



SWAMI VIVEKANAND SUBHARTI UNIVERSITY

(Established under UP Govt. Act No. 29 of 2008 and approved under section 2 {F} of UGC act, 1956)

**MAHARISHI AUROBINDO SUBHARTI COLLEGE & HOSPITAL OF
NATUROPATHY & YOGIC SCIENCES, MEERUT, U.P.INDIA**

ANNEXURE-2 AS PER ORDINACE NO: - V-116

SYLLABUS & CURRICULUM FOR DOCTOR OF MEDICINE (MD) IN YOGA

**Subhartipuram, NH-58, Delhi- Haridwar Bypass Road, Meerut-
250005(UP), India**

ANNEXURE 2

MD IN YOGA

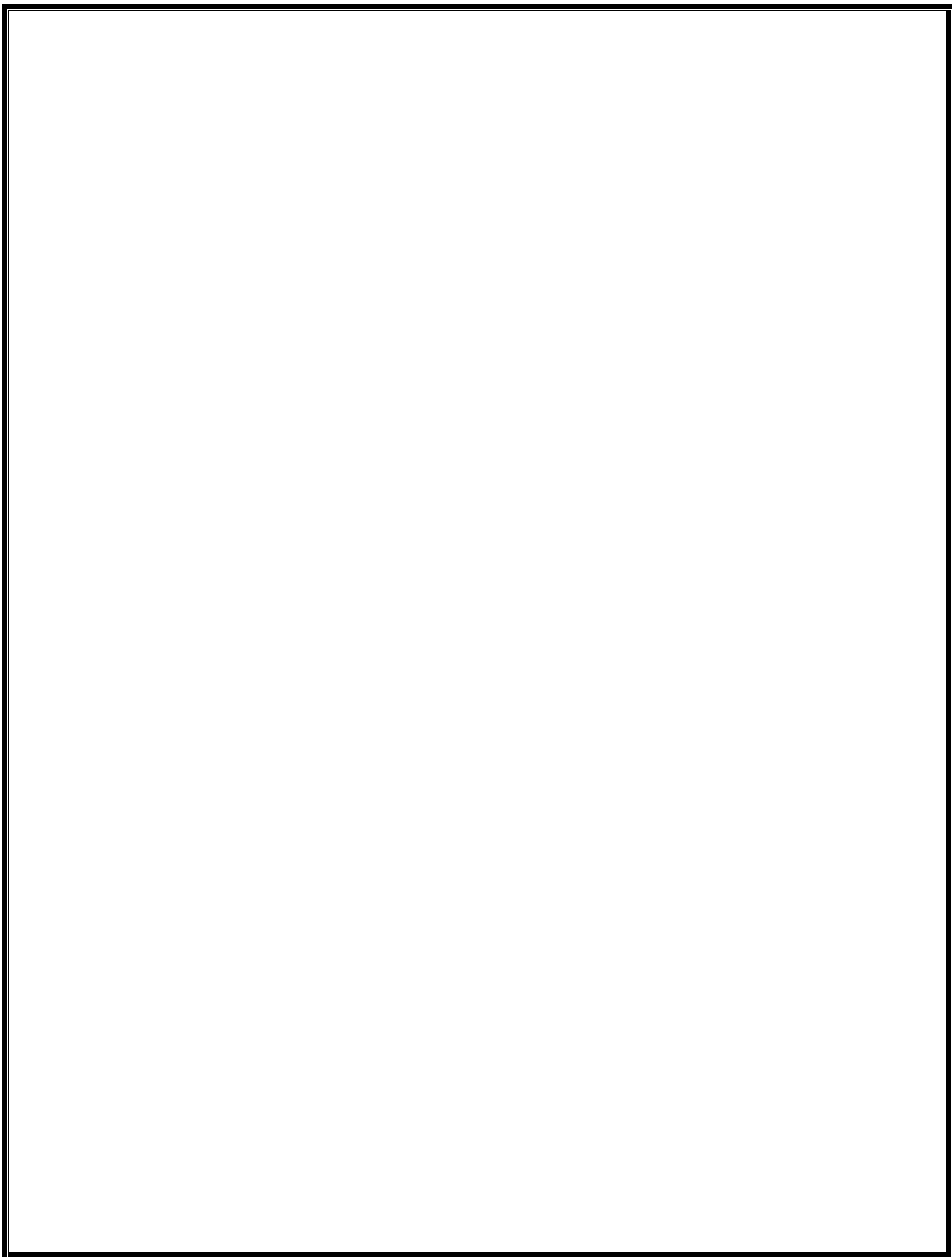
SYLLABUS

Paper 1

APPLIED BASIC MEDICAL SCIENCES AND CONCEPTS OF HEALTH & DISEASES IN YOGA

Philosophy and Practice of Yoga:

1. Principles of yoga from traditional yoga texts
2. Comprehensive understanding of concepts of health and disease as described in
 - (i) Vedas
 - (ii) Upanishads
 - (iii) Bhagavad-Gita
 - (iv) Yoga Vasista,
 - (v) Patanjali yoga sutras
 - (vi) Hatha yoga texts
3. History & evolution of yoga as a therapy in mind-body medicine
4. Principles and practice of traditional yoga techniques and derived techniques from reputed yoga schools based on the descriptions from the ancient texts
5. Philosophical and scientific basis of yoga as a technique for self-empowerment, states of consciousness as enunciated by Upanishads and their relevance to health, principles of health promotion, disease prevention, healing and quality of life in yoga
6. Relevance of yoga along with naturopathy in the prevention and management of stress related/lifestyle related disorders;
7. Relationship between yoga, health and spirituality
8. Insights from yoga for women's & child health
9. Use of yoga as an effective therapy for different socio-economic populations.



