**IIMT COLLEGE OF MEDICAL SCIENCES**

**DEPARTMENT OF PHARMACY**

**IIMT UNIVERSITY MEERUT**

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**Evaluation Scheme & Syllabus**

**For**

**BACHELOR**

**OF NATURAOPATHY AND YOGIC SCIENCES**

**BNYS**

**(Effective from the Session: 2019-20)**

**IIMT UNIVERSITY**

**IIMT Nagar, ‘O’ Pocket, Ganga Nagar Colony, Mawana Road, Meerut (U.P.)**

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**Website: iimtu.com**

***SCHEME OF EXAMINATION:***

 BNYS (1ST Year) University Examination

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| ***S.NO.*** | ***SUBJECT CODE*** | ***SUBJECT*** | ***PERIODS*** | ***INTERNAL*** | ***EXTERNAL*** | ***TOTAL*** |
| ***L*** | ***T*** | ***P*** | ***CA*** | ***TA*** | ***Total*** | ***IP*** | ***ET*** | ***EP*** |
| *1* | *BNYS 101* | *ANATOMY-I PAPER* | *3* | *1* | *0* | *15* | *15* | *30* | *-* | *70* | *-* | *100* |
| *2* | *BNYS 102* | *ANATOMY – II PAPER* | *3* | *1* | *0* | *15* | *15* | *30* | *-* | *70* | *-* | *100* |
| *3* | *BNYS 103* | *PHYSIOLOGY-I PAPER* | *3* | *1* | *0* | *15* | *15* | *30* | *-* | *70* | *-* | *100* |
| *4* | *BNYS 104* | *PHYSIOLOGY-II PAPER* | *3* | *1* | *0* | *15* | *15* | *30* | *-* | *70* | *-* | *100* |
| *5* | *BNYS 105* | *BIOCHEMISTRY* | *3* | *1* | *0* | *15* | *15* | *30* | *-* | *70* | *-* | *100* |
| *6* | *BNYS 106* | *PHILOSOPHY OF NATURE CURE PAPER-I* | *3* | *1* | *0* | *15* | *15* | *30* | *-* | *70* | *-* | *100* |
| *7* | *BNYS 107* | *PHILOSOPHY OF NATURE CURE PAPER-II* | *3* | *1* | *0* | *15* | *15* | *30* | *-* | *70* | *-* | *100* |
| *8* | *BNYS 108* | *YOGA PRACTICE* | *3* | *1* | *0* | *7.5* | *7.5* |  *15* | *-* | *50* | *-* | *65* |
| *9* | *BNYS 109* | *ANATOMY PRACTICAL* | *-* | *-* | *1* | *-* | *-* | *-* | *40* | *-* | *60* | *100* |
| *10* | *BNYS 110* | *PHYSIOLOGY PRACTICAL* | *-* | *-* | *1* | *-* | *-* | *-* | *40* | *-* | *60* | *100* |
| *11* | *BNYS 111* | *BIOCHEMISTRY PRACTICAL* | *-* | *-* | *1* | *-* | *-* | *-* | *40* | *-* | *60* | *100* |
| *12* | *BNYS 112* | *PHILOSOPHY OF NATURE CARE PRACTICAL* | *-* | *-* | *1* | *-* | *-* | *-* | *40* | *-* | *60* |  *100* |
| *13* | *BNYS 113* | *YOGA PRACTICE PRACTICAL* | *-* | *-* | *1* | *-* | *-* | *-* | *15* |  | *20* | *35* |
| ***Grand Total*** | ***1200*** |
| *L- Lecture, T- tutorials, P- Practical (Labs), CT- Class Test (Sessionals), TA- Teacher’s Assessment (Assignments, Tutorials), IP- Internal Practical, ET- External Theory, EP- external Practical.* |

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| **ANATOMY- I (PAPER)** |
| **Course Code** **BNYS 101** | **THEORY COURSE(150 Hours)** | **L-T-P-C** | **3-1-0-4** |
|  | **Topic** | **Hours** |
| **Unit 1** | **GENERALANATOMY:**Introduction of Anatomy, Anatomical Terms, different branches of anatomy, Introduction of bones, its classification, functions, applied anatomy; Joints-types, actions, applied anatomy; cartilage-types, action, applied anatomy, basics of all the tissues and systems of the human body. | **21** |
| **Unit 2** | **OSTEOLOGY :( Bones of Skull & Upper limb)**Names of the bones and their positions; general features, Skull - all normal and interior of skull & mandible | **21** |
| **Unit 3** | **MUSCULAR SYSTEM :( Head & Neck and Upper Limb)**Origin, Insertion, Nerve Supply and Action of the muscles with the applied anatomy and Clinical testing. | **21** |
| **Unit 4** | **ARTHROLOGY**: (Head & Neck, Upper Limb)General features of different types of joints. Brief study of the following joints of the body withMovements. Shoulder, Elbow, Wrist and other smaller joints of Head & Neck, Upper Limb. | **21** |
| **Unit 5** | **HEAD, NECKAND BRAIN**Head and neck- introduction, scalp, face and lacrimal apparatus, sides of the neck, sub occipital triangle, contents of vertebral canal (brief), meningeal layer, cavernous sinuses and other sinuses in brief, hypophysis cerebri, trigeminal ganglion, middlemeningeal artery, contents of the orbit, triangles of the neck, ansa cervicalis, parotid gland, otic ganglion, submandibular gland, sublingual gland, thyroid gland, parathyroid gland, thymus, blood supply of deep structure, cervical ganglion, cervical plexus, styloid apparatus, oral cavity, palate, pharynx, auditory tube, nasal septum, paranasal sinuses, cartilage of larynx. Parts of nervous system, meninges, ventricles , motor and sensory pathways, cranial nerve, motor and sensory cortex and their blood supply with cross sectional studies in brief morphology of spinal cord.section of medulla - pyramidal decussation, sensory decussation, upper part of medulla, pons -mid level, midbrain-mid superior colliculus, inferior colliculus, cerebellum-horizontal- mid saggital section, horizontal section at interventicular formation, coronal section at anterior commissure, coronal section at mammillary body. sensory organs (regionwise )-gross anatomy of eyeball, ear, nose and tongue inbrief, blood brain barrier. | **21** |
| **Unit 6** | **UPPER LIMB**An introduction, breast, clavipectrol fascia, axilla, lumbar triangle, triangle of auscultation, bursa of upper limb, musculotendinous cuff, intermuscular spaces, cubital fossa, synovial sheath, retinaculum of hand, palmar aponeurosis, spaces of hand, anatomical snuffbox. | **21** |
| **Unit 7** | **MICRO ANATOMY - 12 General topics, 15 systemic topics (Separate list attached)**Study of microscopes and artifacts.General Histology, study of the basic tissues of the body, functional correlation of the structural components of the organs.Systemic histology of concerned organs. | **21** |

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| **ANATOMY- II (PAPER)** |
| **Course Code** **BNYS 102** | **THEORY COURSE(150 Hours)** | **L-T-P-C** | **3-1-0-4** |
|  | **Topic** | **Hours** |
| **Unit 1** | **THORAX****General Introduction**Pericardium, Thorax Wall, Position And Parts Of The Heart, Conducting System, Blood Supply And Nerve Supply Of The Heart, Names Of The Blood Vessels And Their Distribution In The Body, Lungs & Pleura-General Features, Surface Markings, Broncho Pulmonary Segments , Applied Anatomy , Mediastinum , Diaphragm, Oesophagus, Thoracic Duct | **25** |
| **Unit 2** | ABDOMEN AND PELVISPeritoneum- General disposition - horizontal and vertical , parts relation, blood supply, Nerve supply of abdominal organs. PELVIC ORGANS-Parts position, relation, blood supply, nerve supply. | **25** |
| **Unit 3** | LOWER LIMBDeep fascia-modifications, saphaneous veins, lymph nodes, adductor canal muscles-nerve supply, blood Supply, action, joints, arches of foot , joints of lower limb. | **25** |
| **Unit 4** | EMBRYOLOGY IN BRIEF:Definition of embryology , brief account of male and female, ovary; definition of gamete; sperm, ovum, gametogenesis, migration of primordial germ cells into gonadal ridge; structure of sperms growth of ovarian follicles, ovarian and uterine cycles.Principle of family planning (contraception),In-vitro fertilization (for integrated teaching). Systemic Embryology(Brief): Development of the individual organ of digestive system, genital system, urinary system, respiratory system, cardiovascular system, nervous system, special sensory organs (in brief) endocrine glands and mammary gland.Development abnormalities in Brief. | **25** |
| **Unit 5** | HISTOLOGY**General Histology**MicroscopeCellEpithelial Tissue IEpithelial Tissue IIConnective Tissue-Bones and CartilagesMuscular tissuesNerve tissues (TS & LS of peripheral nerve, sensory & sympathetic ganglion, optic nerve)Epithelial glands (serous, mucous and mixed salivary gland)Circulatory system (large artery, medium sized artery, larger vein)Lymphatic system (Lymph nodes, Thymus , Tonsils , spleen)Skin & Appendages.Placenta & Umbilical cord. | **25** |
| **Unit 6** | **Systemic Histology**Respiratory System.Oesophagus & Stomach.Liver , Gall bladder , Pancreas.Urinary System I (Kidney)Urinary system II (Ureter , Bladder , Urethra).Small & large IntestineReproductive system-FemaleReproductive System-MaleUpper GIT (Lip, tongue)Hypophysis cerebri, Thyroid and suprarenal glands.Eye - Cornea and Retina . | **25** |

