

National College (Autonomous), Trichy

**SYLLABUS of M.sc Yoga**

(With effect from February 2019)

**Master of Science in Yoga**

(M.Sc Yoga)

**NATIONAL COLLEGE (AUTONOMOUS), TIRUCHIRAPALLI – 1**  
**M.Sc. Yoga**  
**(Applicable to the candidates admitted from the academic year 2019-2020 onwards)**  
**COURSE STRUCTURE**  
**SEMESTER-I**

Sem	Paper no	Title of the Paper	Hrs/ Weeks	Credit	Exam Hrs	Marks			Total
						Internal	External		
I	<b>P19YO1</b>	Yoga and Health	6	5	3	25	75		100
	<b>P19YO2</b>	Elements of Yoga	6	5	3	25	75		100
	<b>P19YO3</b>	Yoga Asanas : Practice and Benefits	6	5	3	25	75		100
	<b>P19YO4P</b>	Principles of yoga and methods of yoga – (practical – I)	6	5	4	25	70	5	100
	<b>P19YO5E</b>	Human Anatomy and Yoga	6	4	3	25	75		100
		<b>Total</b>		<b>30</b>	<b>24</b>				
<b>SEMESTER - II</b>									
II	<b>P19YO6</b>	Scientific Aspects of Yoga	6	5	3	25	75		100
	<b>P19YO7</b>	Yoga and Alternative Medicine	6	5	3	25	75		100
	<b>P19YO8</b>	Yoga and Sports	6	5	3	25	75		100
	<b>P19YO9P</b>	Practical - II Asanas	6	5	4	25	70	5	100
	<b>P19Y10E</b>	Yoga and chakras	6	4	3	25	75		100
		<b>Total</b>		<b>30</b>	<b>24</b>				
<b>SEMESTER - III</b>									
III	<b>P19YO11</b>	Research methodology & Statistics in Yoga	6	5	3	25	75		100
	<b>P19YO12</b>	Yoga and meditation	6	5	3	25	75		100
	<b>P19YO13P</b>	Principles of yoga and Method of yoga Practice – (Practical –III)	6	5	4	25	75		100
	<b>P19YO14E</b>	Yoga therapy	6	4	3	25	70	5	100
	<b>P19YO15E</b>	Fitness and Rehabilitation	6	4	4	25	75		100
		<b>Total</b>		<b>30</b>	<b>23</b>				
<b>SEMESTER-IV</b>									
IV	<b>P19YO16</b>	Application of test and measurement	6	5	3	25	75		100
	<b>P19YO17P</b>	Advanced yoga (Practical - IV)	6	5	3	25	75		100
	<b>P19YO18E</b>	Hygiene, Diet & Nutrition	6	4	4	25	70	5	100
	<b>P19YOP19</b>	(Dissertation & Viva Voice )	6	5		25	75		100
		<b>Total</b>		<b>30</b>	<b>19</b>				
	<b>Grand Total</b>		<b>120</b>	<b>90</b>					<b>1900</b>

# SYLLABUS

## FIRST SEMESTER

### YOGA AND HEALTH – P19YO1

Semester: I  
Instruction Hours/Week: 6

Core Course: I  
Credit: 5

#### **Unit – I:**

Yoga – Meaning and Relevance. Tradition and origin of yoga. The body, mind and role interlink with yoga. Concepts of yoga. Types of yoga – Hatha Yoga, Bhakti Yoga, Raja yoga, Karma yoga, Jnana yoga, Kundalini yoga, Mantra Yoga, Tantra Yoga and integral Yoga (Sri Aurobindo) .

**Unit – II :** Components of fitness – Flexibility, Strength, speed, ability, co-ordinative abilities and Endurance. Fitness development – cycling, Aerobic activities, Jogging, calisthenics, Rhythmic exercise and circuit Training. Components of wellness – Factors (Psychological, Physiological and Anatomical ), Progression, warming up and Limbering down, Special Physical Fitness Exercise and Principles of Physical fitness development.

#### **UNIT-III: Bandhas and yogic purification:**

Bandhas: Jalandhar bandha, uddiyana Bandha, moola bandha and Mahabandha.

Yogi purification: Bamana Dhouti, Barisara Dhouti, sahaj Agnisara Dhouti, Noul, Neti kriya, Nasa-polar shahaj Bastrikria, Water bath, Tub-bath, Hip-bath, sun bath, spinal bath, Air bath, Hot foot bath, The sitz bath, Tratak and message.

#### **UNIT-IV: Yogic Diet**

Food and meditation Food types : Sattvic ( Cheese, Butter, curd, Ghee, sweet fruits, Honey, apples, bananas, Grapes, Papaya, Pomegranates, Mangoes, pears, Pineapple, Guavas, Figs etc.

Rajasic (Eggs, Meat, Salt, Chillies, Chutney, Asafoetida, Pickles, Tea, Coffee etc.) and Tamasic (Beaf, Pork, wine, onion, Garlic, Rotten, state things). Balanced diet, carbohydrate, proteins, Fats and vitamins (Fat and water soluble).

#### **Unit- V: Yoga therapy**

Curative power for life – threatening diseases and disorders (Arthritis, Arteriosclerosis, Chronic fatigue, diabetes, Asthma and obesity). Yoga control the respiratory problem, high blood pressure, Body pain and weight reduction. Yogic practices reduce anxiety, create self awareness and provide personal social values.

## Reference :

- George Feuerstein : The Yoga Tradition (Its history, literature, Philosophy and practice)
- Sri Ananda : the complete Book of Yoga Harmony of Body and Mind (Orient Paper Backs : Vision Book Pvt. Ltd., 1982)
- Swamy Satyananda Saraswathi : Asana, Pranayama, Mudra, Bandha (India : Yoga Publications Trust, Munger, Bihar)
- Swami Sivandana Practice of Yoga (The Divine Life Society, Shivananda Nagar P.O. U.P. Himalayas, India)
- Swami Sivananda Practice of Karma Yoga (The Divine Life Society, Shivananda Nagar P.O. U.P. Himalayas, India)
- B.K.S. Iyengar : Light on the Yoga Sutras of Patanjali (Haper Collinks Publications India Pvt. Ltd., New Delhi)
- Iyengar B.K.S. (1989) Light on yoga : Unwin paper backs.
- Prabhavananda (1953) Patanjali Yoga Sutras, Madras : Sri Ramakrishna Math
- Thirumoolar (2006), Thirumantiram, Madras: Sri Ramakrishna Math.
- Ranganatha Swami (2001) The message of the Upanishads, Mumbai : Bharatiya Vidya Bhavan.
- Vivekananda Swami (2005) Hinduism, Chennai : Sri Ramakrishna Math.
- Sivananda Sri Swami (1983), Practical Lessons in Yoga, Shivananda Nagar : The Divine Life Society
- Desikachar T K V (2004) yoga yajnavalkya samhita, Chennai : Krishnamacharya Yoga Mandiram
- Desikachar T K V and kamsthub Desikachar, (2004) yoga Tharavali Chennai : Krishnamacharya Yoga Mandiram.
- Kokaji R.G. (1970) Hatha Pradipita, Ionavala : Kaivalyadhma
- Desikachar T K V (2004), Nathamuni's Yoga Rahasya Chennai : Krishnamacharya Yoga Mandiram. Swami Sivananda Practice of karma Yoga (The Divine Life Society, Shivananda Nagar P.O. U.P. Himalayas India)

