Ordinance No. V (116)

DOCTOR OF MEDICINE - M.D. (NATUROPATHY & YOGIC SCIENCES)-ALL DISCIPLINES

(Duly approved in 27th AC meeting minutes dated 20/05/2020 under agenda no. 10)



SWAMI VIVEKANAND SUBHARTI UNIVERSITY MEERUT

(Established under U.P. Govt. Act no. 29 of 2008 and approved under section 2(f) of UGC Act 1956)

Ordinance No. V (116)

General

- This ordinance may be called the "Ordinance Relating to M.D. (DOCTOR OF MEDICINE) Programme in the following Specialities:
    1. MD (Doctor of Medicine) in Naturopathy
    2. MD (Doctor of Medicine) in Yoga
    3. MD (Doctor of Medicine) in Acupuncture and Energy Medicine
    4. MD (Doctor of Medicine) in Nutrition and Dietetics
- It shall come into force from academic session 2020-21.

Vision

Provide a safe, functional, and comfortable environment conducive to learning, working, and conducting research through Professionalism, Excellence and Teamwork in the field of Naturopathy & Yogic Sciences.

Mission

Impart training & skills for patient-centered care, knowledge of existing and evolving biomedical, clinical, epidemiological and social-behavioral sciences. Develop ability to improve patient care ethically based on self-evaluation and life-long learning through scientific evidence. Inculcate interpersonal and communication skills to engage in an inter-professional team in a manner that optimizes safe, effective patient and population-centered care through Yoga & Naturopathic Medicine.

PROGRAMME OBJECTIVES

At the completion of the postgraduate training in the discipline concerned the student should be able to;

I. Capable to understand the importance of concerned speciality in the context of the health needed in the community and the national priorities in the health section.

II. Able to practise the concerned speciality ethically and follow the principles of primary health care.

III. Demonstrate sufficient understanding of the basic sciences relevant to the concerned speciality.

IV. Able to identify Social, economic, environmental, biological and emotional determinants of health in a given case, and take into account while planning therapeutic, rehabilitative, preventive and primitive measure/ strategies.

V. Diagnose and manage majority of the conditions in the speciality concerned on the basis of clinical assessment, and appropriately selected and conducted investigations.

VI. Plan and advice measures for the prevention and rehabilitation of patients suffering from disease and disability related to the speciality.

VII. Demonstrate skills in documentation of individual case details as well as morbidity and mortality rate relevant to the assigned situation.

VIII. Demonstrate empathy and humane approach towards patients and their families and exhibit interpersonal behaviour in accordance with the societal norms and expectations.

IX. Play the assigned role in the implementation of national health programme, effectively and responsibly.

X. Organize and supervise the chosen/assigned health care services demonstrating adequate managerial skills in the clinic/hospital or the field situation.

XI. Develop skills as a self-directed learner, recognize continuing education needs; select and use appropriate learning resources.

XII. Demonstrate competence in basic concepts of research methodology and epidemiology, and be able to critically analyse relevant published research literature.

XIII. Develop skills in using educational methods and techniques as applicable to the teaching of medical/nursing students, general physicians and paramedical health workers.

XIV. Function as an effective leader of a health team engaged in health care, research or training.

The goal of post graduate programme is to create specialists, who would be able to add a high quality health care and also accelerate/ promote the cause of science through research and training. The following are the goal which a post graduate will be able to achieve.

I. Shall recognize and understand the health needs of the community, and should be capable of caring out the professional duties ethically and adhering with the objectives of the National Health Policies.

II. Shall have comprehended most of the aptitude, pertaining to the speciality required to be practiced at the secondary and tertiary levels of the health care delivery system.

III. Shall be aware of the current advancement and development in the respective discipline.

IV. Shall have acquired the scientific interest and is oriented with principles of research methodology and epidemiology;

V. And shall have acquired the teaching skills of the medical and paramedical professionals.

Statement of competencies

Keeping in view the general objective of postgraduate training, each discipline shall aim at development of specific competencies, which shall be defined and spelt out in clear terms. Each department shall produce a statement and bring it to the notice of the trainees in the beginning of the program so that he or she can direct the efforts towards the attainment of these components.

Components of the postgraduate curriculum:

The major components of the postgraduate curriculum shall be:

- Theoretical knowledge
- Practical and clinical skills
- Writing thesis/ research articles
- Attitudes including communication skills
- Training in research methodology, medical ethics and medico legal aspects

Nomenclature of postgraduate courses

Branches/ Streams/Specialization of studies:-

1. M.D. (Doctor of Medicine) in Naturopathy
2. M.D. (Doctor of Medicine) in Yoga
3. M.D. (Doctor of Medicine) in Acupuncture and Energy Medicine
4. M.D. (Doctor of Medicine) in Nutrition and Dietetics

(Syllabus of each discipline attached as annexure 1, 2, 3 & 4.)

Eligibility for Admission

B.N.Y.S. (4 years 6 months + 1 year Internship) Graduated from a UGC recognised University who has completed 4th year BNYS and 1 year internship with a Degree Certificate

Obtaining eligibility certificate by the University before admission

No candidate shall be admitted for any postgraduate degree course unless the candidate has obtained and produced the eligibility certificate issued by the university. The candidate has to give application to the university with the following documents along with the prescribed fee.

- B.N.Y.S. pass degree/ provisional degree certificate issued by the university.
- B.N.Y.S. Mark cards of all the years of university examination.
- Completion of Internship certificate.
- Proof of SC/ST or category 1, as the case may be.

Intake of students

1. Students for postgraduate courses shall be selected strictly on the basis on University entrance exam i.e. SNET and academic merit or any other norms as put forward by the Government.
2. For determining the academic merit, the university/ institution may adopt any one of the following procedures for degree courses:-
    a. On the basis of merit as determined by the competitive test conducted by the state government or by the competent authority appointed by the state government or by the university/ group of universities in the same state; or
    b. On the basis of merit as determined by a centralized competitive test held at the national level; or
    c. On the basis of the individual cumulative performance at their BNYS examination, if such examination have been passed from the same university: or
    d. Combination of a and c :
    e. Provided that wherever entrance test for postgraduate admission is held by a state government or a university or any other authorized examining body, the minimum percentage of marks for eligibility for admission to postgraduate medical courses shall be 50% for candidates belonging to general category and 45% for the candidate belonging to scheduled Castes, Scheduled tribes and other backward classes.

Duration of study

The course of study shall be for a period of three years.

Method of training

The training mode will be **compulsory residency pattern** with graded responsibilities in the management and treatment of patient entrusted to his/her care.

The candidates shall be trained in theory and practice of respective therapy. The candidates must be exposed to applied basic sciences and clinical training in different specialties.

Period of Training

(1) The period of training for the award of the MD: Programme shall be of three years duration for three academic years as full time candidates in an institution including the period of examination. Provided that the time period required for passing out of the MD Program shall be a maximum of six years from the date of admission in said course.

(2) During the period, each student shall take part actively in learning and teaching activities design by the institution or the university. The teaching and learning activities in each specialty, shall be as under:-

(a) LECTURES: There shall be some didactic lectures in the specialty and in the allied fields. The departments shall encourage guest lecturers in the required areas and integrated lectures by multi-disciplinary teams on selected topics, to strengthen the training programmes.

(b) JOURNAL REVIEW: The journal review meetings shall be held at least once a week. All trainees associated and staffs associated with the post-graduate programme are expected to participate actively and enter relevant details in the logbook. The trainee shall make presentations from the allotted journals of selected articles. A model check list for the evaluation of journal review presentation is annexed at Schedule-I of these regulations.

(c) SEMINARS: The seminars shall be held at least twice a week in each department. All trainees are expected to participate actively and enter relevant details in logbook. A model check list for the evaluation of seminar presentation is annexed at Schedule-II of these regulations.

(d) SYMPOSIUM: It is recommended to hold symposium on topics covering multiple disciplines.

(e) CLINICAL POSTINGS: Each trainee shall work in the clinics on regular basis to acquire adequate professional skills and competency in managing various cases. A model check list for evaluation of clinical postings is annexed in these regulations.

(f) CLINICO- PATHOLOGICAL CONFERENCE: The clinico-pathological conference shall be held once a month involving the faculties. The trainees shall be encouraged to

present the clinical details, radiological and histo-pathological interpretations and participation in the discussions.

(g) INTER-DEPARTMENTAL MEETINGS: To encourage integration among various specialties, there shall be inter-departmental meeting chaired by the Principal with all heads of post-graduate departments at least once a month.