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| **PHYSIOLOGY-I PAPER** |
| **Course Code** **BNYS 103** | **THEORY COURSE(150 Hours)** | **L-T-P-C** | **3-1-0-4** |
|  | **Topic** | **Hours** |
| **Unit 1** | **GENERAL PHYSIOLOGY**Cell structureSub-cellular unitsCell membranes and their propertiesTransport mechanismsBioelectrical potentialsBody fluids and homeostasis | **11** |
| **Unit 2** | BLOOD – Physical properties, composition and functions of blood.**Plasma proteins**Normal valuesOrigin and methods of separationFunctions and variations in health and disease.**Bone marrow**Formed elementsComposition and functions**Erythrocytes**Morphology and variations in health and diseasesDevelopment of erythrocytesSite and stages in developmentNecessary factorsRegulation of development of erythrocytesLife-span and fate of erythrocytesErythrocytes sedimentation rate (ESR)**Haemoglobin**Structure, synthesis, function and metabolismTypes of hemoglobin**Anaemia** – Definition and classification**Jaundice** – Definition and classificationRole and function of spleen**Leucocytes**Classification, morphology, development and functions Variation in health and disease**Thrombocytes**Origin, morphology and functionsVariation in health and disease**Haemostasis**Mechanism of haemostasis, coagulation of bloodFate of clot and disorders of clotting**Anticoagulants**Mechanism of action and clinical applications**Blood groups**ClassificationABO and RH systemBlood transfusion, indication and hazards**Lymph and tissue fluids**Lymph and reticular systemFluid compartments and Water BalancePrinciples of immune systemCellular and humoral immunity | **11** |
| **Unit 3** | CARDIO-VASCULAR SYSTEM**Historical perspective and organization of cardiovascular system****Heart –**Structure and properties of cardiac muscleCardiac metabolismEnervation of heart, junction tissue of heartRegeneration and spread of cardiac impulse**Electrocardiography**Enthovan's LawVarious ECG leads, normal ECG and its interpretationCardiac arrhythmias and heart blockCardiac vector**Cardiac cycle**Pressure and volume change (mechanical events)Heart sound and stethoscopyPrinciple of echo-cardiographyMeasurement and regulation of cardiac output**Heart sounds**Description, causation and relation to other events in cardiac cycleClinical significance of heart sounds**Blood pressure**Definition, regulation and factors influencing B.P.Measurement of blood pressurePhysiology of haemorrhage and shock**Circulation**Blood vesselsPhysical principle of blood flow, regulation of blood flowJugular venous pulse tracing, radial pulse tracingCoronary, cerebral, renal and pulmonary circulation Splanchnic, cutaneous and capillary circulation | **11** |
| **Unit 4** | **RESPIRATORY SYSTEM**Introduction, internal and external respiration, physiological anatomy of respiratory system.**Mechanics of respiration**Inspiration and expirationRole of respiratory muscles and thorasic cagePressure and volume change during respirationWork of breathing, lung compliance and its significance in health and diseases.**Lung volumes and capacities**Lung volumes and capacities and their measurementsRespiratory minute volume and maximum voluntary ventilation**Alveolar ventilation Composition of atmospheric, inspired, alveolar and expired air****Pulmonary circulation**Pulmonary circulation, ventilation-perfusion relationshipDiffusion of gases across pulmonary membraneOxygen uptake, transport and deliveryCarbon-dioxide uptake, transport and delivery**Organization of the respiratory center**sNervous and chemical regulation of respirationClassification and characterstics of hypoxia, cyanosis, sphyxia, hypercapnea, hypocapnea, dyspnoea, apnoea and orthopnea and periodic breathing.Respiratory aspects of high altitudePhysiology of acclamatisation and hyperbarrismRespiratory / pulmonary function testsNon-respiratory functions of lungsArtificial respiration | **11** |
| **Unit 5** | DIGESTIVE SYSTEMIntroduction, organization and plan of digestive system**Saliva**Composition, functions, regulation of secretionMethods of study of above aspects of saliva**Stomach**Functions of stomachComposition and functions of gastric juiceRegulation of secretion and mechanism of HCL secretionGastric emptying time and its regulationMethods of study of gastric function and its applied aspect.**Pancreas**Composition and functions of pancreatic juiceRegulation of pancreatic secretionMethods of study of pancreatic secretion**Liver**Function, formation, storage and emptying of bileComposition, function and regulation of release of bileEntero-hepatic circulationTests for liver functions**Small intestine**Succus entericusComposition, function and mechanism of secretions**Large intestine**Functions**Gastro-intestinal Hormones**Release and functions**Gastro-intestinal movements**Mastication, deglutition and vomitingMovements of stomach and small intestinesMovements of large intestine and defecationRegulation of movements and methods of studyDigestion and adsorption of carbohydrates, fats, proteins and vitamins, minerals and water | **11** |
| **Unit 6** | EXCRETORY SYSTEMGeneral introduction organs of excretion with special emphasis on evolution of excretory mechanismsRenal system-functional anatomy and renal circulation**Nephron**Mechanism of urine formation, glomerular filtration, tubular functionConcentration and acidification of urineComposition of normal urine, and abnormal constituents of urineRenal function tests**Non-excretory functions of kidney**Physiology of micturition and its abnormalities Skin-Structure and functions | **11** |
| **Unit 7** | ENDOCRINAL SYSTEMIntroduction-hormones, evolutionary back-ground and organization of endocrine control systems**Methods of study**Classification of hormones and mechanism of hormonal actionRegulation of hormone secretion and feed-back system**Hypothalamo**- hypophyseal system Releasing hormones**Active principles**Chemical nature, biosynthesis, role of actionControl of secretion , excretion and its aspect.Clinical study of their hypo-and hyper function Laboratory diagnosis of pituitary (anterior and posterior) gland, thyroid, parathyroid, adrenal cortex and medulla and islets of langerhans. | **11** |
| **Unit 8** | REPRODUCTIVE SYSTEM**Physiology of reproduction**Introduction to physiology of reproductionSex determination and sex differentiation and chromosomal study**Male reproductive system**Growth, development and structure of testesGonadotropins and gonadal hormonesFunctions of testes and spermatogenesisComposition of semen**Female reproductive system**Ovary, gonadotropinsStructure of ovary and corpus luteumFunction of ovary, ovarian hormonesPhysiology of menstruation cycle and physiology of pregnancyPhysiology of placenta, gestation and parturitionPhysiological basic of tests for ovulation and pregnancy**Physiology of lactation** | **11** |
| **Unit 9** | **NERVE MUSCLE PHYSIOLOGY****Neurons**Morphology and measures of excitabilityClassification and properties of nerve fibers**Muscle**Types of muscles and their properties and morphologyNeuro-muscular junction, excitation-contraction couplingMyasthenia gravisStarlings law and its applications | **11** |
| **Unit 10** | CENTRAL NERVOUS SYSTEMStructural and functional organization of central nervous system**Neuron**Neuroglia, functional types of neurons**Cerebro-spinal fluid**Formation, circulation, functions of CSFMethods of collection and clinical significance of CSF**Synapse**Types of synapses and their structureSympathetic transmissionGeneral properties of neuro-transmitters**Sensory Physiology**Classification and general properties of receptorsSensory modalities and stereognosis**Reflexes**Reflex and general properties of reflexes (with examples)**Ascending tracts**Origin, course, termination and functionsSpecific reference to pain pathway and physiology of pain**Organisaton of motor systems**Pyramidal and extra-pyramidal systemUpper and lower motor neurones and their lesionsBrown-sequard syndromeSyringomyelia**Cerebellum**Functional anatomy, connections and functionsEffects of lesions and tests for cerebellar function**Basal ganglion**Functional anatomy, connections and functionsDiseases of basal ganglion and its clinical evaluation**Vestibular apparatus**Functions anatomy, connections and functionsEffects of lesions and their assessmentPhysiology of maintenance and regulation of muscle tone, posture and equilibriumDecerebrated rigidity and righting reflexes**Thalamus**Functional anatomy, connections and functionsEffects of lesions of thalamus**Hypothalamus**Functional anatomy, connections and functionsEffects of lesions of hypothalamus**Body temperature regulation**Normal body temperature, pyrexia and hypothermia | **11** |
| **Unit 11** | **Cerebral cortex**Functional anatomyMethods of study of cortical functions**Limbic system**Functional anatomy, connections and functionsEEG, Physiology of sleep and wakefulness**Higher functions**Learning, speech, memory, behaviour and emotions | **11** |
| **Unit 12** | AUTONOMIC NERVOUS SYSTEMSympathetic nervous systemParasympathetic nervous system | **11** |
| **Unit 13** | SPECIAL SENSE**Smell**Physiology of olfaction and olfactory descriminationOlfactory pathway and defects of olfaction**Receptors**, primary taste sensation and taste pathway**Vision**Functional anatomy of eye, extra and intra-occular musclesErrors of refraction and their correction, visual acuityPhysiology of aqueous humourCornea, lens, intraoccular pressure, accommodationRetina, rhodopsin cycle, dark and light adaptationVisual pathway and effects of lesions in visual pathwaysField of vision, perimetry, binocular visionIris and papillary reflexesColour vision, colour blindness and tests for colour blindnessFormation and circulation of tears, lacrimal glands**Hearing**Functional anatomy of ear, function of external earPhysiological functions of middle earImpedence matching and tympanic reflexFunctional anatomy of internal ear, cochlea, organ of cortiAuditory pathway and auditory cortexFrequency analysis, sound localization, defects of hearingAudiometry, tests for conduction defects, Aphasia | **11** |

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| **PHYSIOLOGY-II PAPER** |
| **Course Code** **BNYS 104** | **THEORY COURSE(150 Hours)** | **L-T-P-C** | **3-1-0-4** |
|  | **Topic** | **Hours** |
| **Unit 1** | **NERVE MUSCLE PHYSIOLOGY****Neurons**Morphology and measures of excitabilityClassification and properties of nerve fibers**Muscle**Types of muscles and their properties and morphologyNeuro-muscular junction, excitation-contraction couplingMyasthenia gravisStarlings law and its applications | **12** |
| **Unit 2** | CENTRAL NERVOUS SYSTEMStructural and functional organization of central nervous system**Neuron**Neuroglia, functional types of neurons**Cerebro-spinal fluid**Formation, circulation, functions of CSFMethods of collection and clinical significance of CSF**Synapse**Types of synapses and their structureSympathetic transmissionGeneral properties of neuro-transmitters**Sensory Physiology**Classification and general properties of receptorsSensory modalities and stereognosis**Reflexes**Reflex and general properties of reflexes (with examples)**Ascending tracts**Origin, course, termination and functionsSpecific reference to pain pathway and physiology of pain**Organisaton of motor systems**Pyramidal and extra-pyramidal systemUpper and lower motor neurones and their lesionsBrown-sequard syndromeSyringomyelia**Cerebellum**Functional anatomy, connections and functionsEffects of lesions and tests for cerebellar function**Basal ganglion**Functional anatomy, connections and functionsDiseases of basal ganglion and its clinical evaluation**Vestibular apparatus**Functions anatomy, connections and functionsEffects of lesions and their assessmentPhysiology of maintenance and regulation of muscle tone, posture and equilibriumDecerebrated rigidity and righting reflexes**Thalamus**Functional anatomy, connections and functionsEffects of lesions of thalamus**Hypothalamus**Functional anatomy, connections and functionsEffects of lesions of hypothalamus**Body temperature regulation**Normal body temperature, pyrexia and hypothermia | **12** |
| **Unit 3** | **Cerebral cortex**Functional anatomyMethods of study of cortical functions**Limbic system**Functional anatomy, connections and functionsEEG, Physiology of sleep and wakefulness**Higher functions**Learning, speech, memory, behaviour and emotions | **20** |
| **Unit 4** | AUTONOMIC NERVOUS SYSTEMSympathetic nervous systemParasympathetic nervous system | **10** |
| **Unit 5** | SPECIAL SENSE**Smell**Physiology of olfaction and olfactory descriminationOlfactory pathway and defects of olfaction**Receptors**, primary taste sensation and taste pathway**Vision**Functional anatomy of eye, extra and intra-occular musclesErrors of refraction and their correction, visual acuityPhysiology of aqueous humourCornea, lens, intraoccular pressure, accommodationRetina, rhodopsin cycle, dark and light adaptationVisual pathway and effects of lesions in visual pathwaysField of vision, perimetry, binocular visionIris and papillary reflexesColour vision, colour blindness and tests for colour blindnessFormation and circulation of tears, lacrimal glands**Hearing**Functional anatomy of ear, function of external earPhysiological functions of middle earImpedence matching and tympanic reflexFunctional anatomy of internal ear, cochlea, organ of cortiAuditory pathway and auditory cortexFrequency analysis, sound localization, defects of hearingAudiometry, tests for conduction defects, Aphasia | **10** |

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| **BIOCHEMISTRY** |
| **Course Code** **BNYS 105** | **THEORY COURSE(70 Hours)** | **L-T-P-C** | **3-1-0-4** |
|  | **Topic** | **Hours** |
| **Unit 1** | Introduction and Prospects | **3** |
| **Unit 2** | Hydrogen ion concentration, acids, bases, buffers, Hendarson - Haselbasch Equation. | **3** |
| **Unit 3** | Principles of calorimetry, Paper chromatography and Electrophoresis | **3** |
| **Unit 4** | Amino Acids - Classification, structure, properties and side chains of amino acids. | **3** |
| **Unit 5** | Peptides - Biological importance of peptides structure of Insulin. | **3** |
| **Unit 6** | Proteins - Definition, Biological importance, classification and properties, structure of proteins, coagulation and denaturation of proteins, | **3** |
| **Unit 7** | Elementary aspects of the structure of collagen, Myoglobin and Hemoglobin. | **3** |
| **Unit 8** | Enzymes - Definition, classification, specificity, coenzymes, co-factors and activators diagnostic importance of enzymes and iso-enzymes. | **3** |
| **Unit 9** | Carbohydrates - Definition, classification and biological importance of Monosaccharides-classfication, properties and stereoisomerism, oligosaccharides-importance of Disaccharides. | **3** |
| **Unit 9** | Polysaccharides - Functions. | **3** |
| **Unit 10** | Lipids - Definition, classification and biological importance.Simple lipids: Composition of triglycerol, Waxes.Compound lipids: Functions of fatty acids - Properties of saturated and unsaturated fatty acids. | **3** |
| **Unit 11** | Nucleic acids - Definition, classification, composition and biological importance of nucleic acids, purines and pyrimidine bases.’Structure of DNAStructure, function and types of RNA. | **3** |
| **Unit 12** | Vitamins -Definition and classification.Brief account of source, biochemical function deficiency diseases. Vitamin antagonistHypervitaminosis | **3** |
| **Unit 13** | Minerals - Calcium, Phosphorous, iron, copper, zinc, magnesium, manganese, lead, mercury arsenic and metal toxicity fluorine and iodine. | **3** |
| **Unit 14** | **Cell and subcellular structures :**Cell membrane, its composition, function of subcellular structures, transport across cell membrane, Active and facilitated diffusion. | **3** |
| **Unit 15** | Metabolism - Digestion and absorption of carbohydrates, lipids, proteins and nucleic acids | **3** |
| **Unit 16** | Carbohydrate Metabolism - Glycogenesis, glycogenolysis and kreb’s cycle, glycolysis, pyruvate oxidation citric acid cycle, Gluconeogenesis, Metabolism of Fructose and Galactose, regulation of metabolic pathways, disorders of carbohydrate metabolism, regulation of blood sugar, glucose tolerance test, diabetes mellitus | **3** |
| **Unit 17** | Biological oxidation - Oxidative phosphorylation. | **3** |
| **Unit 18** | Lipid Metabolism -Lipogenesis, synthesis of fatty acids, de-saturation, Phospholipids, Bio-synthesis of lecithine, Cephalin and utilisation of Ketone bodies, Ketosis, synthesis and utilisation of ketone bodies, Ketosis,synthesis and breakdown of cholesterol, disorders of lipid metabolism, outlines and formation and functions of prostaglandins and leucotrienes, fatty liver and lipotropic factors. | **3** |
| **Unit 19** | Metabolism of proteins and amino acids - Breakdown of tissue proteins, amino acids pool, general metabolism of amino acids, disposal of ammonia, urea cycle formation of glutamate and glutamine,disorders of amino acid metabolism. | **3** |
| **Unit 20** | Purine and Pyrimidine metabolism-Outline of synthesis and breakdown of purine and pyrimidine, Disorders of metabolism of purine and pyrimidine | **3** |
| **Unit 21** | Biochemical genetics and protein synthesis - Replication, transcription, reverse transcription viruses, oncogenes, post transcription modification. | **3** |
| **Unit 22** | Biochemistry of blood - Outline of synthesis and degradation of heme, Function of Haemoglobin, abnormal haemoglobin, Jaundice , importance , functions and separation of plasma proteins, Functions of immunoglobulins , regulation of PH of blood, role of kidney and lungs in maintaining PH of blood, acidosis and Alkalosis | **3** |
| **Unit 23** | Liver function - Liver Function tests, Detoxification mechanisms | **3** |
| **Unit 24** | Kidney Function Tests - Composition of Urine, Urea clearance and creatinine clearance. | **3** |
| **Unit 25** | Energy metabolism (BMR) - Basal metabolic rate and its importance, calorific values of blood, unbalanced diet, protein energy malnutrition (PEM) , Essential fatty acids , dietary habits and diseases, biochemistry of starvation. | **3** |
| **Unit 26** | Electrolytes and water metabolism. | **3** |

