

**Maulana Abul Kalam Azad University of Technology, West Bengal**  
(Formerly West Bengal University of Technology)  
**Syllabus for Master of Science in Yoga (M.Sc.Yoga)**  
(Effective from Academic Session 2019-2020)

**Semester I**

***INTRODUCTION TO SANSKRIT***

***Sub Code: MSY 101***

***Course Outcome (CO): Following the completion of the course, students shall be able to:***

*CO-1: read and understand the colloquial words of Sanskrit.*

*CO-2: communicate and comprehend Sanskrit to the best of their ability.*

*CO-3: write Sanskrit with good grammatical skills.*

**Chapter 1:**

- Verb roots, nine forms for three persons and three numbers; practise all the verb roots and their forms for correct pronunciation; usage of prefixes and how they change the meaning of the verb root and how to find them in the dictionary.

**Chapter 2:**

- Noun, masculine and neuter gender; 8 cases and their possible meanings; 24 forms of a noun and its declensions; practise of other similar declensions and usage of the 24 forms of a noun. Introduction to write a sentence; syntax, prepositions and their definite requirements of cases; rule how 'ra/sha' changes dental 'n' to cerebral 'N' and its exceptions for this rule; repeat declensions for pronunciation.

**Chapter 3:**

- Noun- feminine gender; both a ending and i-ending and practice of similar declensions. Practice of writing sentences with words mainly in feminine gender; exercises mainly for the feminine gender illustration; special declensions where dental 'n' changes to cerebral 'N'; repeat all feminine noun declensions.

**Chapter 4:**

- Madhurastakam illustrating all the three genders of nouns and study of the adjectives, having all the three genders and changing according to the gender of different qualified nouns; Midterm examination.

**Chapter 5:**

- Ex 32-38; modules of declensions; how to recognize a gender or find the gender using the dictionary and write declensions of new words according to their models of declensions, while applying the rule changing dental 'n' to cerebral 'N'; making simple sentences for all the words given there; repeat vowel-ending model declensions.

**Chapter 6:**

- Exercise for appropriate use of the cases; irregular verbs; absence of verb root "to have" in Sanskrit ; where to omit root "AS" ( to be ), use of certain special verbs; repeat model declensions

**Chapter 7:**

- Pronouns: Introduction to pronouns; declensions of pronouns; corresponding translations of pronouns into English; forming sentences with pronouns; Different aspects of pronouns being used as demonstrative pronouns and as interrogative pronouns and details of distance specification.

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**Chapter 8:**

- Sandhi explanations; three major kinds of Sandhi: Vowel-Sandhi, Visarga-Sandhi and Consonant-Sandhi, and fifteen exercises.
- Parasmaipadi (P) and Atmanepadi (A) forms of verbs;
- Verb and ten Ganas; how to find the Gana using the Apte Sanskrit –English dictionary-verb and ten Lakaras; mastering five Lakaras of both Parasmaipadi and Atmanepadi and doing the pertaining exercises for that.

**REFERENCE BOOKS:**

1. Dr. Sarasvati Mohan, Sanskrit Level-2, Sanskrit Academy.
2. Dr. Sarasvati Mohan, Sanskrit –English-Sanskrit Dictionary, Sanskrit Academy
3. Dr. Sarasvati Mohan, Sanskrit Level-3 Sanskrit Academy
4. Vaman Sivaram Apte, Sanskrit –English-Sanskrit Dictionary, Sanskrit Academy
5. Sanskratabhasadipika, Sri Surasaraswati Sabha(R) Sringeri, Bangalore 2003

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***HUMAN ANATOMY & PHYSIOLOGY***

***Sub Code: MSY 102***

***Course Outcome (CO): Following the completion of the course, students shall be able to:***

*CO-1: know about the structure of the body.*

*CO-2: know about the necessary functions of the body.*

*CO-3: understand the involvement of their body parts while practicing various postures of yoga.*

**Chapter 1: Introduction to Human Anatomy and Physiology.**

- Introduction to Human Anatomy and Physiology, Basic Anatomical and Physiological terminologies.
- Cell: Structure & Functions, different cell organelles and their functions.
- Tissues and Organization of human system; Introduction to Support Systems.
- Maintenance Systems, Control Systems, Defense System and Concept of Homeostasis.

**Chapter 2: Musculoskeletal System.**

- The Skeletal System: Skeleton, Functions of skeleton, Classification of bones, Study of joints.
- Structure and function of a Synovial joint.
- The Muscular System: Types of Muscles in the body.
- The characteristics, structure and functions of the Skeletal Muscles, Smooth Muscles and Cardiac Muscles.

