



DEPARTMENT OF YOGA SCIENCE
University of Patanjali, Haridwar-249405

PhD in Yoga

Course Work

(Revised as per Extraordinary Gadget Part III Section IV in accordance to
UGC Notification for Ph.D. Regulation Dt. 07/11/2022)

Syllabus



2023-24

Dated: 30.06.2023

विभागाध्यक्ष योग विज्ञान विभाग
पतंजलि विश्वविद्यालय, हरिद्वार



University of Patanjali, Haridwar

DEPARTMENT OF YOGA SCIENCE

Syllabus of Ph.D. Course Work

(Revised as per Extraordinary Gadget Part III Section IV in accordance to UGC Notification for Ph.D. Regulation Dt. 07/11/2022)

Effective from the Session 2023-24 onward

PREAMBLE

Yoga is essentially a spiritual discipline based on an extremely subtle science, which focuses on establishing harmony between mind, body; thought and action: restraint and fulfillment: harmony between man and nature and a holistic approach to health and well-being. Yoga is not only about exercise but to discover the sense of oneness with ourselves, the world and nature. It is an art and science for healthy living.

The word “Yoga” is derived from the Sanskrit root “yuj” meaning “to join”, “to yoke” or “to unite”. According to Yogic scriptures, the practice of Yoga leads to the union of individual consciousness with universal consciousness. In addition to this, Yoga is becoming popular day by day and has become a wave which is sweeping across the globe. More and more people are getting interested in the scientific and philosophical aspects of Yoga. Hence, it is important to conduct in depth research in the field of Yoga both in the scientific and philosophical dimensions. In this program the impact of Yoga in healthcare, personality development and the philosophical aspects of Yoga will be explored.

I. Title of the Program

The program shall be called “COURSE WORK for Doctor of Philosophy in Yoga”. with Program Code “CW-YS”

II. Aim of the program

The aim of the program is to propagate and promote research in Yoga.

III. Objectives of the program

- To conduct good quality research in the field of Yoga.
- To understand the applications of Yoga through scientific method.
- To study the psycho- physiological effects of various Yoga practices.
- To explore the possible application of Yoga in healthcare and modern lifestyle.
- To understand important philosophical concepts given in traditional Yoga text.

IV. Duration

- The course work will be for one semester (6 months).
- The candidate can submit his or her thesis 3 year after registration to the PhD.
- Program and it is extendable till 5 years after the registration.

V. Eligibility

The candidates must have completed Master’s Degree in Yoga from a University recognized by UGC.

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PROGRAM STRUCTURE

S. N.	Course Code	Course Title	Periods			Evaluation of Scheme			SEE	Course Total
			per Week			Seasonal				
			L	T	P	Credit	CT	TA		
01	CW-YS-C-01	Research Methodology	3	1	0	04	20	10	70	100
02	CW-YS-C-02	Computer Application and Statistics	2	0	4	04	20	10	70	100
03	CW-YS-EL-03	Yoga Science	4	0	0	04	20	10	70	100
04	CW-YS-EL-04	Yoga Philosophy								
05	CW-YS-C-05	Publication of Research Papers & Literature Review	1	0	2	02	10	05	35	50
06	CW-YS-C-06	Research Ethics	2	-	-	02	10	05	35	50
						16	80	40	280	400

A candidate has to obtain minimum of 55% of marks or its equivalent grade points in aggregate in the course work in order to be eligible to continue Ph.D. Program.

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SYLLABUS FOR THE RESEARCH PROGRAM

PAPER-I

PAPER CODE "CW-YS-C-01"

RESEARCH METHODOLOGY (Core)

Total Marks = 100 (External 70 + Internal 30)

Credits = 04 (L-3, T-1, P-0)

OBJECTIVES

This paper is to impart knowledge about:

- Research and its different dimensions
- Scientific findings of Yoga research
- Conducting research for reliable and valid results without bias
- Recent trends in Yoga research
- Application of modern technology to Yoga research
- Correspondence with libraries
- Literary research already done in Yoga
- Ancient scriptures related to Yoga
- Important commentaries on traditional Yoga texts
- Major spiritual traditions of the world
- Possible applications of the philosophy of Yoga in the modern world
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UNIT-I: RESEARCH METHODOLOGY (CORE)