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| **PHILOSOPHY OF NATURE CURE –I (Paper)** |
| **Course Code** **BNYS 106** | **THEORY COURSE(90 Hours)** | **L-T-P-C** | **3-1-0-4** |
|  | **Topic** | **Hours** |
| **Unit 1** | The evolution of the human body. | **3** |
| **Unit 2** | Philosophy of the body , mind , soul , life , spirit and spiritual body | **3** |
| **Unit 3** |  Composition of the human body, according to Ayurveda, Naturopathy, Yoga, Modern Medicine & Homeopathy.History and Fundamental (Basic) principles of Naturopathy | **3** |
| **Unit 4** | Comparative study of the Naturopathy with other systems of Medicine. | **3** |
| **Unit 5** | Ayurvedic Approach Towards Naturopathy | **3** |
| **Unit 6** | **Philosophy of Indian Naturopaths** a.Vegiraj Krishnamraju b. Vinoba Bhave.c. Mahatma Gandhi. d. Dr. S. J. Singh e. Dr. J.M. Jussawala f. Dr. Vittal Das Modi1. Dr. B. Venkat Rao h.Dr. Dinsha K. Mehta

i. Dr. Kulranjan Mukherjee j. Dr. Bhojraj Chhabariak. Sant Hirdaram Sahibji l. Dr. Laxmi Narayan Choudharym. Dr. Hira Lal n. Dr. K. Laxman Sharmao. Dr. Janaki Sharan Verma p. Dr. Ganga Prasad Goud ‘Nahar’q. Dr. Sharan Prasad r. Dr. Khushiram Dilkashs. Seth Dharamchand Saravagi t. Sukhbir Singh ‘Ravat’u. Krishna Swaroop ‘Shrotriya’ v. Sohanlal Nishkam Karmyogiw. Dr.Keki R.Sidhwa x. Dr.M.M. Bhamgara y. Jai Narayan Jaiswal z. Dr. Moolraj Anand | **3** |
| **Unit 7** | **Philosophy of Foreign Naturopaths.*** 1. Aesculapius b. Hippocrates

c. The School of Salerno. d. Paracelsuse. Vincent Priessnitz. f. Sebastian Kneipp.g. Arnold Rickli. h. Louis Kuhne.i. Adolf Just. j. John H. Tilden.k. Sigmund Freud. I. Henry Lindlahr.m. Bernarr Macfadden n. Bernard Jensono. Arnold Ehret p. Edwin Babbitq. Herbert M. Shelton r. J.H. Kellog M.D.s. Benedict Lust t. Dr. Dean Ornishu. Dr. Paavo Airola v. Dr. Paul C. Braggw. Dr. Hereward Carrington x. Aterhovy. John Wesley z. Sylvester Grahamaa. Dr. Max Gerson M.D. ab. Dr. Harry Benjaminac. Edward Hook Dewey ad. Issac Jenning M.D. ae. Dr. Stanley Lief af. Silas Weir Mitchell ag. Dr. R.T.Trall M.D. | **3** |
| **Unit 8** | **Laws of Nature:**Pancha Maha Bhutas.Shareera Dharmas - Ahara, Nidra, Bhaya, Maithuna.Inflammation and its different stages.Natural rejuvenations.Violations of Laws of Nature resulting in diseases**Dictum of Cure** **i)** Remove the root cause **ii)** Eliminate the toxin **iii)** Supplement of the vital Nutrients **iv)** Conservation of the vital energy or nerve energy. | **3** |
| **Unit 9** | Catechism of Nature Cure | **3** |
| **Unit 10** | **Swasthya Vritam :-**a.Dinacharya. b. Ratricharya.c. Ritucharya. d. Vegadharanam | **3** |
| **Unit 11** | Unity of disease, unity of cure and way of treatment. | **3** |
| **Unit 12** | How Nature Cures ? | **3** |
| **Unit 13** | Foreign matter and Toxins accumulation in the body and its importance in elimination through different ways of channels. (Toxemia / Foreign Matter Theory) | **3** |
| **Unit 14** | How to acquire Natural immunity in diseases. | **3** |
| **Unit 15** | Difference between functional and organic diseases. | **3** |
| **Unit 16** | **Materia Hygienica-**Importance of Physical & Mental HygieneRevolution & Evolution of HygieneHygiene not a cureHygienic care of the sickApplications of HygieneMedicine & the Hygiene contrastedWomen & HygieneHygienistsFuture of Hygiene | **3** |
| **Unit 17** | **The Philosophy of Life:-**The Primordial Requisites of Life (Basic Needs of Living)The Laws of life.Mystery of lifeLife’s EngineeringSafeguards of life.How long can we live ( Increase of average length of life), Are You Shortening Your Life? Why Live Long? | **3** |
| **Unit 18** | **The Philosophy of Health**Health StandardsHealth & its ConditionsAncient Man Was Healthier Than We Are.Positive HabitsVital EconomyDivine science of Health.Nine Doctors at your Command.Health Destroyer (Tea, Coffee, Salt, Sugar, Tobacco Chewing, Smoking, Alcohol, Non-Veg(Animal Food), Excess Fat & Oil, Negative Thinking & attitude etc.)The Secret of Health - Storing Energy & Enzymes Internal SymbiosisYour Body: Do- it Yourself Repair Shop | **3** |
| **Unit 19** | **Body’s Protective Mechanism**Digestion: First Line of Defense Against Disease.The Liver: Second Line of Defense Against Disease.The Endocrine Glands: Third Line of Defense Against Disease. | **3** |
| **Unit 20** |  Super Nutrition from Sprouts.Food is The Magic Healer.Let Food Be Your Medicine - Body As A Self Healer | **3** |
| **Unit 21** |  Wheat Grass MiraclesThe Hippocrates DietSalt EatingStimulant Delusion | **3** |
| **Unit 22** | **Preventive Medicine:-**Prevention of DiseasePrevention of Epidemics | **3** |
| **Unit 23** | **Natural Ways of Care:-**Keeping Your Body Clean:-(Colon,Liver, Lungs, Kidneys & Skin).Care of the Colon, Teeth, Eyes, Ears, Hairs, Feet & Skin.Care of the Glands & Emotional ControlCare of the Orifices of the Body. | **3** |
| **Unit 24** | **The Philosophy of Disease in Nature Cure:-**The Essential Nature of DiseaseThe Occasions for DiseaseThe Suppression of DiseaseIs Disease Friend or Foe?The Rationale of FeverDisease has Many FacesYou under the Doctor’s EyeFallacy of DiagnosisIatrogenic DiseasesPhysiological Compensation. | **3** |
| **Unit 25** | **The Cure Core In Nature Cure:-**Living Matter Cures Itself.Reform Vs. CureThe Delusion of CureTo Cure The Incurable.Rest Cure | **3** |
| **Unit 26** | **The Hidden Truth about Drugs:-**Biodynamics Vs. PharmacodynamicsEvils of Drug MedicationDrug IndulgencesFallacy of PharmacologyFallacy of CureDrug cannot Heal You.Suppression Vs. EliminationDruglessness | **3** |
| **Unit 27** | **The Science of Recovery:-**Convalescene- Gradual Recovery of VigorConditions of Recovery & Time factor in Recovery.The Tragedy of Irreversibility. | **3** |
| **Unit 28** | The New Human Redumption | **3** |
| **Unit 29** | Toxic Acid Crystals Cement your Body | **3** |
| **Unit 30** | **Philosophy of Death:-**Life & DeathWhy Death, The Biological WayHow to Prolong Life & Postpone deathThe Causes of DeathThe Signs Of Old AgePhenomena of DeathThe Fear of Death | **3** |

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| **PHILOSOPHY OF NATURE CURE –II (Paper)** |
| **Course Code** **BNYS 107** | **THEORY COURSE(90 Hours)** | **L-T-P-C** | **3-1-0-4** |
|  | **Topic** | **Hours** |
| **Unit 1** | Properties of Water, Mud, Air and Sunlight. | **5** |
| **Unit 2** | Health is positive and disease is Negative. | **5** |
| **Unit 3** | Basic concepts in Nutrition and balanced diet. | **5** |
| **Unit 4** | Role of diet in nature cure and yoga(Satvic, Tamsic, Rajsic) | **5** |
| **Unit 5** | Outlines on a) Regular Habits for health b) Rest and Relaxation c) Live Food- Natural Raw dietd) Fasting e) Exercises | **5** |
| **Unit 6** | Fundamentals of Ayurveda | **5** |
| **Unit 7** | Fundamental of Siddha | **5** |
| **Unit 8** | Fundamentals of Homeopathy | **5** |
| **Unit 9** | Fundamentals of Unani | **5** |
| **Unit 10** | Fundamentals of Allopathy | **5** |
| **Unit 11** | **The Diagnostic Procedures in Naturopathy & their Diagnostic Values :-**Facial Diagnosis- The Science Of Facial ExpressionIridiagnosisChromo-DiagnosisSpinal Analysis | **5** |
| **Unit 12** | Arogya-Rakshaka Panchatantras and Their Importance In Restoration , Maintenance Of Health And Prevention Of Diseases. | **5** |
| **Unit 13** | **Treatment Modalities in Nature Cure (in brief) :-**Enema - Colon FlushingColon HydrotherapyHydrotherapy:-i)Hip Bath ii) Spinal Bath iii) Spinal Sprayiv) Foot Bath v) Arm Bath vi) Contrast Arm & Foot Bathvii) Steam Bath viii) Sauna Bath ix) Packsx) Full Wet Sheet Pack xi) Jacuzzi xii) Sitz Bathxiii) Full Immersion Bath xiv) Under Water Massage xv) Douchesxvi) Cold Circular Jet Bath xvii) Whirlpool Bath xviii) Gastro Hepatic Packxix) Kidney Pack xx) Oxygen BathMud Therapy:-i)Mud Packs ii) Mud BathChromotherapy:- Colour Treatmenti)Heat, Light, Ultra-violet and Infra red raysii)ChromothermoliumHeliotherapy-i)Sun Bath ii) Athapa-Snana(Banana Leaf Bath)Air-therapyi)Air Bath ii) Ozone BathMagnetotherapyMassage TherapyAroma TherapyChiropracticeOsteopathyPhysiotherapyNutrition & Dietetics. | **5** |
| **Unit 14** | Crises and their Management. | **5** |
| **Unit 15** | Sleep - Repose | **4** |
| **Unit 16** | Toxins and anti-toxins, their generation & mitigation in nature cure way. | **4** |
| **Unit 17** | Vaccinations and inoculation, their ill effects on the human mind and body | **4** |
| **Unit 18** | Old age problems and natural rejuvenation. | **4** |
| **Unit 19** | Family planning by Natural therapeutics | **4** |

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| **YOGA PRACTICES** |
| **Course Code** **BNYS 108** | **THEORY COURSE(100 Hours)** | **L-T-P-C** | **3-1-0-4** |
|  | **Topic** | **Hours** |
| **Unit 1** | Different definition of yoga, its philosophy & origin | **20** |
| **Unit 2** | **Fundamental outlines of Astanga Yoga.*** 1. Yama b) Niyama
1. Asanas : Shirshasana, Vajrasana, Supta Vajrasana Paschimottanasana, Baddha Padmasana, Trikonasana , Ardhakati and Kati Chakrasana, Padahastasana, shavasana,
2. Pranayama-Suryabhedana, Ujjayi, Bhastrika, Sheetkari, Sheetali, Bhramari, Murcha, Plavini.

e) Prathyahara f) Dharana g) Dhyana h) Samadhi | **25** |
| **Unit 3** | Kriyas1. Neti Jal, Sutra, Ghrita
2. Dhouti Vamana , Vastra, Danda
3. Nauli Madhya , Dakshina & Vama
4. Trataka Bindu, Jyoti
5. Kapalabhati
 | **25** |
| **Unit 4** | Rules & regulations to be followed for practising asanas, difference between exercise and asanas. | **10** |
| **Unit 5** | The life sketches, philosophy of Socrates, Plato, Aristotle, Adisankaracharya, Ramanujan, Maharshi Dayananda Saraswati, Ramakrishna Paramahansa, Swami Vivekananda, Swami Kuvalyanada, Ramana Maharshi, A.C. Bhakti vedanta Prabhupada, Jiddu Krishna Murthy, Shirdi Saibaba, Buddha, Mahavir, Shri Aurabindo, Sant Hirdaram Sahibji, Swami Lilashah, Sant Kanwarram | **20** |

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| **ANATOMY** |
| **Course Code BNYS 109P** | **PRACTICAL (60 hours)** | **L-T-P-C** | **0-0-1-4** |
| Course Contents |
| **Objective** |  |
| **Experiment – 1** | **Upper Limb:** Dissection: Pectoral, scapular, shoulder, arm, forearm (5 wks)Prosected Parts: Joints, Palm and dorsum of hand. |
| **Experiment – 2** | **Thorax:** Disssection: chest wall, Mediastinum, Lungs and heart. |
| **Experiment – 3** | **Abdomen:** Dissection: anterior abdominal wall and inguinal region, viscera and posterior abdominal wall |
| **Experiment – 4** | **Pelvis:** Dissection: Pelvic viscera and blood vessels and nerve saggital section (M & F) (2 Wks) Prosected Parts: Sole of the foot and joints. |
| **Experiment – 5** | **Head and Neck:**Dissection: scalp, superficial and dissection of face and neck (8 wks to 10 wks).Prosected Parts: Orbit, eyeball, submandibular region, Temporal and infra Temporal fossa, cranial cavity, naso and oropharyngeal regions, Ear, larynx and pharynx. Cross sections at C-4,C-6 levels. sagittal section of Head and Neck. |
| **Experiment – 6** | **Nervous system:** Section of brain and prosected specimens and major functional areas, Grossstructure of brain and spinal cord and study of gross sections as mentioned earlier (in brief). |
| **Experiment – 7** | **DEMONSTRATIONS:**Bones-as described in osteology sectionBrain and Spinal cord. |
| **Experiment – 8** | **SPECIFIC SKILLS: Students should learn the following skills**To localize important pulsations and the structure against which pressure can be applied in case of bleeding & Trauma of particular artery.To elicit superficial and deep reflexes.To demonstrate muscle testing and movements at joints.To locate for: Lumbar puncture , sternal puncture , pericardial tapping , and liver biopsy.To locate veins for venous puncture.To locate the site for emergency such as tracheotomy. |
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|  **Books Recommended** | Text book of anatomy (Vol-I,**II, III) -** by B.D.ChaurasiaText book of anatomy - by HamiltonPractical Anatomy - by CunninghamHuman Embryology- by Inderbir SinghCannigham's Text book of Anatomy - by CunninghamBalley's text book of Histology - by BalleyMedical Embryology - by LangmanText book of Anatomy by GrayAtlas of Histology - by DiforieAtlas of Histology- by PoddarText book of Human Histology - by Dr. Veena BharihokeA Color Atlas of Human Anatomy- by McminnGrant's Method of Anatomy- by GrantRegional & Applied Anatomy- by R.J. Last |