Applied Basic Medical Sciences Relevant To Yoga:

31 Applied anatomy, applied physiology and Biochemistry related to advancement in understanding the physiological effects of different yoga techniques

32 Applied basic medical sciences in establishing the physiological basis for symptomatology and indicators of health & disease used in yoga for example, breathing patterns related to different mental states and association of distinct breathing patterns and changes with physical and mental disorders.

33 Microbiology and pathology' related to advancement in understanding of Pathophysiology and pathogenesis relevant to the concepts of health and disease in yoga. Clinical Pharmacology*- Introduction to principles of drug therapy; Adverse reactions to drugs; Physiology and pharmacology of the autonomic nervous system; Nitric oxide and its' biologic and medical implications.

* This provides the required knowledge to handle patients who are on conventional medications while offering yoga therapy.

Physiological Basis and Clinical Relevance Of Yoga

Physiological effects of techniques used in yoga viz.

- Yoga based cleansing techniques [Kriyas]
- Yoga postures [Asanas],
- Breathing exercises
- Yoga based voluntarily regulated breathing (Pranayamas)
- Guided relaxation (Yoga Nidra)
- Meditation (Dhyana)
- Derived techniques of various traditional & reputed schools
- Yoga based psychological counseling

Clinical relevance of therapies used in yoga:

Clinical applications and underlying mechanisms for the individual and combinations of yoga techniques used in yoga. The disease specific yoga modules are evolved based on **(i)** traditional descriptions of therapeutic

benefits of yoga techniques, **(ii)** available physiological effects of yoga techniques and **(iii)** clinical observations.

Reference Books:

Anatomy/physiology/Biochemistry/Biostatics

- Samson Wright's Applied Physiology, Oxford University Press (India). 1998
- Clinical Anatomy: A Revision and Applied Anatomy for Clinical. Students, Harold Ellis, Blackwell Publishing, 2006.
- Applied Biochemistry of Clinical Disorders (Hardcover). Allan G. Gornall, Lippincott Williams & Wilkins, 1981.
- Clinical Handbook of Psychological Disorders, Third Edition. A Step-by-Step Treatment Manual (Hardcover), David H. Barlow. The Guilford Press; 2001
- Essentials of Pathophysiology: Concepts of Altered Health States Caro Mattson Porth, Lippincott Williams & Wilkins, 2006.
- Basic Pharmacology (Paperback). Perspective Press (Editor), Morton Publishing Company; 2000
- Clinical Neuroanatomy for medical students. 4th edition.
- Textbook of medical physiology, Guyton. 9th edition.
- Review of medical physiology, Ganong, 18th edition.
- Harper's Biochemistry, 25th edition.
- Lippincott's illustrated review - biochemistry, 2nd edition.
- Methods in Biostatistics, B.K. Mahajan, 6th edition.

Pharmacology/Microbiology/Pathology:

- Textbook of pharmacology, Goodman and Gillmann's.
- Washington manual of Medical Therapeutics, 29th edition.

Yoga and allied science:

- Complete Book of Yoga : Karma Yoga, Bhakti Yoga, Raja Yoga, Jnana yoga (Hardcover) by Swami Vivekananda, Vijay Goel, 2005

- Hatha Yoga Pradipika (Light on Hatha Yoga) by Maharishi Swatimarama, translation and commentary by Swami SatyanandaSaraswati and Swami Muktibodhananda, Bihar School of Yoga
- The Upanishads by EknathEaswaran, Nilgiri Press, 2007
- Wisdom of the Vedas (Theosophical Heritage Classics) by J. C. Chatterji, Quest Books, 1992
- The Science of Yoga (A commentary on Patanjali's Yoga Sutras). By I.K. Taimini; the Theosophical Publishing House, 2005.
- The Bhagavad-Gita (Classics of Indian Spirituality) by EknathEaswaran, Nilgiri Press; 2007
- Vasistha'Yoga by Venkatesananda (Author), Stale University of New York Press. 1993
- Asana Pranayama Mudra Bandha by Swami SatyanandaSaraswati, Bihar School of Yoga. 2000
- Prana Pranayama PranaVidya by Swami NiranjananandaSaraswati, Bihar School of Yoga, 2000
- Yogic Nutrition by Gina L. Nick. LTP Publishing, 2005
- Yoga for Health, Relaxation and Well-Being (Gotta Minute) by Nirvair Singh Khalsa, 2001
- Meditation As Medicine: Activate the Power of Your Natural Healing Force (Paperback) by Dharma Singh Khalsa, Simon & Schuster, 2002
- Meditation: classic and contemporary perspectives by Deane H. Shapiro, Roger N. Walsh, Aldine Transaction, 1984
- The Power of Yoga: Health, Exercise, Stress Relief & Relaxation, Mind & Spirit It by VimlaLalvani, 2004
- Yoga for Health by Richard Hittleman, 1985
- Dr. Yoga: A Complete Guide to the Medical Benefits of Yoga (Yoga for Health) by NirmalaHeriza, Dean Ornish, and C Noel BaireyMerz, 2004
- Hatha Yoga Pradipika Swami Muktibodhananda (Yoga Publications Trust, Munger Bihar 1993)