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## ELEMENTS OF YOGA – P19YO2

Semester: I  
Instruction Hours/Week: 6

Core Course: II  
Credit: 5

### Unit – I

Yama (Social discipline ) – Ahimsa (Non-violence). Satya (Truth), brahmacharya (celibacy), Asteya (Non-stealing) and Aparigraha (Non-conveteousness).

### Unit – II

Niyama (self discipline ) – saucha (cleanliness), santhosha (contentment) Tapas (penance), svadhyaya (self/study) and Iswara Pramidhana (surrender to God).

### Unit – III

Asana – Basic rules for asanas, caution and benefits of asanas. Pranayama (Breath control) – Rechaka (inhalation). Kumbaka (suppression) and Puraka (exhalation). Cosmic energy and their forms in human body. Yogic breathing and roles.

### Unit – IV

Five sheaths (koshas) in human beings – Annamaya kosha, pranamaya kosha, manomaya kosha, vighyanamaya kosha and anandamaya koshas. Pranayama practicing methods. Surya bhedna, sukh parvak pranayama, semveta pranayama, sahita pranayama, Nadi shodan pranayama, Aritak pranayama, ujjayi Pranayama, Bhastrika pranayama, kapal bhati, sheetali pranayama, sheetkari, palvini, kewali and Atirikta pranayama.

### UNIT – V

Internal yogic practice : Dharma (concentration) – control of senses methods and practice. Mind and unified awareness. Dharana practicing with external objects and internal part (third eye region).

Meditation: Five stages – vitarka, vichara, karuna, Mudita and Ekagrata. Samadhi

### References :

- Arthur C.Guyton & John Edward Hall (2006), Textbook of medical Physiology, Florida, United States, Elseiver Standards.
- Surinder H Singh & Krishna Garg, (2008), Anatomy and Physiology for nurses & allied health sciences, New Delhi CBS Publisher.
- Sivaramakrishnan S. (2006), Anatomy and Physiology for Physical Education, New Delhi, Friends Publishers.

- Anne Waugh & Alson Graunt (2005) Anatomy and Physiology in Health and Wellness, Allahabad, Churhcill Livingtone.
- Clark Robert K (2005) Anatomy and Physiology – Understanding the Human body, Suddury, United State, Jones & Bartiett.
- Shri Krishna (1985) Notes on Structure and Functions of Human body & Effects of Yogic Practices in it, Mumbai. ICYHC Kaivalyadhama.
- Dutta Ray (2001) Yogi Exercises, New Delhi : Jaypee Brothers.
- Shirley Telles (2006) A Gilimpse of the human, Bangalore : Swami Vivekanakda yoga prakashana
- Leslie Kaminoff (2007) Yoga anatomy, Champaign : Human Kinetics
- Peter L Williams & Roger Waswie (1988) Gray's Anatomy, Edinburgh : Chucill Livingstone.
- Evelyne C peace (1997) Anatomy & Physiology for Nurses, New Delhi : Jaypee Brothers.
- Gore M.M. (2003) Anatomy & Physiology for yogic practices, Lonavala : Kamhan Prakshan.

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## YOGA ASANAS: PRACTICE AND BENEFITS - P19Y03

Semester: I

Instruction Hours/Week: 6

Core Course: III

Credit: 5

**Unit – I:** Surya Namaskar: Technique (Namaskarasana, Parvathasana, Hasta Padasana, Ekpadaprasaranasana, Bhootharasana, Ashtanga Pranipatasana, Bhujangasana, Bhoothrasana, Ekpadaprasaranasana, Hastapadasana, Parvatasana, Dakshasana) – Benefits of Surya Namaskar

Sukhasana: Technique - Benefits

Mandukasana : Technique – Benefits

Yogmudrasana : Technique – Benefits

Simhasana : Technique – Benefits

**Unit –II :** Sarvangasana: Technique - Benefits

Supt Vajrasana : Technique – Benefits

Mayurasana : Technique – Benefits

Konaasana : Technique – Benefits

Chakrasana : Technique – Benefits

**Unit –III :** Naukaasana : Technique – Benefits

Salab Asana : Technique – Benefits

Ushtra Asana: Technique – Benefits

Gomukhasana : Technique – Benefits

Padma Asana : Technique – Benefits

**Unit – IV:** Parvatasana : Technique – Benefits

Baddha Padmasana : Technique – Benefits

Uthitha Padmasana : Technique – Benefits

Halasana : Technique – Benefits

Dhanurasana : Technique – Benefits

**Unit – V:** Pawanmukt Asana : Technique – Benefits

Matsyaasana : Technique – Benefits

Garudasana : Technique – Benefits

Moola Bandhasana : Technique – Benefits

Paschimotanasana : Technique – Benefits

Shavasana : Technique – Benefits

**Books Recommended:** 1. R.S. Vadhyar & Sons : Infant Sanskrit Reader –, Palghat 2. Sarala slokah (easy slokas for children) Samskrita kaaryalayah, aravindasrama ,Pondicherry, TN 3. Hitopadesah of Narayanapandita, Jayalakshmi Publications, Hyderabad. 4. Prathama –Samskrta Bhasha Pracara Samiti , Hyderabad.

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**PRACTICAL – I**  
**- P19YO4P**

Semester: I  
Instruction Hours/Week: 6

Core course - IV  
Credit: 5

**Unit – I**

Concept of yogic practices – principles – Loosening exercises – its importance – introduction to Suryanamaskar (12 counts) (Breathing)

**Unit – II**

Asanas – Meaning – Definitions – Limitations – Classification – Scope Differences between Asanas and Physical exercises.

Asanas – Name – Type – Category – Method of practice, Essentials and Limitations Breathing, Duration, Awareness, Sequence, Contra-indications, variations – Essentials limitations and benefits of following Asanas.