(h) TEACHING SKILLS: All the trainees shall be encouraged to take part in undergraduate teaching programs either in the form of lectures or group discussions. A model check list for evaluation of teaching skills is annexed in these regulations.

(i) EDUCATION PROGRAMS: Each department shall organize educations programs on regular basis involving other institutions. The trainees shall also be encouraged to attend such programs conducted outside their university or institute.

(j) CONFERENCE / WORKSHOPS / ADVANCED COURSES: The trainees shall be encouraged to attend conference/workshops/advanced courses and also to present at least two scientific papers and two posters at State / national level specialty and allied conferences / conventions during the training period.

(k) ROTATION AND POSTING IN OTHER DEPARTMENTS: To bring in more integration among the specialties and allied fields, each department shall workout a program to rotate the trainees in related disciplines.

(l) DISSERTATION / THESIS: The PG student shall prepare a dissertation based on the clinical or experimental work or any other study conducted by them under the supervision of the guide.

(3) All the students of the specialty departments shall complete the minimum quota for the teaching and learning activities, as follows:-

(a)	Journal Clubs :	5 in a year
(b)	Seminars:	7 in a year
(c)	Clinical Case Presentations:	4 in a year

(d)	Lectures taken for undergraduates:	1 subject in a year
(e)	Scientific Paper / Poster Presentations:	4 papers/posters during three years three year in State / National Level Conferences of training workshop.
(f)	Clinico Pathological Conferences period:	2 presentations during three years of training
(g)	Scientific Publications	One publication in any indexed scientific journal
(h)	Submission of Synopsis:	One synopsis within six months from the date of commencement
(i)	Submission of Dissertation months:	One dissertation within six months before appearing for University examination
(j)	Submission of Library Dissertation:	One dissertation before appearing. within six months before appearing for the university examination

It is mandatory that all candidate should take part in seminar, group discussions, grand rounds, case demonstrations, clinics, journal review meeting and also must participate in the teaching and training program of undergraduate students.

During the period of training, attendance not less than 85 % during each calendar year is must and given full time responsibility, assignments and participation in all facets of the educational process.

Post graduate student shall maintain a record (log) book of the work carried out by them and the training programme undergone during the period of training including details of surgical operations assisted or done independently by candidates. The record books shall be checked and assessed by the faculty members imparting the training.

Any student who fails to complete the course in the manner stated above shall not be permitted to appear for the university examinations.

Monitoring progress of studies

Every candidate shall maintain a work diary and record of his/ her participation in the training programs conducted by the department; the candidate may make special mention in the presentations on the observations made on clinical or laboratory procedures if conducted by the candidate. The work diary shall be sanction and certified by the head of the department and head of the institution and presented in the university practical/clinical examination.

Records: - Records and marks obtained in test will be maintained by the head of the department and will be made available to the university.

It is mandatory to carry out work on a selected research project under the guidance of a recognized post graduate teacher. The results of such a work shall be submitted in the form of dissertation also should be published in indexed journals.

The synopsis shall be submitted to the registrar of the university within 6 months from the date of commencement of the course or before the dates notified by the university.

Schedule of examination

The examination for M.D courses shall be held at the end of three academic years. The university shall conduct two internal examinations in a year at an interval of 4-6 months between the two examinations.

Scheme of Examination

It shall consist of Dissertation, Written paper (theory), Practical/ Clinical and Viva.

Dissertation: - Every candidate shall carry out work and submit a dissertation as indicated by the university guidelines. Acceptance of dissertation shall be a precondition for the candidate to appear for the final examination.

Written Examination: - It shall consist of 4 papers each of 3 hours duration. Each paper shall carry 100 marks out of the four papers. Out of these one shall be Basic medical Sciences and one shall be of recent advances. The theory examinations shall be held well in advance before the clinical and practical examination, so that the answer books can be assessed and evaluated before the Commencement of the clinical/practical and oral examination.

Theory internal marks :- ***(100 marks)***

60% marks will be based on the internal assessment and 40 % will be based on the Dissertation and publication.

Table 1: Main Subjects for Examination and Distribution of marks

S. No.	Main Subject	Theory				Practical				Grand Total
		No. of Papers	Max. Marks	Internal Marks	Total theory marks	Practical Marks	Viva-Voce Marks	Practical Internal marks	Total Practical Marks	
1	Paper I- Applied Basic Medical Sciences And Concepts Of Health & Diseases In (Naturopathy/Yoga/Acupuncture & Energy Medicine/ Nutrition & Dietetics)	One	100	100	**500**	200	100	100	400	**900**
2	Paper II- Diagnosis Using Conventional Medicine & Indicators Of Disease Process In relevant discipline and The Therapeutic Management Of Disorders	One	100							
3	Paper III- Diagnosis Using Conventional Medicine & Indicators Of Disease Process In relevant discipline and The Therapeutic Management Of Disorders	One	100							
4	Paper IV- Research Methodology And Recent Advances	One	100							

Table 2: Pattern for the theory question paper

Duration: - 3 Hrs. **Max Marks: 100**

Type of questions	No of questions for each subject	No. of questions and marks for each question	Total Marks
Long Essay	2	2x20	40
Short Essay	6	06x10	60

Practical examination for the subjects in Basic Medical Sciences shall be conducted to test the knowledge and competence of the candidates for making valid and relevant observations based on the experimental/ laboratory studies and his ability to perform such studies as are relevant to his subject.

The **oral examination** shall be thorough and shall aim at assessing the candidate knowledge and competence about the subject, investigative procedures, therapeutic technique and other aspects of the speciality, which form a part of the examination.

Practical/Clinical Examination: Total marks 200

Clinical examination for the subjects in clinical sciences shall be conducted to test the knowledge and competence of the candidates for undertaking independent work as a specialist/ teacher, for which candidates shall examine a minimum one long case and two short cases.

To elicit competence in clinical skills one long case 100 marks

Differential diagnostic formulations Short cases-50 x 2 100 marks

In case of practical examination it should be aimed at assessing (i) competence in the practice of therapy techniques and teaching methods, (ii) use of disease specific modules based on clinical examinations, (iii) ability to make relevant and valid observations, interpretations, and inference of laboratory or experimental work relating to his/her subject

In case of clinical examination, it should be aimed at examining clinical skills and competence of candidates for undertaking independent work as a specialist. Each candidate should examine at least

one long case and two short cases.

The total marks for practical/clinical examination shall be 200.

Viva voce: Shall aim at assessing depth of knowledge, logical reasoning, confidence and oral communication skills. The total marks shall be 100 and the distribution of marks shall be as under:

For examination of all components of syllabus	70 marks
For pedagogy	20 marks
For record	10 marks

Viva-voce examinations: (70 marks)

All examiners will conduct viva-voce conjointly on candidate's comprehension, analytical approach, expression and interpretation of data. It includes all components of course contents. In addition candidates may be also be given case reports, charts, gross specimens, histopathology slides, x-rays, ultrasound, CT scan images, etc., for interpretation. In addition, the candidates may also be evaluated on the skills in identifying and interpreting the indicators of disease according to yoga. It includes discussion on dissertation also

Pedagogy Exercise: (20 marks)

A topic is given to each candidate in the beginning of clinical examination. He/she asked to make a presentation on the topic for 8-10 minutes.

Note: - A candidate shall secure not less than 50% marks in each head of passing which shall include theory and practical.

Record: (10 Marks)

A Practical oriented Record Book will be maintained for documenting Special Cases. A total of minimum 10 special Clinical cases handled by the PG student should be recorded.

Practical Internal Marks: - (100 marks)

60% will be based on marks obtained in seminar, journal club and case presentation, etc. (Checklist & Award proforma illustrated below) and 40 % will be based on performance in academic and clinical duty.