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| **PHYSIOLOGY** |
| **Course Code BNYS 110P** | **PRACTICAL (60 hours)** | **L-T-P-C** | **0-0-1-4** |
| Course Contents |
| **Objective** |  |
| **Experiment – 1** | **HAEMATOLOGY EXPERIMENTS*** Collection of blood, study of fresh drop of blood, effects of isotonic, hyper tonic and hypo tonic saline on RBCs
* Enumeration of RBCs (RBS count)
* Estimation of haemoglobin
* Packed cell volume (PCV) and blood indices
* Determination of Erythrocyte sedimentation rate (ESR)
* Enumeration of WBC (Total count)
* Differential WBC count (Differential count)
* Determination of clotting time and bleeding time
* Enumeration of platelets (Platelet count)
 |
| **Experiment – 2** | HUMAN PHYSIOLOGY EXPERIMENTS* Recording of blood pressure in human beings and study the effects of exercise on blood pressure
* Electrocardiography (Demonstrations)
* Clinical examination of CVS and radial pulse
* Determination of tidal volume, inspiratory reserve volume, expiratory reserve volume, inspiratory capacity, expiratory volume
* (All experiments are to be arranged for demonstration)
* Stethoscopy, normal body temperature and its physiological variation
* Pulse, respiration and temperature chart with correlation
* Clinical examination of respiratory system
* Plethysmography (Demonstration)
* Clinical examination of CNS
	+ Motor functions
	+ Sensory functions
	+ Cranial nerves
	+ Reflexes superficial and deep
* Determination of vital capacity and maximum ventilator volume with spirometry (Demonstration)
 |
| **Books Recommended** | Text book of Medical physiology by A.C. GuytonReview of Medical physiology by W.F. GanongConcise text book of Medical physiology - S.K. ChoudharyUnderstanding Medical physiology - by Bijlani Essentials of Medical Physiology - by SembulingamBest and Taylor's physiology basis of Medical practicePractical physiology by GhaiPractical physiology by Ranade |

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| **Biochemistry** |
| **Course Code BNYS 111P** | **PRACTICAL (60 hours)** | **L-T-P-C** | **0-0-1-4** |
| Course Contents |
| **Section - I** |
| **Experiment – 1** | Indicators |
| **Experiment – 2** | Reactions of monosaccharides - Glucose and fructose |
| **Experiment – 1** | Reactions of disaccharides - Lactose, Maltose and Sucrose |
| **Experiment – 2** | Reactions of polysaccharides - Starch and dextrin |
| **Experiment – 1** | Reactions of Proteins - albumin, casein, gelatin |
| **Experiment – 2** | Coagulation and Precipitation and reactions of Proteins. |
| **Experiment – 1** | Reactions of Non Protein Nitrogen ( NPN) - Urea, Uric acid and creatinine. |
| **Experiment – 2** | Analysis of Milk |
| **Experiment – 1** | Normal Constituents of urine |
| **Experiment – 2** | Analysis of abnormal urine |
| **Section - II** |
| **Experiment – 2** | Determination ofBlood SugarBlood ureaTotal serum proteinTotal serum calciumTotal serum cholesterolTotal serum billirubin |
| **Experiment – 1** | Determination ofSugar in CSFProteins is CSFChlorides in CSF |
| **Experiment – 2** | Determination of albumin and urea in urine |
| **Experiment – 1** | Determination of SGOT and SGPT |
| **Experiment – 2** | Demonstration of principles ofCalorimetry and calorimeterPaper chromatographyElectrophoresisGlucose Tolerance Test (GTT)Flame photometry |
|  **Note** | Section - I of practicals shall be conducted by students in biochemistry laboratory.Section - II of practicals shall be conducted by teaching staff as a part of demonstration / seminar in the laboratory. |
| **Books Recommended** | Text book of Biochemistry-By Ramkrishna, Prasanna and RajanBiochemistry for medical students - By Debajyothi Das.Text book of Biochemistry-By Rama Rao. Text Book of Biochemistry-By Sathyanarayan.Harper’s review of physiological chemistry - By HarperText Book of Biochemistry - By Lubert StryerBiochemistry - By Albert Lehninger.Text book of Biochemistry - By West & ToddLaboratory manual of Biochemistry - By Pattabhiraman & AcharyaLaboratory manual of Biochemistry - By Rajgopal & Ramkrishanan |

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| **PHILOSOPHY OF NATURE CURE** |
| **Course Code BNYS 112P** | **PRACTICAL (40 hours)** | **L-T-P-C** | **0-0-1-4** |
| **Course Contents** |
| **Experiment – 1** | Students should be introduced to various treatment procedures used in Naturopathy. |
| **Experiment – 2** | Students should have knowledge of giving various treatments. |
| **Experiment – 3** | **Demonstration of :-**Natural Diet (Live food).Satvic boiled diet.Way of serving & various special diets. |
| **Experiment - 4**  | Practicals with record. |
| **Experiment - 5**  | Visiting to various nature cure clinics/ hospitals |
| **Books Recommended** | * 1. Philosophy of Nature Cure By Henry Lindlahr.
	2. Practice of Nature Cure By Henry Lindlahr
	3. Human culture and Cure By Dr. E.D. Babbit
	4. Practical Nature Cure By Dr. K. Laxman Sharma
	5. History and Philosophy of Nature Cure By S.J. Singh
	6. My Nature Cure By M.K. Gandhi
	7. Natural health care - A to Z By Belinda Gran
	8. Introduction to Natural Hygiene By Herbert M. Shelton
	9. A Complete Hand book of Nature By H.K. Bakhru
	10. Nature Cure - a way of life By S.R. Jindal
	11. The cure of advance cancer by Diet Therapy by Dr. Max Gerson M.D
	12. Toxemia - J.H. Tilden
	13. Dainandin rogo ki Prakartik Chikitsa - Dr. Kulranjan Mukherjee
	14. Purane rogo ki Grah Chikitsa - Dr. Kulranjan Mukherjee
	15. Stri rogo ki Grah Chikitsa - Dr. Kulranjan Mukherjee
	16. Shishu rogo ki Grah Chikitsa - Dr. Kulranjan Mukherjee
	17. Abhinav Prakartik Chikitsa - Dr. Kulranjan Mukherjee
	18. Khadya ki nayi Vidhi - Dr. Kulranjan Mukherjee
	19. Swasthya ke liye Bhojan - Dr. Bhojraj Chhabaria
	20. Bina dava Tandurusti - Dr. Bhojraj Chhabaria
	21. Swasthya avam Sudaulata - Dr. Bhojraj Chhabaria
	22. How to get well - Dr. Paavo Airola
	23. The Encyclopedia of health & Physical Culture - Dr. Bernarr Macfadden
	24. My water cure - Father Sebastian Kneipp
	25. The New Science of Healing - Louis Kuhne
	26. Return to Nature - Adolf Just
	27. Diet Reform Simplified - Dr. Stanley Lief
	28. Rational Fasting - Dr. Arnold Ehret
	29. The Human Culture and Cure - Edwin Babbit
	30. Rogo ki Achook Chikitsa - Dr. Janaki Sharan Verma
	31. The Greatest Health Discovery - American Natural Hygiene Society
	32. The History of Natural Hygiene - Hereward Carrington & & Principles of Natural Hygiene Herbert M.Shelton
	33. Health For All - H.M.Shelton
	34. Integrated Healing Arts - Dr. J.M.Jussawala
	35. Prakratik Chikitsa Sagar - Dr. Gaurishankar Mishra
	36. Speaking of Nature Cure - K.Laxmana Sharma & S. Swaminathan
	37. Human Life-its Philosophy & Laws - Herbert M.Shelton
	38. How to Get Rid of The Poisons in Your Body - Gary Null & Steven Null
	39. Let’s Get Well - Adelle Davis
	40. Be your Own Doctor -Ann Wigmore
 |
| **Reference Books** | My Nature Cure or Practical Naturopathy- By S.J. SinghThe Science of facial expression- By Louis KuhneThe Story of my experiment with truth- BY M.K. GandhiAyurveda for health and long life- By Dr. R.K. GardeEverybody’s guide to Nature Cure- BY Harry BenjaminPrayer - By M.K. GandhDiet and Diet Reforms- By M.K. GandhiPanchatantra - By Venkat RaoA. Nature Cure B. Healing from within- By J.M. JussawalaMiracle of fasting - By Dr. Paavo AirolRaw eating - By Aterhov & By Hira LalVitality fasting & Nutrition- By Hereward CarringtonDeath Deferred - By Hereward CarringtonNatural Nutrition of Man- By Hereward CarringtonMucousless diet healing System- By Arnold EhretNatural Hygiene - Pristine way of life- By Herbert M. SheltonBetter Sight without glasses- By Harry BenjaminSwasthavritta vijyana - By R.H. SinghFundamentals of Ayurveda- By K.N. UdupaArogya Prakasha - By Ramnarayana VaidyaChikitsa Tatva Dipika - By Vaidya Mahaveer Prasad PandeyPadarth Vijanam - By Ram Prakash PathakGem of Siddha Medicine- By Dr. Ram MurthyLiving life to Live it Longer- By Herbert M.SheltonEating for Health with Emphasis on Economy- By L.RamachandranHand Book of Naturopathy- By Sukhbir SinghHealing Through Natural Foods- By H. K. BakhruThe Human Body: Nature’s Amazing Creation- By Dr. M.M.Bhamgara |

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| **YOGA PRACTICES** |
| **Course Code BNYS 113P** | **PRACTICAL (40 hours)** | **L-T-P-C** | **0-0-1-4** |
| **Course Contents** |
| **Experiment – 1** | Asanas**Standing Postures**TadasanaArdhakati ChakrasanaPadahastasanaArdha Chakrasana‘Kati ChakrasanaTrikonsana**Supine Postures**ShavasanaMatsyasanaSarvangasanaHalasanaChakrasanaPavanmuktasana.**Prone Postures**MakarasanaBhujangasanaArdha ShalabhasanaShalabhasanaDhanurasana**Sitting Postures**VakrasanaArdhamatsyendrasanaPaschimottanasanaUstrasanaVajrasanaPadmasana Baddha PadmasanaSupta Vajrasana**Pranayama**KapalbhatiBhastrikaSheetakariSheetaliAnuloma VilomaUjjayiBhramariPlavani |
| **Experiment – 2** | Kriyas |
| **Experiment – 3** | pranayama |
| **Experiment - 4**  | Dharana |
| **Experiment - 5**  | Dhyana-Meditation |
| **Experiment - 6**  | Practicals with records. |
| **Books Recommended** | 1. Sukshma Vyayama- Swami Dhirendra Brahmachari
2. Basis and definitions of Yoga-Vivekananda Kendra
3. RajaYoga-Swami Vivekananda.
4. Asanas-Swami Kuvalyananda.
5. Glimpses of Divine Light- S.K. Das.
6. The Gospel of Buddha-Parul Caruso
7. The Gospel of Sri Ramakrishna-Mahendranatha Gupta
8. Complete works of sri Aurobindo-Sri Aurobindo
9. Asanas, Pranayama, Mudras & Bandhas - Swami Satyananda Saraswati,
10. Yoga in Daily life - Dr. A.U. Rahman
11. Yoga- The science of Holistic living-VKS yoga
12. Pranayama
13. Yogasana Vigyan-Swami Dhirendra Brahmachari
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***SCHEME OF EXAMINATION:***

***BNYS (IInd Year) University Examination***

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| ***S.NO.*** | ***SUBJECT CODE*** | ***SUBJECT*** | ***PERIODS*** | ***INTERNAL*** | ***EXTERNAL*** | ***TOTAL*** |
| ***L*** | ***T*** | ***P*** | ***CA*** | ***TA*** | ***Total*** | ***IP*** | ***ET*** | ***EP*** |
| *1.* | *BNYS-201* | *Pathology* | *3* | *1* | *0* | *15* | *15* | *30* | *-* | *70* | *-* | *100* |
| *2.* | *BNYS--202* | *Microbiology* | *3* | *1* | *0* | *15* | *15* | *30* | *-* | *70* | *-* | *100* |
| *3.* | *BNYS--203* | *Community Medicine* | *3* | *1* | *0* | *15* | *15* | *30* | *-* | *70* | *-* | *100* |
| *4.* | *BNYS--204* | *Yoga Philosophy* | *2* | *1* | *0* | *15* | *15* | *30* | *-* | *70* | *-* | *100* |
| *5.* | *BNYS-205* | *Magnetotherapy & chromotherapy* | *2* | *1* | *0* | *15* | *15* | *30* | *-* | *70* | *-* | *100* |
| *6.* | *BNYS -206P* | *Pathology* | *-* | *-* | *1* | *-* | *-* | *-* | *40* | *-* | *60* | *100* |
| *7* | *BNYS -207P* | *Microbiology* | *-* | *-* | *1* | *-* | *-* | *-* | *40* | *-* | *60* | *100* |
| *8* | *BNYS -208P* | *Community Medicine* | *-* | *-* | *1* | *-* | *-* | *-* | *40* | *-* | *60* | *100* |
| *9* | *BNYS -209P* | *Yoga Philosophy* | *-* | *-* | *1* | *-* | *-* | *-* | *40* | *-* | *60* | *100* |
| *10* | *BNYS -210P* | *Magnetotherapy & chromotherapy* | *-* | *-* | *1* | *-* | *-* | *-* | *40* | *-* | *60* | *100* |
| ***Grand Total*** | ***1000*** |
| *L- Lecture, T- tutorials, P- Practical (Labs), CT- Class Test (Sessionals), TA- Teacher’s Assessment (Assignments, Tutorials), IP- Internal Practical, ET- External Theory, EP- external Practical.* |

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| **PATHOLOGY** |
| **Course Code** BNYS-201 | **THEORY COURSE** | **L-T-P-C** | **3-1-0-4** |
|  | **Topic – GENERAL PATHOLOGY** | **Hours** |
| **Unit 1** | **History and Scope of Pathology-**1. Definition and various branches in Pathology.
2. Scientific study of disease and methodology.
 |  |
| **Unit 2** | **The cell and the reaction of cell, tissue and organ to injury.**1. Structure of cell and its function.
2. Causes and nature of cell injury.
 |  |
| **Unit 3** | **Reaction of cell to Injurious agents.*** 1. Lethal injury- Necrosis and gangrene.
	2. Cloudy swelling.
1. Fatty changes in Liver, heart and kidney.
2. Glycogen infiltration and hyaline degeneration.
3. Lipoid degeneration.
4. Mucoid degeneration.

d) Pathological Calcification- |  |
| **Unit 4** | **Inflammation and Repair :-**1. Definition, Classification and nomenclature.
2. Acute Inflammation.

