

2nd Semester (Bachelor of Physical Education, Health Education and Sports Science)
(According to NEP2020 from Session 2023 - 24)

Core Course - 4

Part A - Introduction

Subject:	Physical Education, Health Education and Sports Science
Semester	2 nd Semester
Name of the Course	Exercise Physiology
Course Code	23-BPE-201
Course Type:	Core Course - 4
Level of the Course	100-199
Pre-requisite (if any)	

Course Learning Outcomes (CLOs):	<p>After completing this course, the learner will be able to:</p> <ol style="list-style-type: none"> Describe the meaning and origins of Exercise Physiology, Concept of Energy Production during rest and exercise. Explain the Macro & Micro Structure, Chemical Composition and effect of exercise on Skeletal Muscle. Illustrate the Conduction System of heart and effect of exercise on Circulatory system Tell the Mechanics of Breathing during rest and exercise. Explain the Nervous control of Respiration and effect of exercise on the respiratory system Know the basic techniques of measuring Pulse Rate, Blood Pressure, Peak Expiratory flow in 1 sec. and Ventilation Capacity. Able to evaluate the Vo₂ max. and do basic interpretation of ECG.
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Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3 hours per week	2 hours per week (Size of practical group = 20 students)	5

Max. Marks: 100 -

Part I - Theory = 70

(Internal Assessment - 20 Marks + End Term Exam - 50 Marks)

Part II - Practical = 30

(Internal Assessment - 10 Marks + End Term Exam - 20 Marks)

Time: 3 Hours

For End Term Exam

Part B- Content of the Course

Instructions for Paper- Setter:

The question paper will consist of Five Units I, II, III, IV and V. Units I, II, III & IV will have two questions from their respective Units of the Syllabus and will carry 10 marks each. Unit Vth will consist of 5 short answer type questions which will cover the entire syllabus and will carry 2 marks for each question.

Unit	Topics	Contact Hours
I	<p>Introduction of Exercise Physiology and Energy Production</p> <ul style="list-style-type: none"> Meaning, Definition and Origins of Exercise Physiology Scope and Importance of Exercise Physiology in Physical Education and Sports Meaning of Anabolism, Catabolism and Metabolism ATP - PC or Phosphate system, Anaerobic metabolism, Aerobic, Metabolism, Aerobic and Anaerobic energy Systems during Rest and Exercise. 	11

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II	Exercise and Muscular System <ul style="list-style-type: none"> • Macro & Micro Structure of Skeletal Muscle • Chemical Composition of Skeletal Muscle. • Types and Characteristic of muscle fiber. • Meaning of Motor Unit, Muscle Hypertrophy and Atrophy, Muscle Tone, Lactate threshold and Muscle Fatigue. • Effects of exercise on muscular system. 	12
III	Exercise and Circulatory System <ul style="list-style-type: none"> • Conduction System of the Heart • Blood Supply to the Heart, Cardiac Cycle • Meaning of Stroke Volume, Cardiac Output, Heart Rate, Blood Pressure, Cardiac Reserve Capacity, Bradycardia, Tachycardia • Factors Affecting Heart Rate • Effect of exercises and training on the Circulatory system. 	12
IV	Exercise and Respiratory System <ul style="list-style-type: none"> • Mechanics of Breathing during rest and exercise • Nervous control of Respiration • Role Various Respiratory muscles in Breathing • Meaning of Total Lungs Capacity, Ventilation Capacity, Inspiration Reserve Capacity, Expiration Reserve Capacity, Tidal Volume, Residual Volume and Volumes, Oxygen debt, VO_2 Max. • Effect of exercises and training on the respiratory system. 	11

Suggested Evaluation Methods:

Maximum Marks: 70 (Internal Assessment - 20 Marks + End Term Exam – 50 Marks)

Internal Assessment: 20 Marks

Continuous Comprehensive Evaluation (CCE): 20 Marks

Class presentation = 5

Seminar/ Assignment/Quiz/class test, etc. = 5

Mid Term Test = 10

End Term Exam: 50 Marks

Time = 3 hrs

One question of 10 marks from each Units I to IV = 40 Marks.

Five Questions short answer from entire syllabus = 5 × 2 Marks = 10 Marks.

