

Mahatma Gandhi University
of
Medical Sciences & Technology
Jaipur
Syllabus

B. Sc. Yoga Therapy
(3 Years Degree Course)

Edition - 2020-21

PREAMBLE

Mahatma Gandhi University of Medical Sciences & Technology conceptualized the B. Sc Yoga Therapy with the objective of producing Yoga therapists/ consultants/ spiritual counselors who would assist conventional medicine specialists in their profession to get rid of wide range of psychosomatic ailments. The academic council approved the syllabus and suggested to implement in the academic year 2020-21. The duration of the course remained the same and entire duration of B.Sc. Yoga Therapy program under the division of alternative medicine is divided into 3 years years.

TITLE OF THE COURSE

B. Sc. Yoga Therapy

DURATION OF THE COURSE

The minimum duration of the program will be three years.

ELIGIBILITY

10th+ 2 (PCB) from any Educational Institution/board (govt. authorized).

GOALS OF B.Sc. Yoga Therapy Program

1. Become aware of the research advances and developments in the field of Yoga and Naturopathy.
2. Acquire a spirit of scientific inquiry and oriented to the principles of research methodology.
3. Plan and design a module of Yoga Therapy for a particular problem.

INSTITUTIONAL GOALS

After the completion of graduation program in B.Sc. Yoga Therapy, the students must:

1. Be able to design a Yoga module based on the severity of the condition with consultation with medical doctors.
2. Be proficient in the Yoga therapy techniques he/she prescribes for health issues.
3. Develop a humane attitude towards the patients and never give burden to a patient in terms of financial affordability.
4. Enjoy an urge for self-improvement, directed towards advanced expertise or research in the field of Yoga.
5. Be able to give spiritual counseling and explain the manifestation of a disease in the context of Yogic scriptures and spiritual lures.
6. Explore and understand the cause of his/her problem for which the patient has been suffering.
7. Be able to work successfully in a variety of health care settings.
8. Develop integrity, responsibility, reliability, dependability and compassion, which are characteristics required for successful professional life.
9. Develop leadership and communication skills to work as leading therapist in healthcare teams.

OBJECTIVES OF THE PROGRAM

- To train Sadhakas – inner researchers, Spiritual counselors and cultural ambassadors powered with the wisdom of Yoga – Spirituality to explore certain subtle dimensions of Consciousness.

- To promote the ancient Gurukula system of education with the wisdom of Vedanta, the principles and practices of integrated modules of Yoga/Yajna techniques with a scientific fervor of the west.
1. To train the students to teach ancient scriptures related to Yoga and Vedanta in the department of the Universities as an Assistant professor.
 2. To train students in Yoga & Yajna based therapy so as to enable the students to become well versed in Yoga & Yajna based therapy.
 3. To integrate Yoga & Yajna based therapy with other systems of medicine to speed up the process of recovery.
 4. To explore the possibilities of promoting Yoga & Yajna based therapy integrating ancient medical practice at conventional medical facilities attached to the institute.
 5. To produce Yoga and Yajna based therapists with in depth understanding of basic sciences and mechanism of action of every technique prescribed for a disease.
 6. To bring all round personality development of the students at all levels of their personality.

Attendance

1. Each year is considered as a unit and the candidate has to put in a minimum attendance of 75%.
2. The basis for the calculation of the attendance shall be the period prescribed by the University by its calendar of events. The students shall be informed about their attendance position periodically so that the students will be cautious to make up if shortage

Selection of Generic Elective and skills Enhancement Courses

Every student has to select any one elective subject out of seven elective subjects mentioned below at the beginning of the academic year during his/her course duration. The Examination of these subjects shall be conducted at the college level.

Sr. No.	Subject	Teaching hours		
		Theory	Practical	Total
1	Disaster Management	45	15	60
2	Information and Communication Technology in Health Education	45	15	60
3	Effective English	45	15	60
4	Health Care	50	-	50
5	Constitution of India	45	-	45
6	Biostatistics & Research Methodology	60	-	60

Distribution of marks

S. No.	Subject	Theory	Internal Assessment	Total
1	Disaster Management	70	30	100
2	Information and Communication Technology in Health Education	70	30	100
3	Clinical Nutrition	70	30	100
4	Yoga	70	30	100
5	Effective English	70	30	100

6	Health Care	70	30	100
7	Constitution of India	70	30	100

A candidate can appear in the elective subject examinations to be conducted at the college level before the University examinations at the end of I year or II year or III year. Only such candidates shall be eligible to fill University examination form of III year (final year) who have passed their elective subject. It shall be mandatory to obtain 50% marks in the aggregate of prescribed total marks (i.e. 50 out of 100) to pass the elective subjects. Marks of all such candidates who have passed their elective subject shall be sent in the following format by the Principal of the college to the University while sending their examination forms of III year (final year) :

S. No.	University Roll No.	Name of the student	Father's Name	Name of elective subject	Marks obtained	Result

Those candidates who do not pass their elective subjects shall not be eligible to submit their III year (final year) University examination form and accordingly they will not be permitted to appear in the University examination of III year (final year) of the course.

Marks obtained by the candidates in their elective subject shall be mentioned separately in the marks sheets of the University examinations. These marks shall not be counted for preparing the merit list.

B. Sc. Yoga Therapy

Recommended Teaching Hours of Instruction for each subject

First Year B. Sc. Yoga Therapy Course

S. NO.	Subjects	Theory Hours	Practical Hours	Total Hours
1.	Section – A - Anatomy	100	50	150
	Section – B - Physiology	100	50	150
2.	Human Biochemistry	100	50	150
3.	Basic Principle and History of Yoga	150	-	150
4.	Principle And History of Naturopathy	150	-	150
5.	Yoga Language Sanskrit	150	-	150
6.	Basic Yoga Practices	-	200	200
		750	350	1100

Second Year B. Sc. Yoga Therapy Course

S. NO.	Subjects	Theory Hours	Practical Hours	Total Hours
1.	Modern Human Psychology	100	-	100
2.	Ancient Yoga Text Part - I	150	-	150
3.	Hatha Yoga Text Part - I	100	100	200
4.	Chromotherapy	100	100	200
5.	Fasting Therapy and Dietetics & Nutrition	100	100	200
6.	Massage & Acupressure	100	100	200
7.	Yoga Practices Intermediate	-	200	200
		650	600	1250

Third Year B. Sc. Yoga Therapy Course

S. NO.	Subjects	Theory Hours	Practical Hours	Total Hours
1.	Ancient Yoga Text Part - II	150	-	150
2.	Hatha Yoga Text Part - II	150	100	250
3.	Hydrotherapy and Mud Therapy	150	100	250
4.	Therapeutic Yoga	150	100	250
5.	Physiotherapy	100	50	150
6.	Naturopathy & Health Management	150	-	150
		850	350	1200

Total Hours- 1100+1250+1200= 3550

Marks Distribution

Appendix-II

First Year B. Sc. Yoga Therapy Course

Code No	Subject	Written-100			Practical-100			Grand Total
		Theory	I.A. Theory	Total Theory	Practical + Oral	I.A. Practical	Total Practical	
Paper-I	Section- A- Anatomy	35	15	50	35	15	50	100
	Section- B- Physiology	35	15	50	35	15	50	100
Paper-II	Human Biochemistry	70	30	100	-	-	-	100
Paper-III	Basic Principle and History of Yoga	70	30	100	-	-	-	100
Paper-IV	Principle And History of Naturopathy	70	30	100	-	-	-	100
Paper-V	Yoga Language Sanskrit	70	30	100	-	-	-	100
Paper-VI	Basic Yoga Practices	-	-	-	70	30	100	100
	Environment Sciences (NUE)	70	30	100	-	-	-	100
Total		420	180	600	280	120	400	1000

NUE = Non-University Examination

Second Year B. Sc. Yoga Therapy Course

Code No	Subject	Written-100			Practical-100			Grand Total
		Theory	I.A. Theory	Total Theory	Practical + Oral	I.A. Practical	Total Practical	
Paper-I	Modern Human Psychology	70	30	100	-	-	-	100
Paper-II	Ancient Yoga Text Part - I	70	30	100	-	-	-	100
Paper-III	Hatha Yoga Text Part - I	70	30	100	70	30	100	200
Paper-IV	Chromotherapy	70	30	100	70	30	100	200
Paper-V	Fasting Therapy and Dietetics & Nutrition	70	30	100	70	30	100	200
Paper-VI	Massage & Acupressure	70	30	100	70	30	100	200
Paper-VII	Yoga Practices Intermediate	-	-	-	70	30	100	100
Total		420	180	600	350	150	500	1100

Third Year B. Sc. Yoga Therapy Course

Code No	Subject	Written-100			Practical-100			Grand Total
		Theory	I.A. Theory	Total Theory	Practical + Oral	I.A. Practical	Total Practical	
Paper-I	Ancient Yoga Text Part - II	70	30	100	-	-	-	100
Paper-II	Hatha Yoga Text Part - II	70	30	100	70	30	100	200
Paper-III	Hydrotherapy and Mud Therapy	70	30	100	70	30	100	200
Paper-IV	Therapeutic Yoga	70	30	100	70	30	100	200
Paper-V	Physiotherapy	70	30	100	70	30	100	200
Paper-VI	Naturopathy & Health Management	70	30	100	-	-	-	100
Total		420	180	600	350	150	500	1100

First Year B. Sc. Yoga Therapy Course (1 Year Duration)

Part-I

Paper-I

Human Anatomy and Physiology

Theory Hours: 200
Practical Hours: 100
Total: 300

Theory: 100 marks (University examination: 70, Internal Assessment: 30)
Practical: 100 marks (University examination: 70, Internal Assessment: 30)

Learning Outcome • knowing the details about the structure of the body

- knowing the details about the necessary functions of the body
- knowing the details about the diseases related to each system
- knowing the details anatomy so that student can experience the involvement of their body parts while practicing various postures of yoga

Human Anatomy (Section - A)

Unit-I: Theory

General Anatomy:

- (1) Cell: Parts, Name of Cytoplasm organelles and inclusion with their Functions.
- (2) Epithelium: Types with examples and light microscopic structure.
- (3) Connective Tissue: Classification with emphasis to tendon and ligament.
- (4) Cartilage: Types with example.
- (5) Bone: Types with example, types of Ossification (Stage of Ossification not required).
- (6) Joints: Classification with example, emphasis to synovial joints.
- (7) Muscles: Types (details of EM picture not required).
- (8) Nervous tissue: Structure of a Neuron, Synapse Reflex arc, Degeneration and Regeneration of the Nerve, typical spinal nerve.
- (9) Embryology

- (a) Ovum, Spermatozoa, fertilization and formation of germ layers and their derivations.
- (b) Development of skin, fascia, blood vessels, lymphatic.
- (c) Development of bones, axial and appendicular skeleton and muscles.
- (d) Neural tube, development of spinal cord, Brain stem and brain (cerebrum, cerebellum)

Unit-II: Regional Anatomy

Superior Extremity

- (1) Pectoral region, Axilla, Brachial plexus, muscles of arm (front & back), muscles of forearm (front & back) palm (muscle, nerve, vessels) Synovial Bursae of hand and palmar spaces, nerves (axillary, median, ulnar, radial), Cutaneous distribution according to dermatomes, Related Clinical anatomy.
- (2) Joints: Shoulder girdle, shoulder, elbow, radial-ulnar, wrist, first carpo-metacarpal joints.

Inferior Extremity

- (1) Front of thigh, femoral triangle, lumbar plexus, Inguinal group of lymph Nodes, gluteal region, back of thigh, leg (anterior, lateral, posterior compartments) foot (dorsum, plantar), Venous drainage of inferior Extremity, Nerve and their distribution (femoral, sciatic, tibial, common peroneal, obturator), Arches of foot, Cutaneous distribution according to dermatomes, Related clinical Anatomy.
- (2) Joint, hip, knee, ankle, sub-talar & mid-tarsal joints.

Abdomen & Pelvis

- (1) Abdominal wall, inguinal canal, Stomach, Liver, spleen, pancreas, kidney with ureter, small Intestine, Large Intestine, Abdominal Aorta, Portal vein, Diaphragm, Sacral plexus, posterior abdominal wall.
- (2) Sacro-Iliac joint.

Thorax

- (1) Thoracic wall, typical intercostals space, Mediastinum (boundaries, contents), Heart with its internal and external features, Blood vessels, Typical spinal Nerve, movement of ribs during Respiration, pleura, lungs.

Head & Neck

- (1) Muscle of face, Cutaneous distribution of Trigeminal nerve, Triangles of neck (anterior & posterior) Sternocleidomastoid and Trapezius muscles, Muscle of mastication, Nasal cavity, Pharynx and Larynx (Parts, Sensory distribution).
- (2) Joints: Temporo-mandibular Joint, Atlanto-occipital and Atlanto-Axial joints.

Unit-III: Neuro anatomy

- (1) General Introduction and classification, Autonomic Nervous system
- (3) Sympathetic and Para Sympathetic with their difference in distribution and function). Spinal cord, spinal Reflex, Pyramidal and extra-pyramidal tracts (Detail Nucleus not required), Blood supply; brainstem: gross features and blood supply; Cerebellum: gross features and functions; Cerebrum: gross features, functional areas, blood supply; Related clinical anatomy.

Cranial Nerves

- (1) Names in order, Individual Cranial Nerve distribution, Idea about Upper Motor Neuron and Lower Motor Neuron, applied Anatomy.

Vertebral Column

- (1) Identification of vertebrae of different regions.
- (2) Intervertebral joints

- (3) Intervertebral disc
- (4) Muscles of vertebral column
- (5) Weight transmission
- (6) Applied anatomy
- (7) Radiological anatomy

Practical

Superior Extremity

- (1) Demonstrations on dissected specimens of upper limb.
- (2) Osteology: clavical, scapula, humerus, radius, ulna, articulated hand, order of carpal bones.
- (3) Surface anatomy

Inferior Extremity

- (1) Demonstration on dissected specimens of lower limb
- (2) Osteology: Hip bone, femur, tibia, fibula, articulated foot (Identification of tarsal and major muscle attachments).
- (3) Surface Anatomy

Abdomen & pelvis

- (1) Abdominal viscera, Viscera of pelvis and blood vessels.
- (2) Osteology: lumbar vertebrae, sacrum, bony pelvis

Thorax

- (1) Demonstration on cadaver of thoracic wall, mediastinal structure, Heart, Lungs.
- (2) Osteology: Sternum, Ribs (only general features), Thoracic Vertebrae (Identification, general features).