Vascular and cellular phenomenon, cell of exudate chemical mediators and tissue changes in acute inflammation Cardinal signs of acute inflamation, Fat, types and systemic effects of acute Inflammation. |  |
| **Unit 5** | **Chronic Inflammation :-**1. Difference between acute and chronic inflamation.
2. Definition of Granuloma.
 |  |
| **Unit 6** | **Wound healing :-**1. Regeneration and Repair.
2. Repair of epithelial and mesenchymal tissue.
3. Primary union and secondary union.
4. Mechanism involved and factors modifying repair process.
 |  |
| **Unit 7** | **Gangrene** - Causes, Dry Gangrene, Moist gangrene, Gas gangrene. |  |
| **Unit 8** | **Granulomas :-**1. Classification of granulomas.
2. Tuberculosis- Genesis and fate of tubercle, primary and secondary tuberculosis.
3. Definition, Classification and Pathology of Leprosy.
4. Acquired, Primary, Secondary and Tertiary stages of syphilis.
5. C.N.S.syphilis, C.V.S.syphilis and Gumma, congenital syphilis.
6. Actinomycosis, maduramycosis and rhinosporidiosis.
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| **Unit 9** | **Fluid and Hemodynamic Changes (circulatory disturbances):-**1. Hyperemia, congestion and hemorrhage.
2. Thrombosis, embolism, DIC.
3. Ischemia, infarction and shock.
4. Edema.
 |  |
| **Unit 10** | **Immunopathology:-**Basic Pathological mechanism in autoimmune disorders.Concept of immunodeficiency disorders.Pathology of AIDS. |  |
| **Unit 11** | **Growth and its disorders :-**1. Definition of agenesis, aplasia, atrophy, hyperplasia , hypertrophy, hypoplasia , metaplasia.
2. Concept of dysplasia, anaplasia and carcinoma-in-situ.
 |  |
| **Unit 12** | **Neoplasia :-**1. Definition, Classification and Nomenclature.
2. Characteristic features of benign and malignant tumours.
3. Route of spread of malignant tumors.
4. Grading and staging of cancers and pre-cancerous conditions.
5. Carcinogenesis and carcinogens.
6. Laboratory diagnosis of cancer-Biopsy, exfoliative cytology and prognostic prediction in cancer.
7. Description of common tumours like-Fibroma, Lymphoma, Angioma, Liomyoma and Fibrosarcoma, Lymphosarcoma, Angiosarcoma and Leiomyosarcoma. .
8. Tumours of infancy and childhood.
 |  |
| **Unit 13** | **Mineral and pigment metabolism :-**1. Pathology of melanin pigment
2. Pathology of hemoglobin and its derivatives
3. Hemosiderosis and hemochromatosis
 |  |
| **Unit 14** | **Genetic disorders :-**Klinefelter’s syndrome, turner’s syndrome, Down’s syndrome. |  |
| **SYSTEMIC PATHOLOGY** |
| **Unit 1** | **Disorders of RBC-**1. Definition, morphologic and etio-pathologic classification of anemias.

Iron deficiency anemia-B12 and folate deficiency anemia, sideroblastic anemia, post-hemorrhagic anemia.1. Concept and classification of hemolytic anemias.
2. Laboratory investigations in anemia.
3. Polycythemia , Acquired hemolytic anemia, Aplastic anemia.
 |  |
| **Unit 2** | **Disorders of WBC-**1. Leukopenia & Leukocytosis.
2. Agranulocytosis and Tropical Eosinophilia.
 |  |
| **Unit 3** | **Coagulation and bleeding disorders-**1. Structure, function and pathology of platelets.
2. Definition and classification of blood dyscrasias.
3. Laboratory investigations in bleeding disorders.
 |  |
| **Unit 4** | **Diseases of Cardiovascular System-**1. Arteriosclerosis and Atherosclerosis.
2. Aneurysm, Vasculitis, thromboangiitis obliterans.
3. Rheumatic heart disease, Endocarditis, Myocardial Infarction.
4. Congenital heart diseases.
5. Congestive cardiac failure.
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| **Unit 5** | **Diseases of Respiratory System-**1. Lobar Pneumonia, bronchopneumonia, pulmonary Tuberculosis.
2. Bronchiectasis and Pneumoconiosis.
3. Tumors of lung and pleura.
4. Bronchial Ashtma, chronic bronchitis, acute respiratory distress syndrome.
5. Atelectasis.
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| **Unit 6** | **Diseases of Gastro-intestinal system-**1. Pleomorphic adenoma of salivary gland.
2. Barrat’s Oesophagus.
3. Gastritis and peptic ulcer and tumors of stomach.
4. Inflamatory bowel diseases- crohn’s disease, ulcerative colitis, typhoid ulcer.
5. Megacolon and Tumors of colon.
6. Malabsorption syndrome, tropical sprue and Coeliac disease.
7. Amoebiasis, bacillary dysentry and intestinal tuberculosis.
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| **Unit 7** | **Diseases of liver, biliary tract and pancreas-:-**1. Liver function tests and hepatic failure, viral hepatitis.
2. Cirrhosis of liver, tumors of liver, liver abscess.
3. Alcoholic liver diseases.
4. Indian childhood cirrhosis.
5. Cholecystitis and Gallstones.
6. Pancreatitis and Diabetes Mellitus
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| **Unit 8** | **Diseases of Kidney**:**-**1. Renal function tests, Renal failure, Polycystic kidney.
2. Acute glomerulonephritis, Cresentric glomerulonephritis, Membranous glomerulonephritis, Nephrotic syndrome.
3. Chronic glomerulonephritis , acute tubular necrosis.
4. Pyelonephritis, Kidney in hypertension.
5. Tumors of Kidney.
6. Urolithiasis
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| **Unit 9** | Diseases of Male Genital system-1. Orchitis and testicular tumors.
2. Nodular hyperplasia of prostate, carcinoma of prostate.
3. Carcinoma of penis.
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| **Unit 10** | Diseases of Female Reproductive Systems-1. Endometrial hyperplasia, adenomyosis and endometriosis.
2. Carcinoma of cervix, tumors of ovary.
3. Carcinoma and other diseases of vulva and uterus.
4. Palvic inflammatory diseases.
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| **Unit 11** | Diseases of Breast -1. Fibrocystic disease and tumors of breast.
2. Gynaecomastia,
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| **Unit 12** | Endocrine Pathology-1. Endocrinal lesions in brief mainly stressing on thyroid and Pheochromocytoma.
2. Pituitary, acromegaly hyperplasia and adenoma of parathyriode, adrenal gland, addison’s diseases , cushing syndrome.
 |  |
| **Unit 13** | Musculo-skeletal Pathology-1. Osteomylitis and Osteoporosis.
2. Rickets and Osteoporosis.
3. Tumors of Bone.
4. Rheumatoid Arthritis, Gout.
5. Myasthenia gravis and Progressive muscular dystrophy.
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| **Unit 14** | Diseases of Nervous System-1. Meningitis, tumors of CNS.
2. Tumors of Peripheral Nerves.
3. Encephalitis.
 |  |
| **Unit 15** | **Diseases of Lymph nodes and Spleen-**1. Lymphadenopathy.
2. Malignant Lymphoma, basal cell agnetize.
 |  |
| **Unit 16** | Pathology of Skin-1. Squamous cell carcinoma, Basal cell carcinoma.
2. Malignant melanoma.
3. Warts, Molluscum contagiosum.
4. Fungal diseases.
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| **Unit 17** | Pathology of Eye. |  |
| **Unit 18** | Pathology of ENT. |  |
| **Unit 19** | Clinical Pathology Including Clinical Hematology & Clinical Bio-Chemistry.1. Sample Collections for various hematological and clinical pathological investigations and anticoagulants used.
2. Theoritical aspects of HB estimation; hematocrit, blood indices, ESR and normal values in Hematology.
3. Blood grouping concept of blood groups.
	1. Selection of donor, major and minor-cross-matching.
	2. Biood transfusion, diseases transmitted by transfusions.
	3. Goomb’s test.
4. CSF Analysis.
5. Semen Analysis.
6. Urine analysis and microscopy.
7. Liver Function tests.
8. Renal function tests.
9. Glucose tolerance test.
10. Exfoliative cytology.
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| Hematology:- |
| **Course Code – BNYS-206P** | **PRACTICAL (80 hours)** | **L-T-P-C** | **0-0-1-4** |
| Course Contents |
| **Objective** |  |
| **Experiment – 1** | Blood groups (A.B.O. System) |
| **Experiment – 2** | Estimation of hemoglobin. |
| **Experiment – 3** | Enumeration of RBCs (R.B.C. Count) |
| **Experiment - 4**  | Total leucocyte count (total count) |
| **Experiment – 5** | Differential leucocyte count (D.L.C.) |
| **Experiment – 6** | Peripheral Smear staining and reporting |
| **Experiment – 7** | Absolute eosinophil count. |
| **Experiment – 8** | Demonstration of –1. Hemograms in anemia
2. Iron deficiency anemia
3. Macrocytic anemia
4. Hemograms in Leukaemias-
5. Acute types
6. Chronic types
 |
| **Experiment – 9** | Slide study of:-1. Acute myeloid leukaemia
2. Chronic myeloid leukaemia
3. Chronic lymphatic leukaemia
 |
| **SPOTTERS:** |
| **Experiment – 1** | HAEMATOLOGY SLIDES1. Mirocytic Hypochromic Anaemia.
2. Macrocytic Anaemia.
3. Dimorphic Anaemia.
4. Acute Leukemia.
5. Chronic Myeloid and Chronic Lymphatic Leukemia.
6. Eosinophilia.
 |
| **Experiment – 2** | HISTO- PATHOLOGY SLIDES FOR DISCUSSION1. Acute Appendicitis.
2. Lobar Pneumonia.
3. T. B. Lymphadenitis.
4. Lipoma, Fibroma, Squamous Papilloma.
5. Squamous Cell Carcinoma.
6. Adenocarcinoma,
7. Osteosarcoma, Osteoclastoma.
8. Pleomorphic Adenoma.
9. Teratoma, Seminoma of Dysgerminoma.
10. Cystoglandular Hyperplasia.

Proliferative Hyperplasia.1. Secretory Endometrium.
 |
| **Experiment – 3** | INSTRUMENTS FOR SPOTTING1. WintrobesTube.
2. Westergreen.

RBC pipette.1. WBC Pipette. .
2. Lumbar Puncture Needle.
3. Liver biopsy Needle.
 |
| MORBID ANATOMY |
| **Experiment – 1** | 1. Acute Appendicitis.
2. Lobar Pneumonia.
3. TB Lung.
4. Gastric Ulcer.
5. Carcinoma Stomach.

Carcinoma Breast1. Atherosclerosis.
2. Dermoid Cyst of Ovary
3. Seminoma Testis.
4. Chronic Pyelonephritis.
 |
| CLINICAL PATHOLOGY |
| **Experiment – 1** | 1. Examination of urine for :
2. Sugar, Ketone Bodies.
3. Protein and Blood.

Semen AnalysisPregnancy Tests.Liver Functions Test.Fractional Test meal.Glucose tolerance Test. |
| **Recommended Text books** | **Recommended Text books for Pathology-**Pathological Basis of Disease - By Robbins, Cotran and KumarText Book of Pathology- By N.C. DeyText Book of Pathology- By Harsh Mohan |
| **Books Recommended** | Text Book of Pathology - By AndersonSystemic Pathology - By SymmersMedical Laboratory Technology - By Ramnik SoodPathology – By BoydOxford Text Book of PathologyThe science and fine art of Disease Process (Orthopathy) – Herbert M. Shelton |

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| **MICROBIOLOGY** |
| **Course Code** **BNYS-202** | **THEORY COURSE(150 Hours)** | **L-T-P-C** | **3-1-0-4** |
|  | **Topic – GENERAL PATHOLOGY** | **Hours** |
| **Unit 1** | **General Bacteriology :-**1. Historical Introduction
2. Morophology and Physiology of Bacteria.
3. Sterilisation and Disinfection
4. Cultivation of Bacteria
5. Bacterial Growth and Multiplication
6. Basic Principles of Bacterial Genetics
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| **Unit 2** | **Immunology-**1. Infection and Immunity
2. Immunoglobulins and Immune Response
3. Immune System and Antigen-Antibody Response
4. Compliment and other Serological Tests
5. Hypersensitivity
6. Basic Principles of Auto-Immunity.
 |  |
| **Unit 3** | **Systemic Bacteriology-**Streptococcus, Staphylococcus and Pheumococcus, Gonococcus, Meningococcus, Corynaebatterium, Clostridium, Hemophilus, Bordetella, Mycobacterium, Spirochaetes, Yersinia ,Chalamydia. |  |
| **Unit 4** | **Parasitology-**1. Protozoalogy

Entamoeba and Plasmodium1. Helminthiology-.