**Chapter 3: Digestive System.**

- Gross anatomy of digestive system, functional anatomy of Buccal cavity, Pharynx, Esophagus, Stomach, Small intestine, Large intestine and Anal canal.
- Physiology of digestion, assimilation & peristalsis, Gastric and digestive juices involved in digestion & associated glands involved in digestive system.

**Chapter 4: Urinary system.**

- Anatomy of urinary tract with special reference to anatomy of kidney and nephrons, functions of kidney and urinary tract, physiology of urine formation, micturition reflex.
- Role of kidneys in acid base balance, role of RAS in kidney and disorders of kidneys.

**Chapter 5: Respiratory System.**

- Gross anatomy of the respiratory passages, functions of Nasal cavity, Pharynx, Larynx, Trachea, Bronchus, Lungs and Alveoli.
- The process of Respiration, Lung volumes & capacities, Mechanics of breathing and exchange of gases in alveoli.

**Chapter 6: Blood & Lymphatic system.**

- Composition of blood corpuscles – RBC, WBC and Platelets.
- Blood: Composition and Functions, Blood groups and their importance.
- Plasma, hemoglobin – coagulation of blood and anti coagulants.
- Sites, functional anatomy of lymph nodes and their function.
- Lymphatic system and its role in immune system.

**Chapter 7: Cardiovascular System.**

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- Functional anatomy of the Heart, arteries, veins and capillaries.
- The organization of systematic and pulmonary circulation, the cardiac cycle.
- Cardiac output and Venous return.
- Blood pressure and Regulation of blood pressure.

**Chapter 8: Nervous System.**

- An introduction to Histology – nerve – structure and properties of neurons – nerve – action potential – generation propagation – factors influencing classification of neurons and nerve fibers, neuralgia cells, receptors and reflex arcs.
- Functional anatomy of Cerebrum, Cerebellum, spinal cord.
- Functions and importance of the parts of the brain viz., cerebrum, pons, medulla, thalamus, hypothalamus, cerebellum and autonomic nervous system [sympathetic and parasympathetic].

**Chapter 9: Special Senses.**

- Functional anatomy and physiology of eyes, ears, nose, tongue and skin.

**Chapter 10: Endocrine System.**

- Anatomical structure of important endocrine glands (Pituitary, thyroid, parathyroid, pancreas, adrenal and gonads).
- Short anatomy of the hypothalamus and the releasing hormones secreted from it.
- Structure and function of anterior and posterior Pituitary.
- Function of thyroid, parathyroid, suprarenal and islets of Langerhans.

**Chapter 11: Reproductive system.**

- Functional anatomy male reproductive system, seminal vesicles and prostate glands.
- Spermatogenesis.
- Functional anatomy of female reproductive system.
- Ovarian hormones, menstruation, pregnancy, parturition and lactation.

**REFERENCE BOOKS:**

1. Evelyn C Pearce: Anatomy and Physiology for Nurses (Jaypee Brothers, New Delhi, India, 1997)
2. Gore, M.M.: Anatomy and Physiology of Yogic practices (KanchanPrakshan, Lonavala, 2003)
3. Shirley Telles: A Glimpse of the Human body. (V K YOGAS, Bangalore, 1995)
4. Sri Krishna: Notes of Structure and Functions of Human Body and Effects of Yogic practices on it (Kaivalyadhama S.M.Y.M. Samiti, Lonavala, 1988)
5. Charu, Supriya: Sarir Rachana evam Kriya Vigyan
6. Peter L Williams & Roger Warwic : Gray's Anatomy ( Churchill Livingstone, Edinburgh London 1988)
7. Chatterjee CC: Human Physiology (Vol, I & II) (Medical Allied Agency, Calcutta 1992)
8. G Gerand J Tortora: Principles of Anatomy and Physiology and Sandra Reynolds (Harper Collins College Publishers, New York, 1992)
9. M Prives , N Lysenkov & V Bush Kouch: Human Anatomy
10. Alma R Guinnes: ABC's of the Human Body (Readers Digest, USA 1987)

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**VEDAS UPANISADS AND DARSANAS**

**Sub Code: MSY 103**

**Course Outcome (CO): Following the completion of the course, students shall be able to:**

CO-1: understand the major principles of Vedas & Upanishads.

CO-2: have understanding about the concepts of Sankhya and Yoga.

CO-3: learn the concepts & philosophies of Carvaka, Jainism, Buddhism, Nyaya, Vaisheshika, Mimamsa etc.

**Chapter 1: Vedas and Upanisads**

- Vedas, the foundations of Indian culture; antiquity, the four main Vedas, Science and Technology of Vedas, why Vedas, Prasthanatraya, Essence of the Vedas- Upanisads, the style of Upanisads, the two main quests- Happiness Analysis and Quest for reality; concept of Dharma and higher dimensions of Dharma.