Sukhasana, Vajrasana, Ardha Padmasana, Padmasana, Savasana, Makarasana, Tadasana, Utkatasana, Ardhakaticakarasana, Padahastasana, Ardha Chandrasana, Dandasana, Baddakonasana, Janusirasana, Pachimotanasana, Pavanamukhasana, Ardha Salabasana, Salabasana, Bhujangasana, Ardha Dhanurasana, Sasangasana, Uttanapadasana, Navasana, Vipareethekarani, Chakrasana, Garudasana, Natarajasana, Badha Padmasana, Uttitha Padmasana, Mandukasana, Dhanurasana, Bhujapada Pidasana, Karna Pidasana.

**Unit – III**

Pranayama – Meaning – Definitions – Techniques – Phases – Breathing Guidelines, Cautions, preparations, obstacles, aids, Ratio – Limitations – Benefits of the following: Sectional Breathing, Anulomaviloma, Surya Bhedana, Chandra Bhedana, Nadi Shodhna

**Unit – IV**

Kriyas – Meaning – Types – Guidelines – Limitations, practicing methods, benefits,

1. Kapalabashi, 2. Trataka Bhagiranga – Antaranga

Bandhas – Meaning – Definitions – Types – Practicing method, Guidelines benefits, application of Bandhas in Pranayama, Jalendra Bandha.

**Unit – V**

Mudras – Meaning – Types – Guidelines – Limitations, Practicing Method, Benefits Chin – Chinmaya – Adi (Sakthi) – Brama – Linga Mudra – Meditations – meaning – concept methods of practicing – benefits. Saguna Meditation – Nirguna Meditation.

**References:**

- B.K.S. (1976) Light on yoga, London, Unwin paperpacks.
- Sivananda Saraswathi Swami (1934) Yoga Asanas Madras : My Magazine of India
- Sathyananda Saraswathi Swami (2008) Asana, Pranayama, Mudra, Bandha, Munger: Yoga Publications trust.
- Iyenger B.K.S (2008) Light on Pranayama New Delhi: Haper Collins Publishers India.
- Vishnu Devananda Swami (1972) The complete illustrated book of yoga, New York : Pocket Books.
- Chandrasekaran K (1999) sound health through yoga Sedapatti : Prem Kalian Publications.
- Yogeshwaranand Saraswathi Swami (1975) First steps to higher yoga, Gangothari : Yoga nketan trust.
- Coulter, H David (2001) Anatomy and Hatha Yoga, USA : Body and Breath Ic.
- Kirk Martin (2006) Hatha Yoga Illustrated Champaign : Humenkinetics.
- Gharote (2004) Applied Yoga, Lonvla : Kaivalyadhama.
- Kathy Lee Kappmeier and Diane M.Ambrosini (2006) Instructing Hatha Yoga, Champaign : Human Kinetics.

## HUMAN ANATOMY AND YOGA - P19YO5E

Semester: I

Instruction Hours/Week: 6

Elective Course: I

Credit: 4

### **UNIT-1: Cell and Tissues:**

Anatomical terminologies : Body cavities, specialized cells in human body, cell division, cell-cycle.

Tissues: Epithelial tissues – simple, cuboidal, columnar, glandular and stratified types. Connective tissues: Fibroblast, macrophage, mast cells, Areolar, Adipose, Fibrous, Tendons, Ligaments, mucus, Elastic fibres, cartilage, Blood, Muscle and Nervous.

### **UNIT-2: Body connected with Breathing:**

Upper Respiratory tract – Nostrils, Nasal cavities, pharynx, epiglottis and larynx. Lower respiratory tract – Trachea, Bronchi, Bronchioles and Lungs. Inspiration, Breathing and Lungs mechanics. Lungs capacity Disorder of respiratory Tract – Carbon monoxide poisoning, pulmonary Embolism, sinusitis, otitis media and laryngitis. Lower respiratory tract disorders.

#### **Unit – 3:**

Skeletal system: Functions, Types of skeletal system – Axial (Bone spine, skull and Rib cage) Appendicular (body's appendages : arms and legs – Shoulder and hip area bones) Types of bone: Long, short, Flat, Irregular compact and spongy . Bone composition, development and growth of bone. Bone marrow. Joints: structural and functional classification. Bones in skull, vertebral column and the lower limb.

#### **Unit – 4 :**

Muscular system and physiology structure and functions of muscular tissue. Types of muscle tissue. Muscles in head, neck, facial part, eye, tongue, pharynx, Legs structures of Muscle fibre, Myofilament, myofibril. Muscle mechanics. Characteristics of contractions. Muscle energetics.

**Unit – 5 :** Nervous system and organs of special senses. Functions of Nervous system – sensing input integration output. Structure of neurons. Central and peripheral nervous system. Parts of CNS – Brain spinal cord, Reflex action Brain waves – Theta, Alpha and Beta.

Senses: sight, Hearing, Taste, Touch, Balance and acceleration, Temperature and kinesthetic sense.

TEXT BOOKS

C.D Sharma: Critical Survey of Indian Philosophy, Motilal Banarsidass Publications 2003.

N. V. Banergee: The Spirit of Indian Philosophy, Arnold-Heinemann Publishers, 1974.

REFERENCE BOOKS

P.T. Raju : Structural Depths of Indian Thought, SUNY Press, 1985

S. N. Dasgupta: A History of Indian Philosophy Vol.1, Motilal Banarsidass Publications, 1992

J.N. Mohanty: Classical Indian Philosophy, Published by Rowman & Littlefield, 2000

T.M.P. Mahadevan: Invitation to Indian Philosophy, Arnold-Heinemann Publishers, 1974

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**FIRST YEAR – SECOND SEMESTER**  
**SCIENTIFIC ASPECTS OF YOGA**  
CORE COURSE - V    CODE:P19Y06

**UNIT – I**

**1. Introduction to Yoga**

- 1.1 Definition and meaning of Yoga
- 1.2 Principles of Yoga - Kinds of Yogic Practices
- 1.3 Classification of Yoga – Meditative and Cultural
- 1.4 Difference between yoga and physical exercise

**UNIT-II**

**2. Foundation of Asanas**

- 2.1 Asana – Definition, Types, Benefits - Physical, Physiological and Psychological
- 2.2 Pranayama – Meaning, Types, Stages and Benefits
- 2.3 Effect of various yogic practices on Respiratory and Circulatory system
- 2.4 Method of performing various asanas – Suryanamaskar, Padmasana, Vajarasana

**UNIT-III**

**3. Introduction To Fitness**

- 3.1 Fitness – Definition and Components of Physical Fitness
- 3.2 Health Related Fitness – Endurance, Flexibility, Strength, Body-Composition, Co-ordination
- 3.3 Warm-up – Definition, Components and effects of warm-up