1. **Introduction to Research Methodology** — definition, types, need for Yoga research
2. **Literary research** — assumption of literary research, elements and theories of literary research, types of literary research (historical research, comparative research, explanatory research and critical research), need and importance of research in Yoga
3. **Hypothesis** – definition, types of hypothesis
4. **Scales of measurement** — Probability Sampling: Nominal, Ordinal, Interval, Ratio; Non-probability Sampling: Convenience, Judgmental, Quota, Snow-Ball
5. **Types of data** — Qualitative and Quantitative
6. **Data collection methods** — Methods and techniques of data collection, primary and secondary data, metaanalysis, historical methods, content analysis, devices used in data collection, pilot study and pretext of tools, choices of data collection methods. observation. interview, psychological tests, questionnaire, physiological tests

UNIT-II:

1. **Sampling Methods** — Population and Sample; Simple Random Sampling, Systematic Sampling, Stratified Sampling, Cluster Sampling
2. Methods of Controlling Biases — Randomization
3. **Types of Variables** — Independent, Dependent. Confounding Variable.
4. **Types of Research Design** - Meaning of research design, need of research design, features of good design, various research designs, basic principles of experimental designs and designs of experiments, Cross Sectional Design, Case Study, Survey Design.
5. **Reliability Test** – test-retest Reliability, Internal Consistency, Inter Rater Reliability
6. **Validity** - Construct Validity, Content Validity, Face Validity
7. **Issues of Bias and Confounding:**
 - Selection Bias, Recall Bias, Observer or Measurement Bias, Publication Bias
 - Randomization, Matching, Crossover Design, Restriction, Stratification

PAPER-II
PAPER CODE “CW-YS- C-02”
COMPUTER APPLICATION AND STATISTICS (Core)
Total Marks = 100 (External 70 + Internal 30)
Credits = 04 (L-2, T-0, P-4)

OBJECTIVES

This paper is to impart knowledge about:

- Application of modern technology in Yoga research
- Searching online databases
- Data recording using computer software
- Storing data
- Data analysis using computer software
- Documents for scientific writing
- Presentation of research activities

UNIT-I: COMPUTER FUNDAMENTALS

1. Types of computers
2. Input, output and storage devices
3. Software & hardware
4. Types of networks LAN, MAN & WAN
5. MS office (Word, Excel and Power Point)

UNIT-II: INTERNET

1. Email - create, forward & send a mail message
2. World Wide Web (www)
3. Online journals:
4. Searching Research articles, papers & various keywords
5. Research Databases: Google Scholar, PubMed, Science Direct, Cochrane Library
6. Research Gate, ORCID

UNIT-III: STATISTICAL CONCEPTS -I

1. Descriptive Statistics & Inferential Statistics
2. Hypothesis Testing, Null Hypothesis: One Tailed, Two Tailed Hypothesis
3. Statistics and Parameters
4. Sample and Population
5. Generalization
6. Types of Errors and its Control
7. Central Limit Theorem

UNIT-IV: STATISTICS CONCEPTS –II

1. Point estimate and interval estimate
2. Power analysis -effect size, sample size
3. T-value & p-value
4. Confidence Interval
5. Statistical tests and design
6. Assumptions of tests
7. Processing and Analysis of Data: Measure of Central Tendency, Measures of Dispersion,

Measures of Variation. Measures of Central Tendency vs. Measures of Dispersion, Normal Distribution, Measures of Skewness and interpretation, Correlation and Regression: Types and allocations,

8. Statistical tests for various designs -correlation, proportions, parametric and non-parametric tests, paired sample and independent sample t-tests, Chi-Square tests, ANOVA, Repeated measures ANOVA
9. Hypothesis Testing via Inferential Statistics (t-test, ANOVA, ANCOVA, correlations and Non-parametric-U, Wilcoxon, Friedman, Kurskal-wallis. Correlation and Regression Analyses, Multivariate Analysis- Structural Equation Modeling)
10. Operating SPSS and AMOS for Parametric/Non-parametric analyses, Structural Equation Modeling
11. Using Mendeley, and antipiracy software

UNIT-V: DATA ANALYSIS SOFTWARE

1. Introduction statistical package for social sciences (SPSS)
2. Creating & saving a SPSS
3. Data entry in SPSS
4. Analysis of description statistics using SPSS
5. Dependent & independent using SPSS
6. One way & two analysis using SPSS
7. Correlation using SPSS
8. Interpretation of SPSS

PAPER-III (ELECTIVE)
PAPER CODE “CW-YS-EL-03”
YOGA SCIENCE (ELECTIVE)
Total Marks = 100 (External 70 + Internal 30)
Credits = 04 (L-4, T-0, P-0)

OBJECTIVES

This paper is to impart knowledge about:

- Basics of Human Biology
- Science behind Yoga practices
- Application of Yoga practices and their outcomes.

