

**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**

**SEMESTER –V**

**DIET AND NUTRITION**

**Sub Code: BSY 501**

**Credits: 5**

**MODULE 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;
- ✓ Significance of Carbohydrate, Proteins, Lipids, Vitamins, Minerals and water, Excessive and deficiency diseases of nutrients in the body;
- ✓ Antioxidants and their Role;

**MODULE 2**

- ✓ Yogic concept of diet and its relevance in the management of lifestyle

**MODULE 3**

- ✓ Nutrients, proximate principles of diet, balanced diet concept;
- ✓ Carbohydrates, proteins, fats – sources, nutritive values, importance; Minerals- calcium, iron, phosphorus etc.
- ✓ Vitamins – sources, roles, requirements

**MODULE 4: 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, Jiggery, Honey, sprouts- Selection, Preparation and Nutritive Value

**MODULE 5**

- ✓ 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;

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- ✓ Requirement and Expenditure, Factors affecting BMR.

**REFERENCE BOOK**

1. Antia, F.P.: Clinical Dietetics and Nutrition, 3rd ed., Oxford University Press, Bombay, 1986.
2. Briggs, George M. and Doris H. Calloway: Nutrition and Physical Fitness, 11th ed. Harcourt College Publishers, New York, USA, 1984.
3. Cataldo, Corinne B., Whitney, Eleanor N. and Linda Kelly DeBruyne: Nutrition and Diet Therapy – Principles and Practice, West Publishing Co. St. Paul, 2003
4. Chaney, Margaret S., Margaret L. Ross and Jelja C. Witchi: Nutrition 9th ed. Houghton. Mifflin, Boston 1979 (Indian reprint, Surjeet Publications, New Delhi, 1979).
5. Davidson, S.R., Passmore and J.F. Brock.: Human Nutrition & Dietetics, 8<sup>th</sup> ed. Churchill Livingstone, London, U.K., 1986.
6. 1. Bennion, Marian and Osee Hughes: Introductory Foods, 8th ed. Macmillan, New York, 1985.
8. 2. Frazier, W.C.: Food Microbiology: 2nd ed., Tata McGraw Hill, New Delhi, 1974.
9. 3. Health Hazards of the Human Environment, WHO, 1973.
10. 4. Kawata, K.: Environmental Sanitation in India, Lucknow Publishing House, India, 1963.
11. 5. Lowe, Belle: Experimental Cookery: 4th ed., Wiley, New York, 1955.

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**ADVANCED YOG ABHYASA-III**

**Sub Code: BSY 502 & BSY 592**

**Credits: 3T+2P**

**MODULE 1**

- ✓ Primary series AshtangaVinyasa (PattabiJois)

**REFERENCE BOOK:**

- 1) Yog Mala: Eddie Stern

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**SEMESTER –VI**

**BASICS OF PSYCHOLOGY**

**Sub Code: BSY 601**

**Credits: 4**

**MODULE 1**

- ✓ Introduction to General Psychology.
- ✓ Introduction to sensation, perception & cognition.
- ✓ Theories of cognition and perception.

**MODULE 2**

- ✓ Classification of Personality.
- ✓ Familiarity with the Indian Psychology

**MODULE 3**

- ✓ Introduction to assessment techniques.
- ✓ Tests for attention, concentration, learning & memory.

**MODULE 4**

- ✓ Introduction to Counselling.
- ✓ Types of Counselling.

**MODULE 5**

- ✓ 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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**YOGA PHILOSOPHY AND HEALTH**

**Sub Code: BSY 602**

**Credits:5**

**MODULE 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

**MODULE 2**

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

**MODULE 3**

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

**MODULE 4**

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

**REFERENCE BOOKS:**

- 1) **Ramana Maharsh: Talks with Sri Ramana Maharshi**
- 2) **Swami Vivekananda: Rajayoga (Advaita Ashram)**
- 3) **Swami Vivekananda: The complete works of Swami Vivekananda (Vol. IV)**
- 4) **Hanh T.N.: Old Path white clouds (Berkeley)**
- 5) **Capra F.: The tao of Physics**
- 6) **Sheldrake: The science delusion**
- 7) **Dr. H.R. Nagendra: New perspective in stress management**