- Yoga for Wellness: Healing with the Timeless Teachings of Viniyoga by Gary Kraftsow (Paperback - Oct 1, 1999)
- Yoga for Your Type : An Ayurvedic Approach to Your Asana Practice by Dr. David Frawley and Sandra Summer QeldKozak
- Dr Yoga: A Complete Guide to the Medical Benefits of Yoga (Yoga for Health) by NirmalaHeriza, Dean Ornish, and C. Noel BaireyMerz (Paperback - Sep 9 2004)
- Light on yoga, the bible of modern yoga... By b. K. S. Iyengar and yehudimenuhin (paperback -Jan 3, 1995)
- The sivananda companion to yoga: a complete guide to the physical postures, breathing exercises, diet, relaxation, and meditation techniques of yoga by sivanda yoga center and vishnudevananda (paperback - April 19, 2000)
- The Sivananda Companion to Meditation. How to Master the Mind and Achieve Transcendence by Sivananda Yoga Center and Sivananda Yoga Vedanta Centers (Paperback - Sep 9, 2003)
- Thirty Minor UpanisadK.Narayana Swami Aryar (Panmal Publications, Dehh 2003)
- The Science of Yoga. I. K. Taimini. (The Theosophical Publishing House. Adyar Chennai 2005)
- TM Discovering Inner Energy and Overcoming Stress. Harhold H Bloomfield (Doll Publishing company Inc., New York 1975)
- Prana -Pranayama -PranaVidya Swami Niranjanandasaraswati (Yoga Publications Trust, Munger Bihar 1994)
- Anatomy of Hatha Yoga: A Manual for Students, Teachers, and Practitioners by H David Coulter, (Hardcover - Oct 2001)
- Anatomy of Hatha yoga. H. David Coulter. (Body and breath Inc USA 2001)
- The Philosophy, Psychology and Practice of yoga Swami Chidananda. (The Divine Life Society UP Himalayas 1991)

- The Principal Upanisads Swami Sivananda . (The Divine Life Society UP Himalayas 4th Ed 1998)
- Meditation and Mantras. Swami Vishnu Devananda (MotilalBanarasidass Publishers pvt ltd 3rd Ed 2003)
- Soul Mind Body Medicine: A Complete Soul Healing System for Optimum Health and Vitality by Zhi Gang Sha (Paperback - April 14, 2006)
- Yoga, Tai Chi, Massage, Therapies & Healing Remedies (Paperback - 2003)
- Naturopathy and Yoga by ParveshHanda (Hardcover - Oct 30, 2006)
- Speaking of Yoga for Health (Your Health Guide) by Institute Of Naturopathy (Paperback - Dec 6,2003)

Paper 2

Diagnosis Using Conventional Medicine & Indicators of Disease Process in relevant discipline and Therapeutic Management of Disorders

Disorders of the cardiovascular system

- a) Alteration in circulatory and Respiratory functions:-Dyspnoea, cough, approach to the patient with a history of stable or unstable angina, approach to the patient with hypertension; cyanosis; edema; shock.
- b) Diagnosis and approach to the patient with heart disease-physical examination the cardiovascular system. Knowledge about conventional treatments.
- c) Disorders of the heart; normal and abnormal myocardial functions, heart failure
Congenital heart disease in the adult, Rheumatic fever, Valvular heart disease, Cardiac pulmonale; Cardiomyopathies; Myocarditis; Pericardial disease, Cardiac Manifestations of systemic diseases
- d) Vascular disease; atherosclerosis; acute myocardial infarction; ischemic heart Disease; hypertensive vascular disease; vascular disease of the extremities
- e) Cardiac rehabilitation
- f) Evidenced-based protocol for different cardiovascular system.

Disorders of the respiratory system

- a) Diagnosis and approach to the patient with disease of the respiratory system.
Knowledge about conventional treatments.
- b) Disorders of the respiratory system; Bronchial Asthma; Chronic bronchitis.
- c) COPD; emphysema and airway obstruction; disorders of ventilation; sleep apnea;
Acute respiratory distress syndrome, pulmonary rehabilitation
- d) Evidenced-based protocol for different respiratory system.

Disorders of the kidney and urinary tract

- a) *Alterations in Urinary functions and Electrolytes*; cardinal manifestations of the Renal disease; voiding dysfunction, incontinence and bladder pain; fluid and

Electrolyte disturbances; acidosis and alkalosis.

- b) *Alterations In The Urogenital Tract*: impotence; disturbances of menstruation and other common gynaecologic complaints in women.
- c) Approach to the patient with diseases of the kidney and urinary tract. Knowledge about conventional treatment. Disturbance of renal function, acute renal failure and chronic renal failure.

Disorders of the gastrointestinal system

- a) *Alterations in Gastrointestinal Functions*: dysphagia, nausea, vomiting and Indigestion; diarrhoea and constipation; gastrointestinal bleeding; jaundice, abdominal swelling; ascites.
- b) Approach to the patient with gastrointestinal disease. Knowledge about Conventional treatments
- c) Diseases of the Oesophagus; peptic ulcer and related disorders, disorders of Absorption, IBS, ulcerative colitis and Crohns disease
- d) Liver and Biliary tract disease; Approach to the patient with liver disease; Evaluation of liver function; derangements of hepatic metabolism; Bilirubin Metabolism and hyper-bilirubinemia; toxin and drug induced hepatitis; chronic Hepatitis; cirrhosis and alcoholic liver disease; infiltrative and metabolic disease affecting the liver.
- e) Disease of the gallbladder and the bile ducts.
- f) Disorders of the pancreas – Acute and Chronic pancreatitis

Disorders of the Immune System, Connective Tissues and Joints

- a) Haematological alteration – anaemia; bleeding and thrombosis; enlargement of Lymph nodes and spleen
- b) Pathophysiology and management of Pain -chest discomfort and palpitation – Abdominal pain – headache– back and neck pain
- c) Approach to the patient with the disorder of immune system, connective tissue and joints.