**Chapter 2: Sankhya and Yoga**

- Introduction, 3-fold afflictions, means to overcome afflictions, 25 entities according to Sankhya and means of knowledge; sadkarya vada, similarities and dissimilarities between vyakta and avyakta, triguna; Existence of purusa, plurality of purusa, proximity of purusa and prakrti; Karna, Antah karana & Bahya Karana according to Sankhya Karika and isavrkrishna.

**Chapter 3: Charvaka, Jaina & Bauddha**

- Concept of Charvaka Philosophy in the sad darsanas; Early Buddhism, rules and disciplines of Buddhists tradition; The concept of rebirth, origin of suffering and the way to remove suffering in Buddhism; The Concept of jiva, ajiva, syadvada according to Jainism.

**Chapter 4: Nyaya & Vaisesika**

- Concept of Nyaya Philosophy means of salvation according to Nyaya and Vaisesika; The sixteen Padarthas according to Nyaya, means and objects of knowledge according to Nyaya and Vaisesika; Relation between Nyaya and Vaisesika Philosophy; Perception (Pratyaksa), inference (Anumana), comparison (Upamana) according to Nyaya and Vaisesika.

**Chapter 5: Mimamsa**

- Uttara Mimamsa: Concept of Badarayana in Uttara Mimamsa, Pramana, Pratyaksa, Anumana, Sabda according to Uttara Mimamsa; Difference between vidya & avidya, subject & object, creation & causation, cause & effect; Purva Mimamsa: Purva mimamsa in sad darsana; Pramanas of gaimini, Atheism in Purva mimamsa.

**REFERENCE BOOKS:**

1. Chandradhar Sharma: A critical Survey of Indian Philosophy (Motilal Banarsidass Publishers, Delhi 2000)
2. Kerala Werner: Yoga and Indian Philosophy (Motilal Banarsidass, Delhi, 1979)
3. Radhakrishnan, S: Indian Philosophy (Vol. I & II)
4. Swami Prabhavananda : Spiritual Heritage of India (English) (Sri Ramkrishna Math, Madras, 2004)
5. Dasgupta, S.N.: Yoga Philosophy in Relation to other Systems of Indian thought (University of Calcutta, Calcutta, 1924)
6. Sharma Chandradhar: A critical Survey of Indian Philosophy (Motilal Banarsidass, Delhi, 2000)
7. Raja, Kunhan C: Some fundamental Problems in Indian Philosophy (Motilal Banarsidass, Delhi, 2000)
8. Stace, W.T.: Mysticism and Philosophy (Macmillan and Co. London, 1961)
9. Dasgupta, S.N.: Hindu Mysticism (Motilal Banarsidass, Delhi, 1927)

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10. Stephen Sturges: The Yoga Book (Motilal Banarsidass, Delhi, 2004)
11. Swami Jnanananda: Philosophy of Yoga (Sri Ramakrishna Ashrama, Mysore)
12. Swami Krishnananda : A short History of Religions and Philosophic Thought in India. (The Divine Life Society, Rishikesh, 1973)
13. Swami Harshananda: The Six Systems of Hindu Philosophy (Ramakrishna Matt, Bangalore, 2000)

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**YOGA PHILOSOPHY AND HEALTH**

**Sub Code: MSY 104**

**Course Outcome (CO): Following the completion of the course, students shall be able to:**

CO-1: understand the concept of health & disease.

CO-2: have understanding about the concepts of PanchaKoshas.

CO-3: understand the pathogenesis of psychosomatic diseases & principles of Yoga Therapy.

**Chapter 1:**

- Health, Meaning and Definition
- Concept of body, health and disease
- Concept of PanchaKoshas, PanchaKoshaViveka, the three Gunas, Atman, the self.
- PanchaKoshas, the basis for the Integrated Approach to Yoga Therapy, PanchaKoshas practices of Annamaya, Pranamaya, Manomaya, Vijnanamaya and AnandamayaKoshas.