FORMAT OF MODEL CHECK LIST

Check List-I: - Model check list for evaluation of journal review presentations

Name of the Student: **Name of the Faculty/Observer:** **Date:**

S. No	Items for observation during presentation	Poor 0	Below average 1	Average 2	Good 3	Very Good 4
1	Article chosen was					
2	Extent of understanding of scope & objectives of the paper by the candidate					
3	Whether cross references have been consulted					
4	Whether other relevant publications consulted					
5	Ability to respond to questions on the paper/subject					
6	Audio-Visual aids used					
7	Ability to defend the paper					
8	Clarity of presentation					
9	Any other observation					
	Total Score					

Check List-II: - Model check-List for Evaluation of seminar presentations

Name of the Student: **Name of the Faculty/Observer:** **Date:**

S. No	Items for observation during presentation	Poor 0	Below average 1	Average 2	Good 3	Very Good 4
1	Whether other relevant publications consulted					
2	Whether cross references have been consulted					
3	Completeness of preparation					
4	Clarity of presentation					
5	Understanding of subject					
6	Ability to answer questions					
7	Time scheduling					
8	Appropriate use of Audio-visual aids					
9	Overall performance					
10	Any other observation					
	Total Score					

Check List-III: -Model check list for Evaluation of clinical work in ward /OPD

(To be completed once a month by respective Unit Heads including posting in other departments)

Name of the Student: **Name of the Unit head** **Date**

S. No.	Points to be considered	Poor 0	Below average 1	Average 2	Good 3	Very Good 4
1	Regularity of attendance					
2	Punctuality					
3	Interaction with colleagues and supportive staff					
4	Maintenance of case records					
5	Presentation of cases during rounds					
6	Investigations work up					
7	Beside manners					
8	Rapport with patients					
9	Counseling patients relatives for blood donation or postmortem and case follow up					
10	Overall quality of ward work					
	Total Score					

Check List –IV: - Evaluation form for Clinical presentation

Name of the Student. **Name of the Faculty;** **Date:**

S. No.	Points to be considered	Poor 0	Below average 1	Average 2	Good 3	Very Good 4
1	Completeness of history					
2	Whether all relevant points elicited					
3	Clarity of Presentation					
4	Logical order					
5	Mentioned all positive and negative points of importance					
6	Accuracy of general physical examination					
7	Whether all physical signs elicited correctly					
8	Whether any major signs missed or misinterpreted					
9	Diagnosis; Whether it follows logically from history and findings					
10	Investigations required • Complete list • Relevant order • Interpretation of investigations					
I I	Ability to react to questioning Whether it follows logically from history and findings					
12	Ability to defend diagnosis					
13	Ability to Justify differential diagnosis					
14	Others					
	Grand Total					

Check List-V: - Model check list for evaluation of teaching skill practice

S. No.	Points to be considered	Strong point	Weak Point
1	Communication of the purpose of the talk		
2	Evokes audience interest in the subject		
3	The introduction		
4	The sequence ideas		
5	The use of practical examples and/or illustrations		
6	Speaking style(enjoyable, monotonous, etc, specify)		
7	Attempts audience participation		
8	Summary of the main points at the end		
9	Asks questions		
10	Answers questions asked by the audience		
11	Rapport of speaker with his audience		
12	Effectiveness of the talk		
13	Uses AV aids appropriately		

Check List –VI: -Model check list for dissertation presentation

Name of the Student: **Name of the Faculty:** **Date:**

S. No.	Points to be considered divine	Poor 0	Below average 1	Average 2	Good 3	Very Good 4
1	Interest shown in selecting a topic					
2	Appropriate review of literature					
3	Discussion with guide & other faculty					
4	Quality of Protocol					
5	Preparation of proforma					
	Total Score					

Check List-VII: - Continuous evaluation of dissertation work by guide / co-guide

Name of the Student: **Name of the Faculty:** **Date:**

S. No.	Items for observation during presentations	Poor 0	Below average 1	Average 2	Good 3	Very Good 4
1	Periodic consultation with guide/co-guide					
2	Regular collection of case material					
3	Depth of analysis/discussion					
4	Departmental presentation of findings					
5	Quality of final output					
6	Others					
	Total Score					

LOG BOOK

Table 1: Academic activities attended:-

Name: **Admission Year** **College:**

Date	Type of Activity Specify Seminar. Journal Club, Presentation, UG teaching	Particulars

LOG BOOK

Table 2: Academic presentations made by the student

Name: **Admission Year:** **College:**

Date	Topic	Type of presentation Specify Seminar, Journal Club, Presentation, UG teaching etc

The logbook is a record of the important activities of the candidates during his training; internal assessment should be based on the evaluation of the logbook collectively. Logbooks are a tool for the evaluation of the training program of the institution by external agencies.

The record includes academic activities as well as the presentations and procedures carried out by the candidate. A format for the logbook for the different activities is given in tables 1 and 2 of Section F,

Every student must maintain a record book (diary/logbook) and the work carried out by him and the training program undergone by him during the training, including details of a rotations, night calls, procedure and consultations done as M.D. candidates These record books should be checked and assessed by faculty members imparting the training and certified by the HOD.

PG student diary should include the following activities. Format for PG diary (LOGBOOK)

- Cases seen on rounds - description of interesting cases and other miscellaneous topicsdiscussed.
- Outpatient cases seen and details of interesting cases with follow up
- Procedures done on inpatients and outpatients and consultations done.
- UG teaching done during the day with details.
- PG training programs attended - details of bedside clinics, basic sciences, subject and clinical seminars, journal clubs, and hospital conference.
- Night duties - details of patients managed and emergencies, consultations. Ward calls attended.
- Details of study with topics covered during off hours in library/home Periodicals and journals reviewed with notes on interesting articles.
- Medical meetings, seminars, local professional meetings or other interesting CME, seminars attended.
- Diary should be reviewed on weekly basis by unit faculty and certified on monthly basis for PG's benefit at the end of each specialty rotation Faculty should comment regarding absences and irregularities and make appropriate comments and suggest remedial measure for problematic prodigies.
- Satisfactory progress and 80% attendance mandatory before student allowed appearing for university examination.
- Size of notebook: 15cm cm X 21 cm with 200 pages. All notebooks should have seal of college and HOD's approval: Extra notebooks utilized as and

when necessary. Diaries should be presented at the time of university clinical exam for review by examiners as per university regulations

Model Overall Assessment Sheet

Name of the College: **Academic Year:**

Sl. No.	Faculty Member & Others	Name of student and mean score									
1		A	B	C	D	E	F	G	H	I	J
2											
3											
4											
5											
Total Score											

Dissertation:

a) Every candidate pursuing M.D. degree course is required to carry out work on a selected research project under the guidance of a recognized post graduate teacher. The results of such a work shall be submitted in the form of dissertation.

b) The dissertation is aimed to train a postgraduate student in research methods and techniques. It includes identification of a problem, formulation of a . hypothesis, search and review of literature, getting acquainted with recent advances, designing of a research study, collection of data, critical analysis, and comparison of results and drawing conclusions.

c) Every candidate shall submit to the registrar of the university in the prescribed proforma, a synopsis containing particulars of proposed dissertation work within 6 months from the date of commencement of the course or before the dates notified by the university. The Synopsis shall be seen through the proper channel.

d) Such synopsis will be reviewed and the university will register the dissertation topic. No change in the dissertation topic or guide shall be made without prior approval of the university.

e) The dissertation should be written under the following headings

- Introduction
- Aims or Objectives of study
- Review of literature
- Material and Methods
- Results
- Discussion
- Conclusion
- Summary
- Limitations and Future directions
- References
- Tables
- Annexure

f) The written text of dissertation shall not be less than 50 pages and shall not exceed 150 pages excluding references, tables, questionnaires and other annexure. It should be neatly typed in double line spacing on one side of paper (A4 size. 8.27 X 11.69") and bound properly Spiral binding should be avoided. The guide, head of the department and head of the institution shall certify the dissertation.

g) Four copies of dissertation thus prepared shall be submitted to the registrar 6 months before final examination on or before the dates notified by the university.

h) Examiners appointed by the university shall value the dissertation. Approval of dissertation work is an essential precondition for a candidate to appear in the university examination.

Syllabus of MD Programmes in Naturopathy & Yogic Sciences

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Syllabus

of

MD Programme in Naturopathy

Paper 1 (MD-NP-101)

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

1. PHILOSOPHY OF NATUROPATHY

a. Principles of Naturopathy
b. Concepts of health and disease according to Naturopathy and modern science.
c. History and evolution of therapies used in Naturopathy
d. History of Indian and other foreign Naturopathy
e. Traditional and Indian Naturopathy as enunciated in ancient Indian scriptures and culture
f. Relationship between Naturopathy Holistic concept and Spirituality
g. Fundamental of different medical system in relation to Naturopathy

2. PRACTICE OF NATUROPATHY

a. Innate healing and health realization
b. Clinical psychology and counselling
c. Concept of drugless therapies and their importance in health care system
d. Principles of health promotion, disease prevention and curative aspect of diseases and its effect on quality of life and justify the importance of Naturopathy in it.
e. Naturopathic approach in the prevention of acute and chronic disease.
f. Naturopathic approach in the prevention and management of stress related/lifestyle related disorders.
g. Phytomedicine in Naturopathy
h. Approaches to women's and child health
i. Approaches to old age health.
j. The integration of Naturopathy living based on Naturopathy in public health and it's cost effectiveness in sustainable health care.