- d) Disorders of the immune system – Introduction to immune system, major histocompatibility, primary immune deficiency disease; HIV disease; AIDS and related disorders; Amyloidosis
- e) Disorder of immune mediated injury – Disease of immediate type hypersensitivity; systemic lupus erythematosus; Rheumatoid arthritis; Dermatomyositis and polymyositis; Sjogren’s syndrome, Ankylosing spondylitis; Behcet’s syndrome; the Vasculitis syndromes; Sarcoidosis.
- f) Disorders of the joints – Approach to articular and musculoskeletal disorders; Osteoarthritis; arthritis due to deposition of calcium crystals, infectious arthritis Psoriatic arthritis and arthritis associated with gastrointestinal diseases; relapsing polychondritis and other arthritis.

Disorders of Endocrine and Metabolism

- a) Alteration in body temperature: fever and hyperthermia; fever and rash Hypothermia.
- b) Endocrinology – Approach to the patient with endocrine and metabolic disorder. Knowledge about conventional treatments.
- c) Obesity, anorexia nervosa and bulimia nervosa; enteral and parenteral nutritional therapy; vitamin deficiency and excess-disturbance in trace elements
- d) Neuroendocrine Regulation and diseases of the anterior pituitary; diseases of the Thyroid; diseases of the adrenal cortex, pheochromocytoma; diabetes mellitus; Hypoglycaemia; disorders of the testis, ovary and female reproductive tract; Endocrine disorders of the breast; disorders affecting multiple endocrine systems.
- e) Disorders of intermediary metabolism – disorders of the lipoprotein metabolism Hemochromatosis; porphyrias; gout and other disorders of purine metabolism.
- f) Disorders of bone and mineral metabolism – calcium, phosphorous, bone Metabolism; calcium regulating hormones; diseases of the parathyroid gland Metabolic bone disease; disorders of phosphorous metabolism.

Reference books:

Cardiology

- 1) The clinical recognition of congenital heart diseases - Joseph K Perloff, 4th edition
Jaypee
- 2) An introduction to electrocardiography -- Leoschamroth, 7th edition Black well
Science
- 3) Practical Electrocardiography - Marriot, 9th edition Textbook of Cardiovascular
Medicine - Eugene Braunwald, 5th edition.
- 4) The heart - Hurst, 9th edition
- 5) Congenital Heart Diseases in Adults - Perloff, 2nd edition. Cardiovascular and
Pulmonary Physical Therapy : An Evidence-based Approach by William E. DeTurk
and Lawrence P Cahalin
- 6) Complementary and Alternative Cardiovascular Medicine: Clinical Handbook
(Contemporary Cardiology Ser) (Contemporary Cardiology) by Richard A. Stein and
Mehmet C Oz (Hardcover - Mar 5. 2004)
- 7) Complementary and Alternative Cardiovascular Medicine: Clinical and book
(Contemporary Cardiology Ser) (Contemporary Cardiology) by Richard A Stein and
Mehmet C Oz (Hardcover - Mar 5, 2004)
- 8) The Cardiovascular Cure: How to Strengthen Your Self Defense Against Heart Attack
and Stroke by John P Md Phd Cooke and Judith Zimmer (Paperback - Aug 12, 2003)
- 9) Cardiovascular and Pulmonary Physical Therapy : An Evidence-based Approach by
William E DeTurk and Lawrence P Cahalin (Hardcover -Mar 12, 2004)
- 10) Integrative Manual Therapy for the Connective Tissue System Myofascial Release by
Sharon Giammatteo, Jay Kain, and Thomas Giammatteo (Hardcover - Nov 10, 2005)

Respiratory Medicine/Critical Care Medicine

- 1) Chest medicine essentials of pulmonary and critical medicine. Ronald I. George, 3rd
edition (Williams and Wilkins)
- 2) Annual of Intensive Care Medicine, Irwin and Rippe, 3rd edition.
- 3) Textbook of Respiratory Diseases, Crofton and Douglas
- 4) A Practical guide to pulmonary medicine, Goldstein.
- 5) Interpretation of Pulmonary Function Tests, Hyatt, Scalan

- 6) Swasa Sanjeevani, Asthma, Subramanyam G: (Vishalandra publishing house, Hyderabad 2000)

Nephrology

- 1) Textbook of renal disease, Judith, lowrence, 2nd edition (Churchill Livingstone)
- 2) Diseases of kidney, Schrier, 6th edition (Little Brown).
- 3) Manual of Nephrology.

