



Programme Structure for Master of Science in Zoology
(Syllabus with effect from December – 2024)

M.Sc. Zoology Semester –II

Course Type	Course Code	Name of Course	T/P	Credit	Exam Hrs.	Internal [CEE]	External [SEE]	Total marks
MAJOR	PS02MAZOO01	CELL BIOLOGY	T	4	2:30hrs	50	50	100
MAJOR	PS02MAZOO02	MEDICAL BIOCHEMISTRY	T	4	2:30hrs	50	50	100
MAJOR	PS02MAZOO03	ZOOLOGY PRACTICAL	P	4	3:00hrs	50	50	100
MINOR	PS02MIZOO01	ENTOMOLOGY	T	2	1:30hrs	25	25	50
MINOR	PS02MIZOO02	ZOOLOGY PRACTICAL	P	2	1:30hrs	25	25	50
SEC	PS02SEZOO01	TOXICOLOGY	T	2	1:30hrs	25	25	50
IKS	PS02IKMSC01	YOG MEDITATION AND HAPPINESS	T	2	1:30hrs	25	25	50
TOTAL CREDITS				20		250	250	500



M.Sc. Zoology Semester - II
Major Zoology Course-I
PS02MAZOO01 (T), CELL BIOLOGY
Effective from December - 2024

Course Code	PS02MAZOO01[T]	Title of the Course	CELL BIOLOGY
Total Credits of the Course	04	Hours per Week	04

Course Objectives:	To make students familiar with: 1. Detail understanding of the structure and function of various cell organelles, their organization and interaction with the cell environment. 2. This will also enlighten them on the regulation of cell cycle and programmed cell death explaining the bases of cancer.
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Course Content		
Unit	Description	Weightage* (%)
1.	Cell membrane & permeability: <ul style="list-style-type: none">• Molecular organization of the cell membrane• The Fluid mosaic model• Cell permeability Cellular interactions: <ul style="list-style-type: none">• Differentiation of the cell membrane	25%



	<ul style="list-style-type: none"> • Intercellular communications and Gap junction • Cell coat and cell recognition 	
2.	<p>The cytoskeleton and cell motility</p> <ul style="list-style-type: none"> • Introduction of Cytosol, Ergastoplasm and cytoskeleton • Microtubules and Microtubular organelles • Microfilaments • Microfilaments and cell motility • Intermediate filament • Endocytosis & Exocytosis • Coated vesicles & receptor- mediated selective transport • Peroxisomes • Bioenergetics of Mitochondria 	25%
3.	<p>The cell cycle, mitosis & meiosis</p> <ul style="list-style-type: none"> • Ultrastructure of the Interphase nucleus & Nuclear envelope • The cell cycle : Interphase-The G₁ , S and G₂ phases in detailed • Mitosis and Cell division – A general description of Mitosis Molecular Organization and functional role of the mitotic apparatus • Meiosis and sexual reproduction- A comparison of mitosis and meiosis A general description of meiosis Genetic consequences of meiosis and types of meiosis 	25%
4.	<p>Programmed Cell Death& Cancer</p> <ul style="list-style-type: none"> • Difference between necrosis, apoptosis and necroptosis, Caspases, Central regulators of apoptosis (Bcl-2 family), signaling pathways that regulate apoptosis. <p>Cancer:</p> <ul style="list-style-type: none"> • The cell surface of cancer cells • Types of cancer, development and causes of cancer, • Properties of transformed cells, Oncogenes and tumor suppressor genes. 	25%
Teaching- Learning Methodology	<ul style="list-style-type: none"> • Class room interactions • By chalk –duster method • By using OHP- Powerpoint presentation 	

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Syllabus effective from the Academic Year 2024-2025



	<ul style="list-style-type: none"> • By Giving project work • By giving Students seminar, unit test, assignment • Question bank circulation • Arranging guest talk
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Evaluation Pattern		
Sr.no.	Details of the Evaluation	Weightage
1.	Internal Marks-Exam Pattern: Class test-15marks(30%), Quiz-15marks(30%), Seminar (active learning)-10marks(20%), Home assignment-5marks(10%), Attendance-5marks(10%)	50% (50 Marks)
2.	External Marks (10marks MCQs [from all 4 units] + 10marks descriptive Questions From each 4- unit)	50% (50 Marks)

Course Outcomes:	
1.	Explain various cell organelles with their function and importance for the cell in its physiology.
2.	Understand how cell interacts with outside environment especially for its energy need, energy generation and interaction with the environment and other cells.
3.	Learned about cell death and cancer.
4.	Understand about cytoskeleton.