Ankylostoma. Ascariasis, Taenia, Wucheraria. |  |
| **Unit 5** | Virology-1. General properties- of Virus and their diagnosis.
2. Herpes, Adenovirus, Picorna, Hepatitis Virus

Poxvirus, Rabies Virus, Poliovirus, HIV, Bacteriophage |  |
| **Unit 6** | Mycology-1. General Characters and methods used of study and diagnosis of fungal infections.
2. Superficial mycoses, systemic mycoses, Candidiasis, Aspergillosis, Mycetoma, Rhinosporidiosis.
 |  |
| **Unit 7** | Applied Microbiolo-gy1. Normal bacterial flora of human body.
2. Diagnostic methods in common diseases-
3. Meningitis, UTI, PID. Gastroenteritis, Respiratory Infection.
4. Urogenital Infections, Pyogenic Infections, Nosocomial Infections,
5. Infections of Ear, Eye and Oral Cavity.

Bacteriology of Wat-er |  |

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| MICROBIOLOGY |
| **Course Code BNYS-207P** | **PRACTICAL**  |  |  |
| Course Contents |
| **Objective** |  |
| **Experiment – 1** | Microscopes & Microscopy |
| **Experiment – 2** | Sterilization & Disinfection |
| **Experiment – 3** | Morphology of Bacteria |
| **Experiment - 4**  | Culture media |
| **Experiment - 5** | Culture methods |
| **Experiment - 6** | Staining of Bacteria1. Grams staining
2. Alberts staining
3. Z-N staining
 |
| **Experiment - 7** | Stools Examination |
| **Experiment - 8** | Identification of Bacteria |
| **Experiment - 9** | Demonstration of V.D.R.L. test |
| **Experiment - 10** | Demonstration of Widal test |
| **Experiment - 11** | 1. Text Book of Microbiology – By R.Anantha Narayana & C.K. Jayaram Paniker
2. Parasitology – By Jayaram Panikar
3. Bacteriology - By Dey
4. Text Book of Mircobiology – By Chakravarthy
 |
| **Books Recommended** | Parasitology - By ChattarjeePractical Microbiology - By R. Cruick ShankClinical Microbiology - By Bailey & ScottMedical Laboratory Manual For Tropical Countries Vol. I & II – By Monica Cheesbrough |

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| **COMMUNITY MEDICINE**  |
| **Course Code** **BNYS-203** | **THEORY COURSE** |  |  |
|  |  | **Hours** |
| **Unit 1** | Evolution of Medicine Ancient Medicine, Scientific Medicine, Modern Medicine, Medical Evolution. |  |
| **Unit 2** | **Concepts in Community Health** Concepts of Health, Health & Development, Indicators of Health, Concepts of Disease, Concepts of Prevention, Disease Control & Eradication, Public Health, Social Medicine, Community Medicine, Health Services, Planning & Management, Risk Approach, Evaluation of Health Services. |  |
| **Unit 3** | **General Epidemiology** –Introduction, Measurement of Mortality & Morbidity, Epidemiologic Methods Descriptive Studies, Analytical Studies, Intervention studies, Association & Causation, Uses of Epidemiology, Infection Diseases Epidemiology, Disease Transmission, Immunity, Immunizing Agents, Disease Preventions & Control, Disinfection, Investigation of an Epidemic. |  |
| **Unit 4** | Genetics. |  |
| **Unit 5** | Screening of Diseases –Concepts, uses, criteria for screening, sensitivity & specificity |  |
| **Unit 6** | Epidemiology of communicable Diseases –1. Respiratory infections- small pox, varicella, measles, rubella, Mumps, influenza, Diphtheria, Pertusis, Tuberculosis
2. Intestinal Infections – Polio, Viral hepatitis, Cholera, Acute Diarrhoeal Diseases, Typhoid, Food Poisoning, Ameobiasis, Ascariasis, Ancylostomiasis, Taeneasis
3. Arthropod – borne infections –Yellow fever, Japanese Encephalitis, Malaria, Filaria.
4. Surface Infections- Rabies, Trachoma, Tetanus, Leprosy, STD, AIDS.
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| **Unit 7** | Epidemiology of non-communicable diseases –Cancer, Cardio-Vascular Diseases, Diabetes, Obesity, Blindness, Accidents, Hypertension, Stroke, Rheumatic Heart Disease. |  |
| **Unit 8** | Demography & Family Planning –Demographic cycle, Population trends, Fertility related Statistics, Health aspects of Family planning, Contraceptive methods and Delivery System, National Family Welfare Programme. |  |
| **Unit 9** | Preventive Medicine in Obstetrics, Paediatrics & Geriatrics –Antenatal, Intranatal, Postnatal Care, Low Birth Weight, Infant Feeding, Growth & Development, Growth Chart, Under fives clinic, National Health Policy, Indicators of MCH care, School Health Services, Behavioral Problems, Geriatrics. |  |
| **Unit 10** | Environment & Health and Occupational Health-Purification of water & water Quality Standards, Air, Ventilation, Lighting, Noise, Radiation, Air Temperature & Humidity, Housing, Solid Wastes Disposal & Control, Excreta Disposal, Water Carriage System, Modern Sewage Treatment, Entomology Mosquito, Housefly, Lice, Itch mite, Cyclopes, Rat Flea, Rodents, Insecticides – Hazards, Diseases, Pre- placement Examination, Measures for General Health, Protection of Workers, Prevention of Occupational Diseases, Legislation. |  |
| **Unit 11** | Basic Medical Statistics –Censes, Vital Events, Legislation, SRS, Notification of Diseases, Measures of Dispersion & Centring, Sampling, Tests of Significance, Correlation & Regression. |  |
| **Unit 12** | Health Educations and Communication –Objectives, Principles, Aids, Practice of Health Education, Planning and Evaluation. |  |
| **Unit 13** | Health Planning – Management – International Health Organizations.Planning Cycle, Management Methods & Techniques, National Health Policy, Health Planning in India, Five Year Plans, Health Systems in India- at Centre, State and District Levels, Panchayat Raj, Rural Development Schemes. |  |
| **Unit 14** | Health care of Community – Health Systems and National Health Programmes.Levels of Health care, Health for All, Primary Health Care, Health Care Delivery, Health Problems, Health Care Services and Systems, Voluntary Agencies, National Health Programmes. |  |

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| COMMUNITY MEDICINE  |
| **Course Code BNYS-208P** | **PRACTICAL**  |  |  |
| Course Contents |
| **Objective** |  |
| **Experiment – 1** | Insecticides |
| **Experiment – 2** | Universal Immunization Programme |
| **Experiment – 3** | Communicable Diseases |
| **Experiment - 4**  | Insect Borne Diseases |
| **Experiment -5** | Microscope Slides |
| **Experiment -6** | Environment and Sanitation |
| **Experiment -7** | Statistical Charts |
| **Experiment -8** | Field Visits1. Rural Health Centres.
2. Sewage Disposal Plant.
3. Water Filtration Plant.
4. Nature Cure Hospitals.
5. Yoga Institutes etc.
 |
| **TEXT BOOKS RECOMMENDED** | Text Book of preventive and Social Medicine-By J.E. Park & K. ParkText Book of preventive and Social Medicine-By B.K. Mahajan & M.C. Gupta |
| **Books Recommended** | Preventive Medicine by Dr. Ghosh.Preventive Medicine by Dr. Yashpal Bedi. |
| **REFRENCE PAPERS** | * + World Health Organization Programmes papers.
	+ National Health Programmes papers.
	+ Voluntary Health Programmes Papers.
	+ Red Cross Programmes Papers.
	+ UNICEF Programmes papers.
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| **YOGA PHILOSOPHY** |
| **Course Code** **BNYS-204** | **THEORY COURSE** |  |  |
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| **Unit 1** | Yoga, its definition, its basis, purpose, its relation to philosophy and its application. |  |
| **Unit 2** | Histrorical highlights of Yoga- Practices and literature from the ancient to modern times with special agnetize to nature of yoga agnetized, smrithis & puranas. |  |
| **Unit 3** | The philoshpical Nature of Man and his essence, destiny in concept of Yoga. |  |
| **Unit 4** | The theory of Body, Mind, Life and Nature of soul, and evidence for the existence of soul. |  |
| **Unit 5** | The existential situation of man as reflected in European and Indian thought. |  |
| **Unit 6** | Basic concepts of Indian Psychology-definition a brief history of psychology, contemporary psychology according to Freud, Mr.Woodsworth and agneti psychologists, yogic science in relation to Psychology. |  |
| **Unit 7** | AstangaYoga (8-Limbs of Yoga-patanjali) |  |
| **Unit 8** | Streams of Yoga-Jnana Yoga, Karma Yoga, Raja Yoga and Bhakti yoga. |  |
| **Unit 9** | Asanas – their importance, methods, rules, regulations and limitations. |  |
| **Unit 10** | Spiritual values of pranyama & kriyas, their methods, importance, rules and regulations, difference between breathing exercises & Pranayama. |  |

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| YOGA PHILOSOPHY |
| **Course Code BNYS-209P** | **PRACTICAL**  |  |  |
| Course Contents |
| **Objective** |  |
| **Experiment – 1** | **Yogasanas**1. Siddhasana.
2. Padmasana.
3. Bhadrasana.
4. Samasana.
5. Swastikasana.
6. Vajrasana
7. Simhasana
8. Gomukhasana .
9. Virasana
10. Ardha Matsyedrasana
11. Vakrasana
12. Paschimottasana
13. Ustrasana
14. Uttitapadasana
15. Shalabhasana.
16. Pavanmuktasana.
17. Viparitakarani Asana.
18. Sarvangasana
19. Dhanurasana.
20. Halasana
21. Matsyasana
22. Kurmasana
23. Kukkutasana
24. Mayurasana
25. Sirsasana
26. Trikonasana
27. Ardha Katichakrasana
28. Parshava Konasana
29. Konasana
30. Katichakrasana
31. Padhastasana
32. Savasana
33. Makarasana
34. Baddhapadmasana
35. Naukasana
36. Chakrasana
37. Garudasana
38. Akarna Dhanurasana
39. Janusirshasana
40. Suptavajrasana
41. Padangusthasana
42. Karnapidasana
43. Tolangulasana
44. Garbhasana
45. Yoganidhrasana

**Pranayama**1. Anuloma Viloma
2. Nadi Suddhi
3. Ujjayi
4. Sheetali
5. Shitakari
6. Bhastrika
7. Bhramari
8. Suryabhedana
9. Chandrabhedana
10. Sadanta