**UNIT-IV**

**4. Basics of Stretching**

- 4.1 Stretching – Definition, Frequency, Duration and Intensity of stretching
- 4.2 Types of Stretching - Factors affecting Flexibility
- 4.3 Static Stretching techniques - Guidelines and Precautions

**UNIT-V**

**5. Exercise for Strength and Endurance**

- 1.1 Strength –Definition, Benefits, Types, merits and demerits
- 1.2 Bodyweight Exercises -Squats, Push-ups, core exercises
- 1.3 Endurance – Definition, Types, benefits - frequency, Intensity, VO2max
- 5.4 Effect of endurance exercise for Cardio vascular and Respiratory system

**REFERENCE:**

- 1. Maniazhagu, Handbook of Stretching, Friends Publication, 2014
- 2. Yoga for Health, D Chandrashekar, KheI Sahitya Kendra publisher, 2007.
- 3. Wayne Westcott, Building Strength and Stamina, Murfbooks, 2003
- 4. Gharote M L Guidelines for Yogic Practice, LonawalaMedha Publications 1982

**YOGA AND ALTERNATIVE MEDICINE**  
**CORE COURSE - VI    CODE:P19Y07**

**UNIT - I**

Health – Definition – Factors influencing health – Dimensions of health, Disease – Cause of Disease – Mode of transmission.

**UNIT - II**

History, Advantages, Limitations of various systems of medicine – Ayurveda – Yoga & Naturopathy – Unani medicine – Siddha – Homeopathy

**UNIT – III**

Physiotherapy : Exercise therapy, Hydrotherapy, Electrotherapy, Massage, Relaxation techniques – Acupressure – Acupuncture – Shiatsu – Fasting – Therapeutic touch – Biochemics.

**UNIT - IV**

Mud therapy – Music therapy – sound therapy – Colour therapy – magnetotherapy – Flower therapy – Reiki – Sun bath & Air Bath – Osteopathy – Auto Urine therapy./

**UNIT - V**

Yogic practices related to Drug abuse – Alcoholism – Smoking – De-addiction techniques – Psychotherapy – Hypnotherapy – Meditation – Counseling – Faith Healing.

**References:-**

- Dr. O.P. Jaggi (2001) Healing systems, Delhi Orient paper backs.
- Swami Satyananda Saraswathi (2007) Yoga and cardiovascular management, Munger, Yoga publications Trust.
- Dr. Swami Shankerdevnanda (2007) Yoga management of Asthma and Diabetes, Munger Yoga publications Trust.
- Dr. Swami Shankerdevnanda (2006) The Effect of yoga on Hypertension, Munger yoga publications Trust.
- Swami Kuavalayananda & Dr. S.C. Vineker (1994) Yogic therapy, New Delhi, central health education bureau.
- Luis S.R. (2001) Maser approaches to new alternative therapies, Delhi pustak mahal.
- Phulgengda sinha (1976) Yoga cure for common diseases, Delhi: Orient paper bucks.
- Joshi (1991) Yoga and Nature cure therapy, New Delhi Sterling publishers private Ltd.
- Garde R.K. (1984) Yoga therapy, Bombay, Taraporevala sons & co. Pvt. Ltd.
- Nagarathana R. H. R. Nagendra & Shamantha Kanmani Narendran (2002) Yoga for common ailments and IAYT for different diseases, Bangalore: Swami Vivekananda yoga praksahana.

## **YOGA AND SPORTS**

CORE COURSE - VII CODE: P19Y08

### **Unit – I : Physical Education**

Meaning & Definition – Application of Yoga in Physical Education – Systems of Physical Exercise – Importance of Yoga in Physical Education & Sports – Difference between Yogasanas & Physical Exercise – Individualized yogic autogenic training for players.

### **Unit – II : Yogic Exercises & Meditation**

Suryanamaskar Asanas – Objectives – Common Asanas & their types – Advanced Asanas – Pranayama – Types of Pranayama – Mudras – Bandhas – Shat Kriyas.

### **Unit – III : Yogic & Meditation (Before and after completion)**

Meaning & concept of meditation – Need of meditation, techniques of meditation tools of meditation – advantages of meditation – Experience of meditation – Obstacles.

### **Unit – IV (Before and After competition)**

Mental obstacles to the practices of yoga – Remedies and practices – Kriyas yoga – Mortification Nescience – ignorance aversion – Bondage and freedom – arma and meditation – Mystic word ‘OM’ and consciousness.

### **Unit – V (Before and After competition)**

Mind – Origin of mind – Types of mind (Cosmic and individual) – Four fold mind – states of mind. (walking, dreaming, deep sleep) – Three Gunas, Sattwic, Rajasic, Tamassic), Three Doshas (Mala, Vikshapa, Avarana), powers of mind unfolding latest powers of mind – consciousness – sub – consciousness – unconsciousness – super consciousness.

### **Reference Books.**

- George Feuerstein :The Yoga Tradition (Its history,literature, philosophy and practice)
- Sri Ananda :the complete Book of yoga Harmony of Body and mind (Orient paper Backs : Vision Book Pvt. Ltd. 1982)
- Swamy Satyanandan Saraswathi : Asana, Pranayama, Mudra, Bandha (India : Yoga Publications Trust, Munger, Bihar)
- Swami Sivananda : Practice of Yoga (The Divine Life Society Shivananda Nagar P.O. U.P. Himalayas,India)
- Swami Sivananda Practice of Karma Yoga (The divine Life Society,Shivananda Nagar P.O. U.P. Himalayas,India)

- B.K.S Iyengar : Light on the Yoga Sutras of Patanjali (Haper Collins Publications India Pvt. Ltd. New Delhi)
- Iyengar B K S (1989) Light on Yoga : Unwin paper backs.
- Prabhavananda (1953) Patanjali yoga sutras, Madras :Sri Ramakrishna math
- Thiumoolar (2006),Thirumantiram,Madras :Sri Ramakrishna math



## **PRINCIPLES OF YOGA AND METHODS OF YOGA - P19YO9P**

Semester: II

Core Course :IX

Instruction Hours/Week: 6

Credit: 5

### **UNIT – I**

Loosening Exercise

Suryanamaskar – 12 Counts (Breathing)

### **UNIT – II**

**Asanas :-**

Sukhasana, Vijrasana, Ardha Padmasana, Padmasana, Savasana, Makarasana, Tadasana, Utkatasana, Ardhatichakarasana, Padahastasana, Ardha Chankrasana, Danadasana, Baddakonasana, Janusiorasana, Pachimotanasana, Pavanamukhasana, Ardha Salabasna, Salabasna, Bhujangasana, Ardhadhanurasana, Sasangasana, Uttanapadasana, Navasana, Vipareethekarani, Chakrasana, Garudasana, Natarajasana, Badha Padmasana, Uttitha Padmasana, mandukasana, Dhanurasana, Bhujapada Pidasana, Karna Pidasana.