UNIT I ALLIED SCIENCES

(A) Anatomy and Physiology

- a) Introduction to cell, tissue, organs and systems; Basic cell physiology Cell- Introduction, Cell Organelles, Cell membrane, Movement of the substances and water through the cell membrane, Bioelectric potentials.
- b) Musculoskeletal systems: Skeleton - names of all bones, joints and muscles, cartilage, tendon and ligaments, types of bone, joints and their functions; spine, muscles and their functions; Skeletal muscles - Properties of skeletal muscles, Muscular contraction and relaxation, Neuromuscular junction, Sarco-tubular system, Smooth muscle mechanism of contraction
- c) Digestive and excretory system: Anatomy of digestive system, excretory system (component organs) and their functions; Gastro intestinal system General structure of alimentary canal, Gastric secretion, Pancreatic secretion, Gastric motility-digestive peristalsis Gastrointestinal hormones.
- d) Renal physiology- Structure of kidney, Nephrones, Juxtra glomerular filtrate, Re-absorption, Secretion-mechanism of secretion, Concentrating and diluting mechanism of urine, Dialysis
- e) Nervous system and glands: Structure and properties of neurons, subdivisions of nervous system and their functions, types of glands (endocrine and exocrine glands), important endocrine and exocrine glands and types of hormones their functions.
- f) Sensory nervous system, Motor nervous system, Higher functions of the nervous system, Synapse, Reflexes Cerebrospinal fluid, Blood brain and blood CSF barrier
- g) Cardiovascular and respiratory system: Components of cardiovascular and respiratory system; functions of cardiovascular and respiratory system; Circulatory system- Functional anatomy of the heart, Properties of cardiac muscles, Conducting system of the heart, Pressure changes during cardiac cycles, Capillary circulation, Arterial and venous blood pressure; Respiratory system-Mechanism of breathing, Ventilation, Regulation of respiration, Transport of gases, Hypoxia, Artificial ventilation, Non respiratory functions of the lungs
- h) Immune system: Component organs of immune system, Functions of immune system; Endocrinology-Endocrine glands, hormones, their functions;
- i) Reproductive system: Anatomy of male and female reproductive systems
- j) Stress physiology- how acute and chronic stress disturbs the normal physiology

(B) Dietetics and Nutrition

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

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

(C) General Psychology Counseling

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

UNIT II YOGA & HEALTH

(A). Health & Disease

- a. Definition & Importance of Health According to WHO; Dimensions of Health: Physical, Mental, Social and Spiritual;
- b. Concept of Health and Disease in Indian Systems of Medicine i.e. Ayurveda, Naturopathy
- c. Yogic Concept of Health and Disease: Concept of Adhi and Vyadhi; Meaning and definitions,
- d. Concepts of Trigunas, Pancha-mahabhutas, Pancha-prana and their role in Health and Healing; Concept of Pancha-koshas & Shat-chakra and their role in Health and Healing;
- e. Role of Yoga in preventive health care – Yoga as a way of life, Heyam dukham anagamam; Potential causes of Ill-health: Tapatrayas and Kleshas, Physical and Physiological manifestation of Disease: Vyadhi, Alasya, Angamejayatva and Svasa-prashvasa.
- f. Mental and Emotional ill Health: Styana, Samshaya, Pramada, Avirati, Bhranti-darsana, Alabdha-bhumikatva, Anavasthitatva, Duhkha and Daurmanasya
- g. Yogic Diet - General Introduction of Ahara; Concept of Mitahara; Classification in Yogic diet according to traditional Yoga texts;; Diet according to the body constitution (Prakriti) – Vata, Pitta and Kapha as also Gunas.
- h. Concepts of Diet Pathya and Apathya according to Gheranda Samhita, Hatha Pradeepika and

Bhagavad Gita; Importance of Yogic Diet in Yog Sadhana and its role in healthy living; Diet according to the body constitution (Prakriti) – Vata, Pitta and Kapha as also Gunas.