Head & Neck

- (1) Demonstration on cadaver of oral cavity, nasal cavity, pharynx, larynx, sagittal sections of head & neck, muscles of face and triangles of neck.
- (2) Cranial bones (Identification of individual bone with general features), Base of skull : different foramina in relation to cranial nerves, Cranial fossae and their relation to brain and Hypophysis cerebri, , Cervical vertebrae.
- (3) Surface anatomy.
- (4) Radiological anatomy.

Neuroanatomy

- (1) Demonstration of gross specimens of spinal cord, brainstem, cerebellum, cerebrum and meninges, Identification of cranial nerves emerging from brain and brainstem

Histology

- (1) Epithelium (Simple, Compound)
- (2) Connective tissue (Cartilage & Bone)
- (3) Muscle (smooth & skeletal)
- (4) Nervous tissue (nerve trunk, spinal cord, cerebellum, cerebrum, dorsal root ganglion, sympathetic ganglion)
- (5) Blood vessels (Large & medium sized arteries and vein)

Human Physiology (Section - B)

General Physiology

Unit-1:1. Introduction and Scope of Physiology

Cell and tissue-Its structure, principal constituents, properties and functions including cell division

1. Body Fluid.

- (a) Blood: Composition and general functions of plasma. Blood cells – structure and function - Red Blood cells, white Blood Cells – including numbers and approximate length of life – position, structure and function of cells of Reticulo endothelial system.
- (b) Blood clotting including bleeding time and clotting time, factors accelerating or slowing the process. Blood groups and their significance, Rh-factor, Hemoglobin and E.S.R.
- (c) Formation of Blood, tissue fluid and lymph.

2. Cardio-Vascular System.

- (a) Structure and properties of Heart Muscles and nerve supply of Heart.
- (b) Structure and functions of arteries, capillaries and veins.
- (c) Cardiac cycle and Heart sound.
- (d) Cardiac output measurements, factors affecting Heart Rate and its regulation.
- (e) Cardio-vascular reflexes.
- (f) Blood pressure, its regulation, physiological variation, peripheral resistance, Factors Controlling Blood Pressure, Hemorrhage.
- (g) ECG study and stress test.

3. Respiratory System.

- (a) Mechanism of Respiration, Changes in diameter of thorax, Intra-pleural and Intra-pulmonary pressure.
- (b) Quantities of lung volume, tidal and residual volume, vital capacity.
- (c) Gaseous inter-changes in lung and tissues.
- (d) Control of respiration-Nervous and chemical significance of changes in rate and depth, transportation of oxygen and carbon dioxide.
- (e) Respiratory states-anoxia, asphyxia, Cyanosis, Acclimatization.

4. Digestive System

- (a) General arrangement of alimentary canal, liver, pancreas -position, structure and functions.
- (b) Nutrition and Diet-carbohydrate, protein, fat, salts, water, vitamins and minerals digestion, absorption and Metabolism.

Unit-II: Reproductive System.

- (a) Sex determination and development of puberty, male sex hormones, spermatogenesis, Female sex hormones, menstrual cycle. Ovulation, pregnancy, Function of placenta, lactation.

1. Excretory System.

- (a) Gross and minute structures of kidney, renal circulation, Mechanism of formation of urine, Glomerular filtration rate and tubular function, renal function and renal tests. Physiology of micturition.

2. Endocrine System.

- (a) Structure and function of pituitary (anterior & posterior). Thyroid, Para-thyroid, adrenal cortex, adrenal medulla, Thymus and pancreas.
(b) Blood sugar regulation.

3. Skin-Structure and functions.

Unit-III: Neuromuscular Physiology

1. **Cell Membrane** – Ionic and Potential gradient and transport.
2. **Muscles** – Types of muscular tissue – Gross and Microscopic structure – function. Basis of muscle contraction – changes in muscle contraction, Electrical – Biphasic and mono-phasic action potentials, chemical, Thermal and physical changes, Isometric and Isotonic contraction.
3. **Motor units and its properties** – clonus, tetanus, all or none law, Fatigue.
4. **Nerve** – Gross and microscopic structure of nervous tissue, one neuron – Generation of action potential – Nerve impulse condition.
5. **Neuromuscular Junction.**
6. **Degeneration** – Regeneration of peripheral nerves, electro tonus and Pfluger's law.
7. Types and properties of receptors, types of sensations, synapse, reflex arc, its properties - occlusion, summation, sub minimal fatigue etc.
8. **Tracts** – Ascending and descending and extra-pyramidal tracts.
9. Functions of E.E.G.
10. Functions of Cerebral cortex, cerebrum, cerebellum, Basal ganglia.
11. Thalamus – connection and functions.
12. Reticular formation – tone posture & equilibrium, Autonomic nervous system.
13. Special Senses Eye-Errors of refraction, equilibrium, Autonomic nervous system.
14. Speech and its disorders.
15. Ear and Vestibular apparatus, taste, olfactory, somatic sensations.

Practical

- (a) Hematology: RBC count, WBC count, differential count. ESR, Bleeding & Clotting time, Estimation of hemoglobin, Blood groups.
(b) Human Physiology: Examination of (a) Respiratory system (b) heart and arterial pulse (c) deep and superficial reflexes (d) cranial nerves (e) motor system (f) sensory system including higher function (g) measurement of blood pressure.
(c) Effect of Exercises on body physiology

TEXT BOOKS :

1. Tortora and Bryan: Anatomy and Physiology
2. Khurana: Anatomy and Physiology
3. Textbook of Anatomy (III volumes) – BD Chaurasia
4. Practical Anatomy – Cunningham
5. Dr Shirley Telles & Dr H R Nagendra, A Glimpse into the human body, Swami Vivekananda Yoga Prakashana, Bangalore, 2002

REFERENCE BOOKS:

1. Gore, M.M. : Anatomy and Physiology of Yogic practices (Kanchan Prakshan, Lonavala, 2003)
2. Sri Krishna : Notes on Structure and Functions of Human Body and Effects of Yogic practices on it (Kaivalyadhama S.M.Y.M Samiti, Lonavala, 1988)
3. Charu, Supriya : Sarir Rachana evam Kriya Vigyan
4. Evelyn, C. Pearce : Anatomy and Physiology for Nurses (Faber and Faber Ltd. London, 1968)
5. Chatterjee, C.C. : Human Physiology (Vol. I & II) (Medical Allied Agency, Calcutta, 1992)
6. LanPeate and Muralidharan Nayar – Fundamental of Anatomy and Physiology for students nurses
7. Evelyn, C. Pearce- Anatomy and Physiology for Nurses

Part – I - Paper-II

Biochemistry

Theory Hours: 100

Practical Hours: 50

Total: 150

Theory: 100 marks (University examination: 70, Internal Assessment: 30)

Practical: 100 marks (University examination: 70, Internal Assessment: 30)

Learning Outcome - Students will explain/describe the synthesis of proteins, lipids, nucleic acids, and carbohydrates and their role in metabolic pathways along with their regulation at the epigenetic, transcriptional, translational, and post-translational levels including RNA and protein folding, modification, and degradation. Regulation by non-coding RNAs will be tied to the developmental and physiological functioning of the organism. Assessment: Class exams and final exams, research papers, lab reports with student-generated data.

UNIT-I (BIOMOLECULES, CARBOHYDRATES AND LIPIDS)

Bio-molecules: - Biomolecules & biochemical perspective of a cell, Cell structure, Subcellular organelles, Cell membrane, Transport mechanisms.

Carbohydrates: - Chemistry of Carbohydrates, Definition, classification and biological importance of carbohydrates, Monosaccharides, Classification, Isomerism and properties of, monosaccharides, modified monosaccharides, Disaccharides, Polysaccharides.

Lipids: - Chemistry of Lipids, Definition, classification and biological importance of Lipids, Simple lipids: Composition of Triacyl glycerol & Waxes. Compound lipids: Composition & functions of Phospholipids, glycolipids & lipoproteins, Derived lipids: Fatty acids - Classification & Properties fatty acids, Steroids & sterols, Micelle, Liposomes.

UNIT II (PROTEINS, ENZYMES AND VITAMINS)

Proteins:- Chemistry of Proteins, Definition, classification & properties of amino acids, Definition, classification & properties of proteins, Structural organization of proteins, Biological significance of amino acids & proteins, Plasma proteins, their functions and clinical significance.

Enzymes: - Definition, classification, Kinetics, mechanism of enzymatic catalysis. Factors influencing enzymatic catalyses, enzyme activators and inhibitors. Regulation of enzyme activity, Iso-enzymes & clinical enzymology

Vitamins: - Definition and classification of vitamins, Brief account of chemistry, source, RDA, biochemical functions, deficiency diseases, Vitamin antagonists and hyper vitaminosis of each vitamin.

UNIT-III (MINERALS METABOLISM, CARBOHYDRATES METABOLISM, BIOLOGIC OXIDATION, LIPID METABOLISM, PROTEIN METABOLISM)

Mineral metabolism :- Classification of minerals ,Brief account of chemistry, source, RDA, biochemical functions, deficiency diseases of each mineral ,Digestion and absorption , Digestion and absorption of carbohydrates ,Digestion and absorption of lipids ,Digestion and absorption of proteins.

Carbohydrate Metabolism :-Major metabolic pathways: Glycolysis, pyruvate oxidation, Citric acid cycle, Gluconeogenesis, HMP Shunt pathway & glycogen metabolism ,Minor metabolic pathways: Metabolism of Fructose and Galactose, Regulation of blood sugar, glucose tolerancetest, Diabetes mellitus& other disorders of carbohydrate metabolism.

Biologic Oxidation:-Redox potential, high energy compounds, Oxidative Phosphorylation, Electron transport chain.

Lipid metabolism: - Biosynthesis and degradation of fatty acids, Metabolism of cholesterol ,Ketone bodies: their synthesis, utilization and conditions leading to ketoacidosis ,Chemistry and metabolism of lipoproteins, hyper lipoproteinemias ,Prostaglandins ,Fatty liver, Obesity & other lipid storage disease.

Protein metabolism:- Overview of protein metabolism ,Nitrogen balance ,Formation and disposal of ammonia , General metabolism of amino acids, Inborn errors of amino acid metabolism.

UNIT IV-Molecular Biology, Energy metabolism and Nutrition & Clinical biochemistry

Molecular biology :- Chemistry of Nucleic acids: Definition, classification, composition of nucleic acids; Structure and function of DNA ; Types, structure & functions of RNA , Metabolism of Nucleic acids : Synthesis and breakdown of purines; Synthesis and breakdown of pyrimidine ,DNA Replication, Inhibitors of DNA replication ,DNA Transcription & Post-transcriptional processing. Genetic code, Protein synthesis, inhibitors of protein synthesis & Post-translational processing, Integration of metabolism, Metabolic effects of insulin & glucagon, The feed/fast cycle, Biochemistry of starvation.

Biochemistry of blood:- Porphyrins, Synthesis and degradation of heme; Porphyria; Jaundice ,Structure & functions of hemoglobin ,Abnormal hemoglobins & hemoglobinopathies, Plasma Proteins, Immunoglobulins, Blood pH & its regulation, Role of kidney and lungs in maintaining pH of blood, Acidosis and Alkalosis

Energy metabolism and Nutrition:-Calorific value of foods, Basal metabolic rate and its importance,Specific dynamic action ,Energy requirements for physical activity ,Balanced diet; Role of carbohydrates, proteins & lipids ,Nutritive value of proteins, protein-energy malnutrition (PEM).

Clinical biochemistry: -Tools of biochemistry, Liver function tests, Renal function tests, Environmental biochemistry, Environmental pollutants, Xenobiotics, interaction with biomolecules, effects & metabolism, Biochemical characteristics of cancer and carcinogenesis.

S.NO	NAME OF PRACTICAL	NATURE
1	General reactions Carbohydrates	Experiment
2	General reactions of proteins	Experiment
3	General reactions of non-protein-nitrogen compounds	Experiment

4	Analysis of Urine	Experiment
5	Blood Sugar estimation by Glucose Oxidase method	Experiment
6	Colorimetry and colorimeter	Experiment
7	Paper chromatography	Experiment
8	Electrophoresis	Experiment
9	Glucose tolerance test (GTT)	Experiment

Recommended Text Books:

1. Text book of Biochemistry - by U. Sathyanarayana, U Chakrapani
2. Text book of Biochemistry – by DM Vasudevan, Sreekumari S

Reference Books:

1. Harper's Illustrated Biochemistry, Robert K. Murray, Daryl K. Granner, and Victor W. Rodwell.
2. Biochemistry. Lubert Stryer. W.H. Freeman and Company, New York.

Part – I - Paper-III

Basic Principle and History of Yoga

Theory Hours: 150

Total: 150

Theory: 100 marks (University examination: 70, Internal Assessment: 30)

Learning Outcome:

- Introductory knowledge about yoga
- Introductory knowledge about Vedas
- Appreciate the Different dimensions of Vedic studies
- Motivate oneself by reading biographies of contemporary yoga masters
- They will have an idea about the insights of Indian philosophy and Astika & Nastika darshanas.
- Introduction about Yoga according to various yogic texts.

UNIT – I FOUNDATIONS OF YOGA: HISTORY

- Origin of Yoga, History and Development of Yoga; Etymology and Definitions, Misconceptions, Aim and Objectives of Yoga, True Nature and Principles of Yoga
- Introduction to Vedas, Upanishads, Prasthanatrayee and Purushartha Chatushtaya
- General introduction to Shad-darshanas with special emphasis on Samkhya and Yoga Darshana, Yoga in Vedanta

UNIT – II EVOLUTION OF YOGA

Introduction to Epics - (Ramayana, Mahabharata), Yoga in Ramayana, Yoga in Mahabharata

- Introduction to Smritis and Yoga in Smritis; General introduction to Agamas and Tantra, Yoga in Tantra; Concepts of Nadi and Prana in Tantra, Kundalini, Effects of Kundalini Shakti and Shatchakra Sadhana
- Yoga in Medieval Literature, Bhakti Yoga of Medieval Saints, Yoga in Narada Bhakti Sutras.
- Yoga in Modern Times: Yogic Traditions of Ramakrishna and Swami Vivekananda, Shri Aurobindo; Yoga traditions of Maharshi Ramana and Swami Dayanand Saraswati
- Yoga in Contemporary Times: Brief Introduction to important Yoga Paramparas (lineages) Yoga Parampara of Sri T. Krishnamacharya, Yoga Parampara of Swami Shivanada Saraswati, Swami Rama of Himalayas, Maharshi Mahesh Yogi and their contributions for the development and promotion of Yoga.