### **UNIT – III**

Pranayama : Preparatory Exercise (Sectional Breathing) – Anulomaviloma – Surya Bhedana – Chandra Bhedana – Nadi Shodhana.

### **UNIT – IV**

Kriyas – Kapalabathi – Trataka – Bhagiranga, Antaranga

### **UNIT – V**

Mudras : Chin – Chinmaya – Adi (Sakthi) Brama – Linga Mudra

Meditations : Saguna Meditation – Nirguna Meditation

### **References :**

- Iyengar B.K.S. (1976) Light on yoga, London, Unwin paperpacks.
- Sivananda Saraswathi Swami (1934) Yoga Asanas Madras ; My Magazine of India.
- Satyananda Saraswati Swami (2008) Asana, Pranayama, Mudra, Bandha, Munger : Yoga Publications Trust.
- Iyenger B. K.S. (2008) Light on Pranayama, New Delhi : Haper Collins Publishers India.
- Vishnu Devananda Swami (1972) The complete Illustrated book of yoga, New York : Pocket Books.
- Chandrasekaran K (1999) Sound Health through yoga Sedapatti : Prem Kalyan Publication.
- Yogeshwaranand Saraswathi Swami (1975) First steps to higher yoga, Gangothari : Yoga nicketan trust.
- Coulter, H.David (2001) Anatomy and Hatha Yoga, USA : Body and Breath Inc.
- Kirk Martin (2006) Hatha Yoga Illustrated Champaign : Humenkinetics.
- Gharote (2004) Applied yoga, Lonvla : Kaivalyadhama.

## YOGA AND CHAKRAS - P19YO10E

Semester: II

Core Course

:X

Instruction Hours/Week: 6

Credit: 5

**UNIT : I** History of Yoga – Indus Valley Civilization – Vedas, Upanishadas, Smritis, Puranas, Tantras, Buddhist and Jaina Literatures, Tamil Siddhars – Tirumoolar Tirumantiram – Yoga in Medieval History of India – Modern Developments and Trends in Yoga – Misconceptions about Yoga – Analysis and Clarifications – Causes and possible remedies thereof.

**UNIT : II** Definition of the term Yoga – Yoga as the "Goal" as well as the "Means" – Meanings of Yoga – Comprehensive Nature and Scope of Yoga – Aims and Objectives of Yoga – Yoga Education in the Modern Context – Different Traditions and Schools of Yoga : Patanjali Yoga, Ashtanga Yoga, Tantra Yoga, Mantra Yoga, Hatha Yoga, Laya Yoga, Raja Yoga, Gnana Yoga, Bhakti Yoga, Karma Yoga – Two approaches discernible in various schools of Yoga : "Pranasamyamanayoga" and "Bhavanayoga".

**UNIT : III** Important Yogic Texts: Hathapradipika, Gherandasamhita, Shivasamhita Bhagawadgita – Their key Contributions to Hathayogic System – Contributions of Patanjali's Yoga Sutras – Selected Aphorisms of Patanjali's Yoga Sutras (PYS : SP-I 2, PYS : SP-II 29,46,49 PYS : VP-III 1,2,3 ) – Principles of Yoga practices: Asanas, Pranayama, Kriyas, Bandhas, Mudras, and Meditation.

**UNIT: IV** [History](#) –Introduction to chakra – Functions – Benefits – Chakra Points - Root Chakra-Sacral Chakra-Navel Chakra-Heart Chakra-Throat Chakra-Third-Eye Chakra-Crown Chakra

**UNIT – V** : The seven chakra system - [Sahasrara](#) - [Ajna](#) - [Vishuddha](#) - [Anahata](#) - [Manipura](#) - [Svadhishthana](#) - [Muladhara](#)

References:

- Sri Ananda : the complete Book of Yoga Harmony of Body and Mind (Orient Paper Backs : Vision Book Pvt. Ltd., 1982)
- Swamy Satyananda Saraswathi : Asana, Pranayama, Mudra, Bandha (India : Yoga Publications Trust, Munger, Bihar)
- Swami Sivandana Practice of Yoga (The Divine Life Society, Shivananda Nagar P.O. U.P. Himalayas, India)
- Swami Sivananda Practice of Karma Yoga (The Divine Life Society, Shivananda Nagar P.O. U.P. Himalayas, India)
- B.K.S. Iyengar : Light on the Yoga Sutras of Patanjali (Haper Collinks Publications India Pvt. Ltd., New Delhi)
- Iyengar B.K.S. (1989) Light on yoga : Unwin paper backs.

- Prabhavananda (1953) Patanjali Yoga Sutras, Madras : Sri Ramakrishna Math
- Thirumoolar (2006), Thirumantiram, Madras: Sri Ramakrishna Math.
- Ranganatha Swami (2001) The message of the Upanishads, Mumbai : Bharatiya Vidya Bhavan.
- Vivekananda Swami (2005) Hinduism, Chennai : Sri Ramakrishna Math.
- Sivananda Sri Swami (1983), Practical Lessons in Yoga, Shivananda Nagar : The Divine Life Society

## **RESEARCH METHODOLOGY & STATISTICS IN YOGA – P19YO11**

Semester: III  
Instruction Hours/Week: 6

Core Course: XI  
Credit: 5

### **Unit – I**

Introduction to Research : Meaning and Importance of Research – Scope of Research to Yoga education, Types of research : Basic, Applied and Action Research, Research Problem : Criteria of Locating a Problem – Characteristics of good research – Delimiting and Limiting a Problem, Hypothesis : Meaning and Formulation of Research Hypothesis, Methods of Non Laboratory Research – Survey and Historical Survey Research : Survey by questionnaire and interview – Opinion assessment and observation method – Historical research : Primary and Secondary sources of data – Internal and External criticism.

### **Unit – II**

Variables and Experimental Research Design – Variables; Independent, Dependent, Extraneous and Intervening variables, Experimental control, Characteristic of experimental research. Experimental Design : Random Group, Related group, Repeated Measures, Rotated group, Factorial and Static Group, Comparison design.

### **Unit – III**

Areas of Research : Physiology of Yoga – Biomechanics in Yoga – Psychology Nutrition, Thesis format : Organization of thesis chapters – Preparation of Research reports.

### **Unit – IV**

Statistics – Definition - Need and importance of Statistics in research Data – Raw data, Grouped data. Frequency table. Concept and calculations of measures of central tendency, mean – Median – Mode, measures of variability, range – Quartile Deviation and Standard Deviation – Mean Deviation Percentiles.