Gastro - Enterology

- 1) Current diagnosis biliary and treatment in Gastroenterology
- 2) Diseases of the liver and system - S Sherlock, Dooley, 10th edition (Blackwell Sciences)
- 3) Gastrointestinal and liver diseases - Mark Feldman, Bruce Scharschmidt 6th edition (Saunders)
- 4) Schiff's Diseases of the liver - Schiff, 8th edition
- 5) Healing Digestive Disorders Natural Treatments for Gastrointestinal Conditions by Andrew Gaeddert (Paperback - Feb 25, 2004)
- 6) Natural Stomach Care: Treating and Preventing Digestive Disorders with the Best of Eastern and Western Healing Therapies by Anil Minocha (Paperback - Aug 7, 2003)
- 7) Hydrotherapy: Simple Treatments for Common Ailments by Clarence W. Dail and Charles S. Thomas (Paperback - Sep 1989)
- 8) The Duke Encyclopedia of New Medicine: Conventional and Alternative Medicine for All Ages by the Duke Center for Integrative Medicine, Richard Liebowitz. Linda Smith, and Tracy Gaudet (Hardcover - Nov 14, 2006)
- 9) The American Physical Therapy Association Book of Body Maintenance and Repair by Steve Vickery and Marilyn Moffat (Paperback - April 15, 1999)
- 10) Fasting and Eating for Health: A Medical Doctor's Program for Conquering Disease by Joel Fuhrman and Neal D. Barnard (Paperback -April 15, 1995)

Immune system, connective tissue and joints

- 1) Healing Immune Disorders: Natural Defense-Building Solutions by Andrew Gaeddert (Paperback - Nov 8, 2005)

Rheumatology

- 1) Rheumatology, John Klippel, 1994.

Endocrinology

- 1) William's textbook of endocrinology, Wilson Fuster, 9th edition (W.B. Saunders)
- 2) User's Guide to Thyroid Disorders (Basic Health Publications User's Guide) by Kathleen Barnes (Paperback - Mar 2, 2006)

Paper 3

- **Diagnosis Using Conventional Medicine & Indicators Of Disease Process in relevant discipline and The Therapeutic Management Of Disorders**

Neurological disorders:

- 1) Nervous System Dysfunction: Faintness, Syncope, Dizziness, Vertigo; Weakness
Abnormal movements and Imbalance; Episodic muscle spasms, Cramps weakness: tingling and sensory loss, numbness; acute confusional states, other focal cerebral disorders: memory loss and dementia; disorders of sleep and circadian rhythms
- 2) Approach to the patient with neurologic diseases Knowledge about conventional treatments.
- 3) Electro-physiologic studies of central and peripheral nervous system, neuro imaging in neurological disorders.
- 4) Diseases of the central nervous system—migraine and cluster headache syndrome; seizures and epilepsy; Alzheimer's disease and other primary dementias; Parkinson's disease and other pyramidal disorders: ataxia disorders: disorders of ANS; disorders of cranial nerves; disease of spinal cord; disorders of the nerves and muscles disease of the peripheral nervous system; myasthenia gravis; muscular dystrophy, other disease of neuromuscular junction; disease of muscle ; Chronic fatigue syndrome; Alcoholism and drug dependency—alcohol and alcoholism—opioid drug abuse and dependence ; Neurological rehabilitation

Dermatological disorders

- 1) Alterations in skin—approach to the patient with skin disorders.
- 2) Approach to the patient with dermatological diseases, Knowledge about Conventional treatments
- 3) Eczema; psoriasis; acne vulgaris; allergic dermatitis, other common skin disorders; skin manifestation of internal disease

Psychiatric disorders

- 1) Approach to the patient with psychiatric disease, Knowledge about conventional treatments.
- 2) Anxiety neurosis ; depression; obsessive compulsive disorders; manic depressive
- 3) psychosis; bipolar disorder; mood disorders; personality disorder; Psychiatric
- 4) rehabilitation

Oncology

- 1) Approach to the patient with cancer, Knowledge about conventional treatments
- 2) Psycho-social factor in the etiology and pathogenesis of cancer
- 3) Benign and malignant carcinomas, knowledge about conventional diagnostic procedures, radio therapy and chemotherapy
- 4) Principal and practice of integrative oncology i.e., use of conventional and natural management strategies and psycho-social care in oncology
- 5) Psychosocial rehabilitation

Obstetrics and Gynecology

- 1) Approach to the patient with pregnancy, Knowledge about conventional care.
- 2) Antenatal care; maintenance of normal pregnancy; child birth; post natal care
- 3) Approach to the patient with gynaecological complaints, Knowledge about conventional care.
- 4) Menstrual disturbances. Infertility; uterine diseases; ovarian diseases; pelvic tumours.
- 5) Family planning procedures

Disorders of Eyes, Ears, Nose and Throat

- 1) Approach to the patient with ENT diseases, Knowledge about conventional
- 2) Treatments
- 3) Disorder of the eye, disorders of nose, ears and throat

Environmental and occupational health hazards

- 1) Specific environmental and occupational hazards related to
 - a. food products,
 - b. cosmetics,
 - c. drugs, and
 - d. indoor and outdoor living environment; work environment and ergonomics

Reference books and other materials

Neurology

- Principles of neurology - Adam's, Victor, 6th edition (McGrawHill).
- Diseases of the Brain - Ed Brain, John Walton, 10th edition (OxfordUniv)
- Neurological differential diagnosis - JohnPatten
- Evidence-Based Neurology: Management of Neurological Disorders (Evidence- based Medicine) by Charles Warlow, Richard Hughes, Bernard Uitdehaag, and Alessandro Liberati (Hardcover - May 1, 2007) –Illustrated
- The Cardiovascular Cure: How to Strengthen Your Self Defense AgainstHeart Attack and Stroke by John P Md Phd Cooke and Judith Ziminer (Paperback - Aug 12, 2003)
- Attention Deficit Hyperactivity Disorder (The Latest Assessment and Treatment Strategies) by C. Keith, Ph.D. Connors and Juliet L. Jett (Paperback - Jun1999)
- Complementary and Alternative Medicine and Multiple Sclerosis by Allen C. Bowling (Paperback - Nov 13,2006)

Dermatology

- Healing Skin Disorders: Natural Treatments for Dermatological Conditions by Andrew Gaeddert (Paperback - Aug 12,2003)