UNIT – III EVOLUTION SCHOOLS OF YOGA

- Introduction to Schools (Streams)of Yoga: Yoga Schools with Vedanta Tradition (Jnana, Bhakti, Karma and Dhyana), Yoga Schools with Samkhya-Yoga Tradition (Yoga of Patanjali) and Yoga Schools with Tantric Tradition (Hatha Yoga, Swara Yoga and Mantra Yoga)
- Elements of Yoga and Yogic practices in Jainism, Buddhism and Sufism

TEXT BOOKS:

- Lal Basant Kumar: Contemporary Indian Philosophy, Motilal Banarsidas Publishers Pvt. Ltd, Delhi, 2013
- Dasgupta S. N History of Indian Philosophy, Motilal Banarsidas, Delhi, 2012
- Singh S. P : History of Yoga, PHISPC, Centre for Studies in Civilization Ist, 2010

- Singh S. P & Yogi Mukesh : Foundation of Yoga, Standard Publication, New Delhi, 2010
- Swami Chandrashekharendra Sarasvati, The Vedas, Bhavan's Publication, Mambai, 2009

BOOKS FOR REFERENCE

- Agarwal M M : Six systems of Indian Philosophy, Chowkhambha Vidya Bhawan, varanai, 2010
- Swami Bhuteshananda : Nararad Bhakti Sutra, Advaita Ashrama Publication-Dept. Kolkata, II Edition, 2009
- Hiriyanna M : Outlines of Indian Philosophy, Motilal Banarsidas, Delhi, 2009
- Hiriyanna M: Essentials of Indian Philosophy, Motilal Banarsidas, Delhi, 2008
- Radhakrishnan S: Indian Philosophy, Oxford University, UK (Vol. I & II) II Edition, 2008
- Max Muller K. M : The six system of Indian Philosophy, Chukhambha, Sanskrit series, Varanasi, 6th Edition, 2008

Part – I - Paper-IV
Principle and History of Naturopathy

Theory Hours: 150
Total: 150

Theory: 100 marks (University examination: 70, Internal Assessment: 30)

Learning outcome

- Illustrate the history of Naturopathy including major contributors to the field and their work.
- Correlate the evolution and composition of the human body according to different schools of medicine such as Naturopathy, Yoga, Ayurveda, Homeopathy, Modern Medicine, etc.
- Concepts of health and disease according to Naturopathy
- Classify and Correlate Ten basic principles of Naturopathy
- Describe foreign matter, toxin accumulation, theory of Toxemia, Unity of disease and Unity of Cure.

Unit I: Introduction to Nature Cure or Naturopathy

The Medical Profession & Medical Evolution- an Introduction, Concept of Health & Disease through the ages ,The Human Body ,The evolution of human body ,Philosophy of the body, mind, soul, life, spirit and spiritual body with reference to various cultures, philosophies, Vedas and Modern view ,Composition of the human body, according to *Ayurveda*, Naturopathy, *Yoga*, Modern Medicine, Homeopathy.

An Introduction to Nature Cure or Naturopathy- Definitions, concepts & theories of various pioneers in the field , History of Naturopathy & Philosophy of Naturopaths ,Chronological highlights of Naturopathy ,Philosophy of Indian Naturopaths. Vegiraju Krishnamaraju ,Vinoba Bhave ,Mahatma Gandhi. Dr. S. J. Singh,Dr. J. M. Jussawala,Philosophy of Foreign Naturopaths. Aesculapius, Hippocrates, The School of Salerno, Paracelsus. Vincent Priessnitz , Sebastian Kneipp ,Arnold Rickli ,Louis Kuhne ,Adolf Just ,John H Tilden ,Sigmund Freud ,Henry Lindlahr ,Fundamental principles, concepts & theories of Naturopathy. Laws of Nature according to Henry Lindlahr, Catechism of Nature Cure according to Henry Lindlahr ,Concepts of Health according to Naturopathy ,Concepts of Disease according to Naturopathy

Unit II- Principles & concepts of Naturopathy

The 10 basic principles of Naturopathy :- Principles of Natural Medicine in the West ,The Healing Power of Nature (*Vis Medicatrix Naturae*) ,Identify and Treat the Causes (*Tolle Causam*) ,First Do No Harm (*Primum Non Nocere*) ,Doctor as Teacher (*Docere*) ,Treat the Whole Person ,Prevention ,Herring's law of cure.

Concept of Panchama habhootas & Naturopathy.

Foreign matter and toxins accumulation in the body and its importance in elimination through different ways or channels. Unity of disease, Unity of cure and way of treatment.

Theory of Toxemia- Toxins and anti-toxins, their generation, mitigation in nature cure way

Concept of Vitality & Vital economy

How Nature Cures- The Natural healing mechanisms :- Arogya Rakshak Panchatantras and their importance in maintenance of good health prevention of diseases and treatment of diseases through lifestyle modification. Shareera Dharmas – Ahara, Nidra Bhaya, Maithuna ,

Natural Immunity & how to acquire natural immunity in diseases. Inflammation- Naturopathic perspective.

Unit - III Diagnostic procedures in Naturopathy & Modern Medicine

Naturopathy: a blend of Drugless Therapies :- Holistic approach of Naturopathy ,Modern perspectives of Naturopathic Medicine ,Understanding Homeostasis ,Metabolism of Xenobiotics ,Aging, Free Radicals and Antioxidants ,Hygiene & importance of physical and mental hygiene in health and disease ,Vaccinations and inoculation – The Naturopathic view.

Family planning by Natural therapeutics.

Introduction to The Diagnostic procedures in Naturopathy :- Spinal Analysis ,Facial Diagnosis ,Iris Diagnosis ,Chromo Diagnosis ,Natural rejuvenation ,Personal life and prevention of diseases ,Geriatrics and Naturopathy ,Introduction to various systems of Medicine .

Modern Medicine :- Ayurveda ,Introduction ,Definition of Prakriti and its categories. Swastha Vrittam ,Dinacharya ,Ratricharya ,Ritucharya ,Vegadharanam ,Homeopathy, Unani Siddha ,Comparative study of Naturopathy with other systems of Medicine ,Basic essentials of a Naturopathy practitioner - an introduction to qualities of a Naturopathy & Yoga , Practitioner, Approach to the Patient with a Naturopathy view, Ethical considerations, Understanding the Scope & Limitations ,Recent Advances in Naturopathy & Yoga , Introduction to Psychosomatic Diseases & Psychoneuroimmunology ,Introduction to Mind-Body Medicine ,Lifestyle & psychosocial behavior ,Introduction to Integrative Medicine ,An introduction to Research & its importance in Naturopathy

Recommended Books:

- 1.The Science of Facial Expression by Louis Kuhne
2. The New Science of Healing by Louis Kuhne
3. Philosophy of Nature Cure by Henry Lindlahr
4. Practice of Nature Cure by Henry Lindlahr

Reference books

1. My Nature Cure or Practical Naturopathy by S.J. Singh
2. The Science of Facial Expression by Louis Kuhne

Part – I - Paper-V
Yoga language Sanskrit

Theory Hours:150
Total: 150

Theory: 100 marks (University examination: 70, Internal Assessment: 30)

Learning outcome

- Basic structure of Samskritam sentences
- Conversation in Samskritam
- Read and write Devanagari script

Unit I: Basics of Samskritam

- Origin of language
- Uniqueness of Samskritam
- Samskrita Varnamala – Svaras, Vyanjanas and Ayogavaha (Utpatti Sthana and Prayatna)
- Transliteration rules
- Intro Parts of speech in Samskritam – Karaka, Linga, Vibhakti, Vachana

Unit II: Speaking skills

- Samskrita Sambhashana Shibira of Samskrita Bharati
- Daily Greetings
- Numbers till 100
- Identifying time in Samskritam
- Framing basic sentences

Unit III: Basic grammar lessons

- Introduction to Sandhi – Svara, Vyanjana and Ayogavahas
- Introduction to Samasa – 4 types of Samasas
- Introduction to Karaka – 6 Karakas

Unit IV: Memorization of selected verses and declensions of common (selected) words

- 20 selected Subhashitas verses
- 35 Subanta Rupas and 10 Dhatus

Text Book:

- Vempati Kutumba Sastri, Vaakyavyavahaara, Rashtriya Saàskåta Samsthana, Deemed University, New Delhi 110058.

Part – I - Practical Basic Yoga Practices

Practical Hours: 200
Total: 200

Practical: 100 marks (University examination: 70, Internal Assessment: 30)

Learning outcome

- Maintaining one's health
- Following a specific routine module for general health

Unit – I Breathing Practices

- Hands stretch breathing
- Ankle stretch breathing
- Rabbit breathing
- Shashankasana breathing
- Instant Relaxation Technique

Unit – II Loosening exercises

- Jogging
- Forward and Backward bending
- Side bending
- Twisting
- Pavanamuktasana Kriya
- Quick relaxation technique

Unit – III Surya Namaskara

Unit – IV Yoga Asana

- Standing Asanas
- Sitting Asanas
- Prone Asanas
- Supine Asanas

Unit – V Pranayama Practices and preparation &Kriya

- Kapalabhati and sectional breathing
- Surya, Cahndra Anuloma Viloma, Nadishodhana, Shitali, Sitkari, Sadanta
- Bhramari and Nadanusandhana

Kriya –

1. Dhauti : Vastra Dhauti, Daëda Dhauti – Once in fifteen days
2. Neti : Ghâta Neti and Dugdha Neti
3. Nauli : Madhyam Nauli, Vâma Nauli, Dakñina Nauli and Nauli Kriyâ
4. Kapâlabhâti : Vâtakra Kapâlabhâti, Çétkrama, and Vyutakarma Kapâlabhâti
5. Çaikhaprakñâlana : Laghu and Pürëa Çaikhaprakñâlana.

Text Book: 1. Himalaya, Swami Vivekananda Yoga Prakasana, Bangalore, 2000 2. Swami Satyananda Saraswati, Asana, Pranayama, Mudra, Bandha, Bihar Yoga Bharati, Mungher, Bihar, India.

Reference Books:

1. Swami Satyananda Saraswati : Asana, Pranayama, Mudra, Bandha (Yoga Publications Trust, Munger, Bihar, India).
2. Swami Muktibodhananda Saraswati : Hatha Yoga Pradeepika, Yoga Publications Trust (Munger, Bihar, India) .
3. Dr R Nagarathna (2014). Yoga for Promotion of Positive Health, SVYP, Bangalore.

Second Year B. Sc. Yoga Therapy Course

Part – II - Paper-I

Modern Human Psychology

Theory Hours: 100

Total: 100

Theory: 100 marks (University examination: 70, Internal Assessment: 30)

Learning outcome: Describe the evolution of Psychology from speculation to science

- Illustrate mechanisms of sense and perception, states of consciousness and their functions
- Understand basic and complex functions such as learning, memory, thinking, language, motivation, emotion, intelligence, development of psychology across lifespan, personality, stress coping, social psychology, attitudes, etc.

General Psychology

Unit – I INTRODUCTION:

Brief History of modern Psychology

Major Perspectives in Modern Psychology

Key data collection methods in Psychology

- **Introduction to Altered States of Consciousness**
Sleep: Stages of Sleep, Circadian Rhythm, Sleep Disorders; Dreams: The Content of Dreams; Hypnosis, Biofeedback.
- **Behavioral Psychology:** Psychology as a Science of Behavior; Definition of Behavior; Psychic forces and human behavior, behavior and Consciousness, Psychological basis of behavior;
- **Personality:** Nature and Types of Personality; Determinants of Personality: Heredity and Environment; Facets and Stages of Personality Development; Personality Theories of Sigmund Freud, Alfred Adler and C.G. Jung, Carl Rogers; Assessment of Personality:
- **Cognitive Psychology:** Sensation, Perception, Attention, Memory, Learning, Feeling etc.; Their definitions and types, Intelligence and its' measurements; Emotional Intelligence and Social Intelligence.
- **Mental Health;** Means of mental health; Positive Mental Health; Causes and Consequences of Conflicts and Frustrations; Introduction to Common mental disorders; Depressive disorders; Anxiety disorders; Serious mental disorders; Sleep disorders; Mental retardation; Alcohol and drug abuse; Suicide, attempted suicide and suicide prevention.

Unit – II Yoga for Personality Development - Yogic attitudes for personality development, Ashtanga Yoga and personality development, personality development with special emphasis on Panchakosa. Memory and Concentration; Short-term, long-term memory, stages of memory foundation and maintenance; Yoga modules to improve memory; Barriers to concentration; creativity eastern concept, silence and creativity; yogic approach to creativity; yogic practices for creativity development; Facets of intelligence; concept of intelligence according to Yoga; Yoga practices for IQ development; Practices for Anger Management.

Unit –III Yoga for Stress Management: Introduction to Stress, Concept of Stress; Solutions through Mandukya karika - Relaxation and stimulation combined as the core for stress management; Practice of Stimulation and relaxation; Yoga and Stress Management; Concepts and Techniques of Stress Management in Ashtanga Yoga of Patanjali and Bhagavad Gita, specific practices for stress management, breath awareness, shavasana, Yoganidra, pranayama and meditation, impact of yogic lifestyle on stress management.

Text Books:

1. Chaube S P by Abnormal Psychology
2. Coleman by Abnormal Psychology
3. Prasanna Counseling Centre by Lay Counselors
4. Meera Ravi by Counseling

Reference Books:

1. Sarason I G. & by Abnormal Psychology Sarason BR. Prentice- Hall of India private Limited, New Delhi
2. John J. P., et al. : Counseling by Theory, Research & Practice Rand Monally College Publications, Chicago (1978)
3. Sahakian W.S. : Psychotherapy & Counseling by Techniques in Interventions (2nd Edition); Chicago Monally College Publishing Company (1976)

Part – II - Paper-II
Ancient Yoga Text Part- I

Theory Hours: 150
Total: 150

Theory: 100 marks (University examination: 70, Internal Assessment: 30)

Learning outcome:

- To understand the ancient lore go in to original text
- Study of Upanishads by going through the modern philosophers and thinkers
- Understanding the Upanishads with yogic background
- Getting the clarification of the concept of consciousness
- Understand Yogic concepts in Bhagavad Gita
- Comprehend the Yogic lifestyle from Gita for better social order
- Understand the relation of Yoga with Vedanta
- Comprehension of Vedic knowledge for harmonious way of living

Unit – I Principal Upanishads Bhagavad Gita, Yoga Vasishtha

Principal Upanishads

Brief Introduction of Ten principal Upanishads as the basis of Yogic contact.