### **Unit – V**

Normal Probability Curve – Principles and Properties – Divergence from Normality – Skewness and Kurtosis, Factors affecting Reliability – Random size and Variability – Level confidence – Null Hypothesis – Test of Significance, concept and calculations of 't' set, Chi – Square – Correlation – Co-efficient of – Product moment and Spearman Rank order – Scoring scales – Sigma scale – T Scale – Z scale – Hull Scale – Hull Scale – Error.

**References :**

- Clarke, David H and Clarke, H. Harrison 1970 Research process in Physical education and recreation and Health Englewood chifs New Jersey, Prentice Hall, Inc
- Blommers, Paul and Lingust E.E. Statistical 1958 Methods in Psychology and Education, Calcutta, Oxford Book, Co.,
- Clarkes, H.Harrison 1963, 'The application of Measurement Health and Physical Education New York Prentice Hall Co.,
- Swami Kuvalayananda and Dr.S.L. Vinekar (1963) Yogic Therapy, its basic principles and methods, Ministry of health, Govt. of India New Delhi.
- David H Clarke, and Clarke H. Harrison, "Research Processes in Physical Education". New Jersey, Prentice Hall Inc 1984.
- T.A. Baumgartner and Strong C.H. "Conducting and Reading Research in Health and Human Performance New York: Brown and Benchmark : 1994
- C.R. Kothari "Research Methodology Methods and Techniques", New Delhi Wiley Eastern Limited, 1993.
- Anne Rothstein "Research Design and Statistics for Physical Education" New Jersey : Prentice Hall Inc. 1985.
- John W Best and Khan, James V. "Research in Education' New Delhi Prentice Hall of India Private Limited 1992.

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## YOGA AND MEDITATION – P19YO12

Semester: III  
Instruction Hours/Week: 6

Core Course: XII  
Credit: 5

### Unit – I

Meaning : Need, Nature and Scope of Philosophy, Yoga Philosophy, Vedanta Philosophy of Vedanta – goal of Vedanta – Universality of Vedanta, Vedas – The four main Vedas.

### Unit – II

Philosophy in Sat darsanas – purpose of Darsanas – Nyaya Darsana, Vaisesika Darsana – Sankya Darsana, Yoga Darsana, Mimamsa Darsana, Vedanta Darsana, Philosophy of Hinduism, Buddhism, Jainism, Vhristianity and Islam.

### Unit – III

Yoga Darsana – Sankhya and yoga darsanas – philosophy of patanjali's yoga sutras Samadhi pada, Sadhana Pada, Vibbutipada, Kaivalya Pada – Obstacles to yoga – Ways to remove the obstacles of yoga – Astangas – Yoga Siddhis – Philosophy of Yoga vasishta.

### Unit – IV

Meditational Techniques : Transcendental meditation, Raja yoga meditation – Sudarshan Kriyas, Chakra Meditation, Mantra Meditation, Preksha Meditation, Vibasana Meditation, Zen Meditation, Prayer Meditation (Christianity) workshop in Islam, Tibetan Yogic Meditation – Sri Aurobindo Meditation.

### Unit – V

Meditational Techniques: MSRT (Mind Sound Resonance Technique) PET (Pranic Energisation Technique), SMET (Stress – Management of Excessive Tension), Dynamic Meditation – Nithya Dhyana, Walking Meditation, Surya Yoga, SKY

### References :

- Vivekananda Swami (2007) Vedanta Voice of freedom, Kolkotta; Advaita Ashrama
- Karela Wemer (1979) yoga and India Philosophy, Delhi; Motilal Bannarsidass.
- Radhakrishnan S (1971) Indian Philosophy.
- Jnanananda Swami (2000) Philosophy of yoga, Mysore; Sri Ramakrishna Ashrama
- Hashananda Swami (2009) The six systems of Hindu philosophy, Chennai; Sri Ramakrishna Math
- Abhadananda Swami (1997) Yoga in theory and practice, Calcutta; Ramakrishna Vedantanath
- Ravishankar (2008) yoga the science of Holistic living, Chennai; Vivekananda Kendra Prakashan Trust
- Vivekananda Swami (2005) Hinduism, Chennai; Sri Ramakrishna Math
- Satyananda Saraswathi Swami (2007) Meditation from the Tantras Munger; Yoga publications Trust
- Satyananda Saraswathi (2007) Dynamics of yoga, Munger; Yoga Publications Trust

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## PRINCIPLES OF YOGA AND METHODS OF YOGA – P19YO13P

Semester: III  
Instruction Hours/Week: 6

Core Course: XIII  
Credit: 5

### Unit – I

Loosening Exercises – Suryanamaskar with Mantras, Chandra Namaskar

### Unit – II

Asanas – Method of practice – Breathing, duration, Awareness, Sequence, contra – Indications, variations – Essentials, Limitations and benefits of following Asanas :

Savasana, Makarasana,

Trikonasa, Parsavakonasa, Vrikshanana, Veerabdrasana

Vakrasana, Supta Vajrasana, Marichiyasana, Gomukasana

Naukasana, Poorna Dhanurasana

Sarvangasana, Halasana

Vatayanasana, Ekapadaurdhypadangusthasana, Hanumanasana, Uprivista Konasana, Bakkasana, Mayurasana, Bharadvajasana, Ardha Sirasasana.

### Unit – III

#### Pranayama:-

Techniques – Phases – Breathing Ratio, Guidelines, Cautions, Preparations, Obstacles, Aids, Limitations and benefits of the following pranayamas:

Sitali, Sitkari, Bhramari, Bhastrika.

### Unit – IV

Kriyas – Practicing methods, Guidelines, Limitations – precautions – benefits – Jalaneti, Sutraneti, Vamana Dhouthi.

Badhas – Practicing method, Guidelines, Benefits, Application of Bandhas in Prnayama Uddiyama Bandha, Moola Bandha.

### Unit – V

Mudras – Practicing method, Guidelines – Limitations, Benefits.

Matangi Mudra, Vajra Mudra, Hakini Mudra, Mukula Mudra, Kaleeswara Mudra,

Meditations :-

Mandra Meditation, Japa Meditation, Ajapa Japa Meditation, Trtaka Meditation, Inner Visualization, Yoga Nidra, Walking Meditation.

### References:

- B.K.S. (1976) Light on yoga, London, Unwin paperpacks.
- Sivananda Saraswathi Swami (1934) Yoga Asanas Madras ; My Magazine of India.
- Satyananda Saraswati Swami (2008) Asana, Pranayama, Mudra, Bandha, Munger : Yoga Publications Trust.
- Iyenger B. K.S. (2008) Light on Pranayama, New Delhi : Haper Collins Publishers India.