3. APPLIED BASIC MEDICAL SCIENCES RELEVANT TO NATUROPATHY

a. Applied anatomy, applied physiology and biochemistry related to understanding the physiological effects of natural therapies on human body.
b. Establishing the physiological basis for symptomatology and diagnostic procedures used in Naturopathy (facial diagnosis, iris diagnosis and chromo diagnosis)
c. Relate Microbiology and pathology to understand the pathophysiology/ pathogenesis of disease and relevance to the concept of health and disease in Naturopathy
d. Clinical pharmacology :-to provide knowledge to
    i. To identify the use of drug
    ii. Handle patients who are under medication.
    iii. Understand the effect of combination conventional and Naturopathy treatment.
    iv. Nitric oxide and its biologic and medical implications
e. Salutogensis
f. Forensic medicine:-to provide knowledge for
    i. Law in relation to a medical man
    ii. To handle Medical legal cases
    iii. To medical certificates and sign of death
g. Balance diet and other diet used in disease condition

4. PHYSIOLOGICAL EFFECTS OF THERAPIES USED IN NATURAL THERAPIES

a. Fasting, nutrition and dietetics
b. Hydrotherapy and clay therapy
c. Manipulative therapies [Chiropractic, Massage therapy, Osteopathy and Physical therapy, Aromatherapy, Panchakarma]
d. Acupuncture and Acupressure
e. Colour therapy and magnet therapy
f. Energy medicine

5. CLINICAL RELEVANCE OF NATUROPATHY THERAPIES

a. Clinical application and underlying mechanisms for the individual and combinations of treatments used in Naturopathy.

b. Clinical observation and case taking

Reference Books:

Anatomy/physiology/Biochemistry/Biostatics

1. Samson Wright's Applied Physiology, Oxford University Press (India), 1998
2. Clinical Anatomy; A Revision and Applied Anatomy for Clinical students. Harold Ellis, Blackwell Publishing, 2006
3. Applied Biochemistry of Clinical Disorders (Hardcover), Allan G. Gornall. Lippincott Williams & Wilkins, 1981
4. Essentials of Pathophysiology: Concepts of Altered Health States Carol MattSOfl Porth. Lippincott Williams & Wilkins, 2006.
5. Basic Pharmacology (Paperback), Perspective Press (Editor), Morton Publishing Company; 2000
6. Clinical Neuroanatomy for medical students. 4th edition.
7. Textbook of medical physiology, Guyton. 9th edition.
8. Review of medical physiology, Ganong, 18th edition
9. Harper's Biochemistry, 25th edition.
10. Lippincott's illustrated review - biochemistry, 2nd edition
11. Methods in Biostatistics, B.K. Mahajan, 6th edition.

Pharmacology/Microbiology/Pathology

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

Naturopathy

1. Principles of Naturopathy Combining Old and New: Naturopathy for 21stCentury by Robert S. Thiel Whitman Publications, 2001

2. Vitality, Fasting and Nutrition: A Physiological Study of the Curative Power of Fasting, Together with a New Theory of the Relation of food to Human Vitality (Paperback) Hereward Carrinqton. Kessinger Publishing, 1996

3. Therapeutic Massage: A Scientific Approach. Turchaninov R. Aesculapius Books, 2000
4. The Massage Connection: Anatomy and Physiology (Lww Massage Therapy &Bodywork Series) (Hardcover), Kalyani Premkumar.
5. Lippincott Williams & Wilkins; 2 Signed edition (August 1, 2003)
6. Energy Medicine: The scientific basis. James L. Oschman. Churchill-Livingstone, 2000
7. Acupuncture. A scientific appraisal. Adrian White and Edzard Ernst, Butterworth-Heinemann, 1999
8. Hydrotherapy Theory & Technique [TEACHER'S EDITION] Pine Island Publisher's Inc.; 3 rd edition edition (2003)
9. Rational Hydrotherapy J H Kellog Indian Edition pub by NTN, Pune (2005)
10. B Massage Therapy J H Kellog pub (19)
11. Fasting can save your life Indian Ed Herbert M Shelton Pub Prakrti Jivana Kendra, Bangalore
12. Toxemia explained J H Tildon, Pub
13. Hydrotherapy & Heliotherapy Natural Healing With Water. Herbs & Sunlight) Maureen O'Rourke Educating Hands Inc. 1995
14. Hydrotherapy Principles and Practice by Margaret Reid Campion Paperback - Jan 15, 1997)
15. Technique of hydrotherapy and Swedish massage by George Knapp Abbott (Unknown Binding - 1948)
16. Modern Hydrotherapy for the Massage Therapist by Marybetts Sinclair (Hardcover - Nov 1, 2007)
17. Hydrotherapy in Practice by Bridget C. Davis and Ronald A Harrison (Paperback - Jan 1988)
18. Fundamentals of Chinese Acupuncture (Paradigm Title) by Andrew Ellis. Nigel Wiseman, and Ken Boss (Paperback - Feb 1991)
19. Accupuncture As Healing Arts by homer cheng (Paperback - 1976)
20. Fasting for health, a complete guide on how. when, and why to use the fasting cure (A Classic of health and nutrition) by Bernarr Macfadden (Unknown Binding - 1978)

21. Nutrition Solution: A Guide to Your Metabolic Type by Harold J. Kristal, James M. Haig, and John R. Lee (Paperback - Dec 9, 2002)

22. Public Health Nutrition (Nutrition Society Textbook) by John M Kearney. Barrie M Margetts, Annie Anderson, and David Barker (Paperback - Nov 1. 2004)- Illustrated

23. Scientific Fasting: The Ancient and Modern Key to Health by Linda Burfield Hazzard (Paperback - Mar 1997)

24. Nutrition and Metabolism (Human Nutrition Textbook Series) by Ian Macdonald. Helen M. Roche, Nutrition Society Staff, and Michael J Gibney (Paperback - Oct 1, 2003) – Illustrated

25. Healing with Whole Foods: Asian Traditions and Modern Nutrition by Paul Pitchford (Hardcover - Feb 28, 2003)

26. 26 Introduction to Human Nutrition (Human Nutrition Textbook Series, I) by Frans J. Kok, Hester H Vorster, Paul Deurenberg, and Wayne Anderson (Paperback - Oct 1, 2002) – Illustrated

27. Principles of Human Nutrition: A Study in Practical Dietetics by Whitman H. Jordan (Paperback - Dec 30, 2004)

28. Nutritional Biochemistry, Second Edition by Tom Brody (Hardcover - Jan 15, 1999)

29. Massage Therapy: Principles and Practice by Susan G. Salvo (Paperback -May 3, 2007)

30. Philosophy and Mechanical Principles of Osteopathy by Andrew Taylor Still (Hardcover - Jun 1986)

31. Science in the Art of Osteopathy: Osteopathic Principles and Practices Caroline Stone (Paperback - Jul 2000)

32. The Complete Book of Energy Medicines: Choosing Your Path to Health. by Helen E Dziemidko and Helen, M.D. Dziemidko (Paperback – Oct, 1999)

33. Naturopathy and Yoga by Parvesh Handa (Hardcover - Oct 30, 2006)

34. Energy Medicine by Donna Eden, David Feinstein, and Caroline Myss (Paperback - Dec 27, 1999)

35. Color Psychology and Color Therapy: A Factual Study of the Influence of Color on Human Life (Paperback)Faber Birren, Kessinger Publishing, 2006

36. Magnet Therapy (Hardcover) Joseph Kandel, David Sudderth, Prima Publishing, 1998

37. Clinical electrotherapy Your guide to optimal treatment. Jan M. Bjordal, Ph.D. PT, Mark I. Johnson, ML Physiol., Ph.D, Christian Couppe, PT, Prima Books, 2007.