- i. Yogic Principles of Healthy Living: Ahara, Vihara, Achara and Vichara; Role of Yogic Positive Attitudes (Maitri, Karuna, Mudita and Upeksha) for Healthy Living, Concept of Bhavas and Bhavanas with its relevance in Health and well-being.

(B) Therapeutic Yoga – Evidence based

- a. Yogic Practice*- Management of the disease through suitable yogic practices - Yogic diet, Asanas, Shatkarmas; Pranayama; Meditation; Notional corrections through yogic scriptures and counseling; Yama and Niyama; Stress(emotions management) Life style prescriptions - Moderation in Ahara, Vihara, Achara and Vichara.
- b. Integrated approach of Yoga Therapy in the treatment of diseases ** Systemic anatomy, physiology of the related System; Pathophysiology, Stress and disease; Medical Management; Mechanism of imbalances at psychological, pranic, physical, endocrinal, autonomic levels;psyhocneuroimmunological aspect of the disease model; Disease specific parameter; what, why and how of each Yogic practice*; Prevention. Evidence research done on the particular disease;
- c. General Parameters and questionnaires to evaluate Health status - GHQ, Prakriti, Guna, PSS, STAI.
- d. Integrated Approach of Yoga therapy for the following Common Ailments:
 - **Respiratory disorders** - Allergic Rhinitis & Sinusitis: COPD: Chronic Bronchitis, Tuberculosis: Evidence research done on the particular disease.
 - **Cardiovascular disorders:** Hypertension:, Atherosclerosis / Coronary artery disease: Ischemic Heart disease – Angina pectoris / Myocardial Infarction/ Post CABG rehabilitation: Congestive Cardiac failure, Cardiac asthma:
 - **Endocrinal and Metabolic Disorder** - Diabetes Mellitus (I&II); Hypo and Hyper-Thyroidism; Obesity: Metabolic Syndrome
 - **Obstetrics and Gynecological Disorders, Menstrual disorders:** Dysmenorrhea, Oligomenorrhea, Menorrhagia: Premenstrual Syndrome: Menopause and peri-menopausal syndrome: Yoga for Pregnancy and Childbirth: Complicated pregnancies: PIH, Gestational DM, Ante-natal care, Post-natal care; PCOS:
 - **Gastrointestinal disorders** APD: Gastritis – Acute & Chronic, Dyspepsia, Peptic Ulcers, Constipation, Diarrhoea, Irritable Bowel Syndrome: Definition, Etiopathogenesis, Inflammatory Bowel Disease, Ulcerative colitis
 - **Cancer:** types, clinical features, Side effects of Chemotherapy, radiotherapy.
 - **Musculo-Skeletal Disorders:** Back Pain: Lumbar Spondylosis, Intervertebral disc prolapse (IVDP), Spondylolisthesis, Spondylitis, Psychogenic- Lumbago, Neck pain: Cervical Spondylosis, radiculopathy, Functional neck pain, All forms of Arthritis: Rheumatoid Arthritis, Osteoarthritis • Neurological Disorders: Headaches: Migraine, Tension headache; Cerebro vascular accidents: Epilepsy; pain; Autonomic dysfunctions; Parkinson’s disease
 - **Psychiatric disorders:** Psychiatric disorders: Neurosis, Psychosis: Neurosis: Anxiety disorders: Generalized anxiety disorder, Panic Anxiety, Obsessive Compulsive Disorder, Phobias: Depression: Dysthymia, Major depression, Psychosis: Schizophrenia, Bipolar affective disorder

PAPER-III (ELECTIVE)
PAPER CODE “CW-YS-EL-04”
YOGA PHILOSOPHY (ELECTIVE)
Total Marks = 100 (External 70 + Internal 30)
Credits = 04 (L-4, T-0, P-0)

OBJECTIVES

This paper is to impart knowledge about:

- Historical development of Yoga
- Textual knowledge of Yoga
- Applications of Yoga in today's era