Sr. No.	Reference Books:
1.	Cell and molecular biology – E.D.P. De Robertis & E.M.F. De Robertis
2.	Cooper, G., M., Hausman, R. E., (2015). The Cell: A Molecular Approach. 7th Edn. Sinauer Associates Inc, United States.
3	Carp, G., (2013). Cell Biology. 7th Edn. Wiley, United States
4	Albert, B., Johnson, A., Lewis, J., Raff, M., Robert, K., Walter, P., (2014). Molecular



	Biology of the Cell. 6th Edn. Garland Science, United States
5	Lodish, H., Berk, A., Kaiser, C., A., (2007). Molecular Cell Biology. 6th Edn. W. H. Freeman & Co Ltd, South Asia

On-lineResources :
https://epgp.inflibnet.ac.in
e-PATHSHALA (https://epathshala.nic.in/)
https://www.ncbi.nlm.nih.gov/books/NBK144065/ https://journals.sagepub.com/doi/pdf/10.1177/23.12.172557
https://www.biologydiscussion.com/zoology/

M.Sc. Zoology Semester - II
Major Zoology Course-II
PS02MAZOO02 (T), MEDICAL BIOCHEMISTRY
Effective from December - 2024

Course Code	PS02MAZOO02[T]	Title of the Course	MEDICAL BIOCHEMISTRY
Total Credits of the Course	04	Hours per Week	04
Course Objectives:	Students should be able to: 1. Apply biochemical knowledge in normal and diseased status 2. Gain knowledge regarding the analysis of biological fluids for its chemical constituents and correlating the same in health and illness 3. Obtain advanced integrated knowledge and understanding of		



	Biochemistry behind various diseases.
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Course Content

Unit	Description	Weightage(%)
1.	<p>Diagnostic Enzymes: Serum Enzyme in heart disease, GI tract disease, muscle disease, bone diseases and in Malignancy, Clinical importance of Isoenzyme - Creatinine kinase and lactate dehydrogenase, Alkaline phosphatase</p> <p>Mineral metabolism and its Disorders: Calcium and Iron- Mechanism of absorption, storage and transport, Factors affecting its homeostasis, associated abnormality.</p> <p>Vitamins A, D, B12, C: Dietary sources, biochemical functions and specific deficiency diseases.</p>	25%
2.	<p>Types of Hemoglobins, Haemoglobinopathies (sickle cell anaemia and Thalassemias), and Catabolism of Heme, Jaundice and its type</p> <p>Organ function tests: Pancreatic function tests, Test for gastric function, Composition of gastric juice, concepts of free and bound acid, renal function tests, Liver function test, diagnosis of Birth Defects</p> <p>Tissue protein and diseases: Biosynthesis and types of collagen, disorders of collagen, Skin disorder (Albinism)</p>	25%
3.	<p>Cardiovascular Diseases- Mechanism of Atherosclerosis, Risk factors and Lipid profile, Types of Hypertension and its Mechanism</p> <p>Neurological Disorders – Biochemical mechanism of Epilepsy, Alzheimer's disease, Parkinson Disease</p> <p>Biochemistry of Cancer – Properties of Cancer cell, Etiology of Cancer, Mechanism of carcinogenesis, Mechanism of Metastasis, Most commonly used tumor Markers.</p> <p>Biochemistry of AIDS: Structure of HIV virus and its genes, Course of Infection, Laboratory analysis.</p>	25%

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4.	<p>Human microbiota and their role in human health, Host-pathogen interaction, opportunistic microorganisms,</p> <p>Infection – types of infection, method of infection, factors influencing infection. Spread of infectious diseases, Respiratory tract infection- Tuberculosis, corona virus disease;</p> <p>Food poisoning: Biochemistry of Cholera—Vibrio Toxins, Pathogenesis.</p>	25%
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Teaching-Learning Methodology	<ul style="list-style-type: none"> • Class room interactions • By chalk –duster method • By using OHP- Power point presentation • By Giving project work • By giving Students seminar, unit test, assignment • Question bank circulation • Arranging guest talk
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Marks-Exam Pattern: Class test-15 marks (30%), Quiz-15marks (30%), Seminar (active learning)-10marks (20%), Home assignment-5marks (10%), Attendance-5marks (10%)	50% (50 Marks)
2.	External Marks (10marks MCQs[from all 4 units] + 10marks descriptive Questions From each 4- unit)	50% (50 Marks)