38. Aromatherapy for Holistic Therapists Francesca Gould, Nelson Thornes,, 2003

39. Foundations for Osteopathic Medicine (Hardcover) Robert C Ward, Raymond J Hruby, John A Jerome, John M Jones, Robert E Lippincott Williams & Wilkins, 2002

40. Scientific Explanations and Consciousness, BV Sreekantam: (NIAS Banglore)

41. Pharmacology in Exercise and Sports (Handbooks in Pharmacology and Toxicology) by Satu M. Somani (Hardcover - Dec 18, 1995)

Paper 2 (MD-NP-102)

- **Diagnosis Using Conventional Medicine & Indicators Of Disease Process in relevant discipline and The 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 erythematous; Rheumatoid arthritis; Dermatomyositis and polymyositis; Sjogren's syndrome, Ankylosing spondylitis; Behcet's syndrome; theVasculitis 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; porphyrins; 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 Scharscmidt 6th edition (Saunders)
4) SchifFs 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 Guideto Thyroid Disorders (Basic Health Publications User's Guide) by Kathleen Barnes (Paperback - Mar 2, 2006)

Paper 3 (MD-NP-103)

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) Disease s of the central nervous system–migraine and cluster headache syndrome; seizures and epilepsy; Alzheimer's disease and other primary dementias; Parkinson'sdisease 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 (Mc GrawHill).
- Diseases of the Brain - Ed Brain, John Walton, 10th edition (Oxford Univ)
- Neurological differential diagnosis – John Patten
- 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 Against Heart 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. Conncrs 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 I I .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 in Oncology) by Connie Henkc Yarbro, .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 Premenstrual Dysphoric 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 and Birth 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)

Paper 4 (MD-NP-104)

Paper IV- Research Methodology And Recent Advances

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

13. Introduction to Biostatistics

Definition, role of statistics in health science and health care delivery system

14. 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.
15. Organization of data,Frequency table, histogram, frequency polygon, frequency curve, bar diagram, pie chart.
16. Measures of location Arithmetic mean, median, mode, quartiles and
17. Percentiles – definition, computation (for raw data), merits, demerits and applications.
18. 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.

19. Basic probability distributions: - Concept of probability distribution. Normal, Poisson and Binomial distributions, and application. Concept of sampling distributions. Standard error and confidence intervals.
20. 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.
21. Tests of significance (parametric) – t – test (paired and unpaired), Chi square test and test of proportion.
22. 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.
23. Linear and multiple regressions.
24. Synthesizing the evidence: integration of the evidence using both quantitative and qualitative methods; principles of meta-analysis.
25. Formulating recommendations and writing the review.

Recent advances

• Psychoneuroimmunology [PNI] and Psychoneuroendocrinology-explaining the mindbody connection in disease and health

• Psychophysiology of biological rhythms, emotions, behaviour and aging

• Stress and its impact on health and disease: Physiological mechanisms underlying 'stress response'.

• Psychomatics and psychomatic medicine-role of human thinking, behaviour and life style in the aetiology, pathogenesis, clinical manifestations and management of non-communicable life-style related diseases.

• Lifestyle and psychosocial behaviour-health education and natural medicine in prevention in high risk groups, effective management of chronic lifestyle related diseases and minimization of subsequent medical complications.

• Inherent healing capacities and natural therapies; concept of spontaneous regression, role of positive thinking, health behaviour and natural therapies in spontaneous regression; clinical implications of natural therapies in eliciting inherent healing capacities.

• Natural and holistic medicine-integrating the physical, psychological, mental, social andspiritual needs of an individual in promotion of positive health, prevention of diseasesand disabilities, management of diseases and overall improvement in 'quality of life'.

• Advances in therapies used in Naturopathy

• Advances in medical & psychiatric rehabilitation.

• Integrative medicine.

References books & other materials:

Research methods and statistics

1) Research methods for therapists. Avril Rummond, Jo Campling, Nelson, Thornes, 1996
2) Complementary and Alternative Medicine: Legal Boundaries and Regulatory Perspectives by Michael H Cohen (Paperback - Aug 19, 1997)
3) Regulation of Functional Foods and Nutraceuticals: A Global Perspective (Institute of Food Technologists) by Clare Hasler (Hardcover - Mar 1. 2005) - Illustrated
4) The Principles And Practice of Hydrotherapy: A Guide To The Application Of Water In Disease For Students And Practitioners Of Medicine by Simon Baruch (Paperback - Jul 9, 2006)
5) Massage Therapy Career Guide by Steve Capellini (Paperback - Oct 12, 1998)
6) 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
- ALTMEDEX

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. 5U' 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 practioners 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.

Syllabus

of

MD in Yoga

Paper 1 (MD-YG-101)

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, slates 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:

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

2) Applied basic medical sciences in establishing the physiological basis for symptamatology 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.

3) 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 the rapy; 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 medication s 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 Nidhra)
- 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, 6lh 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 NiranjanandaSaraswati, 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 modem 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 (Motilal Banarasidass 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 Parvesh Handa (Hardcover - Oct 30, 2006)
- Speaking of Yoga for Health (Your Health Guide) by Institute Of Naturopathy (Paperback - Dec 6,2003)

Paper 2 (MD-YG-102)

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 erythematous; Rheumatoid arthritis; Dermatomyositis and polymyositis; Sjogren's syndrome, Ankylosing spondylitis; Behcet's syndrome; theVasculitis 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; porphyrins; 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 Scharscmidt 6th edition (Saunders)

4) SchifFs 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 Guideto Thyroid Disorders (Basic Health Publications User's Guide) by Kathleen Barnes (Paperback - Mar 2, 2006)

Paper 3 (MD-YG-103)

- **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) Disease s of the central nervous system–migraine and cluster headache syndrome; seizures and epilepsy; Alzheimer's disease and other primary dementias; Parkinson'sdisease 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. Conncrs 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 I I .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 Yarbro, .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)

Paper 4 (MD-YG-104)

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 modem 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, modem 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'smeditahon.

- Western psychology and Indian psychology: fundamental principals, 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, Thomes, 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
    - ALTMEDEX

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. 5U' 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 practioners 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.

Syllabus

of

MD in Nutrition and Dietetics

PAPER-1 (MD-ND-101)

Philosophy and Practice of Naturopathy and Yogic Diet and Basic Nutrition

1) Philosophy, Evolution and History of Naturopathic Diet
    - Eliminative diet
    - Soothening diet
    - Constructive diet
2) Philosophy, Evolution and History of Juice Therapy (Fasting Therapy)
3) Philosophy, Evolution and History of Yogic Diet
    - Satwik Diet
    - Rajasik Diet
    - Tamsik Diet
    - Tri Dosha & Food
    - Tri Gunas & Food
4) Philosophy, Evolution and History of Basic Nutrition
    - Energy yielding food
    - Body building food
    - Protective food
5) Classification, functions, components, Requirements of Carbohydrates
6) Classification, functions, components, Requirements of Proteins
7) Classification, functions, components, Requirements of Lipids
8) Water
9) Nutritional and naturopathic perspective of the organ systems detoxification.
10) Naturopathic nutritional assessment.
11) Free radicals and phytonutrients.
12) Energy of food.
13) Healing through nutrition – all planes of being.
14) Biological rhythms and nutrition.
15) Seasonal changes of food.
16) Panchamahabhoothas and food

17) Introduction, physiological roles, bioavailability, requirements, food sources deficiency and toxicity of Minerals& Vitamins
18) Human Energy Requirements
19) Energy requirements and dietary energy recommendation.
20) Food components other than essential nutrients
21) Probiotics and Prebiotics
22) Dietary Factors with Anti- nutritional effects
23) Food additives and Adulteration
24) National and international recommendation of nutrient requirements
25) Recent Advances in Human Nutrition

- Antioxidants
- Phytochemicals
- Natural Food Supplements
- Nutrition & Physical Performance
- Importance of Vegetarian Diet
- Food & Drug Interactions

PAPER-2 (MD-ND-102)

Applied Nutrition and Dietetics

1) Menu Planning
   - Rationale for menu planning
2) Factors affecting food choice
   - Nutritional factors
   - Other factors
3) Exchange list versus food composition tables for menu planning
   - Steps in the development of exchange list
4) Planning for Adults
   - Based on Recommended daily allowances
5) Pregnancy and Lactation
6) Physical Changes During Pregnancy
   - Expansion in plasma volume and red cell mass
   - Hormonal profile in pregnancy
   - Placental transfer of nutrients
   - Maternal weight gain.
7) Nutritional Needs During Pregnancy

- Maternal nutrition and fetal outcome:
- Pre Pregnancy weight and fetal outcome
- Pre pregnancy height and fetal outcome
- BMI and other anthropometric measures as applicable
- Weight gain during pregnancy and fetal outcome,
- Maternal dietary intake and fetal outcome.
- Non-nutritional factors: Antenatal care, age, heavy physical work and intra uterine infections.
- Nutritional assessment and guidance in prenatal care.
- Nutritional management of high risk pregnancies.

8) Lactation
   - Physiology

- Human milk composition and infant growth and development
- Malnutrition- Effects on milk and effects on mothers.
- Nutrient requirements during lactation
- Dietary management
- Other concern during breast feeding

9) Infants and Preschool Children

- Growth and development:
  - Physiological changes
  - Growth monitoring
  - Health monitoring
  - Nutrient needs and recommended dietary allowances.
- Diet and feeding patterns
  - Feeding 0-6 months infant
  - Feeding 6-12 months infant
  - Feeding preschoolers
- Problems of infants and preschoolers nutrition.