1. **Ishavasyopanishad:** Concept of Karmanishta; Concept of Vidya and Avidya; Knowledge of Brahman; Atma Bhava
2. **Kena Upanishat: Indwelling Power;** Indriya and Antahkarana; Self and the Mind; Intutive realization of the truth; Truth transcendental; Moral of Yaksha Upakhyana
3. **Katha Upanishad :** Definition of Yoga; Nature of Soul; Importance of Self Realization;
4. **Prashna Upanishad:** Concept of Prana and rayi (creation); Pancha pranas; The five main questions
5. **Mundaka Upanishad:** Two approaches to Brahma Vidya-the Para and Aparā; The greatness of Brahmanvidya, The worthlessness of Selfish-karma; Tapas and Gurubhakti, The origin of creation, Brahman the target of Meditation
6. **Mandukya:** Four States of Consciousness and its relation to syllables in Omkara
7. **Aitareya:** Concept of Atma, Universe and Brahman.
8. **Taittiriya Upanishad** Concept of Pancha Kosha; Summary of Shiksha Valli; Ananda Valli; Bhrguvalli.
9. **Chandogya Upanishad:** Om (udgitha) Meditation; Sandilyavidya
10. **Brihadaryanaka Upanishad :** Concept of Atman and Jnana Yoga. Union of Atman and Paramatman.

Unit – II Bhagavad Gita

General Introduction to Bhagavad Gita (B.G.). Definitions of Yoga in B.G. and their relevance & Scope; Essentials of B.G - the meanings of the terms Atmaswrupa, Stithaprajna, Sankhya Yoga

(Chpt.II), Karma Yoga (Chpt.III), Sanyasa Yoga and Karma Swarupa (Sakama and Nishkama) etc; Samnyasa, Dhyana Yogas (Chpt. VI); Nature of Bhakti (Chpt.XII), Means and Goal of Bhakti-Yoga; The Trigunas and modes of Prakriti; Three Kinds of Faith. Food for Yoga Sadhaka, Classification of food (Chpt.XIV & XVII) Daivasura-Sampad-Vibhaga Yoga (Chpt.XVI); Moksa-Upadesa Yoga (Chpt. XVIII)

Unit – III Yoga Vasishtha

Highlights of Yoga Vashitha, Concept of Adhis and Vyadhis; Psychosomatic Ailments; The four Gatekeepers (Pillars) to Freedom; How Sukha is attained the Highest State of Bliss; Practices to overcome the Impediments of Yoga; Development of Satvaguna; Eight limbs of Meditation; Jnana Saptabhumika.

Text Books:

1. Dr H R Nagendra, Yoga Its Basis and Applications, Swami Vivekananda Yoga Prakashana, Bangalore, 2002.
2. Dr H R Nagendra, Jñāna Yoga, Swami Vivekananda Yoga Prakashana, Bangalore, 2002
3. Swami Ranganathananda, Message of Upanishads, Bharatiya Vidya Bhavan, Bombay, 1985
4. 4.Swami Tapasyananda - The Holy Gita-the Science of Life, Pub: RK Mission, Chennai.

Reference Books

1. Acharya Shankar : Gita Bhasya, Gita Press, Gorakhpur(U.P).
2. Tilak, B.G. : Gita Rahasya Ya Karma Yoga Shastra
3. Siddhantalankar, Satyavratya : Gita Bhasya, Govindaram Hasananda, New Delhi.
4. Radhakrishnan, S. : The Bhagavadgētā (Routledge & Kegan Paul, London, 1960)
5. Gitanka (Kalyana) : Gētā Press, Gorakhpur(U.P)
6. The principle Upanishads –By S. Radhakrishnan
7. The message of the Upanishads – by Swami Ranganathananda, 1985 Bharatiya Vidya Bhavan (Bombay)
8. The Vedas by – Shree Chandrasekharendra Saraswati Swami ji, 2014 Bharatiya Vidya Bhavan (Mumbai-400007)
9. And the Original text

Part – II - Paper-III

Hatha Yoga Text part 1

Theory Hours: 110

Practical Hours: 100

Total: 200

Theory: 100 marks (University examination: 70, Internal Assessment: 30)

Practical: 100 marks (University examination: 70, Internal Assessment: 30)

Unit – 1 Introduction to Hatha Yoga and Hatha Yoga Texts. Siddhasiddhanta paddhati, Hatha Ratnavali and Shiva Samhita. Aim & objectives, misconceptions about Hatha Yoga, prerequisites of Hatha Yoga (dasha yama and dasa niyama), Sadhaka and Badhaka tattvas in Hatha Yoga, Concept and importance of Shodhana kriyas in Hatha Yoga; Importance of Shodhana kriyas in health and disease, Rules & Regulations to be followed by Hatha Yoga Sadhakas.

Unit – II • Asanas in Hatha Texts: Definition, pre requisites and special features of Yoga-asana; Asanas in, Siddhasiddhanta paddhati, Hatha Ratnavali and Shiva Samhita, Benefits, precautions, and contraindications of different Asanas.

• **Pranayama in Hatha Texts:** - Concept of Prana & Ayama, Pranyama; Pranayama its phases and stages; Prerequisites of Pranayama in Hatha Yoga Sadhana; Pranayama in, Siddhasiddhanta paddhati, Hatha Ratnavali and Shiva Samhita & Benefits, precautions and contraindications of Pranayama.

Unit – III Bandha, Mudra and other practices: Concept, definition of Bandha and Mudras, in Siddhasiddhanta paddhati, Hatha Ratnavali and Shiva Samhita; Benefits, precautions and contraindications. Concept, definition, benefits and Techniques of Pratyahara, Dharana and Dhyana.

Practical

Unit – IAsanas in Hatha Texts: Definition, pre requisites and special features of Yoga-asana; Asanas in, Siddhasiddhanta paddhati, Hatha Ratnavali and Shiva Samhita, Benefits, precautions, and contraindications of different Asanas.

• **Pranayama:** - Pranyama; Pranayama its phases and stages; Prerequisites of Pranayama in Hatha Yoga Sadhana; Pranayama in, Siddhasiddhanta paddhati, Hatha Ratnavali and Shiva Samhita & Benefits, precautions and contraindications of Pranayama.

Unit – III Bandha, Mudra and other practices: Concept, definition of Bandha and Mudras, in Siddhasiddhanta paddhati, Hatha Ratnavali and Shiva Samhita; Benefits, precautions and contraindications. benefits and Techniques of Pratyahara, Dharana and Dhyana.

Text Book: Swami Digambaraji and : Hatha Pradeepika of Svatmarama Pt: Raghunatha Shastri (Kaivalyadhama, S.M.Y.M.Samiti, Lonavala, 1998)

Reference Books:

1. Swami Muktibodhananda : Hatha Yoga Pradeepika, The light on Hatha Yoga Saraswati (Bihar School of Yoga, Munger, 1985)
2. Burley, Mikel : Hatha Yoga, Its Context Theory and Practice (M.L.B.D. Delhi, 2000)
3. Burnier, Radha : Hathayoga Pradipika of Svatmarama (The Adyar Library publications, Chennai. 2000)
4. Swami Maheshanandaji : Shiva Samhita and Others (Kaivalyadhama, S.M.Y.M. Samiti, Lonavala,1999)
5. Woodroffe, Sir John : The Serpent power . (Ganesh & Company, Madras, 2000)

6. Bharati, Veda : Philosophy of Hatha Yoga (English) (Himalayan International Institute of Yoga Science and Philosophy, 1998, 2nd Rev. ed. Pennsylvania).
7. Mr. Dvivedi : Nath Sampradaya of Hatha Yoga, Publications,Hindustani Academy, Allahabad, Utter Pradesh, 1950)

Part – II - Paper-IV

Chromotherapy

Theory Hours: 100

Practical Hours: 100

Total: 200

Theory: 100 marks (University examination: 70, Internal Assessment: 30)

Practical: 100 marks (University examination: 70, Internal Assessment: 30)

Learning outcome:

- Illustrate classification of colours, physics of light, electromagnetic spectrum, pathway of vision, human aura, chakras, heliotherapy, colour breathing, chromo charging, and latest research, applying the same to disease management;
- Deduce various diseases and disorders of the body and mind using the principles of colour diagnosis;

Unit -1Color Therapy Definition And History

Definition, Historical highlights- Ghadiyali's principle, Babbitt postulates, Modern history of color therapy . Classification of colors, how do rainbows form, Physics of light

Unit -2 Color Therapy Uses, Benefit And Effect

Electromagnetic spectrum, Pathway of vision and color sensing, The human aura and colors, Relation of colors with shad chakras, Impact of color sense on emotions and psychology, Therapeutic effect of colors

Heliotherapy – Health benefits, Physiological and chemical properties of sunlight , modes of application, plantain leaf sun bath, chromothermoleum, Procedure, precaution, indication and limitations. Dr. Rikli's method of Sun bath , Dr .Kuhne's method of sun bath

Unit -3Advanced Color Therapy

Advanced color therapy, Photo chemotherapy ,Photo biological colored lighting to produce immunoregulation , Color breathing, Chromo charging of water, oil honey and food stuffs. And their effect on health and disease. Limitation and contraindications of chromo therapy. Research updating related to chromo therapy

Practical

UNIT-1

- Color puncture and samassati color therapy
- crystal healing or crystal therapy
- color silks therapy
- hydro color therapy
- about the colors
- Color therapy and healing
- Make a color therapy chart

UNIT-2 Case documentation and application of color therapy at least 10 cases

Reference Books :Color Healing: Chromotherapy

Part – II - Paper-V

Fasting Therapy and Dietetics & Nutrition

Theory Hours: 100

Practical Hours: 100

Total: 200

Theory: 100 marks (University examination: 70, Internal Assessment: 30)

Practical: 100 marks (University examination: 70, Internal Assessment: 30)

Part I

Unit -I. Introduction :-

- (a) Theory of Fasting
- (b) Fasting Animals
- (c) Miracles of Fasting
- (d) Your Tongue Never Lies

2. History of Fasting

- (a) Fasting Ancient India
- (b) History of Fasting India
- (c) History of Fasting Foreign Countries
- (d) Historical Highlights of Fasting

3. Science of Fasting

II. The Philosophy of Fasting

1. The Philosophy of Sane Fasting
2. Philosophy of Therapeutic Fasting
 - (a) Life & its existence in connection with health an diseases
 - (b) Nature of disease
 - (c) The No-Breakfast Plan
 - (d) Objections commonly
 - (e) Raised in Fasting Therapy
 - (f) Pros and cons of Fasting
 - (g) Difference between Fasting and Starvation
 - (h) Difference between Hunger and Appetite

Unit –II Physiology of Fasting:-

- a) General Physiology.
- b) Source and Metabolism of Carbohydrates, Fats and Proteins During Fasting &Starvation.
- c) Chemical and Organic changes during Fasting.
- d) Repair of Organs and Tissues During Fasting.
- e) Changes in the Fundamental Functions While Fasting.
- f) The Mind & Special Senses During a Fast.
- g) Secretions and Excretions.
- h) Bowel Action During a Fast.
- i) The Influence of Fasting on Growth and Regeneration.
- j) Gain and Loss of strength While Fasting.
- k) Gain and Loss of weight During Fasting.

- l) Autolysis
- m) Fasting and Sex.
- n) Rejuvenescence through Fasting.

Facts Explained About Fasting:-

- (a) Fasting Does Not Induce Deficiency “Disease”.
- (b) Death In The Fast.
- (c) Objections To The Fast.
- (d) The Quantity of Food Necessary to Sustain Life.

Unit –III Practice of Fasting:-

- (a) Does Fasting Cure Disease?
- (b) The Rationale of Fasting.
- (c) The Length of the Fast.
- (d) Contraindications of Fasting.
- (e) Fasting in Special Periods and Conditions of Life.
- (f) Symptomatology of the Fast.
- (g) Progress & Hygiene of The Fast.
- (h) Breaking the Fast.
- (i) Gaining Weight after the Fast.
- (j) Living After The Fast

Rules and regulations of Sane Fasting and Therapeutic Fasting

Part II

Dietetics and Nutrition

Unit -1 Basic concepts and components of food and nutrition Understanding Nutrition, Basic Terminology in Relation to Nutrition Requirement, Human Nutritional Requirements; Concept of food, Acceptance of Food, Functions of Food; Components of Food & their Classification; Macro Nutrients –Sources, Functions and Effects on the Body; Micro Nutrients - Sources, Functions and Effects on the Body; Fat Soluble Nutrients - Sources, Functions and Effects on the Body; Water soluble Nutrients - Sources, Functions and Effects on the Body; Significance of Carbohydrate, Proteins, Lipids, Vitamins, Minerals and water in the body; Antioxidants and their Role;

- Yogic concept of diet and its relevance in the management of lifestyle
- Nutrients, proximate principles of diet, balanced diet concept; Carbohydrates, proteins, fats – sources, nutritive values, importance; Minerals-calcium, iron, phosphorus etc. Vitamins – sources, roles, requirements

Unit -II Food groups.

- Cereals & Millets –Selection, Preparation and Nutritive Value; Pulses, Nuts and Oil Seeds- Selection, Preparation and Nutritive Value; Milk and Milk Products- Selection,
- Preparation and Nutritive Value; Vegetables and Fruits- Selection, Preparation and Nutritive Value, Fats, Oils and Sugar, Jaggery- Selection, Preparation and Nutritive Value
- Food and metabolism. Energy- Basic Concepts, Definition and Components of Energy Requirement, Energy Imbalance Concept of Metabolism, Anabolism, Catabolism, Calorie Requirement-BMR, SDA, Physical Activity; Metabolism of Carbohydrates, Lipids and Protein; Factors Affecting Energy; Requirement and Expenditure, Factors affecting BMR.