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**SPECIAL TECHNIQUES OF MEDITATION**

**Sub Code: BSY 603 & BSY 693**

**Credits: 3T+2P**

- ✓ Cyclic Meditation
- ✓ Pranic Energization Technique
- ✓ Mind Sound Resonance Technique
- ✓ Mind Imagery Technique
- ✓ Vijnanasadhana Kausala
- ✓ Anandamrita Sinchara
- ✓ Yoga Nidra
- ✓ Kaya Sthairam
- ✓ Ajapajapa
- ✓ AntaraMouna

**REFERENCE BOOKS:**

1. “Cyclic Meditation” by H.R. Nagendra
2. “Pranic Energization Technique” by H.R. Nagendra
3. “Mind Sound Resonance Technique” by H.R. Nagendra

{\*\* All the techniques are developed by S-VYASA university & taught in a Gurukula system so there is no such specific book for reference.}

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**SEMESTER –VII**

**RESEARCH METHODOLOGY**

**Sub Code: BSY 701**

**Credits: 5**

**MODULE 1: Research Methodology**

- ✓ The research process. Methodology and methods
- ✓ The design of a study
- ✓ Literature review
- ✓ Ethics of research
- ✓ Types of common designs. Their advantages and disadvantages Sampling
- ✓ The experimental and quasi-experimental methods. Correlation studies
- ✓ Measurement tools: Observations questionnaires and others
- ✓ Data organization in Excel and SPSS
- ✓ Descriptive statistics. Measures of central tendency, measures of dispersion. Correlation coefficients
- ✓ Graphical representations of data.
- ✓ Reliability. The different ways of measuring reliability.
- ✓ Validity & Types of validity

**MODULE 2: Inferential Statistics and Probability Theory**

- ✓ Inferential statistics - populations and samples
- ✓ Elementary concepts in probability theory
- ✓ The normal distribution. Z - Values and probability
- ✓ Calculating probabilities when population parameters are known

**MODULE 3: Research Reports**

- ✓ Reading research reports
- ✓ Writing research reports
- ✓ Presentations

**REFERENCE BOOKS:**

- 1) Kothari, C.R.; Research Methodology, Methods and Techniques (Vishwa Prakashan, New Delhi, 1985)
- 2) Robin Monro: Yoga Research Bibliography scientific studies on yoga and meditation (Yoga biomedical trust, England 1989)
- 3) Jerrold H. Zar: Bio statistical Analysis Pearson education
- 4) Russell A. jones: Research methods in the Social and behavioral science (Sinauer Associates, Saunderland's Massachusetts)
- 5) A.K. Singh: Tests, Measurements and Research Methods in Behavioral Sciences (Bharati Bhavan publishers)
- 6) Telles, S: Research methods (Swami Vivekananda Yoga Prakashan, Bangalore)
- 7) J.N.S. Matthews: An introduction to randomized controlled clinical trials
- 8) J.S.P. Lumley and W. Benjamin: (Oxford university press)
- 9) Herman J. Ader and Gideon J. Mellebeegh: Research Methodology in the life, behavioural and social Sciences
- 10) (SAGE publications)
- 11) Rummond, A Campling J and Nelson, T: Research methods for therapists, 1996

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**COMMON AILMENTS - I**

**Sub Code: BSY 702**

**Credits: 5**

**MODULE 1: Yoga Therapy of Musculoskeletal system:**

- ✓ Rheumatology,
- ✓ Muscle & Bone Disorders:
- ✓ Pain in the limbs & back;
- ✓ Rheumatoid arthritis;
- ✓ Osteoarthritis;
- ✓ Connective tissue disorders;
- ✓ Muscular dystrophy

**MODULE 2: Yoga Therapy of Cardio-vascular system:**

- ✓ Cardiovascular Disorders: Ischemic heart disease; Hypertension; Peripheral vascular disease

**MODULE 3: Yoga Therapy of Respiratory system:**

- ✓ Respiratory Disorders: Bronchial asthma; Chronic Obstructive Pulmonary Disorder (COPD); Allergic rhinitis;
- ✓ Pulmonary tuberculosis; Sleep apnoea; Snoring.