10) Older Children and Adolescents

- Changes in physical development and body composition.
- Sexual maturity
- Psycho social changes.
- Nutrient needs and recommended dietary intakes.
- Diet and dietary patterns
- Problems of older children and adolescent nutrition.

11) Geriatric Population

- Definition of old age
- Nutrition and ageing
- Physiological changes associated with ageing.
- Changing body composition and techniques for measuring body composition.

- Nutritional requirements and dietary modification in the diet of the olderly
- Guidelines for planning balanced diet for elderly

12) Sports Nutrition

- Introduction
- Evaluation and growth of sports nutrition as a discipline
- Anthropometric and physiological measurement.
  - Various techniques for measuring body composition.
  - Work capacity

13) Physical Fitness

- Parameter of fitness
- Fitness tests

14) Nutritional Requirements for Extreme Environments

- General adaptive mechanisms to environmental extreme and role of nutrition in successful Acclimatization.
- Health Hazards associated with high altitude
- Nutritional requirements in high altitude
- Nutritional requirements in high cold and polar envelopment
- Nutritional requirements in hot environments
- Nutritional requirements for space missions

15) Nutritional regulation of Gene Expression, Epigenetic & Nutrigenomics

- Introduction
- Gene – Expression- An overview
- Role of specific nutrients in controlling gene expression
- Proteins
- Lipids
- Minerals
- Vitamins

16) Immunonutrition

- Role of specific nutrients in immune suppression.

- Role of nutrients in immune promotion
- Functional foods and nutriceuticals in health disease

- History
- Definition
- Classification
- Physiological effects, effects of human health and potential applications in risk reduction of diseases.
- Food Microbiology

17) Nutrition Supplements

Medical Nutrition Therapy

1. Definition
2. Nutritional screening
3. Nutritional care process
    - Nutritional Assessment
    - Nutritional diagnosis
    - Nutritional Intervention
    - Monitoring and evaluation

18) Nutritional Intervention – Diet Modification:

- Adequate normal diet as basis for therapeutic diets
- Diet prescription
- Modification of normal diet.
- Nomenclature of diet adequacy in standard hospital diet.
- Psychological factors in feeding the sick person.
- Interaction among drugs, food nutrients and nutritional status
- Effects of drugs on food intake nutrient absorption, Metabolism and requirements.
- Drugs affecting intake of food and nutrients

- Absorption
- Metabolism and excretion
- Nutritional status
- Effect of food, nutrients and nutritional status on absorption and metabolism of drugs.
- Hospital Malnutrition

19)Nutrition for General Conditions

- Nutrition for Bone Health
- Nutrition for Oral & Dental Health

20)Nutritional Support Systems:

- Use of herbal supplementation in naturopathy
- Food as medicine
- Nutritional support for healthy body and mind systems
- Environmental and dietary toxins
- Role of water in healing the diseases
- Treating the root cause of illness through natural foods.
- Enteral Nutrition

  Site,Size of the tube, Feed-types, Complications
- Parenteral Nutrition

  Type, Composition, Complications

21)Set up of Nutrition Service Clinics

22)Nutrition Counselling

- Communication Skills
- Designing &Counselling Plans
- Counselling Approach, Implementation & Evaluation

23)Management of Nutrition unit in Hospital

- Quantity Cooking & Patient Service
- Food Management

24)General Management of Nutrition Unit in Hospital

- Financial Management

- Record Maintenance
- Principles of Hospital Management

PAPER-3 (MD-ND-103)

Management of Diseases through Nutrition and Dietetics

Nutritional Care in Disease Condition

1) Nutritional Management in Infection and Fever

- Defense mechanism
- Metabolic changes during infection
- Classification and entity of fever infection
- Typhoid/ TB / parasitic infestation/ Aids

2) Nutritional Management of Physiological Stress

- Nutrition in wound healing
- Surgery: Pre and post surgical dietary management
- Burns: Classification, Complication, Dietary management
- Trauma: Dietary management
- Sepsis: Dietary management

3) Nutritional Management in Critical Care

- Nutritional screening and nutritional status assessment of critically ill & ICU patient
- Nutritional requirements according to the critical condition
    - Feeding of Special groups
    - Feeding of Spastic, Dementia & Anorexia patients
    - Palliative Care & Rehabilitation Diet
    - Domiciliary Management & Long term Nutrition Support
    - Nutrition in patients with Organ Failure & Sepsis
    - Nutrition in patient with Solid Organ Transplant

4) Nutritional Management of GI Diseases:

Physiological and functional changes and impact on Nutritional status

5) Diseases of Esophagus and Stomach

- Esophagitis(GERD), Dyspepsia, Peptic ulcer, Gastritis, Gastrectomy: Dumping syndrome

6) Intestinal Diseases

- Flatulence, Diarrhoea, Constipation, Hemorrhoids, Diverticular disease, Duodenal ulcer, Inflammatory Diseases of Bowel: Crohn's disease and ulcerative colitis, Irritable bowel syndrome, Colostomy, Ileostomy

7) Mal-Absorption Syndrome

- Celiac disease (Tropical sprue), Steatorrhoea, Intestinal Brush border diseases

8) Protein Loosing Enteropathy

9) Nutritional Management in diseases of the Liver, Pancreas and Biliary

10) System Pathophysiology of Liver Diseases:

- Progression of liver disease, Metabolic and nutritional Implications, Role of specific nutrients and alcohol in liver diseases.
- Nutritional care in liver disease in the context of results of specific liver function tests.Viral hepatitis, cirrhosis of Liver, Hepatic encephalopathy, Wilsons disease.
- Liver transplant

11) Diseases of Gall Bladder and Pancreas –pathophysiologic changes,

12) Metabolic and Nutritional implications:Biliary dyskinesia, Cholelithiasis, Cholecystitis, Cholecystectomy, Pancreatitis, Zollinger Ellison syndrome (ZE syndrome)

13) Nutritional Management of Metabolic Disease 1: Diabetes and Hypoglycemia

14) Prevalence and classification of DM

- Etiology,Physiological symptoms and disturbances,Diagnosis and tests used, Complications, Management of Diabetes Mellitus

15) Nutritional Therapy

Diet Plan Food exchange list, Glycemic index, CHO counting.

Meal planning with and without insulin, during sickness

Artificial sweeteners and sugar substitutes.

Drugs and insulin

Exercise

Hypoglycemia: Classification, symptoms, Fasting hypoglycemia, Postprandial or reactive hypoglycemia, early alimentary and late reactive hypoglycemia, Idiopathic hypoglycemia. Dietary treatment in reactive hypoglycemia.

16) Nutritional Management of Metabolic Disease: II Gout and in Born

Error of Metabolism Gout: Role of proteins and purine, Etiology, Symptoms and complications, Dietary management

17) Inborn Errors of Metabolism

- PKU
- MSUD
- Tyrosinosis
- Homocystinurias
- Glycogen storage disorders
- Galactosemia
- Organic acidurias
- Other types

18) Nutritional Management on Weight Imbalance

- Regulation of food intake and pathogenesis of obesity and malnutrition and starvation.
- Weight Imbalance: prevalence and classification.
- Guidelines for calculating desirable body weight.
- Control of appetite and food intake: Neural count, Hormonal count, Insulin, estrogen and other types of peptide hormones.

19) Obesity:

- Etiology, Energy balance, Health risks

20) Management

Diet and lifestyle modification, Evaluation of some common diets, Preventive aspects

21) Underweight Etiology, Diet management

22) Nutritional management of eating disorders

Anorexia Nervosa, Bulimia

23) Nutritional Management in Coronary Heart Disease

Pathogenesis, role of nutrients in prevention and management – Nutritional and metabolic implications of dyslipidaemias.

24) Chronic Heart Diseases

Prevalence, Etiology and risk factors, Diagnostic tests, Nutrition management

25) Common Disorders of CHD and Nutrition Management

- Dyslipidaemias
- Atherosclerosis
- Hypertension
- IHD
- CCF
- Rheumatic heart disease

26) Nutrition Management of Renal Disease

Diseases of Renal System: Etiology and pathogenesis: change in function with progression of diseases, metabolic and nutritional implications, Clinical and metabolic manifestations, Diagnostic tests

Types

- Acute and chronic nephritis
- Nephrotic syndrome
- Renal Failure: Acute and chronic
- ESRD

27) Nutritional Management in Cancer

Cancer: Pathogenesis and progression of cancer

Role of Nutrients and food additives in cancer therapy and their nutritional implications.