UNIT I - Contribution of P.P. Swami Ramadev Ji Maharaj & Acharya Balkrishna Ji Maharaj for the development and Promotion of Yoga & Yoga Research

UNIT II- FOUNDATIONS OF YOGA: History, Evolution of Yoga and Schools of Yoga

- a. Origin of Yoga, History and Development of Yoga; Etymology and Definitions, Misconceptions, Aim and Objectives of Yoga, True Nature and Principles of Yoga
- b. Introduction to Vedas, Upanishads, Prasthanatrayee and Purushartha Chatushtaya
- c. General introduction to Shad-darshanas with special emphasis on Samkhya and Yoga Darshana, Yoga in Vedanta
- d. Introduction to Epics - (Ramayana, Mahabharata), Yoga in Ramayana, Yoga in Mahabharata
- e. Introduction to Smritis and Yoga in Smritis; General introduction to Agamas and Tantra, Yoga in Tantra; Concepts of Nadi and Prana in Tantra, Kundalini, Effects of Kundalini Shakti and Shatchakra Sadhana
- f. Yoga in Medieval Literature, Bhakti Yoga of Medieval Saints, Yoga in Narada Bhakti Sutras.
- g. Yoga in Modern Times: Yogic Traditions of Ramakrishna and Swami Vivekananda, Shri Aurobindo; Yoga traditions of Maharshi Ramana and Swami Dayanand Saraswati.
- h. Yoga in Contemporary Times: Brief Introduction to important Yoga Paramparas (lineages) Yoga Parampara of Sri T. Krishnamacharya, Yoga Parampara of Swami Shivanada Saraswati, Swami Rama of Himalayas, Maharshi Mahesh Yogi and their contributions for the development and promotion of Yoga. Swami Kuvalyananda (Kaivalyadhama), Swami Dharendra Brahmchari.
- i. Introduction to Schools (Streams)of Yoga: Yoga Schools with Vedanta Tradition (Jnana, Bhakti, Karma and Dhyana), Yoga Schools with SamkhyaYoga Tradition (Yoga of Patanjali) and Yoga Schools with Tantric Tradition (Hatha Yoga, Swara Yoga and Mantra Yoga)
- j. Elements of Yoga and Yogic practices in Jainism, Buddhism and Sufism.

UNIT III- APPLICATION & TEACHING METHODOLOGY IN YOGA

A. APPLICATIONS OF YOGA

- i. **Yoga in Education:** Salient features of Yoga Education, Factors of Yoga Education; Teacher, Student and Teaching, Guru-shishya parampara and its importance in Yoga Education; Value Education, its meaning and definitions, types of values, value-oriented education and modes of living, role of value oriented education; contribution of Yoga towards development of values; Salient features of ideal Yoga teacher, role of Yoga teacher in value-oriented education, role of Yoga in development of human society; Yogic Concepts for the Development of Four Fold Consciousness - Civic Sense, Patriotic Urge, Service Zeal and Spiritual Growth;

- ii. **Yoga for Stress Management:** Introduction to Stress, Concept of Stress; Solutions through Mandukya karika - Relaxation and stimulation combined as the core for stress management; Practice of Stimulation and relaxation; Yoga and Stress Management; Concepts and Techniques of Stress Management in Ashtanga Yoga of Patanjali and Bhagavad Gita, specific practices for stress management, breath awareness, shavasana, Yoganidra, pranayama and meditation, impact of yogic lifestyle on stress management.
- iii. **Yoga for Personality Development -** Yogic attitudes for personality development, Ashtanga Yoga and personality development, personality development with special emphasis on Panchakosa. Memory and Concentration; Short-term, long-term memory, stages of memory foundation and maintenance; Yoga modules to improve memory; Barriers to concentration; creativity eastern concept, silence and creativity; yogic approach to creativity; yogic practices for creativity development; Facets of intelligence; concept of intelligence according to Yoga; Yoga practices for IQ development; Practices for Anger Management.