- Vishnu Devananda Swami (1972) The complete Illustrated book of yoga, New York : Pocket Books.
- Chandrasekaran K (1999) Sound Health through yoga Sedapatti : Prem Kalyan Publication.
- Yogeshwaranand Saraswathi Swami (1975) First steps to higher yoga, Gangothari : Yoga nketan trust.
- Coulter, H.David (2001) Anatomy and Hatha Yoga, USA : Body and Breath Inc.
- Kirk Martin (2006) Hatha Yoga Illustrated Champaign : Humenkinetics.
- Gharote (2004) Applied yoga, Lonvla : Kaivalyadhama.
- Kathy Lee Kappmeier and Diane M.Ambrosini (2006) Instructing Hatha Yoga, Champaign : Human Kinetics.

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## YOGA THERAPY – P19YO14E

Semester: III  
Instruction Hours/Week: 6

Elective Course: III  
Credit: 4

### Unit – I

Yogic Practices – Pranayama, Kriyas, Bandhasa and Mudras

### Unit – II

Meaning of Hypertension and Stress – Assessment – Clinical History – Causes – Treatment through yoga for Hypertension and stress – Contra Indication of Yogic Therapy.

### Unit – III

Meaning of Metabolic disorder (Diabetics, Obesity and Thyroid) – Assessment – Clinical History – Causes – Treatment through Yoga for metabolic disorder – Contra Indication of Yogic Therapy

### Unit - IV

Meaning of Pulmonary disorder (TB, Asthma and Sinus) – Assessment – Clinical History – Causes – Treatment through Yoga for pulmonary disorder – Contra indication of Yogic Therapy.

### Unit – V

Meaning of Musculoskeletal disorder (Osteoporosis, Arthritis and Vertebral disorder) – Assessment – Clinical History – Causes – Treatment through Yoga for Musculo– skeletal – Contral Indication of Yogic Therapy.

### References :

- Shemanthakamani Narendhan et al (2008) Yoga and pregnancy, Bangalore, Swami Vivekananda Yoga Prakshana.
- Nagarathna & Nagendra (2008) Yoga for Bronchial Asthma, Bangalore, Swami Vivekananda, Yoga Prakshana
- Nagarathna & Nagendra (2007) Yoga for digestive disorders Bangalore, Swami Vivekananda, Yoga Prakshana
- Sri Kanta ss et al (2008) yoga for diabetics, Bangalore, Swami Vivekananda yoga prakshana
- Nagarathna & Nagendra (2008) yoga for Hyper tension & Heart disease, Bangalore Swami Vivekananda yoga
- Nagarathna & Nagendra (2008) yoga for Arthritics Bangalore, Swami Vivekananda yoga

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## **FITNESS & REHABILITATION – P19YO15E**

Semester: III  
Instruction Hours/Week: 6

Elective Course: IV  
Credit: 4

### **Unit – I**

Define – Fitness – Health – Need and Importance of Health and Physical fitness – values of physical fitness – methods and development of Aerobic capacity, flexibility – Body build – Muscular Power – Muscular endurance – Speed – coordinative reaction – Balance – Good Health – Fitness and Yoga – Improvement aerobic capacity – Strength power – Strength and muscular endurance – Isometric construction – Isotonic contraction – Iso-kinetic contraction.

### **Unit – II**

Yoga – Improvement of agility Co-ordination – reaction time – Training for success – Principles of Yoga training – flexibility – Ballistic stretching techniques – static stretching – guidelines – contract – relaxation methods – yoga and body composition.

### **Unit – III**

Training Programme – Year Programme – Individual training – Age and Training – Asanas – Pranayama – Meditation – Relaxation – Care of the body – Sensible eating – Right life style – limiting alcohol – Drugs – smoke – Healthy diet – Planning to safety – environment.

### **Unit – IV**

Physiology and pathology in the yoga shastra – Description of the Glands – Ayurvedha – Vatha – Pitta, Kapha – Tridosha – Common ailments – Selective yogic practice for High Blood pressure or Hyper tension, Heart Myocardial infection, Common cold, Asthma, Sinusitis, Tuberculosis.

Arthritis, Back pain, Digestive disorders, ulcer, piles, constipation, Diabetes mellitus, obesity.

### **Unit – V**

Selective yogic practice for Neurotic disorders, mood disorders, obsessive compulsive disorder, Schizo – Phrenia, Chemical abuse, Eating disorders, Phobias, mental retardation – Diseases of Women : The monthly period, State of non – attainment of sexual maturity – Abortion and miscarriage, Absence of mother's milk, disorders in menopause – yogic treatment – Selective yogic practice for Anemia, Skin diseases, Epilepsy, Impotency, Seminal disorders, Headache, Thyroid Disease – Yogic treatment.

**References :**

- Shemanthakamani Narendhan et al (2008) Yoga and pregnancy, Bangalore, Swami Vivekananda Yoga Prakshana.
- Nagarathna & Nagendra (2008) Yoga for Bronchial Asthma, Bangalore, Swami Vivekananda, Yoga Prakshana
- Nagarathna & Nagendra (2007) Yoga for digestive disorders Bangalore, Swami Vivekananda, Yoga Prakshana
- Sri Kanta ss et al (2008) yoga for diabetics, Bangalore, Swami Vivekananda yoga pakshana
- Nagarathna & Nagendra (2008) yoga for Hyper tension & Heart disease, Bangalore Swami Vivekananda yoga
- Nagarathna & Nagendra (2008) yoga for arthritics Bangalore Swami Vivekananda Yoga Prakshna
- The Paul Beashel and john Taylor the world of sport examined 1997 published by Thomas Nelson and Son's Ltd., 1997.

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## APPLICATION OF TEST AND MEASUREMENT – P19YO16

Semester: IV  
Instruction Hours/Week: 6

Core Course: XVI  
Credit: 5

### Unit – I

Define – Test and measurement – need and importance of test and measurement – speed – agility – flexibility – power – abdominal muscular endurance – stretch – coordination – pulse rate – blood pressure (high/low) – sensory functions – muscles – attention – stress – anxiety – anger – emotional – tension – assertiveness – self concept

### Unit – II

Loosening Exercises: Asanas – Advanced Suryanamaskar – Asanas – method of practice – Breathing, Duration, Awareness, Sequence, Contra – Indications, Variations, Essentials, Limitations and benefits of following Asanas:

Shanthisana – Ekapadasana – Poorna Bhujangasana – Poorna Salabhasana, Sirasana, Padma Sirasana, Koormasana, Hanumanasana, Vrishchikasana, Ekapada Sirasana, Padma Parvattasana.