Text Books –

1. Fasting for Healthy and Long Life By Hereward Carrington
2. The Fasting Cure and Vital Economy By Lakshamana Sharma
3. Fasting can save your life By Herbert M. Shelton
4. The Effects of Fasting By Donald Upton
5. Fasting way of life By All ancoli M.D
6. Fasting can Renew your life By Herbert M. Shelton
7. Scientific Fasting By Hazzard, Linda Burfield
8. The Science & Fine Art of Natural Hygiene By Herbert M. Shelton
9. .The Hippocrates Diet and Health Program By Herbert M. Shelton
10. The Hippocrates Diet and Health Programme By Ann Wigmore

Reference Books-

1. The Philosophy of Fasting By Edward Eaul Purinton
2. Vality, Fasting and Nutrition By Hereward Carrington
3. The Fasting Cure By Upton Sinclair
4. The Fast-Way of Health By Harold R. Brown
5. Fasting-the Mast Remedy
6. Fast for Health By John Joseph Picker
7. The Biology of Human Starvation By Keys, Ancel
8. Fasting Story NO.1 By Health Research
9. Fasting Story NO.2 By Health Research
10. Rational Fasting-By Prof Arnold Ehret
11. Explaining Fasting By Forster Roger
12. Hints on Fasting Well By Carrington, Hereward etc.
13. The Science and Fine Art of Fasting By Herbert M. Shelton
14. Miracles of Fasting By Dr Paavo Airola.
15. No Breakfast Plan By Edward Hook Dewey
16. Thus Speaketh the Stomach By Pr of Arnold Ehret

Part - II - Paper-VI
Massage & Acupressure

Theory Hours: 100
Practical Hours: 100
Total: 200

Theory: 100 marks (University examination: 70, Internal Assessment: 30)
Practical: 100 marks (University examination: 70, Internal Assessment: 30)

Part I

Unit -I

1. Introduction and History of Massage.
2. Rules, Regulations and Characteristics of Masseur
3. Structures especially concerned in massage and parts of the body to be specially studied for the purpose is as follows:
 - a) Skin
 - b) Muscular System
 - c) Heart and Circulation
 - d) Nervous System
 - e) Skeletal System Including joints
4. Effects of the pressure of hand and lubricants on the following systems :-
 - a) Skin
 - b) Muscular System
Nutrition and Development Excitation of “M” & contraction of “M”, Increase of muscular electro-excitability, removal of the fatigue from muscle.
 - c) On the ligaments and skeletal system
 - d) On the Circulatory system
 - f) On Respiration - Increase of respiratory activity and increase of tissue respiration.
 - g) On GIT- Improvement in appetite, improvement in secretion of digestive fluids, absorption and improvement in peristalsis.
 - h) Excretory System
 - i) Powder Massage - merits and demerits.

Unit –II Getting crisis through massage (Side effects and benefits)

1. Basic therapeutic massage techniques, indications and contraindications of massage while applying to the patients.
2. Massage and its effects:-
 - a. Nutrition
 - b. Haematogenesis
 - c. Phagocytosis
 - d. Increase in the number of blood corpuscles.
 - e. Absorption of increased inflammatory exudate, change in the weight of the person, obese or emaciated.
3.
 - i) Different Massage manipulations, classification and their detailed explanation, uses and contra- indications.
 - ii) Manipulative treatments in stress management

- iii) Shiatsu in manipulative therapy (Acupressure)~
- iv) Manipulations and life extension.
- v) Dry brush Massage

Unit -III 1. Movements of Joints :-

1. Flexion
2. Extension
3. Abduction
4. Adduction
5. Supination & Pronation
6. Circumduction
7. Deviations- Medial and Lateral
8. Opposition

(a) Massaging in local areas under special circumstances -

- a. Massage to Abdomen
- b. Massage to liver
- c. Massage to Stomach
- d. Massage to heart
- e. Massage to head
- f. Massage to spine
- g. Special types of Massage in different diseases

(b) Massage to women

4. Massage to infants and children
5. Massage for prevention of diseases and maintenance of natural beauty
6. Ayurvedic Massage-Terminology, Methods and Manipulations

Chiropractic:-

Origin & aims of Chiropractic. X-Ray Technique and Chiropractic. Importance of spine in Chiropractic. Physiological effects of Chiropractic. Spinal Manipulative Therapy chiropractic Examination. Chiropractic treatments in various Diseases

Osteopathy:-

Definition & the Basic principles of osteopathy, Relation of osteopathy to Musculo-skeletal system

Part II Acupressure:-

1. What is Acupressure
2. Its origin & development Physiological effects of Acupressure
3. Therapeutic uses of Acupressure

TEXTBOOKS:-

1. Massage Books - By George Downing
2. Massage - By Constant Young
3. Massage Therapy - By Dr. J.H. Kellog
4. The Complete Book of Massage - By Clare Maxwell Hudson
5. Step by Step Massage - By Carole Me. Gilvery and Gini Reed
6. The Book of Massage - By Luinda Lidell with Sarathomas, Carola Berb Ford Cooke and Anthony Porta
7. The Complete step-by-step guide to eastern and western Massage to Common Ailments -

By Penny Rich

8. Baby Massage - The Magic of Loving Touch - By Auckett, Anelia D
9. Natural Healing from Head to Toe - By Aihara, comellia - Aihara, Herman
10. Massage Works - By D. Baloti Lawrence and Lewis Harrison
11. Massage (Ayurvedic) - By Achanta Laxmipathy

Reference Books:-

1. The Pancha karama Treatment of Ayurveda- By T.L. Devraj
2. MassageTherapy: the Holistic Way to Physical and Mental Health -By Juckson Richard
3. Brain Massage, Revitalize mind body- By Howell, Kelly

Part – II - Practical

Yoga Practices Intermediate

Practical Hours: 200

Total: 200

Practical: 100 marks (University examination: 70, Internal Assessment: 30)

Unit –I Yogic Practices – Asana, Kriya, Mudra, Bandha, Dhyana, Surya Namaskara (Techniques, Salient Features, Benefits)

- **Shatkarmas** Dhauti (Kunjali), Vastra dhauti, Danda dhauti, Laghoo and Poorna sankhaprakshalana, Neti (Sutra and Jala), Kapalbhathi, Agnisara, Nauli
- **Suryanamaskar-** Suryanamaskar must be practiced traditionally and the variation in Suryanamaskar may be taken into consideration based on the convenience of patients for therapy.
- **Asnas (yogic postures)** Standing Postures Ardhakati chakrasana, Hastapadasana, Ardha chakrasana, Trikonasana, Parivritta trikonasana, Parsvakonasana, Veersana, Sitting postures Paschimottanasana, Suptavajrasana, Ardhamatsyendrasana, Vakrasana, Marichasana, Malasana, Badhakanasana, Merudandasana, Akarna dhanurasana, Gumukhasana, Prone postures Bhujangasana, Salabhasana, Dhanurasana, Urdhvamukhosvanasana, Makarasana, Supine postures Halasana, Chakrasana, Sarvangasana, Matsyasana, Shavasana, Setubandhasana, Balancing postures Vrikshasana, Garudasana, Namaskarasana, Tittibhasana, Natrajasana

Unit –II

- **Pranayama** Breath awareness, Sectional breathing, Nadishuddhi, Bhastrika, Ujjai, Cooling pranayama (Sitali, Sitkari and Sadanta), Bhramari, Pranayama (with Antar & Bahya Kumbhaka)
- **Practices leading to Meditation:** Pranav and Soham Japa, Yoga Nidra (1,2,3), Antarmauna, Ajapa Dharana (Stage 1,2,3), Practices leading to Breath Meditation, Practices leading to Om Meditation, Practices leading to Vipassana Meditation, Practices leading to Preksha Meditation
- **Bandhas and Mudras:** Jivha Bandha, Jalandhara Bandha, Uddiyana Bandha, Mula Bandha, Maha Bandha, Yoga Mudra, Maha Mudra, Shanmukhi Mudra, Tadagi Mudra, Vipareet Karni Mudra

Unit –III • Contemporary Yogic Practices - Yogic Sukshma Vyayama, Cyclic Meditation, Mindfulness based Stress Reduction Technique (Kabatzin); Mind Sound Resonance Technique, Raja Yoga Meditation (Brahmakumaris); Transcendental Meditation (Mahesh Yogi); ZEN Buddhist Meditation; Yoga Nidra (BSY); Savita Ki Dhyana Dharana

Text Books:

1. Vasu RBSC. : The Gheranda Samhita (Munshiram Manoharlal Publishers Pvt.Ltd)
2. Vasu RBSC. : The Siva Samhita, (Oriental Books Reprint Corporation, New Delhi.1979.
3. Mahayogindra S. : Hatharatnāvali, Sri M Ramkrishna Reddy, Arthamurur, E.G. Dt., A.P., 1982.
4. Swami Muktibodhananda : Hatha Yoga Pradépikā, Saraswati Yoga Publication Trust, Munger, Bihar, 1985.
5. Himalaya, Swami Vivekananda Yoga Prakasana, Bangalore, 2000
6. Swami Satyananda Saraswati, Asana, Pranayama, Mudra, Bandha, Bihar Yoga Bharati, Munger, Bihar, India.

Reference Books: 1. Swami Satyananda Saraswati : Asana, Pranayama, Mudra, Bandha (Yoga Publications Trust, Munger, Bihar, India).

2. Swami Muktibodhananda Saraswati : Hatha Yoga Pradeepika, Yoga Publications Trust (Munger, Bihar, India) .

Third Year B. Sc. Yoga Therapy Course

Part – III - Paper-I

Ancient Yoga Text part II

Theory Hours: 150

Total: 150

Theory: 100 marks (University examination: 70, Internal Assessment: 30)

Patanjali Yoga Sutra

Unit – 1: Samadhi Pada

- Definition of Yoga
- Methods to cessation of Chitta vrittis; Abhyasa and Vairagya
- Obstacles of Mind
- Methods to overcome the obstacles
- Nature of Ishwara
- Chittaprasadanam – tranquillity of the mind
- Nature of Samadhi
- Divisions of Samadhi

Unit – 2: Sadhana Pada

- Kriya Yoga, Kleshas, Avidya,
- Ashtanga Yoga; Antaranga and Bahiranga Yoga
- Yamas and Niyamas – basic ethics and discipline of Yogic life
- Asana – Yogic postures for stability of the physical body
- Pranayama – retaining the subtle energy in the body
- Pratyahara – introverting the senses
- Dharana – fixation of mind on intended object; Purusha
- Dhyana – contemplation

- Samadhi – merging with the object of Dhyana

Unit – 3: Vibhuti Pada

- Dharana, Dhyana and Samadhi
- Supernatural powers by following Samyama
- Different types of results of practice of Samyama
- Vibhutis – obstacle in the path of Samadhi

Unit – 4: Kaivalya Pada

- Five sources of Siddhis,
- Nature of the mind,
- Nature and reality of the world,
- Nature of Kaivalya
- Chanting of selected Sutras from all the chapters

Text Book: Swami Vivekananda : Rajayoga (Advaita Ashram, Culcutta, 2000).

Reference Books:

1. Woods, J.H. : The Yoga System of Patanjali (M.L.B.D., Delhi, 1988)
2. Iyengar B.K.S. : Light on Patanjali Yoga (New York, Schocken Books, 1994).
3. Rukmini T.S. : Yoga Vartika of Vijnanbikshu (Tr.) Vol I, II, III & IV (Munshiram Manoharlal Pvt. Ltd. New Delhi)
4. Swami Omanandatirtha : Patanjali Yoga Pradeepa Geeta Press, Gorakhpur, 1994)
5. Swami Anant Bharati : Patanjali Yoga Shasta- a study (Hindi) (Swami Keshwananda Yoga Sangthan, Delhi)
6. Patanjali Yogsutra(Hindi),Yoga publication Trust, Mungare, Bihar.

Part-III - Paper-II

Hatha Yoga Text Part II

Theory Hours: 150
Practical Hours: 100
Total: 250

Theory: 100 marks (University examination: 70, Internal Assessment: 30)

Practical: 100 marks (University examination: 70, Internal Assessment:30)

Learning outcome:

- Introductory knowledge about Hatha yoga
- Introduction about Yoga according to various Hatha yogic texts.

Unit -1 introduction of Hatha Yoga: Its Philosophy and Practices

- i. Hatha Yoga Pradeepika , Gherand samhita and Goraksh samhita its meaning, definition, aims and objectives, in Hatha Pradeepika, Gherand samhita and Goraksh samhita
- ii. The origin of Hatha Pradeepika, Important Hatha Yogic Texts.
- iii. Dos and Don'ts to be followed by the Hatha Yoga Practitioner, concept of Mata, concept of Mitahara , Pathya (conducive) and Apathya (non-conducive).
- iv. Brief introduction to Great Hatha Yogis of Natha School and their contributions to Yoga,
- v. Relationship between Hatha Yoga and Raja Yoga.

Unit -II introduction of Hatha Yogic Practices: asanas, And Bandhas – Mudrās

- i. Yogāsana: its definition, Salient features.
- ii. Āsanas in Hatha Yoga Pradeepika and Gherand samhita: their techniques, benefits, precautions and importance in modern days.
- iii. Bandhas and role of Bandhatrayas in Yoga Sadhana.
- iv. Fundamental Mudras in HYP and G.S. - their techniques and benefits.

Unit -III Hatha Yogic Practices: Naokriyas And Pranayam i. Nao-kriyas in Haöha Yoga Pradeepika, their techniques and precautions, role of Çodhan-kriyas in Yoga Sadhana and their importance in Modern day-to-day life. ii. Pranayam – Yogic deep breathing, Concept of Puraka, Kumbhaka and Recaka. iii. The concept of Pran, Kinds of Pran and Upa-prans. Pranayam and its' importance in Hatha Yoga Sadhana. iv. Pranayam practices in Hatha yoga pradeepika (HYP) and Gherand Samhita (G.S.), their techniques, benefits and precautions,

Unit -IV Hatha Yogic Practices: Pranayam, Nadanusandhana

- i. Concept of Pratyahara Gherand Samhita - their techniques and benefits.
- ii. Types of Dhvana and their benefits in Gherand Samhita.
- iii. Types of Dhyanas and their benefits in Gherand Samhita.
- iv. Concept of Nada and Nadanusandhana in Hatha Yoga Pradeepika.

Practical

Unit -1 Hatha Yogic Practices: asanas, And Bandhas – Mudrās

- i. Yogāsana: its definition
- ii. Āsanas in Hatha Yoga Pradeepika and Gherand samhita: their techniques, benefits, precautions and importance in modern days.
- iii. Bandhas and role of Bandhatrayas in Yoga Sadhana.
- iv. Fundamental Mudras in HYP and G.S. - their techniques and benefits.