B. METHODS OF TEACHING YOGA

- i. **Teaching and Learning:** Concepts and Relationship between the two; Principles of Teaching: Levels and Phases of Teaching, Quality of perfect Yoga Guru; Yogic levels of learning, Vidyarthi, Shishya, Mumukshu; Meaning and scope of Teaching methods, and factors influencing them; Sources of Teaching methods; Role of Yoga Teachers and Teacher training Techniques of Individualized; (a) Teaching Techniques of group teaching; Techniques of mass instructions; Organization of teaching (Time Management, Discipline etc)
- ii. Essentials of Good Lesson Plan: concepts, needs, planning of teaching Yoga (Shodhanakriya, Asana, Mudra, Pranayama & Meditation);
- iii. Models of Lesson Plan; Illustration of the need for a lesson plan; Illustration of the need for a content plan; Eight Step method of Introduction as developed in Kaivalyadhama.
- iv. Evaluation methods of an ideal Yoga class; Methods of customizing Yoga class to meet individual needs. The student will have demonstrations and training in the above mentioned aspects of teaching methods.
- v. Yoga classroom: Essential features, Area, Sitting arrangement in Yoga class
- vi. Student's Approach to the teacher: Pranipaata; Pariprashna; Seva; (BG 4.34)

UNIT IV- BASIC YOGA TEXTS:

- (A) **PRINCIPAL UPANISHADS:** Brief Introduction of Ten principal Upanishads as the basis of Yogic content;
 - i. **Ishavasyopanishad:** Concept of Karmanishta; Concept of Vidya and Avidya; Knowledge of Brahman; Atma Bhava;
 - ii. **Kena Upanishad:** Indwelling Power; Indriya and Antahkarana; Self and the Mind; Intuitive realization of the truth; Truth transcendental; Moral of Yaksha Upakhyaana;
 - iii. **Katha Upanishad :** Definition of Yoga; Nature of Soul; Importance of Self Realization;
 - iv. **Prashna Upanishad:** Concept of Prana and rayi (creation); Pancha pranas; The five main questions;
 - v. **Mundaka Upanishad:** Two approaches to Brahma Vidya-the Para and Apara; The greatness of Brahmavidya, The worthlessness of Selfish-karma; Tapas and Gurubhakti, The origin of creation, Brahman the target of Meditation
 - vi. **Mandukya:** Four States of Consciousness and its relation to syllables in Omkara.
 - vii. **Aitareya Upanishad:** Concept of Atma, Universe and Brahman.
 - viii. **Taittiriya Upanishad:** Concept of Pancha Kosha; Summary of Shiksha Valli; Ananda Valli; Bhuruguvalli.
 - ix. **Chandogya Upanishad:** Om (udgitha) Meditation; Sandilyavidya,
 - x. **Brihadaryanaka Upanishad:** Concept of Atman and Jnana Yoga. Union of Atman and Paramatman

(B) SHRIMAD BHAGAVAD GITA: General Introduction to Bhagavad Gita (B.G.). Definitions of Yoga in B.G. and their relevance & Scope; Essentials of B.G-the meanings of the terms Atmaswrupa, Stithaprajna, Sankhya Yoga (Chpt.II), Karma Yoga (Chpt.III), Sanyasa Yoga and Karma Swarupa (Sakama and Nishkama) etc; Samnyasa, Dhyana 10 Yogas (Chpt. VI); Nature of Bhakti (Chpt.XII), Means and Goal of Bhakti-Yoga; The Trigunas and modes of Prakriti; Three Kinds of Faith. Food for Yoga Sadhaka, Classification of food (Chpt.XIV & XVII). Daivasura-Sampad-Vibhaga Yoga (Chpt.XVI); Moksa-Upadesa Yoga (Chpt. XVIII)

(C) YOGA VASISHTHA: Highlights of Yoga Vashitha, Concept of Adhis and Vyadhis; Psychosomatic Ailments; The four Gatekeepers (Pillars) to Freedom; How Sukhais attained the Highest State of Bliss; Practices to overcome the Impediments of Yoga; Development of Satvaguna; Eightlimbs of Meditation; Jnana Saptabhumika. Unit II-.Yogic Texts

(D) PATANJALA YOGA SUTRA : Introduction: Yoga, it's meaning & purpose & Nature of Yoga;