**Chapter 2:**

- Yogic conception of Health
- Non communicable diseases
- Adhi Vyadhi
- Pancha Koshas, the basis for the Integrated Approach to Yoga Therapy, Pancha Koshas practices of Annamaya, Pranamaya, Manomaya, Vijnanamaya and Anandamaya Kosha.
- Stress & Yoga

**Chapter 3:**

- Adhija Vyadhi & Yoga Vasishtha
- Pathogenesis of Psychosomatic diseases ( Adhija Vyadhi)

**Chapter 4:**

- Foundational principle of Integrated Approach to Yoga Therapy
- Integrated Approach to Yoga Therapy operations
- Yoga beyond therapy

**REFERENCE BOOKS:**

1. Spiritual (Scriptures)

a. Taittiriya Upanishad

b. Tattvabodha

c. Bhadavad Gita

d. Charaka Samhita

e. Prashnopanishad

f. Yoga Vasistha

2. Spiritual (Contemporary)

a. Ramana Maharsh: Talks with Sri Ramana Maharshi

b. Swami Vivekananda: Rajayoga (Advaita Ashram)

c. Swami Vivekananda: The complete works of Swami Vivekananda (Vol. IV)

d. Hanh T.N.: Old Path white clouds (Berkeley)

e. Capra F.: The tao of Physics

f. Sheldrake: The science delusion

g. Dr. H.R. Nagendra: New perspective in stress management

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**PSYCHOLOGY & COUNSELING**

**Sub Code: MSY 105**

**Course Outcome (CO): Following the completion of the course, students shall be able to:**

*CO-1: understand the concept and theories of human psychology.*

*CO-2: learn about the concepts of personality traits.*

*CO-3: understand the types, methods & ethics of counseling.*

- Introduction to General Psychology.
- Introduction to sensation, perception & cognition.
- Theories of cognition and perception.
- Classification of Personality.
- Familiarity with the Indian Psychology
- Introduction to assessment techniques.
- Tests for attention, concentration, learning & memory.
- Introduction to Counselling.
- Types of Counselling.
- Methods of Counselling.
- Ethics of Counselling.

**REFERENCE BOOKS:**

1. First Steps In Counselling: A Student's Companion for Basic Introductory Courses by Pete Sanders.
2. An Introduction to Counselling by John McLeod
3. Handbook of Psychological Assessment by Gary Groth Marnat
4. Psychological Testing and Assessment: An Introduction to Tests and Measurement by Ronald Jay Cohen, Mark E. Swerdlik
5. Psychology: A Biopsychosociology Approach [with Workbook] by Christopher Peterson

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**ADVANCED YOGA PRACTICE - I**

**Sub Code: MSY 191**

**Course Outcome (CO): Following the completion of the course, students shall be able to:**

CO-1: have an understanding about Surya namaskara, yogasanas & kriyas.

CO-2: explain and demonstrate the below mentioned practices skillfully.

CO-3: explain the benefits, limitation and subtle points of each practice.

**Chapter 1: Suryanamaskar**

- Introduction to Suryanamaskar (The Sun Salutation)
- Technique of Suryanamaskar Practice.

**Chapter 2: Asanas (Understanding of the five spinal movements)**

- Tadasana
- Vrksasana
- Trikonasana
- Parivrtta Trikonasana
- Parshvakonasana
- Parivrtta Parshvakonasana
- Prasarithapadottanasana
- Veerabhadrasana Series
- Utthita Hasta Padangustasana
- Natarajasana
- Garudasana
- Ardha Chandrasana
- Urdhva Prasaritha Ekapadasana
- Ardha Baddha Padmotanasana
- Bhujangasana
- Urdhva Mukha Swanasana
- Anjaneyasana
- Ustrasana
- Shalabhasana
- Dhanurasana
- Eka Pada Raja Kapotasana
- Purva Uttanasana
- Sethubandhasana
- Urdhva Dhanurasana
- Matsyasana
- Kakasana
- Ekapada Koudinya Series
- Chaturanga Dandasana
- Adhomukhaswanasana
- Janu Shirasana
- Paschimottasana
- Marichasana A, B, C
- Baddha Konasana
- Upavistha Konasana
- Ubhaya Hasta Padangustasana
- Parivrtta Janu Shirasana
- Ardha Matsyendrasana

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- Sarvangasana
- Halasana
- Karnapeedasana
- Sirsasana
- Gomukhasana
- Vajrasana
- Veerasana
- Padmasana
- Siddhasana

**Chapter 3: Kriyas**

- Trataka
- Dhauti: VastraDhauti, DandaDhauti
- Neti: JalaNeti and SutraNeti
- Nauli: MadhyamNauli, VamaNauli, DakshinaNauli and NauliKriya
- Kapalabhati: VatkramaKapalabhati, Shitkrama, and VyutakarmaKapalabhati
- Shankhaprakshalana: Laghu and PurnaShankhaprakshalana.

**REFERENCE BOOKS:**

1. Swami SatyanandaSaraswati: Asana, Pranayama, Mudra, Bandha (Yoga Publications Trust, Munger, Bihar, India).
2. Swami MuktibodhanandaSaraswati: Hatha Yoga Pradeepika, Yoga Publications Trust (Munger, Bihar, India).
3. Light on Yoga: B K S Iyengar.