Course Outcomes:	
1.	Students can suggest biochemical investigation in a given clinical situation. and apply knowledge in clinical problems.
2.	Students able to evaluate & interpret biochemical investigation in a given clinical situation and Apply their knowledge in clinical problems.
Sr. No.	Reference Books:



1.	Chatterjea, M., N., Shinde, R., (2011). Textbook of Medical Biochemistry. 8th edn. Jaypee Brothers Medical Publishers, New Delhi.
2.	Vasudevan, D. M., Sreekumari, S., (2010). Textbook of Biochemistry for Medical Students. 6th Edn. Jaypee Brothers Medical Publishers, New Delhi.
3	William, J., M., Stephen, K., A., (2014). Clinical Biochemistry- Metabolic and Clinical aspects. 3rd Edn. Wiley Publications, United States
4	Burtis, C., A., Ashwood, E., R., Bruns, D., E., (2012). Tietz Textbook of Clinical Chemistry. 5th Edn. Saunders Publications, United States.

On-line Resources :
https://epgp.inflibnet.ac.in
SWAYAM (https://swayam.gov.in/)
NPTEL (https://nptel.ac.in/)
DIKSHA (https://dikshagov.in/)
e-PATHSHALA (https://epathshala.nic.in/)

M.Sc. ZOOLOGY, SEMESTER-II

PS02MAZOO03, ZOOLOGY PRACTICAL

Effective from December – 2024

Course Code	PS02MAZOO04(P)	Title of the Course	ZOOLOGY PRACTICAL
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Syllabus effective from the Academic Year 2024-2025



Total Credits of the Course	04	Hours per Week	08
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Course Objectives:	To make students familiar with: 1. Apply biochemical knowledge in normal and diseased status 2. Gain knowledge regarding the analysis of biological fluids for its chemical constituents and correlating the same in health and illness 3. Obtain advanced integrated knowledge and understanding of biochemistry behind various diseases.
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Course Content		
	Description	Weightage* (%)
	<p>PART-I</p> <ol style="list-style-type: none"> 1. Study cell junctions with help of chart. 2. Preparation of blood smear and differential counting of WBCs. 3. Study of mitosis in onion root tip by squash method. 4. Study of meiosis in Grasshopper testies by squash method. 5. Demonstration of Barr body in human cheek cell/ leucocytes. 6. Vital staining of Mitochondria. 7. Vital staining of nucleus. 8. Study of mitosis and meiosis by permanent slides. <p>PART-II</p> <ol style="list-style-type: none"> 1. Calcium estimation. 2. Estimation of total cholesterol, HDL & LDL. 3. Creatine kinase assay for muscle damage. 4. Test of Thalassemias. 5. Estimation of total protein by Lowry's/ Biuret/ Bradford method. 6. Estimation of reducing sugar by DNSA/GOD-POD/ method 7. Estimation of non-reducing sugar by Cole's ferricyanide method. 8. Determination of SGPT. 9. Determination of SGOT. 10. Case study of different diseases. 11. Visit to Hospital. 	100% [50%+50%]

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Teaching-Learning Methodology	<ul style="list-style-type: none"> • Using colorimeter • Using certain chemicals for test • Learn through chart /Model/ Video/ ppt • Hospital visit, Project submission • Preparing journal and case study report.
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Examination Evaluation includes--Lab work Assignment-20marks (40%), Viva-voce/Lab quiz-20 marks(40%), Attendance-10marks (20%) which makes total 50 marks	50% (50 marks)
2.	External Examination Evaluation includes- --Lab work Assessment-40marks (80%), Viva-voce/Lab quiz-10 marks(20%), which makes total 50 marks	50% (50 marks)

Course Outcomes:	
1.	Gain advanced integrated knowledge and understanding of biochemistry behind various diseases.
2.	Students can suggest biochemical investigation in a given clinical situation and apply knowledge in clinical problems.
3.	Students able to evaluate & interpret biochemical investigation in a given clinical situation and Apply their knowledge in clinical problems.
4.	To make students to understand the role of cell and their importance in life.
5.	Understand how to demonstrate different stages of mitosis & meiosis.