- i. **SAMADHI PADA:** Concept of Chitta, Chitta-Bhumis, Chitta-Vrittis, Chitta-Vritti nirodhopaya Abhyasa and Vairagya as the tools Chitta-Vikshepas (Antarayas), Chitta-prasadanam, Prakriti and its evolutes Types and nature of Samadhi: Ritambharaprajna and Adhyatmaprasada; Samprajnata, Asamprajnata, Sabeeja & Nirbeeja Samadhi, Difference between Samapattis and Samadhi; Concept of Ishvara and qualities of Ishvara.
- ii. **SADHANA PADA :** Concept of Kriya Yoga of Patanjali, theory of Kleshes; Concept of Dukhavada; Drishyanirupanam, Drasthanirupanama, PrakritiPurushaSamYoga; Brief Introduction to Ashtanga Yoga; Concept of Yama, Niyama, Asana, Pranayama, Pratyahara and their usefulness in ChittavrittinirodhopayaH.
- iii. **VIBHUTI & KAIVALYA PADA:** Introduction of Dharana, Dhyana and Samadhi, Samyama and Siddhis; Four types of Karmas; Concept of Vasana; Vivek Khyati Nirupanam, Kaivalya.-Nirvachana.

(E) HATHA YOGA TEXTS

- i. Introduction to Hatha Yoga and Hatha Yoga Texts. Siddhasiddhanta paddhati, Hatha Pradeepika, Gheranda Samhita, Hatha Ratnavali and Shiva Samhita. Aim & objectives, misconceptions about Hatha Yoga, prerequisites of Hatha Yoga (dasha yama and dasha niyama), Sadhaka and Badhaka tattvas in Hatha Yoga; Concept of Ghata, Ghatashuddhi, Concept and importance of Shodhana kriyas in Hatha Yoga; Importance of Shodhana kriyas in health and disease; Concept of Mattha, Mitaahara, Rules & Regulations to be followed by Hatha Yoga Sadhakas;
- ii. Asanas in Hatha Texts: Definition, pre requisites and special features of Yoga-asana; Asanas in Hatha Pradeepika, Hatha Ratnavali, Gheranda Samhita; Benefits, precautions, and contraindications of different Asanas;
- iii. Pranayama in Hatha Texts: - Concept of Prana & Ayama, Pranyama; Pranayama its phases and stages; Prerequisites of Pranayama in Hatha Yoga Sadhana; Pranayama in Hatha Pradeepika, Hatha Ratnavali & Gheranda Samhita; Benefits, precautions and contraindications of Pranayama.
- iv. Bandha, Mudra and other practices: Concept, definition of Bandha and Mudras, in Hatha Pradeepika, Hatha Ratnavali and Gheranda Samhita; Benefits, precautions and contraindications. Concept, definition, benefits and Techniques of Pratyahara, Dharana and Dhyana in Gheranda Samhita; Concept and benefits of Nada and Nadanusandhana in Hatha Pradeepika, Four Avasthas (stages) of Nadanusandhana; Relationship between Hatha Yoga and Raja Yoga; Goal of Hatha Yoga. Relevance of Hatha Yoga in contemporary times.

PAPER IV
PAPER CODE “CW-YS- C-05”
PUBLICATION OF RESEARCH PAPERS & LITERATURE REVIEW (Core)
Total Marks = 50 (External 70 + Internal 30)
Credits = 02 (L-0, T-0, P-4)

1. Consolidated statement of reporting randomized control trial (CONSORT checklist).
2. Meta-analysis of published literature.
3. Methods for grading evidence in healthcare.
4. Writing research abstract, introduction, review of literature, result, and conclusion, concepts of bibliography and references, significances of report writing, steps of report writing. Methods of presentation of report.
5. Writing scientific Research Paper.
6. How to write theses and research articles?
7. How to write quality research papers?
8. Ownership and Inventorship.
9. Third party involvements.
10. Agreements and IP clauses.
11. Life of an invention- Involvement of scientists and IP team.
12. Modeling -Need, Types, Technique & illustration.
13. Simulation -Need, Types & Case Study.
14. Literature Review — purpose, process, presentation of literature review, exploring digital source like Google Scholars, Pubmed, Science Direct, Cochrane Library and online databases and journals like PhilPapers, IJOY- PPP, COPAC etc.
15. Literature Review in an area of research from referred journals or the journals indexed on UGC and will prepare a research proposal and submit a report to the university at the end of the course work.