**Kriyas**1. Neti –Jal and Sultra.
2. Dhouti- Vamana and danda
3. Trataka – Jyoti and Bindu
4. Kapalabhati

**Meditation (Dhyana)**1. Cyclic Meditation
2. Omkara Meditation
 |
| **TEXT BOOKS RECOMMENDED** | 1. The History of Yoga-Vivian Worthintion
2. The psychology of yoga –Taimini
3. The Science of Yoga- Taimni
4. Yoga & Indian Philosphy-Karel Werner
5. The Basis and application of Yoga Dr. Nagendra (Vivekananda Kendra publication)
6. Jnana Yoga, Bhakti Yoga, Karma yoga, Rajaj Yoga By Swami Vivekananda (Vivekananda Kendra Publication)
7. Narada Bhakti Sutras.
8. Asanas
9. Pranyama (Kaivalyadhma Lonavala Publications)
10. Asana, Pranayama, Kriyas
11. Pranayama- Vivekananda Kendra Publication
12. Yoga philosophy in relation to other system of philosophy – S.N. Das Gupta
13. Yoga Deepika –B.K.S.lyengar.
14. Psychology-Florance C. Kerip
15. Asana why and how – O.P. Tiwari (Kaivalyadham)
16. Yogank – Kalyan – Gita Press, Gorakhpur
17. Light on The Yoga Sutras of Patanjali – B.K.S. Iyenger
18. Light on Yoga – B.K.S. Iyenger
19. Light on Pranayama – B.K.S. Iyenger
20. Hatha Yoga Pradipika – Swami Muktibodhananda
21. Asana , Pranayama, Mudra , Bandha- Swami Satyananda Saraswati Bihar School of Yoga
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| **MAGNETOTHERAPY & CHROMOTHERAPY** |
| **Course Code** **BNYS-205** | **THEORY COURSE** |  |  |
|  | **Topic – MAGNETOTHERAPY** | **Hours** |
| **Unit 1** | Introduction –1. Definition of Magneto therapy
2. Historical highlights
3. Use of magnets upheld by Naturopathy
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| **Unit 2** | Magnetism in the Universe-1. Earth a huge natural magnet
2. Nature of Earth Magnetism.
3. Earth magnetic effects on the human beings.
 |  |
| **Unit 3** | Effects of Magnetism on living organisms. |  |
| **Unit 4** | Bio-magnets- Biological experiments with magnets |  |
| **Unit 5** | Medical influence of magnetic field Rheumatoid arthritis, hemiplegias, arthralgia, Neuralgias, Stimulation of nervous system,endocrine glands etc..Magnetotherapy, symptomatic relief , Combined treatments i.e. Magnetotherapy, Hydro- therapy, Massage, Diet & Yoga and the result of these combined treatments. |  |
| **Unit 6** | Magnets and their composition-1. Natural magnets and artificial magnets.
2. Permanent magnets – classification of magnetic materials , Power of magnets- various qualities of magnets- low, medium and high power magnets and magnetic belts etc.
3. Electro magnets – electro magnetic field on human agnetiz,Electro magnets- for medical purpose –Electro magnetic treatment, bed and hand Magnetiser, foot agnetized, vibroelectro massager, electro-magnetic chair etc. Non Pulsating clinical Electro magnet.
 |  |
| **Unit 7** | Technique of application of magnets – North and South pole, local & general treatment and the Technique of application of Magnets in treatment of various common diseases. |  |
| **Unit 8** | Magnetised water and Magnetised oils-Magnetised water in Nature, influence of magnetic field on the properties of water,method and preparation of agnetized water, dosage and therapeutic effect of agnetized Water . Method of preparation of magentised oils and their application and therapeutic effects. |  |
| **Unit 9** | Advantages of Magneto Therapy , Magnetotherapy is a natural treatment – Use of Magnets as a preventive device. |  |
| **Unit 10** | Clinical Reports from Indian and Foreign Magneto Therapists. |  |
| **Unit 11** | Magneto therapy and Acupressure- Acupuncture Points- Certain clinical case reports Utilisation of Acupuncture points in Magneto therapy |  |
| **Unit 12** | Terminology – Technical terms related to Magnetotherapy. |  |
| **Unit 13** | Recent developments in Magnetotherapy. |  |
| **Unit 14** | Study of 10 research papers. |  |
| **Topic – CHROMOTHERAPY** |  |
| **Unit 1** | Introduction –1. Historical Highlights
2. Harmonic laws of the universe
3. Solar Family
 |  |
| **Unit 2** | Theory of light and force - |  |
| **Unit 3** | Chromophilosophy-Reflection, Refraction, Absorption |  |
| **Unit 4** | The Source of light- the sun forming sources, the solar atmosphere- sun power- how the colour effects are produced – influence of sun light on skin, muscles, digestive organs, Bones. |  |
| **Unit 5** | Chromo-chemistry – character of spectrum analysis, materials iscovered by the spectroscope , the spectrum – spectrum of grey and natural colour elements- spectra of elements of positive colours, chromatic repulsion and attraction. |  |
| **Unit 6** | Chromo-diagnosis and chromo-hygiene. |  |
| **Unit 7** | Chromo – therapeutics – the healing power of colour, healing power of red, yellow, orange, blue, Green and Violet, non-spectral colours, sun stroke action of sun light on micro- Organisms. |  |
| **Unit 8** | Practical Instruments for Colour healing- Blue, Green and Violet, Red, Pink,Yellow, Orange glasses- the solar thermoleum- the electro thermoleum, chromodisc, the chromolens- chromo light eradiator. |  |
| **Unit 9** | Directions to be followed during treatment with light. |  |
| **Unit 10** | Healing by means of substances charged with different coloured light-method of solarization of water, oils and food substances etc. |  |
| **Unit 11** | Chromo therapy prescriptions for different diseases. |  |
| **Unit 12** | Chromo – Mentalism. |  |
| **Unit 13** | Bordeaux medicine. |  |
| **Unit 14** | Importance of coloured food items  |  |
| **Unit 15** | Study of 10 research papers. |  |
|  | **Topic – AIR THERAPY** |  |
| **Unit 1** | Composition of Air -Night and Day composition. |  |
| **Unit 2** | Ozone in the atmosphere |  |
| **Unit 3** | Air Pollutants, their acceptable values |  |
| **Unit 4** | Physiology of Respiratory system. |  |
| **Unit 5** | Air baths (Cold and Hot) |  |
| **Unit 6** | Theory of Panchapranas and Nadis. |  |
| **Topic – SUN THERAPY (HELLO THERAPY)** |
| **Unit 1** | History |  |
| **Unit 2** | Physiological and Chemical properties of Sunlight. |  |
| **Unit 3** | Effect of sunlight on vegetation and Micro-organism. |  |
| **Unit 4** | Rejuvenation during diseases. |  |
| **Unit 5** | General Sun Bath. |  |
| **Unit 6** | Dr. Rikli’s method of Sun Bath. |  |
| **Unit 7** | Dr. Kuhne’s method of Sun Bath. |  |
| **Unit 8** | Sun Bath through wet pack. |  |
| **Unit 9** | Sun bath of children and aged persons. |  |
| **Unit 10** | Sunbath with leaves-Atapasnana |  |
| **Unit 11** | Oil sun bath (Abhyanga snana) |  |
| **Unit 12** | Sun Stroke. |  |
| **Unit 13** | Practice of Exercise in Sunlight. |  |
| **REFEREMCE BOOK** | All You Wanted to Know About Sun Therapy - Vijaya Kumar1. Colour Therapy-Miracle of Sunrays- Rashmi Sharma and Maharaj Krishan Sharma
2. Science of Natural Life- Rakesh Jindal
3. Prakratik Chikitsa Sagar- Dr.Gaurishankar Mishra
4. Dhanwantari-prakrtik Chikitsank- Ganga Prasad Gaud “Nahar”
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| **MAGNETOTHERAPY & CHROMOTHERAPY** |
| **Course Code - BNYS-210P** | **MAGNETOTHERAPY PRACTICAL**  |
| Course Contents |
| **Objective** | Students should have demonstration classes in various types of Magnets, equipment and their clinical application. |
| **Experiment – 1** | Case Studies with record |
|  | Cases with bio-chemical reports |
| **TEXT BOOKS RECOMMENDED** | 1. Magneto therapy – Dr. H.L. Bansal
2. Magnetic cure for common diseases – Dr. R.S. Bansal, Dr. H.L. Bansal
3. The text book on Magneto therapy – by Dr. Nanubhai Painter
4. Magneto therapy and Acupuncture – Dr.A.K.Mehta
 |
| **REFERENCE BOOKS** | Electromagnetic treatment - Dr. H.L. BansalMagentic fields or healing by magnets – Dr. A.R. Davis and Dr. A.K. Bhattacharya of Naihati of West Bengal. |
| **CHROMOTHERAPY PRACTICAL** |
| Course Contents |
| **Objective** | Students should, have demonstration classes in various chromotherapeutic devices andtheir clinical application. |
| **Experiment – 1** | Case studies with record |
| **Experiment -2** | Cases with bio-chemical reports |
| **Experiment -3** | Demonstration of colour glasses & bottles. |
| **Experiment -4** | Demonstration of instruments and equipments. |
| **TEXT BOOKS RECOMMENDED** | The principles of light and colour By Dr. E.D. BabbitHuman Culture and Cure in five parts By Dr. E.D. BabbitColour therapy . By R.S. AmberHealing through Colour By Thea-Gimbel |
| **REFERENCE BOOKS** | The power of the rays By S.G.J. OseleyColour Meditations By S.G.J. OseleyColour and healing By Gladya MayerColour healing(Chromotherapy) By Health Reserch Foundation (USA)Practical colour Magic By Raymond Buckland |

***SCHEME OF EXAMINATION:***

 BNYS (3rd Year) University Examination

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| ***S.NO.*** | ***SUBJECT CODE*** | ***SUBJECT*** | ***PERIODS*** | ***INTERNAL*** | ***EXTERNAL*** | ***TOTAL*** |
| ***L*** | ***T*** | ***P*** | ***CA*** | ***TA*** | ***Total*** | ***IP*** | ***ET*** | ***EP*** |
| *1* | *BNYS-301* | *MANIPULATIVE THERAPEUTICS* | *3* | *1* | *0* | *15* | *15* | *30* | *-* | *70* | *-* | *100* |
| *2* | *BNYs- 302* | *ACUPUNCTURE* | *3* | *1* | *0* | *15* | *15* | *30* | *-* | *70* | *-* | *100* |
| *3* | *BNYS-303* | *YOGA APPLICATION* | *3* | *1* | *0* | *15* | *15* | *30* | *-* | *70* | *-* | *100* |
| *4* | *BNYS-304* | *FASTING THERAPY* | *2* | *1* | *0* | *15* | *15* | *30* | *-* | *70* | *-* | *100* |
| *5* | *BNYS-305* | *NATUROPATHY DIAGNOSIS* | *2* | *1* | *0* | *15* | *15* | *30* | *-* | *70* | *-* | *100* |
| *6* | *BNYS-306* | *MODERN DIAGNOSIS* | *3* | *1* | *0* | *15* | *15* | *30* | *-* | *70* | *-* | *100* |
| *7* | *BNYS-307P* | *MANIPULATIVE THERAPEUTICS* | *-* | *-* | *2* | *-* | *-* | *-* | *40* | *-* | *60* | *100* |
| *8* | *BNYS-308P* | *ACUPUNCTURE* | *-* | *-* | *2* | *-* | *-* | *-* | *40* | *-* | *60* | *100* |
| *9* | *BNYS-309P* | *YOGA APPLICATION* | *-* | *-* | *2* | *-* | *-* | *-* | *40* | *-* | *60* | *100* |
| *10* | *BNYS-310P* | *FASTING THERAPY* | *-* | *-* | *1* | *-* | *-* | *-* | *40* | *-* | *60* | *100* |
| *11* | *BNYS-311P* | *NATUROPATHY DIAGNOSIS* | *-* | *-* | *1* | *-* | *-* | *-* | *40* | *-* | *60* | *100* |
| *12* | *BNYS-312P* | *MODERN DIAGNOSIS* | *-* | *-* | *2* | *-* | *-* | *-* | *40* | *-* | *60* |  *100* |
| ***Grand Total*** | ***1200*** |
| *L- Lecture, T- tutorials, P- Practical (Labs), CT- Class Test (Sessionals), TA- Teacher’s Assessment (Assignments, Tutorials), IP- Internal Practical, ET- External Theory, EP- external Practical.* |

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| **MANIPULATIVE** |
| **Course Code BNYS-301** | **Theory Course** | **L-T-P-C** |  |
| **TOPIC - MANIPULATIVE THERAPEUTICS** | **Hours** |
| **Unit 1** | 1. Introduction and History of Massage.2. Rules, Regulations and Characteristics of Masseur3. 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 |  |
| **Unit 2** | 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.5. Getting crisis through massage (Side effects and benefits)6. Basic therapeutic massage techniques, indications and contraindications of massage while applying to the patients.7. 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. |  |
| **Unit 3** | 8. 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 Massage9. Movements of Joints :- i) Flexion ii) Extension iii) Abduction iv) Adduction v) Supination & Pronation vi) Circumduction vii) Deviations - Medial and Lateral viii) Opposition10. Massaging in local areas under special circumstances - a) Massage to Abdomen i) Massage to liver ii) Massage to Stomach b) Massage to heart c) Massage to head d) Massage to spine e) Special types of Massage in different diseases |  |
| **Unit 4** | 11. Massage to women12. Massage to infants and children13.Massage for prevention of diseases and maintenance of natural  beauty 14. Ayurvedic Massage-Terminology, Methods and Manipulations |  |
| **Unit 5** | 15. 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 Diseases16. Osteopathy :- Definition & the Basic principles of osteopathy, Relation of osteopathyto Musculo-skeletal system.17. Aromatherapy :- A. Definitions, Origin and History of Aroma therapy. B. Essential Oils and Its types, extraction of essential oils, distillation, cold pressing or expression, sloven extraction, storage, recognition, selection and mechanism of essential oils. C. Carrier oils - Almond, Apricot, Avocado, carrot, corn, primrose, grapeseed hazelnut, Jojoba, Olive, Peanut, safflower, sesame, Soyabean & sunflower oil. D. Different methods of using essential oils- inhalation, diffusers, vaporizers, massage, baths, foot bath, pot pourii, compresses, oral intake, beauty treatment, room sprays, insect repellents etc. E. Description of different essentials oils & their benefits. F. The best essential oils - The five fragrance categories - green, floral, citrus, Woody & Spicy and mixing of Aroma Oils & Equipment required for Mixing Oils. G. Aroma Oils for common problems and their therapeutic properties. H. Precautions, ill effects and careful handling of essential oils I. Contraindications- Oils to be avoided in particular problems |  |

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| **MANIPULATIVE THERAPEUTICS** |
| **Course Code BNYS-307P** | **MANIPULATIVE THERAPEUTICS** |
| **Course Contents** |
| **Experiment - 1** | 35 demonstration classes |
| **Experiment - 2** | 10 demonstrations in Panchakarma |
| **Experiment - 3** | Each student should do 35 massages |

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| Course Code-BNYS-302 | **THEORY COURSE** | **L-T-P-C** |  |
|  | **Topic-ACUPUNCTURE** | **Hours** |
| **Unit 1** | 1. Definition, concepts of Acupuncture.2. Traditional and modern theories of Acupuncture.3. Materials and Methods of Acupuncture.4. Principles of Acupuncture. |  |
| **Unit 2** | 5. Rules for selection of Acupuncture points.6. Contraindications and complications of Acupuncture.7. The concept of Meridians :- a) Lung Meridian (Lu) b) Large intestine Meridian (LI) c) Spleen Meridian (SP) d) Stomach Meridian (ST) e) Heart Meridian (H) f) Small intestine Meridian (SI) g) Urinary bladder Meridian (UB) h) Kidney Meridian (K) i) Triple warmer Meridian (TW) j) Gall bladder Meridian (GB) k) Liver Meridian (Liv) I) Governing vessel Meridian (GV) m) Conceptional vessel Meridian (C.V) n) Eight extra Meridians8. The extra-ordinary points. |  |
| **Unit 3** | 9. Diagnostic methods (both- Acupuncture and Modern)10. Auriculo Therapy11 Moxibustion**12.** Stimulation in Acupuncture. |  |
| **Unit 4** | **13.** Acupuncture Therapeutics**14.** Acupuncture Anaesthesia**15. Reflexology & Zone Therapy:-**What is Reflexology, history and development. How does reflexology work Body & its reflex zones. Applications, indications and contra-indications Preventive effects of reflexology |  |
| **Unit 5** | **16. Acupressure :-**What is Acupressure Its origin & development Physiological effects of Acupressure Therapeutic uses of Acupressure**17.** Acupuncture/pressure in Acute disorders and emergency**18. Pranic Healing.****19. Reiki** |  |

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| **ACUPUNCTURE** |
| **Course Code BNYS-308P** | **ACUPUNCTURE** |
| **Course Contents** |
| **Experiment - 1** | Demonstration of Needling techniques and Electro-stimulation, Moxibustion. |
| **Experiment - 2** | Each Student should give treatments to atleast 20 patients during the practicals. |