Psychiatry

- Clinical Handbook of Psychological Disorders, Third Edition: A Step-by-Step Treatment Manual (Hardcover), David H Barlow, The Guilford Press;2001
- The Physicians Guide to Depression and Bipolar Disorders by Dwight L Evans and Dennis S Charney (Paperback - Nov 10.2005)
- Physical Therapy The Truth: For Students, Clinicians, and Healthcare Professionals by Monie Phillips PT (Paperback - April 11.2006)

Geriatrics/gerontology

- Geriatric Medicine, 3rdedition

Oncology

- Principles and practice of oncology, DeVita.
- Clinical Oncology (Book with CD-ROM for Windows & Macintosh) by Raymond E., Jr. Lenhard, Robert T. Osteen, and Ted Gansler (Hardcover - Nov 1, 2000) – Illustrated
- An Introduction to Psycho-Oncology by Patrice Guex (Paperback - Dec 22,1993)
- Cancer Nursing: Principles And Practice (Jones and Bartlett Series inOncology) by Connie Henkc Yarbrow, .Margaret Hansen Frogge, and Michelle Goodman (Hardcover - April 18,2005)
- Oxford Handbook of Oncology (Oxford Handbooks) by James Cassidy and D. Bissett (Paperback - Jun 15,2002)
- Lecture Notes: Oncology (Lecture Notes) by Mark Bower and Jonathan Waxman (Paperback - Mar 1,2006) –Illustrated
- Herb-Drug Interactions in Oncology by Barrie R. Cassileth and Charles D. Lucarelli (Paperback - Jul 1,2003)

Neutraceuticals and natural herbs in health and disease

- The American Pharmaceutical Association Practical Guide to Natural Medicines by Andrea Peirce (Hardcover - Mar 3,1999)
- The Natural Medicine Guide to Bipolar Disorder (The Healthy Mind Guides) by Stephanie Marohn (Paperback - Mar2003)
- The PMDD Phenomenon : Breakthrough Treatments for PremenstrualDysphoric Disorder (PMDD) and Extreme Premenstrual Syndrome by Diana L. Dell and Carol Svec (Paperback - Sep 25, 2002)
- Bountiful, Beautiful, Blissful: Experience the Natural Power of Pregnancy andBirth with Kundalini Yoga and Meditation by Gurmukh Kaur Khalsa and Cindy Crawford (Paperback - Jun 1, 2004)

Environmental and occupational health hazard.

- Environmental and Occupational Health Hazards (Clinics in Laboratory Medicine, 4:3) by Robert V. Blanke (Hardcover -1984)
- Illustrated Dictionary and Resource Directory of Environmental and Occupational Health, Second Edition by Herman Koren

(Hardcover - May 11,2004)

- Occupational Hazards in the Health Professions by Dag K. Brune and Christer Edling (Hardcover - Jul 31,1989)
- Environmental Hazards and Human Health by Richard B. Philp (Hardcover - April 13,. 1995)
- Environmental and Industrial Health Hazards A Practical Guide by R. A Trevethick (Hardcover - Jun1976)
- Agricultural Medicine: Occupational and Environmental Health in Agriculture for the Health Professions by Kelley J. Donham and Anders Thelin (Hardcover - May 1, 2006) –Illustrated
- Energy Medicine in Therapeutics & Human Performance by James L. Oschman (Paperback - Mar 8,2003)

Physical Therapy

- Handbook of Pediatric Physical Therapy by Toby Long and Kathy Toscano (Paperback - Sep 1,2001)
- Occupational Therapy: Practice Skills for Physical Dysfunction by Lorraine Williams Pedretti and Mary Beth Early (Hardcover - Jan 15,2001)
- Introduction to Physical Therapy by Michael A. Pagliarulo (Paperback -Jul 31, 2006)
- Occupational Therapy for Physical Dysfunction by Mary Vining Radomski and Catherine A Trombly (Hardcover - Mar 1,2007)
- Physical Therapist Examination Review by Theresa Meyer (Paperback -Nov 30, 2001)
- Guide to Physical Therapist Practice by Apta and American Physical Therapy Association (Paperback - Jan2001)
- Quick Reference to Physical Therapy by Julie A. Pauls and Kathlyn L Reed (Paperback - Nov2003)

RESEARCH METHODOLOGY AND RECENT ADVANCES IN YOGA

Research methodology

1. Research methodology
2. Research problem and process
3. Constructing hypotheses
4. Research design
5. Sampling design & sampling fundamentals
6. Variables
7. Measurement and scaling techniques
8. Method of data collection
9. Processing and analysis of data
10. Parametric and non-parametric test
11. Interpretation and report writing
12. Medical writing and Project proposal preparation.

BIOSTATISTICS

1. Introduction to Biostatistics
2. Definition, role of statistics in health science and health care delivery system
3. Sampling Population, sample, sampling, reasons for sampling, probability and non-probability sampling, Methods of probability sampling-simple random, stratified, systematic procedure, merits and demerits. Use of random number table.
4. Organization of data, Frequency table, histogram, frequency polygon, frequency curve, bar diagram, pie chart.
5. Measures of location Arithmetic mean, median, mode, quartiles and
6. Percentiles – definition, computation (for raw data), merits, demerits and applications.
7. Measures of variation: Range, inter –quartile range, variance, standard deviation, coefficient of variation- definition, computation (for raw data), merits, demerits and applications. skewness and kurtosis.
8. Basic probability distributions: - Concept of probability distribution. Normal, Poisson and Binomial distributions, and application. Concept of sampling distributions. Standard error and confidence intervals.