PAPER V
RESEARCH ETHICS

Credits = 02

PAPER V

PAPER CODE “CW-YS- C-06”

RESEARCH ETHICS (Core)

Total Marks = 50 (External 70 + Internal 30)

Credits = 02 (L-2, T-0, P-0)

UNIT I. BASICS OF ETHICS: Definition, Moral, Nature of Moral, Moral Judgments & Reactions, laboratory ethics, publication ethics and ethical bodies: IES & IRB, guidelines for good clinical practice,

UNIT II. SCIENTIFIC CONDUCT:

- Ethics with respect to Science & Research,
- Intellectual Honesty & Research integrity.
- Scientific Misconducts: Falsification, Fabrication, Plagiarism (FFP),
- Redundant Publications: Duplicate & Overlapping Publications, Salami Slicing.
- Selective Reporting & Mis-representation of Data.
- Registration of randomized controlled trials in Clinical Trial Registry of India (CTRI)

UNIT III. PUBLICATION ETHICS:

- Introduction, Definition and importance.
- Subject specific ethical issues, FFP, authorship
- Best Practices/ standards setting initiatives and guidelines: COPE, WAME etc,
- Conflict of Interest,
- Publication Misconduct: Definition, Concept, Types, Problem that leads to unethical behavior and vice versa
- Violation of publication ethics, authorship and contributor ship.
- Identification of publication misconduct, complaints and appeals
- Predatory publishers and Journals
- Use of Plagiarism software like Turnitin, Urkund and other open source software tools.
- Complaints and appeals against fraud: examples and fraud from India & abroad.

UNIT IV. OPEN ACCESS PUBLICATION:

- Open access publications and initiatives
- SHERPA/RoMEO online resource to check publisher copyright & self achieving policies.
- Software tool to identify predatory publications developed by SPPU
- Journal finder/journal suggestion tools viz. JANE, Elsevier Journal Finder, Springer Journal Suggester etc,

UNIT V. DATABASE RESEARCH MATRIX:

- Indexing database
- Citation database; web of science, Scopus, etc.
- Impact Factor of Journal as per journal citation report, SNIP, SJR, IPP, Cite Score
- Metrics; H-index, g-index, i10 index, altmetrics.

RECOMMENDED BOOKS AND WEBSITES

- C. R. Kothari. (2009). Research Methodology: Methods and Techniques. New Age International (P) Ltd. New Delhi.
- R. L. Bijlani. (2008). Medical Research: All You Wanted to Know But Did Not Know Who to Ask. Jaypee Brothers Medical Publishers Pvt. Ltd. New Delhi.
- J.H. Zar. (1999). Biostatistical Analysis. Pearson Education. New Delhi.
- P. Norton. (2008). Introduction to computers (Indian Adaptation). Tata McGraw- Hill Publishing Company Ltd. New Delhi.
- K. Pandya, S. Bulsari & S. Sinha, SPSS in simple steps. Wiley India Pvt. Limited. New Delhi.
- Hatha Yoga Pradipika- Kaivlyadham Lonavla
- Gheranda Samhita- Kaivlyadham Lonavla
- Holy Gita -Swami Chinmayananda, Mumbai
- The ten cardinal Upanishads -Swami Harshananda. Vedanta press.
- Bhagvad Gita-Swami Chinmayananda and Swami Dayananda
- S. Radhakrishnan (1971). Indian Philosophy (Vol 1-2). George Allen & Unwin, London.
- Autobiography of Sri Yogendra.
- C Bharadwaja. Light of truth (Satyarth Prakash.)
- S. Vivekananda (1971). Vedanta Press. CA. U.S.A. Complete works of Swami Vivekananda Volume 1-9.
- P. Yogananda (2003). The divine romance. Yogodasatsanga society of India. Kolkata.
- Osborne (2010). The teachings of Ramana Maharshi in his own words. Sri Ramashramam Publication. Tamil Nadu.
- S. Aurobindo (2010). The life divine. Sri Aurobindo Ashram. Pondicherry.
- S. Krishnanada. Sri Swami Sivananda and his mission. The divine life society publication. Rishikesh.
- Study of Nirala literature with reference to Nee-Vedanta.
- <http://www.consort-statement.org/>
- <http://www.ahrq.gov>



विभागाध्यक्ष योग विज्ञान विभाग
पतंजलि विश्वविद्यालय, हरिद्वार