Unit -II Hatha Yogic Practices: Pranayam, Nadanusandhana

- i. Concept of Pratyahara Gherand Samhita - their techniques and benefits.
- ii. Types of Dhvana and their benefits in Gherand Samhita.
- iii. Types of Dhyanas and their benefits in Gherand Samhita.
- iv. Concept of Nada and Nadanusandhana in Hatha Yoga Pradeepika.

Text Book:

- i Swami Digambaraji and : Hatha Pradeepika of Svatomarama Pt: Raghunatha Shastri (Kaivalyadhama, S.M.Y.M.Samiti, Lonavala, 1998)
- ii.Gherand Samhita by niranjanaanad saraswati

Reference Books:

- 1 Swami Muktibodhananda : Hatha Yoga Pradeepika, The light on Hatha Yoga Saraswati (Bihar School of Yoga, Munger, 1985)
2. Burley, Mikel : Hatha Yoga, Its Context Theory and Practice (M.L.B.D. Delhi, 2000)
3. Burnier, Radha : Hathayoga Pradipika of Svatomarama (The Adyar Library publications, Chennai. 2000)
4. Swami Maheshanandaji : Shiva Samhita and Others (Kaivalyadhama, S.M.Y.M. Samiti, Lonavala,1999)
5. Woodroffe, Sir John : The Serpent power . (Ganesh & Company, Madras, 2000)
6. Bharati, Veda : Philosophy of Hatha Yoga (English) (Himalayan International Institute of Yoga Science and Philosophy, 1998, 2nd Rev. ed. Pennsylvania).
7. Mr. Dvivedi : Nath Sampradaya of Hatha Yoga, Publications,Hindustani Academy, Allahabad, Utter Pradesh, 1950.

Part-III - Paper-III
Hydrotherapy & Mud Therapy

Theory Hours: 150
Practical Hours: 100
Total: 250

Theory: 100 marks (University examination: 70, Internal Assessment: 30)
Practical: 100 marks (University examination: 70, Internal Assessment: 30)

Part-I

Unit-I

1. Introduction and History
2. Physical properties and chemical composition of water
3. Physiological basis of Hydrotherapy:- The Skin and its anatomical construction, functions of the body
4. Production of heat and its distribution in the body, regulation of the body temperature, conditions that increase and decrease heat production in the body, body heat and body temperature
5. Importance of water to human body.
6. Physiological effects of water on different systems of the body
 - i) General and Physiological effects of heat upon:-
 - a. Skin
 - b. Respiration
 - c. Circulation
 - d. Nervous System
 - e. Heat and its production, dissipation etc.
 - f. Tactile and temperature sense
 - ii) General and physiological effects of cold upon skin, respiration, circulation, nervous system, G.I.T., Body temperature and its maintenance.
7. Reflect areas of the body, results of the application of hot and cold over reflex areas
8. Action and reaction, incomplete reaction, Conditions that encourage and discourage reaction, internal reaction, thermic reaction, modified thermic reaction
9. Place of water in preservation
10. Place of water in Acute diseases
11. Place of water in Chronic diseases
12. Magnesium sulphate - use in Hydrotherapy

Part- II

Unit-I

1. General Principles of Hydrotherapy
 - a) General rules of hydrotherapy
 - b) Therapeutic significance of reaction
 - c) Adaptation of individual cases
 - d) Exaggeration of symptoms under treatment, the untoward effects and how to avoid them
 - e) General indications and contra- Indications

2. Therapeutic actions and use of Hydrotherapy:

- a) Classification of Hydriatic effects, General principles excitation and Depression
- b) Primary excitant effects when to apply and when not to apply
 1. Local haemostatic effects
 2. Cardiac effects Hydratic heart tonics
 3. Uterine excitations, emanogogic effects
 4. Vesical excitations
 5. Intestinal excitations, peristaltic effects
- c) Secondary excitant effects:-
 1. Restorative effects.
 2. Tonic effects of cold water, physiological effects of cold water, Cold water Vs. Medical tonics, application diseases.
 3. Anaemia, Neurasthenia, Hypochondria Cerebral congestion, Rheumatism, Diabetes mellitus, Valvular heart diseases.
 4. Calorific effects.
 5. Diaphoretic effects.
Importance of attention to the skin in chronic diseases - alternative & qualitative effect - Hot baths in brights diseases, Sweating baths in dropsy and obesity, Depurative or eliminative effects, Toxaemia in Rheumatism.
 6. Expectorant effects.
 7. Diuretic effects - Brights disease, Uremia - eclampsia.
 8. Atonic Dyspepsia, Hyperacidity
 9. Revulsive and derivative effects, flexion, revulsive methods for Combating superficial anaemia and for relief of deep congestion method adopted to anaemia of deep seated organs revulsion on analgesic measure.
- d) Resolvent effects ,sedative effects- general sedatives - local sedatives.
 - i) Sedatives of the circulatory system- antiphlogestic effects, inflammation, pneumonia, pleurisy and other acute disorders.
 - ii) Nerve sedatives, hypnotic, calmative analgesic, anesthetic, antispasmodic, insomnia, chorea, spastic paralysis, exophthalmia goiter, mania, epilepsy and various painful conditions.
 - iii) Anti- thermic and antipyretic effects, relation of heat production and heat elimination to antipyretic methods, principles that govern the application of hydriatic measures for the reduction of temperature in fevers , methods that may be efficiently employed in various morbid conditions and effects, indications and contra- indications.
 - iv) Secretory and sedative effects - prophylactic uses.
 - a. Cold bathing in infancy and early childhood.
 - b. The cold bathing for Adults.
 - c. The cold baths for women.
 - d. The cold bath in old age- precautions.

3. The techniques of Hydrotherapy:-Plain

water bath :-

Cold hip bath

Shallow bath

Graduated bath

Natural bath

Non revulsive bath

Immersion bath

Unit-III Mud Therapy:-

- a) Introduction to Mud Therapy.
- b) Classification of mud for therapeutic use.
- c) Precautions for storing mud.
- d) Methods of treatment of mud - applications, packings hot poultices, effect of mud on different system of body.
- e) Natural mud bath, full and partial mud packs, mud plaster, thermal bath, dry pack, sand pack and sand baths.
- f) Cosmetic uses of mud.

PRACTICALS

Demonstration of various therapeutic Procedure and treatments in Hydrotherapy during clinical classes at the hospital.

TEXTBOOKS:-

1. Baths By S.J.Singh
2. My Water Cure By Sebastian Keneipp
3. Rational Hydrotherapy By Dr. J.H. Kellogg
4. Our Earth and Cure By Raymond Dextroit.
5. The Healing Clay By Michel Adserra.

REFERENCE BOOKS

1. Hand Book of Hydrotherapy By Shew, Joel
2. Hydrotherapy in Practice By Davis, B.C.& Harrison, R.A.
3. Medical Hydrology By Sideny Licht.

Part-III - Paper-IV

Therapeutic yoga

Theory Hours: 150
Practical Hours: 100
Total: 250

Theory: 100 marks (University examination: 70, Internal Assessment: 30)

Practical: 100 marks (University examination: 70, Internal Assessment: 30)

Learning outcome

- Demonstrate each technique prescribed for a disease
- Say the working principles behind the techniques prescribed for various diseases
- Explain the precautions to be taken before practicing the special techniques
- Prescribe the set of special techniques to manage various diseases
- Find another alternative practice if the practice is not found to be effective.
- Hands on training with participants to treat common disorders.

UNIT-I Therapeutic Yoga – Disease Wise and Evidence based

- **Yogic Practice-** Management of the disease through suitable yogic practices - Yogic diet, Asanas, Shatkarmas; Pranayama; Meditation; Notional corrections through yogic scriptures and counseling; Yama and Niyama; Stress(emotions management) Life style prescriptions - Moderation in Ahara, Vihara, Achara and Vichara.
- **Integrated approach of Yoga Therapy in the treatment of diseases** Systemic anatomy, physiology of the related System; Patho physiology, Stress and disease; Medical Management; Mechanism of imbalances at psychological, pranic, physical, endocrinal, autonomic levels; psychoneuro immunological aspect of the disease model; Disease specific parameter; what, why and how of each Yogic practice; Prevention. Evidence research done on the particular disease.
- General Parameters and questionnaires to evaluate Health status - GHQ, Prakriti, Guna, PSS, STAI.

UNIT-II Integrated Approach of Yoga therapy for the following Common Ailments:

- **Respiratory disorders** - Allergic Rhinitis & Sinusitis: COPD: Chronic Bronchitis, Tuberculosis: Evidence research done on the particular disease
- **Cardiovascular disorders:** Hypertension:, Atherosclerosis / Coronary artery disease: Ischemic Heart disease – Angina pectoris / Myocardial Infarction/ Post CABG rehabilitation: Congestive Cardiac failure, Cardiac asthma.
- **Endocrinal and Metabolic Disorder** - Diabetes Mellitus (I&II); Hypo and Hyper-Thyroidism; Obesity: Metabolic Syndrome
- **Obstetrics and Gynecological Disorders, Menstrual disorders:** Dysmenorrhea, Oligomenorrhea, Menorrhagia: Premenstrual Syndrome: Menopause and peri-menopausal syndrome: Yoga for Pregnancy and Childbirth: Complicated pregnancies: PIH, Gestational DM, Ante-natal care, Post-natal care; PCOS
- **Gastrointestinal disorders** APD: Gastritis – Acute & Chronic, Dyspepsia, Peptic Ulcers, Constipation, Diarrhoea, Irritable Bowel Syndrome: Definition, Etiopathogenesis, Inflammatory Bowel Disease, Ulcerative colitis

UNIT-III Cancer: types, clinical features, Side effects of Chemotherapy, radiotherapy

- **Musculo-Skeletal Disorders:** Back Pain: Lumbar Spondylosis, Intervertebral disc prolapse (IVDP), Spondylolisthesis, Spondylitis, Psychogenic- Lumbago, Neck pain: Cervical Spondylosis, radiculopathy, Functional neck pain, All forms of Arthritis: Rheumatoid Arthritis, Osteoarthritis
- **Neurological Disorders: Headaches:** Migraine, Tension headache; Cerebro vascular accidents: Epilepsy; pain; Autonomic dysfunctions; Parkinson's disease
- **Psychiatric disorders:** Psychiatric disorders: Neurosis, Psychosis: Neurosis: Anxiety disorders: Generalized anxiety disorder, Panic Anxiety, Obsessive Compulsive Disorder, Phobias: Depression: Dysthymia, Major depression, Psychosis: Schizophrenia, Bipolar affective disorder.

PRACTICALS

1. Yogic Management for Respiratory disorders
2. Yogic Management for Cardiovascular disorders
3. Yogic Management for Endocrinal and Metabolic Disorder
4. Yogic Management for Obstetrics and Gynecological Disorders, Menstrual disorders
5. Yogic Management for Gastrointestinal disorders
6. Yogic Management for Yogic Management for Musculo-Skeletal Disorders

7. Yogic Management for Neurological Disorders
8. Yogic Management for Psychiatric disorders

TEXT BOOK:

1. Dr Shirley Telles & Dr H R Nagendra, A Glimpse into the human body, Swami Vivekananda Yoga Prakashana, Bangalore, 2002
2. Ailments series, Swami Vivekananda Yoga Prakashana, Bangalore, 2002

REFERENCE BOOKS

1. Gore, M.M. : Anatomy and Physiology of Yogic practices (Kanchan Prakshan, Lonavala, 2003)
2. Sri Krishna : Notes on Structure and Functions of Human Body and Effects of Yogic practices on it (Kaivalyadhama S.M.Y.M Samiti, Lonavala, 1988)
3. Charu, Supriya : Sarir Rachana evam Kriya Vigyan
4. Evelyn, C. Pearce : Anatomy and Physiology for Nurses (Faber and Faber Ltd. London, 1968)
5. Chatterjee, C.C. : Human Physiology (Vol. I & II) (Medical Allied Agency, Calcutta,

Part-III - Paper-V

Physiotherapy

Theory Hours: 100
Practical Hours: 50
Total: 150

Theory: 100 marks (University examination: 70, Internal Assessment: 30)
Practical: 100 marks (University examination: 70, Internal Assessment: 30)

I. Basic Physics in Exercise therapy:-

1. **Mechanics** : Force, Gravity, Line of gravity , centre of gravity in human body, base, Equilibrium And planes.
Mechanical Principles:- Lever, Order of Lever, examples in human body, Pendulum, Spring.

2. Introduction to Exercise Therapy:-

3. **Starting Position:** Fundamental- Starting positions, derived position, and Muscle work for all the fundamental starting positions.

4. **Classification of movements in detail :-**a) Voluntary movements. b)Involuntary movements

5. Active movements

6. Passive movements

7. Muscle strength:-

Anatomy and physiology of muscle tissue, causes of muscle weakness/paralysis, preventing of muscles weakens/ paralysis, types of muscle work and contractions ,range of muscle work, muscle assessment.

Principles of muscle strengthening/re-education, early re-education of Paralyzed muscles

8. Joint movement :-

Classifications of Joint movements, causes for restriction of joint movement, prevention restriction

of joint range of movements, Principles of mobilization of joint increasing the range of motion. Technique of mobilization of stiff joint.

9. Relaxation:-

Techniques of relaxation, Principles of obtaining relaxation in various positions.

10. Posture :-

Types, factors responsible for good posture, factors for poor development of good posture.

Definition of coordinated movements, in-rdinated movements.

11. Co-ordination exercises :-

Principles of coordinated movements, technique of co-ordination exercise.

12. Gait- Analysis of normal gait with muscles work, various pathological gaits.

13. Crutch Gait :- Introduction, crutch measurement, various types of crutch gait (in details)

14. Neuro- muscular facilitation techniques, functional re-education.

15. Suspension Therapy :- Principles of suspension, types of suspension therapy, effects and uses of suspension therapy, their application either to mobilize a joint or to increase joint range of motion to increase muscle power, explaining the full details of the components used for suspension Therapy.