**MODULE 4: Yoga Therapy of Digestive system:**

- ✓ Digestive Disorders: Acid peptic disease; irritable bowel syndrome;

**MODULE 5: Yoga Therapy of Nervous system:**

- ✓ Neurological Disorders: Migraine & Tension headache; Cerebra-vascular accidents.

**REFERENCE BOOKS:**

- 1) Dr. R Nagarathna, Dr H R Nagendra and Dr Shamantakamani Narendra, Yoga for common ailments and IAYT for
- 2) different diseases, Swami Vivekananda Yoga Prakashana, 2002
- 3) Shivanand Saraswati : Yoga Therapy ( Hindi & English )
- 4) Reddy, M. Venkata and others : ( Sri M.S.R. Memorial Yoga series, Arthamuru A.P. 2005)
- 5) Rai, Lajpat: Discovering Human Potential energy : A psychological Approach to Yoga ( Anubhava Rai Publications, 1998)
- 6) Charu, Supriya : Sarir Rachana evam Kriya Vigyan
- 7) Aatreya, Shanti Prakash : Yoga Manovigyan (Indian psychology) (International Standard Publication, Varanasi; 1965)
- 8) Abhedananda : The Yoga Psychology
- 9) Nagarathna R and Nagendra, H.R.: Integrated Approach of Yoga Therapy for Positive, Health (Swami Vivekananda Yoga Prakashana, Bangalore 2001)
- 10) Robin Monoro, Nagarathna R and Nagendra, H.R : Yoga for Common Ailments, Gui Publication, U.K.
- 11) Harrison: Principles of Internal Medicine, International Edition, 14th edition, New York: McGraw Hill Co. Inc.1998
- 12) A.K. Das (Ed.): Medicine update. Bombay: Association of Physicians of India, 1998.



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**YOGA THERAPY – I**

**Sub Code: BSY 703 & BSY793**

**Credits: 2T+2P**

**MODULE 1:**

- ✓ Integrated approach to Yoga therapy for cardio vascular diseases
- ✓ Integrated approach to Yoga therapy for hypertension

**MODULE2:**

- ✓ Integrated approach to Yoga therapy for arthritis
- ✓ Integrated approach to Yoga therapy for back pain

**MODULE3:**

- ✓ Integrated approach to Yoga therapy for knee pain
- ✓ Integrated approach to Yoga therapy for asthma

**REFERENCE BOOKS:**

- 1) Dr. R Nagarathna, Dr H R Nagendra and Dr Shamantakamani Narendra, Yoga for common ailments and IAYT for
- 2) different diseases, Swami Vivekananda Yoga Prakashana, 2002
- 3) Shivanand Saraswati : Yoga Therapy ( Hindi & English )
- 4) Reddy, M. Venkata and others : ( Sri M.S.R. Memorial Yoga series, Arthamuru A.P. 2005)
- 5) Rai, Lajpat: Discovering Human Potential energy : A psychological Approach to Yoga ( Anubhava Rai Publications, 1998)
- 6) Charu, Supriya : Sarir Rachana evam Kriya Vigyan
- 7) Aatreya, Shanti Prakash : Yoga Manovigyan (Indian psychology) (International Standard Publication, Varanasi; 1965)
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- 10) Robin Monoro, Nagarathna R and Nagendra, H.R : Yoga for Common Ailments, Gui Publication, U.K.
- 11) Harrison: Principles of Internal Medicine, International Edition, 14th edition, New York: McGraw Hill Co. Inc.1998
- 12) A.K. Das (Ed.): Medicine update. Bombay: Association of Physicians of India, 1998.

