:

1. Become skilled in assessment and evaluation of patient suffering from neurological conditions.
2. Develop proficiency in case presentation and discussion.
3. Gain knowledge about the clinical characteristic of neurological conditions
4. Identify gait abnormalities

Course content

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-Spasticity, Rigidity and Hypotonia. Assessment of Cerebral Function.
Assessment of Balance & Coordination. Assessment of Gait Abnormalities

Transaction mode

Demonstration method, Group Discussion, Dialogue, Peer Group Discussion, Mobile Teaching, Self-Learning, Collaborative Learning

Suggested Readings:

- *Lindsay, K. W., Bone, I., & Fuller, G. (2010). Neurology and neurosurgery illustrated e-book. Elsevier Health Sciences.*
- *Walker, B. R., & Colledge, N. R. (2013). Davidson's principles and practice of medicine. Elsevier Health Sciences*
- *Examination in Neurology examination- Dejong.*
- *Differential Diagnosis-John PatternNeurology in Clinical Practice – Bradley&Daroff*
- *Neurological Assessment-Blicker staff.*
- *Clinical Evaluation of Muscle Function-Lacote- Churchill Living*

Web Sources

- *https://www.ncbi.nlm.nih.gov/books*
- *https://www.msdmanuals.com/en-in/professional/neurologic-disorders/neurologic-examination/how-to-assess-sensation*

Course Title: PHYSIOTHERAPY IN SURGICAL CONDITIONS LAB

Course Code: BVY606

L	T	P	Credits
0	0	4	2

Total Hours: 30

Course Outcomes

On successful completion of this course, the students will be able to:

1. Learn about the incisions and procedures used for thoracic and cardiac surgeries.
2. Gain knowledge about normal and surgical procedure involved in child birth.
3. Develop skills to present and discuss the history and management of a surgical case.
4. Present as well as discuss case studies.

Course content

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.
Demonstration of procedure of anesthesia
Dressing of wounds
Practicing technique of CPR
Demonstration of procedure of skin grafting
Clinical examination of incisions of abdominal surgeries
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.

Transaction mode

Demonstration method, Group Discussion, Dialogue, Peer Group Discussion, Mobile Teaching, Self-Learning, Collaborative Learning

Suggested Readings:

- *Williams, N., & O'Connell, P. R. (Eds.). (2008). Bailey & Love's short practice of surgery. CRC press.*
- *Townsend, C. M. (2021). Sabiston textbook of surgery: the biological basis of modern surgical practice. Elsevier Health Sciences.*
- *Magee, D. J. (2021). Orthopedic Physical Assessment (7th ed.). Saunders.*
- *Pryor, J. A., & Prasad, A. (2016). Physiotherapy for Respiratory and Cardiac Problems: Adults and Paediatrics (4th ed.). Churchill Livingstone.*
- *Donatelli, R. A. (2011). Physical Therapy of the Shoulder (5th ed.). Churchill Livingstone*

Web Sources

- *https://www.beaumont.org/treatments/intervention-surgical-delivery*

https://cpr.heart.org/en/resources/what-is-cpr

Course Title: ICU MANAGEMENT

Course Code: BVY607

L	T	P	Credits
0	0	4	2

Total Hours: 30

Course Outcomes

On completion of this course, the successful students should be able to:

1. Reduce the patient's stay in the ICU and overall hospital stay.
2. Prevent ICU related complications.
3. To improve function and quality of life in the long term.
4. To make patients functionally independent.

Course Content

UNIT I **10 Hours**

Positioning, Education, Manual and ventilator hyperinflation, Ambu Bag

UNIT II **10 Hours**

Weaning from mechanical ventilation, Non-invasive ventilation, Percussion, vibration, suctioning

UNIT III **10 Hours**

Respiratory muscle strengthening, Chest Physiotherapy, Postural Drainage

Transaction mode

Demonstration method**,** Group Discussion, Collaborative Learning and Cooperative Learning

Suggested readings

- *Donna Frownfelter, Tidy's Physiotherapy, Colby Kisner*
- *Textbook of Critical Care-Jean-Louis Vincent, Edward Abraham,Patrick Kochanek*
- *Parrillo, J. E., & Dellinger, R. P. (2014). Critical Care Medicine: Principles of Diagnosis and Management in the Adult (4th ed.). Elsevier.*
- *Vincent, J. L., & Abraham, E. (2017). Textbook of Critical Care (7th ed.). Elsevier.*
- *Marino, P. L. (2019). Marino's The ICU Book (4th ed.). Wolters Kluwer.*

Web Sources

- *https://www.physio-pedia.com/The_Intensive_Care_Unit*
- *https://pubmed.ncbi.nlm.nih.gov/33115261/*