Practicals

1. Massage Therapy
2. Suspension Therapy
3. Relaxed passive movement / types of exercise.
4. MMT
5. Goniometry
6. Breathing exercises.
7. Practical record

BOOK REFERENCE (BOTH THEORY AND PRACTICALS)

1. Principles of Exercise Therapy-By Dena Gardiner.
2. Tidy's physiotherapy.
3. Cash text book of physiotherapy.
4. Maggite's Books of Physiotherapy

Part-III
Paper-VI
Naturopathy and Health Management

Theory Hours:150
Total:150

Theory: 100 marks (University examination: 70, Internal Assessment: 30)

UNIT-1 Diseases of System:-

1. Cardiovascular Disorders
2. Gastrointestinal Disorders
3. Blood related Disorders
4. Respiratory Disorders
5. Neurological Disorders
6. Psychiatric Disorders
7. Musculoskeletal Disorders
8. E.N.T Disorders
9. Obstetrics & Gynaecology Disorders
10. Paediatric Disorders
11. Metabolic Disorders
12. Hormonal Disorders

UNIT-II

1. Neuromuscular Disorder
2. Mental Retardation Disorder
3. Psychological Disorder
4. Sexual Disorder
5. Post Surgical Rehabilitation
6. Post Chemotherapy Rehabilitation
7. Skin Disorders
8. Tumors & Cancers
9. Affections due to Parasites
10. Affections due to Physical agents & Intoxicants
11. Care of Wounds, Burns, Bites & Stings
12. Accidents & Emergencies

UNIT-III Cure of Surgical Disorders:-

1. Deviated Nasal Septum
2. Tonsillitis
3. Appendicitis
4. Uterine Fibroid
5. Uterine Prolapse
6. Hernia
7. Cervical Spondylosis & Slipdisc
8. Osteoarthritis
9. Hydrocele etc.

10. Prostate
11. Hemorrhoids (Piles)
12. Fistula
13. Pyorrhea
14. Gall Stone & Renal Stone
15. Breast tumor

Recommended books:-

1. Nature's material medica by Dr. J.M. Jussawala
2. The genesis & control of disease by George S. Wege
3. Constipation & indigestion by L. Ramachandran
4. Reversing heart disease by Dr. Dean Ornish
5. Natural cure for rupture by Bernarr Macfadden
6. Stop hair loss by Dr. Paavo Airola
7. Worldwide secrets for staying young by Dr. Paavo Airola
8. Bragg fitness program for spine motion by Paul C. Bragg
9. There is a cure for arthritis by Paavo Airola
10. Cancer overcome by diet – An Alternative to surgery by Louise Green Field
11. Diet to dissolve kidney Stones By Dr. S.J. Singh
12. The Hygienic Care of Children By Herbert M. Shelton
13. Integrated Healing Arts By Dr. J.M. Jussawala
14. A Doctor's Victory Over Cancer By Kristine Nolfi

REFERENCE BOOKS:-

1. Medical Drugs on Trial? Verdict "Guilty" By Keki R. Sidhwa
2. Drink Your Troubles Away By John Lust
3. Physical Fitness By Prof. Arnold Ehret
4. Science of Natural Life By Dr. Ganga Prasad Gaud "Nahar
5. Home Remedies for Common Ailments By H.K. Bakhru
6. The Greatest Health Discovery by American Natural Hygiene Society P.O.Box 30630. Tampa FLORIDA- 33630
7. The cure of advanced cancer by Diet Therapy - By Dr. Max Gerson M.D.
8. Natural Cure of Skin Ailments By Dr. S.J. Singh
9. The Encyclopedia of Health By Bernarr Macfadden
10. Physical Culture (Vol 7 & 8) by Materia Medica By J.M. Jussawala

Elective Paper- Non – University Examination

DISASTER MANAGEMENT

Theory Hours: 45hrs

Practical 15hrs

Total =60 hrs

COURSE DESCRIPTION

The course gives an overview of issues related to disaster management including a history of the field, comprehensive emergency management and integrated emergency management, risk reduction and management and current issues in the field.

OBJECTIVES:

At the end of the course, the candidate will be able to:

Cognitive:

- a. Defining disaster and the brief history of disasters and its classification
- b. Understanding the various approaches to disaster risk reduction and disaster management skills.
- c. Comprehending the relationship between disaster and development

Psychomotor

- a. To be able to present various disaster and relate it to development and analyse the same.
- b. Field work on minimizing the disaster and building the culture of safety.
- c. Performing project work, which is creatively designed based on the geographical location and hazard profile of the region where the college is located.

Affective

In the view of disaster, the student should be able to understand and volunteer towards the needs of the society based on the requirements.

The course gives an overview of issues related to disaster management including a history of the field, comprehensive emergency management and integrated emergency management, risk reduction and management and current issues in the field.

SYLLABUS

Introduction to Disasters

- a. Concepts, and definitions (Disaster, Hazard, Vulnerability, Resilience, Risks)
- b. Disasters
- c. Classification Causes, Impacts (including social, economic, political, environmental, health, psychosocial, etc.)
- d. Differential impacts- in terms of caste, class, gender, age, location, disability Global trends in disasters. urban disasters, pandemics, complex emergencies, Climate Change

Approaches to Disaster Risk reduction

- a. Disaster cycle - its analysis, Phases, Culture of safety, prevention, mitigation and preparedness community based DRR, Structural- non structural ensures, roles and responsibilities of- community, Panchayati Raj Institutions/Urban Local Bodies (PRIs/ULBs), states, Centre, and other stake- holders.

Inter-relationship between Disasters and Development

- a. Factors affecting Vulnerabilities, differential impacts, impact of Development projects such as dams, embankments, changes in Land-use etc. Climate Change Adaptation. Relevance of indigenous knowledge, appropriate technology and local resources

Disaster Risk Management in India

- a. Hazard and Vulnerability profile of India Components of Disaster Relief: Water, Food, Sanitation, Shelter, Health, Waste Management institutional Arrangements (Mitigation, Response and Preparedness, DM Act and Policy, Other related policies, plans, programmes and legislation).

Project Work: (Field Work, Case Studies)

- a. The project /fieldwork is meant for students to understand vulnerabilities and to work on reducing disaster risks and to build a culture of safety. Projects must be conceived creatively based on the geographic location and hazard profile of the region where the college is located

Suggested Reading list:

- Alexander David, Introduction in 'Confronting Catastrophe', Oxford University Press, 2000
- Andharia J. Vulnerability in Disaster Discourse, JTCDM, Tata Institute of Social Sciences Working Paper no. 8, 2008
- Blaikie, P, Cannon T, Davis I, Wisner B 1997. At Risk Natural Hazards, Peoples' Vulnerability and Disasters, Routledge.
- Coppola P Damon, 2007. Introduction to International Disaster Management,
- Carter, Nick 1991. Disaster Management: A Disaster Manager's Handbook. Asian Development Bank, Manila Philippines.
- Cuny, F. 1983. Development and Disasters, Oxford University Press.
- Document on World Summit on Sustainable Development 2002. Govt. of India: Disaster Management Act 2005, Government of India, New Delhi.
- Government of India, 2009. National Disaster Management Policy,
- Gupta Anil K, Sreeja S. Nair. 2011 Environmental Knowledge for Disaster Risk Management, NIDM, New Delhi Indian Journal of Social Work 2002. Special Issue on Psychosocial Aspects of Disasters, Volume 63, Issue 2, April.

- Kapur, Anu & others, 2005: Disasters in India Studies of grim reality, Rawat Publishers, Jaipur
- Kapur Anu 2010: Vulnerable India: A Geographical Study of Disasters, IAS and Sage Publishers, New Delhi.
- Parasuraman S, Acharya Niru 2000. Analysing forms of vulnerability in a disaster, The Indian Journal of Social Work, vol 61, issue 4, October
- Prof. tanki B. Andharia Dr. Anil Kumar Gupta Dr Thurya Prakash Pelting Mark, 2003 The Vulnerability of Cities: Natural Disaster and Social Resilience Earthscap publishers, London
- Reducing risk of disasters in our communities, Disaster theory, Tearfund, 2006.
- UNISDR, Natural Disasters and Sustainable Development: Understanding the links between Development, Environment and Natural Disasters, Background Paper No. 5. 2002. IFRC, 2005. World Disaster Report: Focus on Information in Disaster, pp.182-225.
- Publications of National Institute of Disaster Management (NIDM) and
- National Disaster Management Authority (NDMA)

INFORMATION AND COMMUNICATION TECHNOLOGY IN HEALTH EDUCATION

Theory Hours: 45hrs

Practical 15hrs

Total =60 hrs

Learning objectives

Upon successful completion of this subject, students should

1. To obtain the basic knowledge on computer, devices used in computers.
2. To know the uses of computers like MS office, Power point Presentations, Excel documents.
3. To know about uses of internet, its advantages in regular updating the knowledge in Occupational therapy profession.

SYLLABUS

Introduction

1. Introduction to computers-History of Computer, Generation of Computer, Classification of Computers, Input Devices, Output Devices, Central Processing Unit, Components of CPU, Memory Unit, Peripheral Devices
2. Introduction to M.S. Windows
3. Internet and its applications
4. MGUMST web forum & portal
5. Google Applications
6. Introduction to M.S. Office - Word, Power Point, Excel,
7. Publisher

The Digital Age

Computer and communications, the five operations of a computer-and communication system- input, processing, output, storage and communications as well as the corresponding categories of hardware, five major categories of computers, development I communication Technology.

Applications Software

Applications and systems software, ethics of copying software, four types of applications software, entertainment education and reference, productivity and business and specialized, key functions of word processors, spreadsheets, database managers, graphics programs and suites, group-ware, and internet web browsers.

Storage Devices

Units of storage capacity, primary and secondary storage, data compression, data storage on diskette, hard disks, optical disks, and magnetic tape and describe the purposes of storage media.

Communications

Usage of communications technology, telephone-related services, online information services, the internet

Multimedia

What is multimedia – Multimedia PC– Multimedia Hardware - Central processor – color display, Multimedia accessories – CD ROM – Digital Audio – Audio speakers
– Digital video– MIDI – deodisc Read/write storage device- Multimedia software

Radio propagation:

Use of computers in physical therapy – Application Packages used in statistical analysis.

Recommended books

1. Free T. Hotstetter, —Multimedia Literacy|| McGraw Hill,
2. Simon J. Gibbs, Dinoysios C. Tschritziz, —Multimedia programming||, Addison Wesley
3. John F.Koefgel Buford, —Multimedia Systems||, Addison Wesley
4. John Vince, —Virtual Reality Systems|| Addison Wesley.
5. AndressF.Molisch, —Wideband Wireless digital communication|| Pear Education Asia

EFFECTIVE ENGLISH

Theory Hours: 60 hrs

Total =60 hrs

Course Objective:

The objectives of this course is that after 40 hours of lectures, demonstrations and practicals the student will be able to Speak fluently, intelligibly and appropriately to teachers, Colleagues, Doctors, Patients and friends at the college, Hospital and hostel etc. about academic or (occupational) areas of interest. Course Outcome:

1. Students can gain knowledge about the various traditions writer and followed in English
2. Individuals can gain self – confidence in their own voice and speak out their opinions with confidence
3. Students will gain the ability to become a accomplished active readers
4. Helps to build the knowledge and understanding simultaneously through listening and give their point of view
5. Students will be able to write effectively in variety of professional and social setting
6. Acquire the ability to read and understand the literature and have the ability to identify the topics and formulate questions
7. Good communication skills which helps in easy rapport between the patient and therapist
8. Gain the fluency in speaking which helps in easy teaching method and presentation

UNIT – I INTRODUCTION

1. History of the language
2. Regional distribution
3. Variation in dialect and accent

UNIT – II PHONOLOGY

1. Consonants and vowels
2. Phontactics
3. Stress, rhythm and intonation
4. Regional variation

UNIT – III GRAMMER

1. Noun, Pronoun
2. Verb, Tense
3. Adjuncts
4. Adjectives

UNIT – IV SYNTAX

1. Clause syntax
2. Auxillary verbs
3. Vocabulary
4. Word formation
5. Pronunciation

UNIT – V PRESENTATION

1. Oral presentation & Panel discussion
2. Interview preparation

3. Clarity and specificity

Text Book:

1. O' Connor, I.D., Better English Pronunciation - Cambridge, Cambridge University.2009

Reference:

1. Water F.V.A , Proficiency Course in English – Hodder and Stronghton, London.1994
2. Tone Daniel, I.M. , English Pronouncing Dictionary –Dent and sons Ltd. London.2004

HEALTH CARE

Theory Hours: 50hrs

Total = 50 hrs

Introduction to Health

1. Definition of Health, Determinants of Health, Health Indicators of India, Health Team Concept.
2. National Health Policy
3. National Health Programmes (Briefly Objectives and scope) Population of India and Family welfare programme in India

Introduction to Nursing

1. What is Nursing? Nursing principles. Inter-Personnel relationships. Bandaging: Basic turns; Bandaging extremities; Triangular Bandages and their application.
2. Nursing Position, Bed making, prone, lateral, dorsal, dorsal re-cumbent, Fowler's positions, comfort measures, Aids and rest and sleep.
3. Lifting and Transporting Patients: Lifting patients up in the bed. Transferring from bed to wheel chair. Transferring from bed to stretcher.
4. Bed Side Management: Giving and taking Bed pan, Urinal: Observation of stools, urine. Observation of sputum, understand use and care of catheters, enema giving.
5. Methods of Giving Nourishment: Feeding, Tube feeding, drips, transfusion Care of Rubber Goods
6. Recording of body temperature, respiration and pulse, Simple aseptic technique, sterilization and disinfection. Surgical Dressing: Observation of dressing procedures

First Aid:

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

Reference Books:

1. Preventive and Social Medicine by J.Park
2. Text Book of P & SM by Park and Park
3. Counseling & Communicate skills for medical and health, Bayne- Orient Longman Pvt. Ltd.

Constitution of India

Theory Hours: 40hrs

Total = 40 hrs

Unit-I: Meaning of the term 'Constitution'. Making of the Indian Constitution 1946- 1950.

Unit-II: The democratic institutions created by the constitution Bicameral system of Legislature at the Centre and in the States.

Unit-III: Fundamental Rights and Duties their content and significance.

Unit – IV: Directive Principles of States Policies the need to balance Fundamental Rights with Directive Principles.

Unit – V: Special Rights created in the Constitution for: Dalits, Backwards, Women and Children and the Religious and Linguistic Minorities.

Unit-VI: Doctrine of Separation of Powers legislative, Executive and Judicial and their functioning in India.

Unit – VII: The Election Commission and State Public Service commissions.

Unit – VIII: Method of amending the Constitution.

Unit – IX: Enforcing rights through Writs:

Unit – X: Constitution and Sustainable Development in India.

