

**Maulana Abul Kalam Azad University of Technology, West Bengal**

**(Formerly known as West Bengal University of Technology)**

**Syllabus of B.Sc.( Yoga)**

**Effective from academic session 2023-2024**

**SYLLABUS**

**SEMESTER-I**

**HUMAN ANATOMY & PHYSIOLOGY**

**Sub Code: FYBSY 101**

**Credits: 5**

**MODULE 1: Introduction to Human Anatomy and Physiology**

- ✓ Introduction to Human Anatomy and Physiology,
- ✓ Basic Anatomical and Physiological terminologies.
- ✓ Introduction to cell, tissue, organs and systems.
- ✓ Basic cell Physiology, Cell Organelles, Cell membrane,
- ✓ Tissues and Organization of human system; Introduction to Support Systems
- ✓ Maintenance Systems, Control Systems, Defense System and Concept of Homeostasis.

**MODULE 2: Musculoskeletal System.**

- ✓ Introduction to musculoskeletal system
- ✓ Skeleton - names of all bones, joints and muscles, cartilage, tendon and ligaments, types of bone.
- ✓ Structure and function of joint.
- ✓ Types of Muscles in the body.
- ✓ The characteristics musculoskeletal system,
- ✓ Structure & functions of musculoskeletal system.

**MODULE 3: Digestive System.**

- ✓ Introduction to digestive and excretory system:
- ✓ Anatomy of digestive system, excretory system (component organs) and their functions;
- ✓ Gastro intestinal system- General structure of alimentary canal.

**MODULE 4: Urinary system.**

- ✓ Introduction to urinary system.
- ✓ Anatomy of urinary tract,

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- ✓ 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.

**MODULE 5: Respiratory System.**

- ✓ Components of cardiovascular and respiratory system; functions of cardiovascular and respiratory system;
- ✓ Respiratory System-Mechanism of breathing, Ventilation, Regulation of respiration, Transport of gases, Non respiratory functions of the lungs

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

- ✓ Concept of blood & lymphatic system
- ✓ Composition of blood corpuscles – RBC, WBC and Platelets.
- ✓ Blood: Composition and Functions, Blood groups and their importance.
- ✓ Lymphatic system and its role in immune system.

**MODULE 7: Cardiovascular System.**

- ✓ 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.

**MODULE 8: Nervous System.**

- ✓ An introduction to Histology – nerve – structure and properties of neurons – nerve – action potential –
- ✓ Functional anatomy of Cerebrum, Cerebellum, spinal cord.
- ✓ 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.
- ✓ Sensory nervous system, Motor nervous system, Higher functions of the nervous system.

**MODULE 9: Special Senses.**

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

**MODULE 10: Endocrine System.**

- ✓ Anatomical structure of important endocrine glands (Pituitary, thyroid, parathyroid, pancreas, adrenal and gonads). Short anatomy

**MODULE 11: Reproductive system.**

- ✓ Functional anatomy male reproductive system.
- ✓ Functional anatomy female reproductive system.

**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 (Kaivalydhama
5. S.M.Y.M. Samiti, Lonavala, 1988)
6. Charu, Supriya: Sarir Rachana evam Kriya Vigyan
7. Peter L Williams & Roger Warwic : Gray's Anatomy ( Churchill Livingstone, Edinburgh London 1988)
8. Chatterjee CC: Human Physiology (Vol, I & II) (Medical Allied Agency, Calcutta 1992)
9. G Gerand J Tortora: Principles of Anatomy and Physiology and Sandra Reynolds (Harper Collins College
10. Publishers, New York, 1992)
11. M Prives , N Lysenkov & V Bush Kouch: Human Anatomy
12. Alma R Guinness: ABC's of the Human Body (Readers Digest, USA 1987)

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**INTRODUCTION TO INDIAN PHILOSOPHY & YOG ABHYASHA- I**

**Sub Code: FYBSY 102 & FYBSY 192**

**Credits: 3+2**

**MODULE 1: Vedas and Upanisads**

- ✓ Meaning of 'Veda'.
- ✓ Name of four Vedas.
- ✓ Four parts of each Vedas.
- ✓ Six Vedangas
- ✓ Four Upavedas
- ✓ Meaning of Upanishads.

**MODULE 2: Sankhya and Yoga**

- ✓ Introduction to Sankhya,
- ✓ Introduction to Yoga

**MODULE 3: Charvaka, Jainism & Buddhism**

- ✓ Concept of Charvaka Philosophy.
- ✓ Concept of Jainism.
- ✓ Concept of Buddhism.

**MODULE 4: Nyaya & Vaisesika**

- ✓ Concept of Nyaya Philosophy.
- ✓ Concept of Vaisesika Philosophy.

**MODULE 5: Mimamsa Uttara Mimasa:**

- ✓ Concept of Purva mimamsa
- ✓ Concept of Uttara mimasa

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**Sub Code: FYBSY 192**

**Credits: 2**

Opening Incantation

Chalana Kriya / Loosening Practice (Technique, Contraindications and Benefits):

- ✓ Neck Movement (Griva Shakti Vikasaka)
- ✓ Shoulder Movement
- ✓ Trunk Movement (Kati Shakti Vikasaka)
- ✓ Knee Movement

Yogasana

- ✓ Standing Posture-
  - Tadasana,
  - Vrikshasana,
  - ArdhaChakrasana,
  - Padahastasana,
  - Trikonasana.
- ✓ Sitting Posture-
  - Bhadrasana,
  - Vajrasana,
  - Ardha-Ushtrasana, (for beginners)
  - Ushtrasana,
  - Shashankasana,
  - Mandukasana,
  - Uttanamandukasana,
  - Vakrasana / Marichyasana
- ✓ Prone Posture-
  - Makarasana,
  - Bhujangasana,
  - Shalabhasana.
- ✓ Supine Posture-

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- Setubandhasana,
- Uttanapadasana,
- Ardhalasana,
- Pawanamuktasana,
- Shavasana.