9. Tests of significance: Basic of testing of hypothesis – Null and alternate hypothesis, type I and type II errors, level of significance and power of the test, p value.
10. Tests of significance (parametric) – t – test (paired and unpaired), Chi square test and test of proportion.
11. Correlation and Regression: Scatter diagram, concept and properties of correlation coefficient, examples (No computation Simple correlation) Pearson's and Spearman's, testing the significance of correlation coefficient.
12. Linear and multiple regressions.
13. Synthesizing the evidence: integration of the evidence using both quantitative and qualitative methods; principles of meta-analysis.
14. Formulating recommendations and writing the review.

Recent Advances

- Psychophysiology of yoga in health and disease psychophysiology of biological rhythms, emotions, behavior and aging.
- Psychoneuroimmunology [**PNI**] and psychoneuroendocrinology- explaining the mind-body connection and disease.
- Stress and its impact on health and disease; Physiological mechanisms underlying 'stress response'; stress and infection; Oxidative stress; stress and psychosomatics; stress and health behavior; stress and mental health; stress and lifestyle; stress and social aspects of medicine; Somatization and stress related diseases. Psychosomatics and psychosomatic medicine-role of human thinking, behavior and life style in the etiology, pathogenesis, clinical manifestations and management of non-communicable life-style related diseases.
- Mind-body medicine physiological basis of mind-body medicine; rational use of mind-body medicine to elicit 'relaxation response' as an antidote to stress response and understanding their limitations.
- Lifestyle and psychosocial behavior-health education and yoga in prevention in high risk groups, effective management of chronic lifestyle related diseases and minimization of subsequent medical complications.
- Inherent healing capacities and yoga therapies-physiological basis of inherent healing capacities of human body and mind; concept of spontaneous regression;

role of positive thinking, health behavior and yoga therapies in spontaneous regression; and clinical implications of yoga therapies in eliciting inherent healing capacities

- Religious faith, Spirituality and medicine-role of faith in health and disease; spirituality, spiritual practices in health and disease; health behavior, positive thinking and coping behavior related to faith and spirituality.
- "Contemplative Neuroscience": States of Consciousness and health; psycho-neurobiology of states of Consciousness; Altered states of Consciousness; Higher states of Consciousness induced by meditation; states of Consciousness and health.
- Yoga and holistic medicine-integrating the physical, psychological, mental, social and spiritual needs of an individual in promotion of positive health, prevention of diseases and disabilities, management of diseases and overall improvement in 'quality of life'.
- Traditional significance modern relevance and clinical implications of derived yoga techniques by Indian Gurus and institutions viz.
 - Maharishi Mahesh yoga-Transcendental meditation,
 - Goenka- Vipasana meditation,
 - PrajapithaBrahmakumarisvishwavidhyalaya- Rajayoga meditation
 - Bihar School of yoga -Yoga nethra,
 - Swamy Vivekananda Yoga Research foundation- cyclic meditation,
 - The art of Living Foundation- sudarshanKriya Yoga,
 - Sahaja Yoga,
 - Kundalini yoga
- Traditional significance, modern relevance and clinical implications of derived yoga techniques by 'yoga gurus and institutions from other cultures' viz.
 - Tibetan yoga-G-Tum-Mo meditation,
 - Chinese mind modifying techniques-Qi-Gong and Tai-chi.
 - Japanese Zen meditation,
 - Christian Contemplative meditation,
 - Herbert Benson's Relaxation response

- Kabat-Zinn's meditation.
- Western psychology and Indian psychology: fundamental principles, techniques and their implications on Consciousness studies and mental health
- Comparative studies between yoga and other Mind-body medicine techniques [Art therapy, Dance therapy, Psychotherapy, Hypnotherapy, Guided imagery and Biofeedback]

References books & other materials:

- *Research methods and statistics*
- Research methods for therapists Avril Rummond, Jo Campling, Nelson, Thames, 1996
- Yoga research bibliography scientific studies on yoga and meditation Robin Monro: (Yoga biomedical trust, England 1989)
- Complementary and Alternative Medicine: Legal Boundaries and regulatory Perspectives by Michael H. Cohen (Paperback - Aug 19, 1997)

Research papers on all concerned topics from peer reviewed journals.

*** The list of reference books and research literature shall be updated every year and submitted to the University for Approval by the institution executing the MD program.**

RESOURCE MATERIALS ON COMPLEMENTARY AND ALTERNATIVE MEDICINE

- **Journals**
 - Journal of Association of Physicians of India (JAP1)
 - British Medical Journal (BMJ)
 - New England Journal of Medicine

- The Lancet
- American Journal of Medicine
- Issues in Medical Ethics
- Indian Journal of Tuberculosis
- Dermatology Clinics
- GUT (Gastroenterology)
- Postgraduate Medical Journal
- Stroke
- Blood
- Neurologic Clinic
- Indian Journal of Nephrology
- Public Health Papers
- **Specific:**
 - Indian Journal of physiology and pharmacology
 - Indian Journal of Medical Research
 - Indian Journal of Medical Sciences
 - Journal of Alternative and Complementary Medicine
 - Advances in Mind-body Medicine
 - Perceptual and Motor skills
 - Psychological reports
- **Databases:-** Cochrane Database of Systematic Reviews-CDSR. Collection of 'systematic reviews' summarizing the findings of completed meta- analyses of the evidence presented in their cited studies. Available via Ovid
 - Ovid MEDLINE
 - ALTMEDX