Reference Books:

1. J. C. Johari: The Constitution of India- A Politico-Legal Study-Sterling Publication, Pvt. Ltd. New Delhi.
2. J. N. Pandey: Constitution Law of India, Allahbad, Central Law Agency, 1998.
3. Granville Austin: The Indian Constitution – Corner Stone of a Nation-Oxford, New Delhi, 2000.

BIostatISTICS & RESEARCH METHODOLOGY

Theory Hours: 100

Total: 100

Theory: 100 marks (University examination: 70, Internal Assessment: 30)

Course content:

I. Research Methodology:-

1. Stages of research process
2. Scales of measurement
3. Reliability and validity
4. Developing and defining a research question
5. Literature review
6. Data Collection
7. Informed consent
8. Research design:
 - A. Quantitative (epidemiological)
 - a. Experiment (clinical, field, community)
 - b. Observational
 - i. Cohort
 - ii. Case control
 - iii. Cross sectional study
 - iv. Ecological study
 - B. Qualitative Research Method (Sociological)
9. Ethical issues
10. Critical Appraisal of a research report

I. Biostatistics

1. Epidemiological measures of disease frequency
2. Graphical determination
3. Probability and Probability distribution (Binominal and normal)
4. Sampling and sampling techniques.
5. Type one and type two errors
6. Confidence interval
7. Tests of significance (for large sample and small sample)
 - T Test
 - Z Test
 - Chi square test
8. Non-parametric tests (where to use, sign test and Mann –Whitney U test)
9. Correlation and Regression
10. Hypothesis testing
11. Epi info

MODEL PAPER

B.Sc Yoga-I
Code

Anat. & Phys.-I

B.Sc. Yoga Therapy Part-I (Main) Examination Month Year

Paper - I **Anatomy and Physiology**

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book

Draw diagrams wherever necessary

Attempt all questions

- | | | |
|------------|--|---------------|
| Q.1 | List the organs of alimentary canal. Explain stomach in detail | 15 |
| Q.2 | Describe the various endocrine glands. Explain thyroid gland in detail | 15 |
| Q.3 | What is blood pressure? Describe effect of exercise on BP | 10 |
| Q.4 | List down functions of liver | 10 |
| Q.5 | Short Notes (any 4 out of 6) | 4x5=20 |
| | a) Muscle tissue | |
| | b) Abdominal Aorta | |
| | c) Lymph node | |
| | d) Menstrual cycle | |
| | e) Cardiac cycle | |
| | f) Mechanism of blood coagulation | |

MODEL PAPER

B.Sc Yoga-I
Code

Bioche.-II

B.Sc. Yoga Therapy Part-I (Main) Examination Month Year

Paper - II Bio Chemistry

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book

Draw diagrams wherever necessary

Attempt all questions

- | | | |
|------------|--|---------------|
| Q.1 | Define balanced diet. Discuss briefly about over nutrition | 15 |
| Q.2 | Write down source, function and deficiency of vitamin A | 15 |
| Q.3 | Discuss Urea Cycle | 10 |
| Q.4 | Classification of Enzyme | 10 |
| Q.5 | Short Notes (any 4 out of 6) | 4x5=20 |
| | a) Phospholipids | |
| | b) Kwashiorkar | |
| | c) Electrophoresis | |
| | d) RDA | |
| | e) Malnutrition | |
| | f) Essential Amino Acid | |

MODEL PAPER

B.Sc Yoga-I
Code

Bas. Prin. & Hist. of Yoga-III

B.Sc. Yoga Therapy
Part-I (Main) Examination Month Year

Paper - III
Basic Principle and History of Yoga

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book

Draw diagrams wherever necessary

Attempt all questions

Q.1	Describe eight Lims of Yoga	15
Q.2	Describe Philosophy of Yoga	15
Q.3	Describe Schools of Yoga	10
Q.4	Define Bhakti Yoga	10
Q.5	Short Notes (any 4 out of 6)	4x5=20
	a) Jal Neti	
	b) Kapalbhata	
	c) Tratak	
	d) Any Two Pranayam	
	e) Anulom & Vilom	
	f) Dhoti	

MODEL PAPER

B.Sc. Yoga-II
Code

Bas. Princ. & Hist. of Natphy.-IV

B.Sc. Yoga Therapy Part-II (Main) Examination Month Year

Paper - IV **Basic Principle and History of Naturopathy**

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book

Draw diagrams wherever necessary

Attempt all questions

Q.1	Define Ten Principal of Naturopathy	15
Q.2	Define Panchmahabudh	15
Q.3	Define Mud	10
Q.4	Define Hydrotherapy	10
Q.5	Short Notes (any 4 out of 6)	4x5=20
	a) Hip Bath	
	b) Foot and Arm Bath	
	c) Jal Neti	
	d) Biography of Mahatma Gandhi	
	e) Biography of Vinobha Bhave	
	f) Biography of Luekune	

MODEL PAPER

B.Sc. Yoga-II
Code

Yoga Lang. Sanskt.-V

B.Sc. Yoga Therapy
Part-II (Main) Examination Month Year

Paper - V
Yoga Language Sanskrit

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book

Draw diagrams wherever necessary

Attempt all questions

Q.1	Define Sandhi	15
Q.2	Describe Karak	15
Q.3	Describe Vibhakti	10
Q.4	Describe Vyanjan	10
Q.5	Short Notes (any 4 out of 6)	4x5=20
	a) Numbering 1 to 10 in Sanskrit	
	b) Numbering 11 to 20 in Sanskrit	
	c) Numbering 35 to 45 in Sanskrit	
	d) Numbering 70 to 80 in Sanskrit	
	e) Swar	
	f) Utpatti Sthan	

MODEL PAPER

B.Sc. Yoga-II
Code

Modr. Hum. Psych.-I

B.Sc. Yoga Therapy Part-II (Main) Examination Month Year

Paper - I **Modern Human Psychology**

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book

Draw diagrams wherever necessary

Attempt all questions

Q.1	Describe Behavioural psychology	15
Q.2	Describe Personality	15
Q.3	Define Mental Health	10
Q.4	Define yoga for personality Development	10
Q.5	Short Notes (any 4 out of 6)	4x5=20
	a) Stages of Sleep	
	b) Sleep Disorders	
	c) Contents of Dreams	
	d) Psychology Basis of Behaviour	
	e) Behaviour and Consciousness	
	f) Yog Nindra	

MODEL PAPER

B.Sc. Yoga-II
Code

Anct. Yoga Text Pt.-I-II

B.Sc. Yoga Therapy Part-III (Main) Examination Month Year

Paper - II **Ancient Yoga Text Part - I**

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book

Draw diagrams wherever necessary

Attempt all questions

Q.1	Define indriya Antahkaran	15
Q.2	Describe Nature of Soul	15
Q.3	Describe Panch prand	10
Q.4	Summary of Shiksha Valli	10
Q.5	Short Notes (any 4 out of 6)	4x5=20
	a) Vidya & Avidhya	
	b) Karam Nishtha	
	c) Purusharth	
	d) Panchkosh	
	e) Gyan Yog	
	f) Dharna & Dhyan	

MODEL PAPER

B.Sc. Yoga-II
Code

Chrothepey.-III

B.Sc. Yoga Therapy Part-II (Main) Examination Month Year

Paper - III Chromotherapy

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book

Draw diagrams wherever necessary

Attempt all questions

Q.1	Define Chakras	15
Q.2	Define History of Color Therapy	15
Q.3	Define Therapeutic effect of colors	10
Q.4	Define Advanced Color Therapy	10
Q.5	Short Notes (any 4 out of 6)	4x5=20
	a) Dr. Kuhne's Methods of Samvad	
	b) Dr. Rikli's Methods of Samvad	
	c) Hydro Color Therapy	
	d) Color Breathing	
	e) Cromo Charging of Water	
	f) Crystal Healing	

MODEL PAPER

B.Sc. Yoga-II
Code

Fast. Ther. & Diet. & Nutri.-IV

B.Sc. Yoga Therapy Part-II (Main) Examination Month Year

Paper - IV **Fasting Therapy and Dietetics & Nutrition**

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book

Draw diagrams wherever necessary

Attempt all questions

- | | | |
|------------|-------------------------------------|---------------|
| Q.1 | Define history of Fasting Therapy | 15 |
| Q.2 | Define Therapeutic Fasting | 15 |
| Q.3 | How to Fasting pure Disease | 10 |
| Q.4 | Define Food Groups? | 10 |
| Q.5 | Short Notes (any 4 out of 6) | 4x5=20 |
| | a) The Rational of Fasting | |
| | b) The length of fast | |
| | c) Classification of Fasting | |
| | d) Breaking the Fast | |
| | e) Living after the fast | |
| | f) BMR | |

MODEL PAPER

B.Sc. Yoga-II
Code

Massag. & Acpres.-V

B.Sc. Yoga Therapy Part-II (Main) Examination Month Year

Paper - V **Massage & Acupressure**

Time: Three Hours

Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book

Draw diagrams wherever necessary

Attempt all questions

Q.1	Define History of Massage	15
Q.2	Define rules and regulation of masseur	15
Q.3	Define moments of joints	10
Q.4	Define massage for abdominal	10
Q.5	Short Notes (any 4 out of 6)	4x5=20
	a) Define Principal of Osteopathy	
	b) What is Acupressure	
	c) Massage of Spine	
	d) Therapeutic usages of acupressure	
	e) Flexion abduction	
	f) Opposition	

MODEL PAPER

B.Sc. Yoga-III
Code

Anct. Yoga Text Pt.-II-II

B.Sc. Yoga Therapy Part-III (Main) Examination Month Year

Paper - I **Ancient Yoga Text Part - II**

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book

Draw diagrams wherever necessary

Attempt all questions

- | | | |
|------------|---|---------------|
| Q.1 | Describe Definition of Yoga? | 15 |
| Q.2 | Describe Chitta Vrittis | 15 |
| Q.3 | Define Division of Samadhi | 10 |
| Q.4 | Define of obstacle in the Path of samadhi | 10 |
| Q.5 | Short Notes (any 4 out of 6) | 4x5=20 |
| | a) Kriya Yog | |
| | b) Kalesh | |
| | c) Bahirang Yog | |
| | d) Anrang Yog | |
| | e) Dharna & Dhyan | |
| | f) Avidhya | |

MODEL PAPER

B.Sc. Yoga-III
Code

Hat. Yoga Text Pt.II-II

B.Sc. Yoga Therapy
Part-III (Main) Examination Month Year

Paper - II
Hatha Yoga Text Part - II

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book

Draw diagrams wherever necessary

Attempt all questions

Q.1	Define Bandhas	15
Q.2	Relation Between Hatha Yog & Raj Yog	15
Q.3	Define Mudras	10
Q.4	Define Pranh in detail	10
Q.5	Short Notes (any 4 out of 6)	4x5=20
	a) Yogic deep breathing	
	b) Types of Dharna	
	c) Types of Dhyan	
	d) Concept of Nada	
	e) Nadanusandhan in Hatha yog pradipika	
	f) Kriyas	

MODEL PAPER

B.Sc. Yoga-III
Code

Hydthy & Mud Therpy.-III

B.Sc. Yoga Therapy
Part-III (Main) Examination Month Year

Paper - III **Hydrotherapy and Mud Therapy**

Time: Three Hours

Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book

Draw diagrams wherever necessary

Attempt all questions

- | | | |
|------------|---|---------------|
| Q.1 | Define History of Hydrotherapy | 15 |
| Q.2 | Define Definition of Hydrotherapy | 15 |
| Q.3 | Define Physical Properties and chemical compositions of water | 10 |
| Q.4 | Define Importance of water to human body | 10 |
| Q.5 | Short Notes (any 4 out of 6) | 4x5=20 |
| | a) Types of Mud | |
| | b) Benefits of Mud | |
| | c) Introduction of Mud Therapy | |
| | d) Classification of Mud for Therapeutic use | |
| | e) Cosmetic uses of mud | |
| | f) Mud bath | |

MODEL PAPER

B.Sc. Yoga-III
Code

Theput. Yoga-IV

B.Sc. Yoga Therapy Part-III (Main) Examination Month Year

Paper - IV **Therapeutic Yoga**

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book

Draw diagrams wherever necessary

Attempt all questions

- | | | |
|------------|---|---------------|
| Q.1 | Define Yogik Practice of Asthma | 15 |
| Q.2 | Describe Ahar Vihar in detail | 15 |
| Q.3 | Define Yogik Management for respiratory | 10 |
| Q.4 | Define Neurological disorder | 10 |
| Q.5 | Short Notes (any 4 out of 6) | 4x5=20 |
| | a) Yogik Management for dysthymia | |
| | b) Niyam | |
| | c) Ante-natal care | |
| | d) ulcerative colitis | |
| | e) Neck pain | |
| | f) Anxiety disorder | |

MODEL PAPER

B.Sc. Yoga-III
Code

Physioth.-V

B.Sc. Yoga Therapy Part-III (Main) Examination Month Year

Paper - V **Physiotherapy**

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book

Draw diagrams wherever necessary

Attempt all questions

Q.1	Define Exercise therapy	15
Q.2	Define Classification of movements in detail	15
Q.3	Define Passive Movement	10
Q.4	Classification of Joint movements	10
Q.5	Short Notes (any 4 out of 6)	4x5=20
	a) Voluntary Movement	
	b) Involuntary Movement	
	c) Active Movement	
	d) Relaxation Techniques	
	e) Coordination Exercise	
	f) Neuro Muscular Facilitation Techniques	

MODEL PAPER

B.Sc. Yoga-III

Natphy & Heal. Manag.-VI

B.Sc. Yoga Therapy Part-III (Main) Examination Month Year

Paper - VI **Naturopathy & Health Management**

Time: Three Hours

Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book

Draw diagrams wherever necessary

Attempt all questions

- | | | |
|------------|--|---------------|
| Q.1 | Define Naturopathy management for Cardiovascular disorder | 15 |
| Q.2 | Define Naturopathy management for Gastrointestinal disorders | 15 |
| Q.3 | Define Naturopathy management for Blood related disorders | 10 |
| Q.4 | Define Naturopathy management for Respiratory Disorders | 10 |
| Q.5 | Short Notes (any 4 out of 6) | 4x5=20 |
| | a) Deviated Nasal Septum | |
| | b) Tonsillitis | |
| | c) Appendicitis | |
| | d) Uterine Fibroid | |
| | e) Hernia | |
| | f) Osteoarthritis | |