Suggested Reference Books:	
Sr. No.	Reference Books



1.	Practical Biochemistry by Plummer
2.	Cooper, G., M., Hausman, R. E., (2015). The Cell: A Molecular Approach. 7th Edn. Sinauer Associates Inc, United States.
3	Practical Physiology, Anatomy & Biochemistry by SHAH, PATEL & GOEL
4	Cell and molecular biology – E.D.P. De Robertis & E.M.F. De Robertis

On-line resources :
1 https://www.iitg.ac.in/biotech/MTechLabProtocols/Estimation
2 https://link.springer.com/protocol/
3 https://www.iitg.ac.in/biotech/MTechLabProtocols/Protein
4 https://web.itu.edu.tr/~dulekgurgen/Proteins.pdf
5 https://www.ncbi.nlm.nih.gov/pmc/articles/PMC1252936/pdf/biochemj01108-0122.pdf

M.Sc. Zoology Semester - II

MINORZOOLOGY

PS02MIZOO01 (T), ENTOMOLOGY

Effective from December - 2024

Course Code	PS02MIZOO01[T]	Title of the Course	ENTOMOLOGY
Total Credits of the Course	02	Hours per Week	02
Course Objectives:	<ol style="list-style-type: none"> 1. Students will be aware about insect adaptation and evolutionary processes 2. Aware about the basic external & internal anatomy of insects and how it is used in classification. 3. Students will know how insects affect humans medically, economically and socially. 		



Course Content		
Unit	Description	Weightage(%)
1.	<p>Systematics and Taxonomy</p> <p>Insect anatomy, Integument-Structure, functions and modification of integument.</p> <p>Insect Alimentary canal, nutrition, digestion and excretion,</p> <p>Insect nervous system and sense organs</p> <p>Insect circulation, reproduction and life cycle</p> <p>Insect behaviour, Pheromones and toxins.</p>	50%
2.	<p>Evolution and General entomology</p> <p>Evolution of various insect orders</p> <p>Wing and wing venation; mechanics of wing movement</p> <p>Migration in Insects</p> <p>Insects of Public health: Vectors of Malaria, Filariasis, Japanese encephalitis and Dengue</p> <p>Household pests, Predators and Parasitoids for insect pests</p> <p>Ground dwelling insects, Aquatic insects.</p>	50%

Teaching-Learning Methodology	<ul style="list-style-type: none"> • Class room interactions • By chalk –duster method • By using OHP- Power point presentation • By Giving project work • By giving Students seminar, unit test, assignment • Question bank circulation • Arranging guest talk
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Evaluation Pattern		
Sr.no.	Details of the Evaluation	Weightage
1.	Internal Examination Evaluation includes Class test-10 marks(40%),	50%

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	Quiz -5 marks(20%), Home assignment-5 marks (20%), Attendance-5 marks(20%) which makes total 25 marks	(25 Marks)
2.	External Examination - 5 MCQs from all units (5marks) + Descriptive Questions(10 marks from each unit) total -25marks	50% (25 Marks)

Course Outcomes:	
1.	This subject lets students understand insect adaptation and evolutionary processes, learn the basic external morphology of insects and how it is used in classification, learn the basic internal anatomy of insects, and how it is adaptive to their respective habitats.
2.	The life cycles of important insect groups and the diseased conditions arising due to their life cycles are also a part of the second unit of this course.
3.	Understanding how insects affect humans medically, economically and socially can let the students rationalize the acts of killing insects according to their roles in ecosystem on a longer practical run.

Sr. No.	Reference Books:
1.	Modern Text book of Zoology – Invertebrate by R.L.Kotpal
2.	Invertebrate Zoology by- Jordan & Verma
3	Advances in Insect Chemical Ecology, Ring T Carde, Jocelyn Millar.
4	General and Applied Entomology, V.A. Little
5	Insecticides Toxicology and Uses, H.C.L Gupta.

On-line Resources :
https://www.biologydiscussion.com/zoology/



e-PATHSHALA (<https://epathshala.nic.in/>)

<https://epgp.inflibnet.ac.in>

M.Sc. ZOOLOGY, SEMESTER-II
PS02MIZOO02, Practical
Effective from December- 2024

Course Code	US02MIZOO02(P)	Title of the Course	ZOOLOGY Practical
Total Credits of the Course	02	Hours per Week	04

Course Objectives:	To make students familiar with: 1. Insect adaptation and evolutionary processes 2. Basic external& internal anatomy of insects and how it is used in classification. 3. Effect of insects to human medically, economically and socially.
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Course Content		
	<ol style="list-style-type: none"> General morphology of insects (Types of Antennae, Simple & Compound eyes, Types of mouthparts, Types of Legs, Wing modifications & venation, Abdomen & it's modification) Detailed study of Apterygota orders (a. Thysanura, b. Collembola) Types of Insects larvae. Study of digestive system of the following insects (a. Cockroach, b. Honey bee, c. House fly, d. Termite, e. Grasshopper) through chart/ model. Temporary mountings (a. Antennae, b. Compound eyes, c. Mouthparts, d. Salivary gland, e. Legs, f. Wings, g. Gizzard, h. Malpighian tubule, i. Sting of Honey bees, j. Polytene chromosomes) Visit to pesticides shops. Study of insect vectors of clinical significance. Inset collection and identification. 	100%