Kapalabhati

Pranayama

- ✓ Anuloma Viloma/Nadi Shodhana
- ✓ Shitali (without Kumbhaka)
- ✓ Bhramari (without Kumbhaka)

Closing Prayer

**REFERENCE**

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. 1924)
7. Sharma Chandradhar: A critical Survey of Indian Philosophy (Motilal Banarsidass, Delhi, 2000)
8. Raja, Kunhan C: Some fundamental Problems in Indian Philosophy (Motilal Banarsidass, Delhi, 2000)
9. Stace, W.T.: Mysticism and Philosophy (Macmillan and Co. London, 1961)
10. Dasgupta, S.N.: Hindu Mysticism (Motilal Banarsidass, Delhi, 1927)
11. Swami Satyananda Saraswati: Asana, Pranayama, Mudra, Bandha (Yoga Publications Trust, Munger, Bihar, India).
12. Swami Muktibodhananda Saraswati: Hatha Yoga Pradeepika, Yoga Publications Trust (Munger, Bihar, India).
13. Light on Yoga: B K S Iyengar
14. QCI Ministry of AYUSH.

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**SEMESTER-II**

**YOGA PHILOSOPHY**

**Sub Code: FYBSY 201**

**Credits: 5**

**MODULE 1: Fundamentals of Yoga**

- ✓ History and various schools of yoga
- ✓ History and Development of Yoga; Meaning & Definitions, Misconceptions, Aim and Objectives of Yoga.

**MODULE 2: Different types of yoga**

- ✓ Karma Yoga
- ✓ Bhakti Yoga
- ✓ Raja Yoga
- ✓ Jnana Yoga

**MODULE 3:**

- ✓ Concept of Prasthanatrayee;
- ✓ Concept of Purushartha Chatusthaya;
- ✓ Trigunas, Sarirtraya

**MODULE 4:**

- ✓ Fundamental concept of Advitya Vedanta

**MODULE 5: Sankhya and Yoga**

- ✓ Introduction, 3-fold afflictions, means to overcome afflictions, 25 entities according to Sankhya.
- ✓ Existence of purusa, plurality of purusa, proximity of purusa and prakrti; Karna, Antah karana & Bahya Karana according to Sankhya Karika and isavrkrishna.

**REFERENCE BOOK**

- 1) Woods, J.H.: The Yoga System of Patanjali (M.L.B.D., Delhi, 1988)
- 2) Rukmini T.S.: Yoga Vartika of Vijnanbhikshu (Tr.) Vol I,II,III & IV (Munshiram Manoharlal Pvt. Ltd. New Delhi)
- 3) Swami Omanandatirtha: Patanjala Yoga Pradeepa (Geeta Press, Gorakhpur, 1994)
- 4) Swami Anant Bharati: Patanjali Yoga Shasta- a study (Hindi) (Swami Keshwananda Yoga Sangthan, Delhi)

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- 5) Burley, Mikel: Hatha Yoga, Its Context Theory and Practice (M.L.B.D. Delhi, 2000)
- 6) Burnier, Radha: Hathayoga Pradipika of Svatmarama (The Adyar Library publications, Chennai. 2000)
- 7) Woodroffe, Sir John 6. Bharati, Veda: The Serpent power. (Ganesh & Company, Madras, 2000)
- 8) Bharati, Veda: Philosophy of Hatha Yoga (English) (Himalayan International Institute of Yoga Science and Philosophy, 1998, 2nd Rev. ed. Pennsylvania).
- 9) Mr Dwivedi: Nath Sampradaya of Hatha Yoga, Publications, Hindustani Academy, Allahabad, Utter Pradesh, 1950)

**SEMESTER-II**

**YOG ABHYASA II**

**Sub Code: FYBSY 202 & FYBSY 292**

**Credits: 3+2**

**Yogic Practices – Shatkarma, Asana, Shaktivikashaka**

**MODULE 1: Shatkarmas:**

- ✓ Vamandhauti,
- ✓ Vastradhauti,
- ✓ Dandadhauti,
- ✓ Laghoo and Poorna sankhprakashalana,
- ✓ Neti (Sutra and Jala),
- ✓ Kapalbhata (Vaatkrama, Vyutakrama & Sheetkarma),
- ✓ Agnisara,
- ✓ Nauli,
- ✓ Tratak.

**MODULE 2: Pawanmuktasana series:**

- ✓ Pawanmuktasana series - I

**MODULE 3: Pawanmuktasana series:**

- ✓ Pawanmuktasana series - II

**MODULE 4: Pawanmuktasana series:**

- ✓ Pawanmuktasana series - III

**MODULE 5: Shakti Vikashika Practices:**

- ✓ The full series with in depth understanding



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- 3) Light on Yoga: B K S Iyengar