- Types
- Symptoms
- Diagnosis
- Cancer therapies: Nutritional implications
- Dietary management

28) Nutrition Management in Diseases of Nervous System and Musculoskeletal System

- Dysphagia
- Epilepsy
- Hyperkinetic behavior syndrome

29) Etiology Dietary Treatment in Arthritis and Osteoporosis Nutritional Management in Allergy

- Definition, symptoms and mechanism of food allergy
- Biochemical and immune testing (Brief)
- Elimination diets
- Food selection
- Food allergy in infancy: Milk sensitive enteropathy, intolerance to breast milk.
- Prevention of food allergy

PAPER-4 (MD-ND-104)

Research Methodology and Recent Advances in Clinical Nutrition and Dietetics

RESEARCH METHODOLOGY

1) Basic principles of biostatistics and research methodology, sample size calculation analysis of data, types of study randomization, clinical trials

2) Basic reviewing quantitative and qualitative literature. carry out an appropriate, rigorous review of the literature; and understand the strengths and weaknesses of different methods of identifying, assessing and synthesizing literature.

3) Planning the review: the role of the literature review and specification of the task

4) Identification of relevant literature both published and unpublished: developing a search strategy and using bibliographic databases.

5) Appraising the literature: methods for assessing the quality of quantitative and qualitative research.

6) Introduction to research methodology

7) Planning a research study

8) Research problem

9) Research designs & sampling designs

10) Data collection & data preparation

11) Medical statistics - Descriptive statistics & assessment techniques

12) Interpretation & Report writing

13) Project proposal preparation.

BIOSTATISTICS

1) Introduction to Biostatistics

Definition, role of statistics in health science and health care delivery system

2) 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.
3) Organization of data, Frequency table, histogram, frequency polygon, frequency curve, bar diagram, pie chart.
4) Measures of location Arithmetic mean, median, mode, quartiles and
5) Percentiles – definition, computation (for raw data), merits, demerits and applications.
6) 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.
7) Basic probability distributions: - Concept of probability distribution. Normal, Poisson and Binomial distributions, and application. Concept of sampling distributions. Standard error and confidence intervals.
8) 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.
9) Tests of significance (parametric) – t – test (paired and unpaired), Chi square test and test of proportion.
10) 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.
11) Linear and multiple regressions.
12) Synthesizing the evidence: integration of the evidence using both quantitative and qualitative methods; principles of meta-analysis.
13) Formulating recommendations and writing the review.

Recent Advances:

1) Psycho neuro immunology [PNI] and psycho neuro endocrinology
2) Psychophysiology of biological rhythms, emotions, behavior and aging
3) Stress and its impact on health and disease: Physiological mechanisms underlying stress response.

4) Psychosomatic medicine
5) Role of human thinking, behaviour and life style in the aetiology, pathogenesis, clinical manifestations and management of non-communicable life-style related diseases.
6) Inherent healing capacities and concept of spontaneous regression; role of positive thinking, health behaviour& clinical implications of acupuncture & energy medicine in eliciting inherent healing capacities.
7) Natural 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.
8) Advances in therapies used in Nutrition
9) Advances in medical & psychiatric rehabilitation.
10) Integrative medicine.
11) Antioxidants & Nutrition
12) Free Radicals & Nutrition
13) Research in Nutrition & Musculoskeletal Diseases, Cardiovascular diseases, Metabolic Disorders, Respiratory Diseases, Gastro intestinal, Endocrinal disorders, Central Nervous system disorders, Renal system diseases.

Reference Books

1. LubertStryer 'Biochemistry'
2. Medical Textbook of Biochemistry Chaterjee.
3. Lehninger A. L. (1990) 'Principles of Biochemistry' New Delhi - CBS Publisher and Distributor.
4. Modern Nutrition in Health and Disease 10th edition by Maurice E. Shils
5. Alfred H.Katz, Prevention and health, the Haworth, Press, New York 1999.
6. Nutritional biochemistry of vitamins David a bendor.
7. Achayya, K.T.:(1998) A Historical Dictionary Of Indian Foods, Oxford Publishing Co.
8. Mahindru, S.N. (2002). Food Additives Characteristics, Detection and Estimation, Tata McGraw-Hill Publishing Co. Ltd. New Delhi.

9. Research Methodology By C.R Kothari
10. International Life Sciences Institute Present Knowledge in Nutrition – latest edition
11. Swaminathan S.: Advanced Textbook On Food & Nutrition Vol. 1 & N (2nd Ed. Revised Enlarged) Bapp Co. 1985.
12. Robinson. Basic Nutrition And Diet Therapy (8th Edition)
13. Robinson, Lawler: Normal & Therapeutic Nutrition (17th Ed.) Macmillan Publishing Co. 1986.
14. Davis J. and Sherer, K. (1994): Applied Nutrition and Diet Therapy for Nurses, 2nd edition, W.B. Saunders Co.
15. Davidson's Human Nutrition – Geissler.
16. Nutrition and Biochemistry for Nurses by Jacob Anthikad
17. Willims S. R.: Essentials of Nutrition and Diet Therapy, 4th ed., Mosby College Pub. S. Louis, 1986.
18. Thomas, B.: Manual of Dietetic Practice, 1996.
19. L. MatareseGottschlich Contemporary Nutrition Support Practice, Saunders 1998
20. ASPEN; Nutrition Support, Dietetics
21. Clinical dietetics and nutrition by F.P Antia and Philip Antia.
22. Modern Nutrition in Health and Disease 10th edition by Maurice E. Shils
23. Alfred H.Katz, Prevention and health, the Haworth, Press, New York 1999.
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32. Davis J. and Sherer, K. (1994): Applied Nutrition and Diet Therapy for Nurses, 2nd edition, W.B. Saunders Co.
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38. ASPEN; Nutrition Support, Dietetics
39. Clinical dietetics and nutrition by F.P Antia and Philip Antia.
40. Davidson and Passamore Human Nutrition – Passamore
41. Clinical Dietetics and Nutrition – FP Antia
42. Normal Therapeutic Nutrition – Corinne Robinson
43. Essentials of Food and Nutrition – Swaminathan
44. Sprouts – JD Vaish*Yoga*Samsthan
45. Science and Art of Food and Nutrition – Herbert Shelton
46. Nutritive Values of Indian Foods – NIN (Hyd)
47. Publications of NIN, Hyderabad
48. Herbs that Hheal – HK Bakhru
49. Charakaand Sushruta Samhita
50. Fundamentals of *Ayurveda* – MahadevShastri
51. Fasting for Healthy and Long Life – Carrington
52. Fasting Cure – Lakshman Sharma
53. Fasting - The Ultimate Diet - Allan Cott
54. Mucusless Diet Healing System - Arnold Ehret
55. The Fasting Cure (Classic Reprint) - Upton Sinclair
56. Fasting Can Save Your Life - Herbert M. Shelton
57. Davidson and Passamore Human Nutrition – Passamore
58. Clinical Dietetics and Nutrition – FP Antia
59. Normal Therapeutic Nutrition – Corinne Robinson
60. Essentials of Food and Nutrition – Swaminathan

61. Sprouts – JD Vaish*Yoga* Samsthan
62. Science and Art of Food and Nutrition – Herbert Shelton
63. Nutritive Values of Indian Foods – NIN (Hyd)
64. Publications of NIN, Hyderabad

*** 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
    - ALTMEDEX

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. 5U' 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
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- Textbook of complementary and alternative medicine. Reference WB 890 T355 2003

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- 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 practioners 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

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- 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.

Syllabus

of

MD in Acupuncture & Energy Medicine

PAPER-1 (MD-AEM-101)

PHILOSOPHY AND PRACTICE OF ACUPUNCTUREAND ENERGY MEDICINE

PHILOSOPHY OF ACUPUNCTURE

1. History and evolution of Acupuncture.
2. Acupuncture in India and acupuncture in other parts of the world.
3. Traditional and modern theories of acupuncture.
4. Five elements
    - Doctrine
    - 60 points of command
    - Principles of regulations of energy
    - Treatment of deficiency and excess of energy
5. Meridians :
    - Outer and inner channels
    - Connecting meridians
    - Muscle meridians
    - Divergent meridians
    - Extra meridians
6. Extraordinary points
7. Etio-pathogenisis of disease in acupuncture (exo and endogenic factors, pathogenic factor, emotional factor)
8. Diagnostic and treatment methods in acupuncture (clinical and classical Acu)
9. Oriental diagnosis
10. Complications and contraindications acupuncture.
11. Moxibustion, Auriculo acupuncture
12. Scalp acupuncture, Sujok
13. Acupressure and reflexology
14. Traditional and modern techniques of acupuncture needling and its precautions.
15. Instruments for diagnosis and treatment of acupuncture
16. Malpractices in Acupuncture

PHILOSOPHY AND PRACTICE OF ENERGY MEDICINE

- Concepts of energy according to Modern science
- Energy system : Its Anatomy, Physiology, Pathophysiology
- Energy and 96 principles
- Concept of Prana and energy system in AYUSH systems and its comparative study with Energy Medicine.