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	9. Insect Preservation and dry mount. 10. Insect Storage and handling.	
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Teaching-Learning Methodology	<ul style="list-style-type: none"> • Using student's Microscope • Observation of specimens • Using certain chemicals for test • Learn through chart /Model/ Video/ ppt • Field visit, Project submission • Preparing journal through various diagrams & description
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Evaluation Pattern		
Sr.no.	Details of the Evaluation	Weightage
1.	Internal Examination Evaluation includes--Lab work Assignment-10marks (40%), Viva-voce/Lab quiz-10 marks(40%), Attendance-5marks (20%) which makes total 25 marks	50% (25 marks)
2.	External Examination Evaluation includes- --Lab work Assignment-20marks (80%), Viva-voce/Lab quiz- 5marks (20%) which makes total 25 marks	50% (25 marks)

Course Outcomes:	
1.	Students learned the basic external morphology of insects and how it is used in classification.
2.	The life cycles of important insect groups and the diseased conditions arising due to their life cycle.
3.	Understanding how insects affect humans medically, economically and socially can let the students rationalize the acts of killing insects according to their roles inecosystem on a longer practical run.

Suggested Reference Books:



Sr. No.	Reference Books
1.	Modern Text book of Zoology – Invertebrate by R.L.Kotpal
2.	Invertebrate Zoology by- Jordan & Verma
3.	Advances in Insect Chemical Ecology, Ring T Carde, Jocelyn Millar.
4.	General and Applied Entomology, V.A. Little
5.	Insecticides Toxicology and Uses, H.C.L Gupta.

On-line resources
https://www.biologydiscussion.com/zoology/
e-PATHSHALA (https://epathshala.nic.in/)
https://epgp.inflibnet.ac.in

M.Sc. Zoology, Semester -II
PS02SEZOO01 (T), TOXICOLOGY
Effective from December-2024

Course Code	PS02SEZOO01 (T)	Title of the Course	TOXICOLOGY
Total Credits of the Course	02	Hours per Week	02
Course Objectives:	To make students familiar with: <ol style="list-style-type: none"> 1. Basic concepts of toxicology as they apply to the effects of environmental agents, e.g. chemicals, metals, on public health. 2. The application of these concepts to the understanding and prevention of morbidity and mortality resulting from environmental exposures to toxic substances through case study. 		



Course Content		
Unit	Description	Weightage(%)
1.	<p>General Toxicology and Toxicity Testing:</p> <p>General principles and terminology; Types of toxicity; Factors affecting toxicity;</p> <p>Acute and Chronic toxicity; LD50, LC50, IC50, EC50; Route of administration;</p> <p>Dose response relationship and its evaluation, Risk assessment Introduction and Principle of Free radical toxicity testing methods,</p> <p>Cytotoxicity testing methods and Genotoxicity testing methods.</p>	50%
2.	<p>Environmental toxicology</p> <p>Toxicological chemistry</p> <p>Metals in environment: Emissions, Toxicity, transformation and biochemical effects of - Arsenic, Cadmium, Lead, Mercury, Chromium, Copper, Ecosystem flow of metals</p> <p>Pesticides: Classification, application, limitation, toxicity, usage, Environmental effects, Case study of DDT in the environment</p> <p>Cases of ecotoxicology at world and India level</p> <p>General effects of pollutants</p>	50%

Teaching-Learning Methodology	<ul style="list-style-type: none"> • Class room interactions • By chalk –duster method • By using OHP- Powerpoint presentation • By Giving project work • By giving Students seminar, unit test, assignment • Question bank circulation • Arranging guest talk
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
1.	Internal Examination Evaluation includes Class test-10 marks(40%),	50%

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	Quiz -5 marks(20%), Home assignment-5 marks (20%), Attendance-5 marks(10%) which makes total 25 marks	(25 marks)
2.	External Examination [5 MCQs (5marks from all units) + Descriptive Questions(10 marks from each unit) total -25marks	50% (25 marks)

Course Outcomes:	
1.	Learnt about basic concepts of toxicology as they apply to the effects of environmental agents, e.g. chemicals, metals, on public health.
2.	Able to apply these concepts to the understanding and prevention of morbidity and mortality resulting from environmental exposures to toxic substances through case study.