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| Course Code-BNYS-303 | **THEORY COURSE** | **L-T-P-C** |  |
|  | **Yoga Applications** |  |
| **Unit 1** | 1. Patanjali yoga sutras - 1st two chapters. (ie., Samadhi Pada & Sadhana Pada, brief summary of Vibhutipada & Kaivalyapada)2. Hatha Yoga Pradipika- full text with necessary reference to Gheranda Samhita & Siva Samhita.3. Introduction to other streams of Yoga-Kundlini and TantraYoga. |  |
| **Unit 2** | 4. Yoga Nidra-Methods, application, effects and benefits.5. Meditation-Types of Meditation-Omkar, Cyclic, Vipassana etc. Methods of application. benefits, precaution, its influence on health and disease.6. Different relaxation techniques. a) Instant relaxation,  b) Quick relaxation, c) Deep relaxation techniques-their methods, effects & benefits. |  |
| **Unit 3** | 7. Yoga-in relation to personality and education.8. Yoga-in relation to sports and games, social and political life.9. Eye exercises- Benefits, methods, precautions. |  |
| **Unit 4** | 10. Physiological aspects of Asanas.11. Physiological, Neuro-Physiological aspects of pranayama. ‘12. Shat Kriyas- Comparative study of Shat Kriyas with other system of Medicine. |  |
| **Unit 5** | 13. Physiological aspects of exercises14. Physical exercises for health & fitness : (a) Introduction (b) Who should stretch (c) When to stretch(d) Why to stretch (e) How to stretch (f) Relaxing stretches for i. Back, legs, feet and ankles. ii. Hips, hamstring, low back (g) Stretching exercises for elderly (h) Stretching exercises for Abdominal muscles, Arms, Chest, Ankles, Legs, knee, thigh, fore arm etc.(i) Techniques of walking, running, Cycling etc. (j) Caring back.15. Swara - Yoga |  |

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| **Yoga Applications** |
| **Course Code BNYS-309P** | **Yoga Applications** |
| **Course Contents** |
| **Experiment - 1** | **I. Asanas**1. Including all asanas of I year adding some advanced postures from Yoga Deepika.2.All loosening (Shitilikarana Vyayama) and breathing exercises.**II. Pranayama (as 1st B.N.Y.S.)****III. Kriyas- (including Portion of 1st B.N.Y.S.)**1) Dhouti- Vastra2) Gajakara n i - ( Varisara Dhouti)3) Nauli- (all three types).4) Shankha Prakshalana- 1. Laghu. 2. Maha5) Basti |
| **Experiment - 2** | **IV. Meditation -**1) Omkara2) Cyclic3) Vipassana**V.Techniques Like : -**1) Self Management of Excessive Tension (SMET).2) Pranic Energisation Technique (PET).3) Mind Sound Resonance Technique (MSRT).4) Yoga Nidra (Short and long session). |

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| Course Code-BNYS-304 | **THEORY COURSE** | **L-T-P-C** |  |
|  | **FASTING THERAPY** |  |
| **Unit 1** | **I. Introduction :-**1. Theory of Fasting a) Fasting in Animals b) Miracles of Fasting c) Your Tongue Never Lies2. History of Fasting a) Fasting in Ancient India b) History of Fasting in India c) History of Fasting in Foreign Countries d) Historical Highlights of Fasting3. 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 and diseases B) Nature of disease C) The No-Breakfast Plan D) Objections commonly raised in Fasting Therapy E) Pros and cons of Fasting F) Difference between Fasting and Starvation G) Difference between Hunger and Appetite |  |
| **Unit 2** | **III. Physiology of Fasting:-**1) General Physiology. 2) Source and Metabolism of Carbohydrates, Fats and Proteins During Fasting & Starvation. 3) Chemical and Organic changes during Fasting. 4) Repair of Organs and Tissues During Fasting. 5) Changes in the Fundamental Functions While Fasting. 6) The Mind & Special Senses During a Fast. 7) Secretions and Excretions. 8) Bowel Action During a Fast. 9) The Influence of Fasting on Growth and Regeneration. 10) Gain and Loss of strength While Fasting. 11) Gain and Loss of weight During Fasting. 12) Autolysis 13) Fasting and Sex. 14) Rejuvenescence Through Fasting.**IV. Facts Explained About Fasting:-**1) Fasting Does Not Induce Deficiency “Disease”. 2) Death In The Fast. 3) Objections To The Fast. 4) The Quantity of Food Necessary to Sustain Life. |  |
| **Unit 3** | **V. Practice of Fasting:-**1) Does Fasting Cure Disease? 2) The Rationale of Fasting. 3) The Length of The Fast. 4) Contraindications of Fasting. 5) Fasting in Special Periods and Conditions of Life. 6) Symptomatology of The Fast. 7) Progress & Hygiene of The Fast. 8) Breaking The Fast. 9) Gaining Weight After The Fast. 10) Living After The Fast**VI. Rules and regulations of Sane Fasting and Therapeutic Fasting.****VII. Definition and Classification of fasting**1) Definition of fasting in different aspects. 2) General classification of fasting (Religious, Political and Therapeutic.) 3) Methods and types of therapeutic fasting (Dry, whey, Juice, Salad, Monodiet (Kalpa), Fruits Intermittent, Preventive, Weekly etc.) |  |
| **Unit 4** | **VIII. Hygienic Auxiliaries of Fasting-**1) Air and Breathing 2) Enema 3) Bathing 4) Clothing 5) Water Drinking 6) Exercise 7) Mental Influence**IX. Study of Patients During and After Fasting -**1. Crises during fasting and their management. 2. Physiological effects of fasting. 3. Biochemical aspects. 4. Study of the tongue, the breath, the temperature and pulse etc. 5. The loss and the gain of weight. 6. How and when to break the fast. 7. Diet after the fast.**X. Indications and Contraindications of fasting.** |  |
| **Unit 5** | **XI. Therapeutic aspects of Fasting**1. Fasting in acute diseases. 2. Fasting in chronic diseases. 3. Role of fasting in various diseases. 4. Obesity and fasting. a. Definition and assessment of obesity. b. Epidemiology. c. Aetiology. d. Clinical Features e. Treatment. 5. Fasting for preservation of health and prevention of diseases. 6. Fasting in Drug Addiction. 7. Fasting Versus Eliminating Diets.**XII. Results of Fasting.** |  |

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| **FASTING THERAPY** |
| **Course Code BNYS-310P** | **FASTING THERAPY** |
| **Course Contents** |
| **Experiment - 1** | Study of 50 fasting cases |
| **Experiment - 2** | Case Study of 25 with record |

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| Course Code-BNYS-305 | **THEORY COURSE** | **L-T-P-C** |  |
|  | **NATUROPATHY DIAGNOSIS** |  |
| **Unit 1** | **FACIAL DIAGNOSIS**1. Introduction to the science of facial expression. a) Historical highlights. b) Definition and scope of the science of facial expression.2. Characters of the Healthy Body. a) Normal functions. b) Normal Figure.3. Foreign matter theory :- a) Definition of foreign matter. b) The process of accumulation of foreign matter in the body. c) Encumbrance. d) Changes caused in the body due to the accumulation of foreign matter. e) General pathology of foreign matter. |  |
| **Unit 2** | 4. The nature: origin and cure of diseases of children and their unity.5 Bad habits supports the accumulation of foreign matter in the body-tobacco, alcholic drinks, coffee, tea, opium etc.Drug addictions -Pethedine, Heroin, Injection etc., Suppression of diseases viz elimination of morbid and diseased germs from the system.6. Types of encumbrance - Front encumbrance, - back encumbrance front and right side Encumbrance, left side encumbrance and mixed or whole encumbrance, their description, general characters and possible diseases in the concerned encumbrance and their treatment. |  |
| **Unit 3** | 7. Diseases of the internal organs and their treatment.8. Process of elimination of foreign matter. a) Importance of Nature Cure treatments. b) The digestive process-natural dietetics. c) Artificial outlets of elimination9. Methods to be followed to increase the vitality of the body.10. The importance of Nabhi Pareeksha, the methods of Nabhi Pareeksha & the techniques of correction. |  |
| **Unit 4** | **I R I D I A G N O S I S : -**1. Introduction of iridology : a) Definition of Iridology-,; b) Historical highlights. c) Comparison of other systems - Allopathy , Homeopathy , Ayurveda, Unani etc. Diagnostic methods. d) Anatomy of the Iris. e) Theory in application. f) The theory of healing crisis. g) A unit form division and classification of diseases. h) Philosophical phase. i) Theoretical phase2. I. Instructions in Methods of Application :- a) Technique in Iris reading. b) The normal and abnormal Iris, colour of the Iris. c) The Vibratory theory. II. Study of density of the Iris. III. Key to Iridiology. a) Iris charts brought up to date. b) Zone areas. c) Sectoral Division. |  |
| **Unit 5** | 3. Comparison of fermentation viz inflammation.4. Interpretations of Iris manifestations. I. a) Types of inflammation b) Inherent ( Lesions and weakness) c) Acidity and Catarrh d. Toxic settlements e. Nerve Rings f. The Lymphatic rosary g. Injuries and operations h. Itch or Psora spots in the iris - the surf rim i. The radii- solaris j. Tumours k. The sodium ring l. Anaemia in the extremities and in the brain m. Drugs and chemicals appearence on the Iris and their poisonous effects in the body Arsenic, Bismuth, Bromides, Coaltar products, Ergot, Glycerin, Iodine, Iron, Lead, Mercury, Opium , Phosphorous, Quinine, Salicylic acid, Sodium, Strychnine, Sulphur, Turpentine, Vaccines etc. |  |
| **Unit 6** | **II. The iris reveals the cause of disease.**5. Case histories according to Iridology.6. Advance research in Iridology. a) Reflex areas and remote symptoms. b) Stomach and intestinal disorders, the principle causes, the principle disorders & remedial Measures. |  |

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| **NATUROPATHY DIAGNOSIS** |
| **Course Code BNYS-311P** | **NATUROPATHY DIAGNOSIS** |
| **Course Contents** |
| **Experiment - 1** | Clinical classes and Demonstrations in the Nature Cure Hospital, Case Studies 25 with Record.Demonstration of Equipments. |

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| Course Code-BNYS-306 | **THEORY COURSE** | **L-T-P-C** |  |
|  | **MODERN DIAGNOSIS AND FIRST** |  |
| **Unit 1** | **I. Examination of Patients :-**1. Approach to a patient2. History taking and case sheet writing3. Symptomatology4. Examination of Vital Data5. Importance of height, weight, abdominal girth |  |
| **Unit 2** | 6. General physical examination7. Examination of breasts, back, spine and genitals8. Systemic examination of the patient a) Abdomen (Digestive system) b) Cardiovascular System c) Respiratory System d) Renal system e) Central Nervous system f) Locomotor system g) Examination of ear , nose and throat h) Gynaecological examination 9. Provisional Diagnosis |  |
| **Unit 3** | **II. Routine and special Investigations :-**1. Laboratory Investigation a) Urine analysis b) Stool examination c) Blood examination i) Peripheral smear, Total WBC Count, Differential WBC Count ii) Erythrocyte sedimentation rate (E.S.R), Hb Estimation iii) Blood Sugar, Blood Urea, Serum uric acid, Serum cholesterol, Serum lipid profile, Serum creatinine.2. Radiological Investigation :- a) Plain chest X-Ray b) K.U.B. c) Lumbar and cervical spine d) Skull and paranasal sinuses e) Joints3. Contrast Radiography a) Cholecystography b) Pyelography d) Angiography e) Bronchogram |  |
| **Unit 4** | 4. Electrocardiography5. Echo- Cardiography6. Coronary angiography7. Electro- Encephalography8. Bio-chemical investigations-  a) Liver function tests b) Creatinine clearance test c) Vanillo-mandellic acid (VMA) excretion test in urine d) SGOT and SGPT e) LDH f) CPK |  |
| **Unit 5** | 9. Diagnostic Paracentesis10. Diagnostic Thoracocentesis11. Lumbar Puncture and CSF analysis12. Radio-active Iodine up-take studies13. Thyroid T3, T4 estimation |  |
| **Unit 6** | 14. Diagnostic skin tests15. Endoscopic procedures16. Ultra-sonography17. Computerised tomographic scan (CT Scan)18. Magnetic Resonance technique (MRI)19. Positron Emission Tomography (PET)20. Doppler Study |  |
| **Unit 7** | **III. Final Diagnosis****Section B- FIRST AID**1. General principles of First Aid2. Wounds Control of hemorrhage, Epistaxis3. Shock- Classification and treatment4. Dog bite, Snake bite, Scorpion sting5. Burns and Scalds6. Heat exhaustion, heat stroke and fainting, frost bite7. Fractures, dislocations, sprains and strains8. Poisoning9. Epileptic fits, convulsions in children10. Aspiration of foreign body11. Artificial respiration12. Bandages of different types13. Unconsciousness and general principles of treatment |  |
| **Unit 8** | **Section C- Recognition, Evaluation of Clinical Emergencies.****I. Cardio Vasular System :-** 1. Acute myocardial infarction 2. Cardiogenic Shock 3. Cardiac arrhythmias 4. Cardiac arrest**II. Respiratroy System-**1. Hemoptysis 2. Status asthmaticus 3. Spontaneous pneumothorax 4. Acute respiratory failure**III. Gastro Intestinal System :-**1. Acute Vomiting 2. Perforation of Peptic Ulcer 3. Hemetemesis 4. Hepatic Precoma and coma**IV. Central Nervous System :-** 1. Unconscious patient 2. Cerebrovascular catastrophes 3. Convulsions 4. Status epilepticus**V. Renal System :-**1. Acute renal failure 2. Renal colic 3. Hematuria**VI. Endocrine and Metabolism :-**1. Thyroid crisis 2. Adrenal Crisis 3. Diabetic Keto acidosis and coma 4. Hypoglycemia**VII. Miscellaneous Emergencies-** 1. Syncope 2. Acute peripheral circulatory failure 3. Acute reaction 4. Hypothermia |  |

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| **MODERN DIAGNOSIS AND FIRST** |
| **Course Code BNYS-312P** | **MODERN DIAGNOSIS AND FIRST** |
| **Course Contents** |
| **Experiment - 1** | History taking and physical examination of cases. |
| **Experiment - 2** | Case sheet writing in different general cases (25) |
| **Experiment - 3** | Demonstration of equipments and instruments used for investigation in modern diagnostics |
| **Experiment - 4** | Demonstration tour of an ultra modern super-speciality Hospital to see the latest techniques of modern investigations. |