Books

- ABC of complementary Medicine By Catherine Zollman 2000, BMJ B[^]. London
- The Guide to Complementary and Alternative Medicine on the Internet By Lillian R.Brazin 2004, The Haworth Information press, NY

- Complementary and Alternative Veterinary Medicine Considered By David W Ramey & Bernard E Rollin. 2004 Iowa State Press, Iowa
- Integrative Medicine By Benjamin Kligler & Roberta Lee.2004. The McGraw Hill Companies.
- The Scientific Basis of Integrative Medicine. By Leonard A. Wisneski & Lucy Anderson. 2005. The CRC Press. Boca Raton, FL, USA
- Alternative advisor: the complete guide to natural therapies & alternative treatments. Reference WB 890 A4663 1997
- Alternative health & medicine encyclopedia. Reference WB 890 M378a 1998
- Alternative medicine- what works: A comprehensive, easy-to-read review of the scientific evidence, pro & con. Reference WB 890 F958a 1997
- Complementary and alternative medicine: an evidence -based approach. Info Desk WB 890 C7365 2003
- Complementary and alternative medicine in rehabilitation. 5^U floor WB 890 L629 2003
- Complementary and alternative medicine secrets. Reserve WB 18.2 C737 2002
- Fundamentals of complementary and alternative medicine. 5th floor WB 890 F981 2001
- Integrating complementary medicine into health systems. 5th Floor WB 890 16065 2001
- Integrative health care: complementary and alternative therapies for the whole person. 5th floor WB 890 S572i 2001
- Mosby's complementary & alternative medicine, a research - based approach, 5th floor WB 890 F855m 2004
- Practical dictionary of Chinese medicine Reference W 13 W 814p 2002
- Role of complementary and alternative medicine; accommodating Pluralism, 5th floor WB 890 R745 2002
- Textbook of complementary and alternative medicine. Reference WB 890 T355 2003

E-books

- Integrative medicine. It provides the first definitive clinical reference, for the rapidly growing field of integrative medicine. Using a clinical, disease-oriented approach, integrative Medicine offers practical guidance for safely and effectively integrating complementary and alternative therapies into regular primary care practice. It covers therapies such as botanicals, supplements, mind-body, lifestyle choices, nutrition, exercise, spirituality, and more.
- Alternative Medicine Foundation. American Alternative Foundation Inc. Clearinghouse for CAM information and news, including the Herb Med database. Contains resource guides for a variety of CAM modalities
- Alternative Medicine Homepage, University of Pittsburgh Guide to CAM resource on the Internet Selected sites must meet the following criteria: 1) are authorized body for the CAM system;2) provides quality information in an objective manner, 3) are resources for locating quality CAM literature; and 4) sites help individuals make Informed decisions
- Alternative Medicine Health Care Resources. McMaster University Mega-directory of CAM internet sites.
- NOAH (New York Online Access to Health): Complementary and Alternative Medicine. New York Academy of Medicine Library Information guide to CAM resources on the Web; includes sections on different CAM modalities.
- Cochrane Collaboration complementary Medicine Field University of Maryland School of Medicine Overview of the mission and activities of the Cochrane Collaboration Complementary Medicine Field includes links to the Complementary Medicine Field Newsletter, Complementary Medicine Reviews & Protocols and the Cochrane controlled Trials Registry.
- Educational Development for Complementary and Alternative Medicine (EDCAM) Curriculum Resources American Medical Student Association (AMSA)-Included are topical descriptions, research summaries; references in books, journals, and Newsletters; audiovisual materials, web-sites with commentary; suggested reading lists; And reference to CAM courses at other health professional programs

- Holistic Kids. Center for Holistic Pediatric Education and Research This web site provides information on diverse Complementary and Alternative Medicines, local practitioners practicing CAM in the Boston area, resources available to providers, and other useful tools for learning about CAM
- Nutrition.gov. Clearinghouse for nutritional information put out by US government Agencies; includes food facts and safety, health management and lifecycles issues

Government [INTERNATIONAL-US BASED]

- National Center for Complementary and Alternative Medicine- NCCAM National Institutes of Health. Supports rigorous research on CAM with a focus on research, training/career development, outreach, and integration of CAM practices in to conventional medicine Contains information on training, clinical trials, treatments, and alerts/ advisories
- Bed Watch U.S. Food and Drug Association FDA medical product reporting program. Contains safely information and ways of reporting adverse effects of herbs, nutraceuticals, prescription and over-the counter medication
- MEDLINE plus. Alternative Medicine. Contains overviews and research articles on various CAM modalities, including; acupuncture, chiropractic, naturopathy and homeopathy.
- Nutrition gov. Clearinghouse for nutritional information put out government agencies; includes food facts and safety, health mana and lifecycle issues.
- Office of Cancer Complementary and Alternative Medicine-OCCAM National Cancer Institute Coordinates the activities of the National Cancer Institute (NCI) in the arena of complementary and alternative medicine. Information on clinical trials, funding opportunities, and general CAM is provided.
- Office of Dietary Supplements- ODS National Institute of Health Supports research and disseminates research results in the area of dietary supplements. Also provides advice to other Federal agencies regarding research results

related to dietary supplements. Responsible for the International Bibliographic Information on dietary Supplements (IBIDS) database

- Health finder® U S Department of Health and Human Services Searchable guide to reliable consumer health information from the Federal Government.
- Food and Nutrition Information Center-FNIC. U.S Department of Agriculture Collects and disseminates information about food and human nutrition. Contains information on dietary supplements, food composition, and dietary guidelines.