Sr. No.	Reference Books
1.	Environmental Science by S.C. Santra, New central bookagency(P) Ltd. Kolkata
2.	Regulatory Toxicology by Shayne C. Gad Taylor & Francis
3.	Pesticide Biochemistry and Physiology, Wilkinson, C. F., Plenum Press, New York,
4.	Principles of Biochemical Toxicology, Timbrell J.A, Taylor & Francis
5.	Text Book of Pathology by Harsh Mohan

On-line resources
e-PATHSHALA (https://epathshala.nic.in/)
https://epgp.inflibnet.ac.in



M.Sc. Zoology, Semester -II
PS02IKMSC01 (T), YOG MEDITATION AND HAPPINESS
Effective from December-2024

Course Code	PS02IKMSC01 (T)	Title of the Course	YOG MEDITATION AND HAPPINESS
Total Credits of the Course	02	Hours per Week	02

Course Objectives:	<p>1.To maintain physical fitness and wellness among the students</p> <p>2.To guide the students about the concept of health and happiness through Yog.</p> <p>3. To guide the students about mental health.</p> <p>4. To prepare the students to maintain the mental and physical health</p> <p>5.To guide the students to lead a happy life with Yog and meditation</p>
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Course Content		
1.	<p>Asththang Yog</p> <ul style="list-style-type: none"> • Meaning, Concept, steps and importance of Asththang Yog • Roots and branches of Yog • How Yog is different from Physical exercise • Characteristics of Yogic person <p>Yog practice in daily life and its benefits.</p>	50%
2.	<p>Music, Yog and Meditation for Happiness (practical and theory)</p> <ul style="list-style-type: none"> • Music and meditation • Omkar mantra and meditation • Benefits of meditation • Happiness, peace, personality development through meditation <p>PRACTICAL ASPECT(practical and theory)</p> <ul style="list-style-type: none"> • Pranayams Ujjayi ,nadi shodhan pranayama,3SR Breathing Technique -practice and benefits • 18 Aasans with their names, practical and benefits of aasans <p>Standing Position: Vir bhadrasan, Trikonasan..Garudasan,Ardhchandrasan</p>	50%

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	Sitting Position: Sukhasan, Lolasan, Yog mudrasan, Ardh Matsyendrasan, Akarna, Dhanurasan, Janu sirasan, Paschimottasan • Relaxation Position: Bhujangasan, Sarvangasan, Naukasan, matsyasan, Setubandhasan, Dhanurasan, Shalbhasan • Yog Nindra	
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Teaching-Learning Methodology	<ul style="list-style-type: none"> • Class room interactions • By arranging practical session of yoga & meditation • By using OHP- Power point presentation • By Giving project work • By giving Students group discussion, seminar, unit test, assignment. • Arranging guest talk
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Evaluation Pattern		
Sr. No.	Details of the Evaluation	Weightage
	Internal and/or External Examination Evaluation	
1.	Internal Examination Evaluation includes Class test-10 marks(40%), Quiz -5 marks(20%), Home assignment-5 marks (20%), Attendance-5 marks(10%) which makes total 25 marks	50% (25 marks)
2.	External Examination [5 MCQs (5marks from all units) + Descriptive Questions(10 marks from each unit) total -25marks	50% (25 marks)

Course Outcomes:	
1.	Students will learn concepts of mudra, meditation and meditation.
2.	Students will learn how to lead a balanced life.
3.	Students will understand the basic body system, root of diseases and remedies from Yog
4.	Students will experience the positive change in their life with the practice of Yog

Sr. No.	Reference Books
1.	Yogic Sukshma Vyayama by Dharendra Brahmachari

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2.	Asana Pranayama Mudra Bandha by Swami Satyananda Saraswati. Publisher: Yoga Publication Trust, Munger, Bihar, India
3.	Karma Yoga, Bhakti Yoga, Raja Yoga, Jnana Yoga by Swami Vivekananda.
4.	Yoga Sutras of Patanjali by Swami Satyananda Saraswati. Publisher: Yoga Publication Trust, Munger, Bihar, India
5.	Essence of Yoga by Swami Shivananda Saraswati. Publisher: The Divine Life Society

On-line resources
http://lyu.ac.in/yoga/ https://www.whenlifeisgood.com/iyengar-yoga-home-practice-sequences-a-resource-page https://www.verywellfit.com/essential-yoga-poses-for-beginners