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**SEMESTER –VIII**

**OTHER SYSTEMS OF HEALING**

**Sub Code: BSY 801**

**Credits: 5**

**MODULE 1: Principles and Practice of Ayurveda**

- ✓ The four aspects of life (Soul, Mind, Senses and Body)
- ✓ Pancamahabhutas (the five element theory)
- ✓ Ahara, Vihara, and Ausadhi (three pillars of ayurveda)
- ✓ Concept, role and importance of –Dosa,Dhatu, Mala, Updhatu, Srotas, Indriya, Agni, Prana, Pranayatna, Prakriti, DehaPrakati, ManasPrakrti
- ✓ Concept of Dinacarya (daily routine), concept of Rtucarya(seasonal routine), svasthavrtta and sadvrtta in Ayurveda
- ✓ The disease process in Pancakarma theory
- ✓ Concept of Pancakarma in managing a disease (five main procedures)
- ✓ Concept of Purvakarma (preparing for pancakarma)

**MODULE 2: Principles and Practice of Naturopathy**

- ✓ General introduction, definition, history and principles of Nisargopacara
- ✓ Concept, role, qualities, functions and importance of five elements. Relationships of five elements with seasons, body and mind
- ✓ Philosophy of Nisargopacara-Western and Indiana concept of health and disease in Nisargopacara. Main principles of Naturopathy (Nisargopacara)
- ✓ Common principles of Naturopathy & Yoga as a holistic system of medicine
- ✓ Hydrotherapy & Mud therapy
- ✓ Natural diet, nutraceuticals, nutrition and fasting therapy
- ✓ Manipulative therapies (Massage therapy, Chiropractic and Osteopathy)
- ✓ Helio therapy, Color therapy and Magnet therapy

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**COMMON AILMENTS – II & YOGA THERAPY -II**

**Sub Code: BSY 802 & BSY892**

**Credits: 4T+1P**

**MODULE 1:** Yoga therapy of Endocrine system:

- ✓ Endocrine & Metabolic Disorders: Diabetes mellitus; Thyroid dysfunction; Disorders of adrenal cortex Obesity

**MODULE 2:** Yoga therapy of Reproductive system:

- ✓ Obstetrics & Gynaecology: Physiology of pregnancy; Infertility; Menopause; Garbh Sanskar

**MODULE 3:**

- ✓ Integrated approach to Yoga therapy for anxiety and depression
- ✓ Integrated approach to Yoga therapy for diabetes mellitus

**MODULE 4:**

- ✓ Integrated approach to Yoga therapy for obesity
- ✓ Integrated approach to Yoga therapy for gastro intestinal disorder

**MODULE 5:**

- ✓ Integrated approach to Yoga therapy for oncology

**REFERENCE BOOKS:**

- 1) Dr. R Nagarathna, Dr H R Nagendra and Dr Shamantakamani Narendra, Yoga for common ailments and IAYT for
- 2) different diseases, Swami Vivekananda Yoga Prakashana, 2002
- 3) Shivanand Saraswati : Yoga Therapy ( Hindi & English )
- 4) Reddy, M. Venkata and others : ( Sri M.S.R. Memorial Yoga series, Arthamuru A.P. 2005)
- 5) Rai, Lajpat: Discovering Human Potential energy : A psychological Approach to Yoga ( Anubhava Rai Publications, 1998)
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- 8) Abhedananda : The Yoga Psychology
- 9) Nagarathna R and Nagendra, H.R.: Integrated Approach of Yoga Therapy for Positive, Health (Swami Vivekananda Yoga Prakashana, Bangalore 2001)
- 10) Robin Monoro, Nagarathna R and Nagendra, H.R : Yoga for Common Ailments, Gui Publication, U.K.
- 11) Harrison: Principles of Internal Medicine, International Edition, 14th edition, New York: McGraw Hill Co. Inc.1998
- 12) A.K. Das (Ed.): Medicine update. Bombay: Association of Physicians of India, 1998.

**NOTE: The evaluation rubric for Capstone/Research Project (12 credits, Sessional) shall be notified in advance**