SIDDHA

- Comparing the Nadi system in Siddha & Acupuncture.
- Similarities of Panchabhuthas, Doshas and Chinese Traditional Theories.
- Varma & Acupoints
- Herbology related with Panchabhudhas and organs. Siddha's massage Vs Taigu of TCM
- Pathogenesis and diagnosis of diseases in siddha.

AYURVEDA

- Comparing the Nadi system in Ayurveda with Acupuncture
- Comparing the Pathogenesis of Ayurveda & Acupuncture
- Disciplines in Ayurveda
- Marma & Acupuncture
- Herbology related with Panchabhudha, Doshas Panchakarma & Taigu & Energy changes
- Diagnosis in Ayurveda.

UNANI

- Nadi System in Unani & Acupuncture Medicine (herbal) vs TCM medicines Cupping Vs Moxibustion

HOMEOPATHY

- Basics principles of Homeopathy Homeo Acupuncture Qi Vs Vitality in homeopathy
- Pathogenesis in Acupuncture Vs Homeopathy
- Acupuncture Symptom of organ Vs Homeo medicine Flower remedies.

5) Sciences of Energy Medicine and its diagnostic methods
    - Acuvarma – Basic in treating Emergency cases.
    - Suvai maruthuvam:
    - Concept of energy and its balancing aspects in Yoga asanas, Pranayama Shat kriyas, Mudras and Bandhas.
    - Pranic healing and Reiki.
    - Mind, prayer and healing
    - Faith healing
    - Taiju (massage) and acupuncture
6) Adaptations of energy sciences in cultures and religions
7) Diagnostic methods of prana (modern and traditional energy scanning methods)
8) Instruments useful in diagnosis & treatments energy medicine
9) Basic Acu-varma
10) Meridian massage
11) Moxibusion
12) Auriculo acupuncture
13) Scalp acupuncture, Sujok
14) Pranic healing and Rieki
15) Acupressure and reflexology

PAPER-2 (MD-AEM-102)

Diagnosis Using Conventional Medicine & Indicators of Disease Process in relevant discipline and The 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 erythematous; Rheumatoid arthritis; Dermatomyositis and polymyositis; Sjogren's syndrome, Ankylosing spondylitis; Behcet's syndrome; theVasculitis 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; porphyrins; 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 Scharscmidt 6th edition (Saunders)
4) SchifFs 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 Guideto Thyroid Disorders (Basic Health Publications User's Guide) by Kathleen Barnes (Paperback - Mar 2, 2006)

PAPER-3 (MD-AEM-103)

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) Disease s 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. Conncrs 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 I I .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 Yarbro, .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)

PAPER-4 (MD-AEM-104)

Paper IV- Research Methodology and Recent Advances

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

1. Applied anatomy and acupuncture
2. Physiological effects of acupuncture points
3. Embryological study in relation with acupuncture and energy medicine
4. Psychoneuro- immunology

Neural and Endocrine effects on Immunity

- Glucocorticoids and Immunity : Mechanism of regulation
- Adrenergic regulation of Immunity
- Cholinergic regulation of Inflammation
- Significance of Sensory neuropeptides and the Immune response
- Vasoactive Intestinal Peptide: An Antiinflammatory Neuropeptide
- Immune Derived Opioids : Production and Function in Inflammatory Pain
- Crosstalk between Insulin like growth Factors and Proinflammatory Cytokines
- The Neuroendocrine System and Rheumatoid Arhtritis: Focus on the Hypothalamic- Pitutary –Adrenal Axis

- Sex steroids and Immunity
- Emerging Concepts for the Pathogenesis of Chronic Disabling Inflammatory Diseases : Neuroendocrine - Immune interactions and Evolutionary Biology
- Neuroendocrine Regulation of Cancer Progression : Biological mechanism and Clinical Relevance
- Neuroendocrine Regulation of Cancer Progression : II.Immunological Mechanisms, Clinical Relevance, and Prophylactic Measures

B. Immune system effects on Neural and endocrine processes and behaviour

- Expression and Action of Cytokines in the Brain: Mechanisms and Pathophysiological Implications.
- Cytokines, Sickness Behaviour, and Depression.
- The Differential Role of Prostaglandin E2 Receptors in the CNS Response to Systemic Immune Challenge.
- The Role of Pro-Inflammatory Cytokines in memory processes and Neural pasticity.
- Aging, Neuroinflammation and Behavior.
- Neuroimmune Interactions and Pain: The Role of Immune and Glial Cells.
- Cytokines and Non-Immune Brain Injury.
- The Interaction between Brain Inflammation and Systemic Infection.

C. Behaviour and Immunity.

- Mother-Infant Interactions and the Development of Immunity from Conception through Weaning.
- Social Dominance and Immunity in Animals.
- Social Context as an Individual Difference in Psychoneuroimmunology.
- Psychoneuroimmunology of Depressive Disorder: Mechanisms and Clinical Implications.
- Immune and Neuroendocrine Alterations in Posttraumatic Stress Disorder.
- Psychoneuroimmunology Aspects of Alcohol and Substance Abuse.
- Schizophrenia and Immunity
- Sleep and the Immune System.
- Emotions and the Immune System.
- Behaviourally Conditioned Enhancement of Immune Responses.
- Exercise and Immunity: Clinical Studies
- Behavioural Interventions: Immunologic Mediators and Disease Outcomes.

D. Stress and Immunity

- Stress: A System of the Whole
    - Bidirectional Effects of Stress on Immune Function: Possible Explanations for Salubrious as Well as Harmful Effects.
    - Positive Affect and Immune Function.
    - Close Relationships and Immunity.
    - Stress and Allergic Diseases.
    - Stress, Neuroendocrine Hormones, and Wound Healing: Human Models.
    - Stress and Wound Healing: Animal Models.
    - Reactivation of Latent Herpes Viruses in Astronauts.
    - Psychosocial Influences in Oncology: An Expanded Model of Biobehavioral Mechanisms.

- Stress Associated Immune Dysregulation Can Effect Antibody and T-cell Responses to Vaccines.

D. Psycho Neuro Immunology and Pathophysiology

- Psychoneuroimmunological Pathways Involved in Acute Coronary Syndromes.
- Psychosocial Factors and Coronary Heart Disease: The Role of Psychoneuroimmunological Processes.
- Endocrine and Immune Responses to Stress in Chronic Inflammatory Skin Disorder (Atopic Dermatitis).
- Obesity and Immunity.
- Endogenous Extracellular Hsp72 Release is an Adaptive Feature of the Acute Stress Response
- Cold-Restraint-Induced Immune and Biochemical Changes Inhibit Host Resistance to Listeria.
- Psychobiology of HIV Infection.
- Social Stress Alters the Severity of a Virally Initiated Model of Multiple Sclerosis.

ADVANCED THERAPEUTICS & PSYCHOLOGY AND INDIAN MEDICAL SCIENCES IN RELATION WITH ENERGY MEDICINE

1. Classical Acupuncture

- Etiopathogenesis
- Types and character of points
- Shupoint selection
- 60 points of command
- Differentiation of syndromes and general principles of treatments.

2. Acu repertory

3. Traditional Chinese Medicine

4. Acupuncture anesthesia

5. Advanced Acuvarma
6. Varma and Acupuncture – Its Origin, History, Principles, types of Varmam etc)
7. Marma and Acupuncture – Its Origin, History, Principles, types of Marmam etc
8. Energy balancing and toning sciences: Taichi, Hitachi, Qi-Qung, Zenskar – Its Origin, History, Basic Principles of workout.
9. Body mind balancing techniques: Kinesiology, Yoga nidra
10. Pharmaco genetics and pharmacokinectics of herbs
11. Preparation of energy medicine.
12. Scientific basis of energies: Vasthu, Geopathic and Feng sui.
13. Scientific truths behind religious rituals.
14. Roots of disease and Pancha kosha diagnosis.
15. Negative mentalities and Disease

*** 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
    - ALTMEDEX

Reference 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. 5U' 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 practioners 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.