### Unit – III

Pranayama : [1:1:1, 1:2:2, 1:2:4, 1:4:2]

Kapalabhati [I&II & III steps] 30-40-50

Bhastrika [Intermediate & Advanced] 30-40-5-

Suka Poorva Pranayama [All ratio]

Preparatory Exercise (Sectional breathing) – Anulomaviloma – Surya Bhedana – Chandra bhedana – Nadi Shodhana – Nadi Suthi – Sadhana Pranayama – Ujjai Pranayama – Brahmari Pranayama

### Unit – IV

Kriyas – Kapalabhati – Trataka – Nadi – Nauli – Bhagiranga, Antaranga – Dugdha Neti – Ghretha Neti – Danda Dhauthi – Basthi

Bandhas – Maha Bhandha – Moola Bhandha – Jalandhra Bhandha – Uddiyana Bhandha – Mudras – Practicing Methods, Guidelines, Limitations – Precautions – benefits – Thenu Mudra – Dharma Chakra Mudra – Lotus Mudra – Dhyani Mudra – Makara Mudra – Chn - Chinmaya – Adi (Sakthi) – Brama – Linga Mudra

### Meditation:

Transcendental Meditation, Sudarshan Kriyas, Preksha Meditation, Tibetan Yoga and Meditation – Saguna Meditation – Nirguna Meditation

Vipasana Meditation, Surya Yoga SKY, MSRT (Mind Resonance Technique) PET (Pranic Energisation Technique), SMET (Stress – Management of Excessive Tension), Dynamic Meditation – Nithya Dhyana.

## **Unit – V**

Teaching practice – Teaching Techniques – Lesson Plan - Principles – Precautions – Demonstrations – Values – corrections.

### **Reference :**

- Iyengar B.K.S. (1976) Light on yoga, London, Unwin paperpacks.
- Sivananda Saraswathi Swami (1934) Yoga Asanas Madras : My Magazine of India
- Sathyananda Saraswathi Swami (2008) Asana, Pranayama, Mudra, Bandha, Munger: Yoga Publications trust.
- Iyengar B.K.S (2008) Light on Pranayama New Delhi: Haper Collins Publishers India.
- Vishnu Devananda Swami (1972) The complete illustrated book of yoga, New York : Pocket Books.

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## ADVANCED YOGA PRACTICES – P19YO17P

Semester: IV  
Instruction Hours/Week: 6

Core Course - XVII  
Credit: 5

### **ASANAS:**

Brahmacharyasana, Yoganidrasana, Hanumansana, Vrichikasana, Padma  
Mayurasana, Pincha Mayurasana, Bhairavasana, Durvasasana, Tittibhasana,  
Vasistasana, Supta Kurmasana,

**marichasana-iii**, Pindasana in Sirshasana, Dvipadasirasana, Eka Pada Raja  
Kapotasana, Kapotasana, Padmasarvangasana;

**NAULI** (clock wise and anti clock wise rotation)

**MUDRA TRAYA**, Sambhavi mudra, Shanumukhi mudra, Sakti chalani

### **PRACTICE OF DHYANA**

Recommended books: Satyananda Saraswati, Swami (2002), Asana, Pranayama, Mudra,  
Bandha, Munger, Yoga Publications Trust

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## **HYGIENE, DIET & NUTRITION – P19YO18E**

Semester: IV

Elective course: v

Instruction Hours/Week: 6

Credit: 5

### **Unit – 1: Basic concepts and components of food and nutrition**

Understanding Nutrition, Basic Terminology in Relation to Nutrition Requirement, Human Nutritional Requirements; Concept of food, Acceptance of Food, Functions of Food; Components of Food & their Classification; Macro Nutrients –Sources, Functions and Effects on the Body; Micro Nutrients - Sources, Functions and Effects on the Body; Fat Soluble Nutrients - Sources, Functions and Effects on the Body; Water soluble Nutrients - Sources, Functions and Effects on the Body.

### **Unit-2: Food groups**

Cereals & Millets –Selection, Preparation and Nutritive Value; Pulses, Nuts and Oil Seeds-Selection, Preparation and Nutritive Value; Milk and Milk Products- Selection, Preparation and Nutritive Value; Vegetables and Fruits- Selection, Preparation and Nutritive Value, Fats, Oils and Sugar, Jaggery- Selection, Preparation and Nutritive Value.

### **Unit-3: Food and metabolism**

Energy- Basic Concepts, Definition and Components of Energy Requirement, Energy Imbalance Concept of Metabolism, Anabolism, Catabolism, Calorie Requirement-BMR, SDA, Physical Activity; Metabolism of Carbohydrates, Lipids and Protein; Factors Affecting Energy; Requirement and Expenditure, Factors affecting BMR, Factors affecting thermal effect of Food, Factors affecting energy expenditure in physical activity; Methods of Estimation of Energy Expenditure and Requirements; Direct Calorimetry, Indirect Calorimetry, Double Labelled Water Technique, Heart Rate Monitoring Method, Factorial Estimation of Total Energy Expenditure.

### **Unit – IV: Yogic concept of diet & nutrition**

General Introduction of Ahara (Diet), concept of Mitahara; Definition and Classification in Yogic diet according to traditional Yoga texts; Concepts of Diet according to Gheranda Samhita, Hatha Pradeepika and Bhagavadgeeta-Rajasic, Tamasic and Sattvic food; Pathya and Apathya in diet according to Yogic texts; Guna and Ahara ; Importance of Yogic Diet in Yog Sadhana; Yogic Diet and its role in healthy living; Diet according to the body constitution ( Prakriti) – Vata, Pitta and Kapha.

### **Unit-V**

Swasthavritta: Meaning, Definition, Aims and Aspects; Wellness: Meaning, Definition, Indicators and dimensions; Dinacharya (Daily regimen) & Ratricharya (Night Regimen): Meaning, Definition and sequential elements with their practical applications; Ritucharya

(Seasonal Regimen): Meaning, Definition, Types with their salient features, Seasonwise Accumulation, Aggravation and Pacification of three Humors (vata, pitta, kapha); Seasonwise Does and Don'ts ; Application of Dincharya, Ratricharya and Ritucharya for health promotion, rejuvenation, disease prevention and age reversal.

**TEXT BOOK**

Ramesh Bijlani : Eating Wisely and Well, Rupa Publication India Pvt. Ltd, 2012

**BOOKS FOR REFERENCE**

Stanley Davidson & others: Human Nutrition & Dietetics, The English Language Book Society & Churchill Livingstone, Revised Edition

Dennis Thompson : The Ayurvedic Diet, New age books, New Delhi, 2001

Randolph Stone : A Purifying Diet, Lilawati Bhargav Charitable Trust, Delhi, Revised

Edition.

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**DISSERTATION & VIVA VOCE – P19YOP19**

Semester: IV  
Instruction Hours/Week: 6

Project  
Credit: 5

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