Part II – Practical

(Internal Assessment - 10 Marks + External – 20 Marks)

Unit	Topics	Marks distribution	Contact Hours
I	1. Techniques of Measuring Blood Lactate level before and after exercise. 2. Technique of Measuring Ventilation Capacity.	15 Marks	15
II	1. Technique of calculation Vo_2 Max. 2. Basic Interpretation of ECG.	15 Marks	15
	Internal Assessment: 10 Marks Evaluation through Skill Test/ Assignments/ Quiz/ Viva Voce/ Practical Record File (5 Marks for Each)	End Term Exam: 20 Marks Evaluation through performance in Skill Test/ Demonstration/ Viva Voce/ Practical Record File (10 Marks for Each)	

Part C-Learning Resources

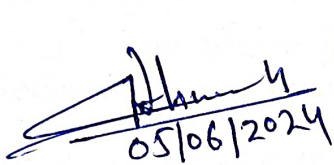
Suggested Readings:

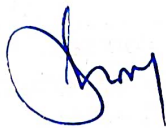
- Amrit K. & Moses, R. (2007). Introduction to Exercise Physiology Poompugar Pathipagam, Madras.
- Clarke, D.H. (2001). Exercise Physiology. New Jersey Prentice Hall Inc., Englewood Cliffs.
- David, L Costill. (2010). Physiology of Sports and Exercise. USA: Human Kinetics.

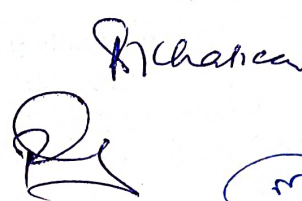
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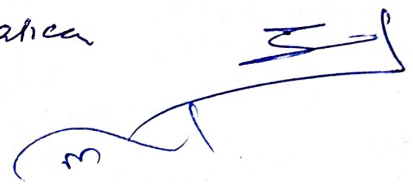
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- Christine, M. D., (1999). Physiology of sports and exercise. USA: Human Kinetics.
- Conley, M. (2000). Bioenergetics of exercise training. USA: Human Kinetics.
- Fox, E.L. (2015). The Physiological Basis of Physical Education and Athletics. Philadelphia: Sanders College Publishing.
- Hunter, M. D. (1979). A dictionary for physical educators. In H. M. Borrow & R. McGee, (Eds.), A Practical approach to measurement in Physical Education Philadelphia: Lea & Febiger.
- Vincent, T. Murche. (2008). Elementary Physiology Hyderabad: Sports Publication
- Khanna, G.L., (1990). Exercise physiology & sports medicine. Delhi:Lucky Enterprises.
- Mathew, D.K. & Fox, E.L, (1971). Physiological basis of physical education and athletics. Philadelphia:W.B. Saunders Co.
- Pandey, P.K., (1987). Outline of sports medicine, New Delhi: J.P. Brothers Pub.
- Williams, J. G. P. (1962). Sports medicine. London: Edward Arnold Ltd.


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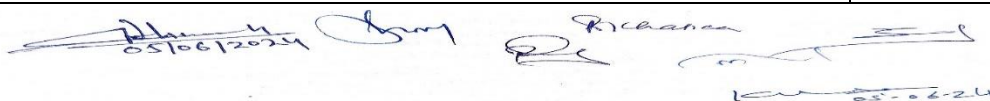



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2nd Semester Subject:
Bachelor of Physical Education, Health Education and Sports Sciences
(According to NEP2020 implemented from Session 2023 – 24

Major Core Course - 5

Part A - Introduction			
Subject:	Bachelor of Physical Education, Health Education and Sports Sciences		
Semester	2 nd Semester		
Name of the Course	Sports Psychology		
Course Code	23-B.Sc.-Phy.Ed.-202		
Course Type:	Major Core Course - 5		
Level of the Course			
Pre - requisite (if any)			
Course Learning Outcomes(CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. Describe the Sports Psychology and explain various dimensions of sports psychology. 2. Explain the laws of learning and its implications in motor learning 3. Illustrate the concept of motivation and its implication in sports 4. Tell the various dimensions of personality and its implication in sports. 		
	<ol style="list-style-type: none"> 5. Know the basic specifications of court/ground, general rules and demonstrate the basic skills of Kabaddi and table tennis. 		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3 hours per week	2 hours per week (Size of practical group = 20 students)	5
Max. Marks: 100		Time: 3 Hours	
Part I - Theory = 70		For End Term Exam	
(Internal Assessment - 20 Marks + End Term Exam – 50 Marks)			
Part II - Practical = 30			
(Internal Assessment - 10 Marks + End Term Exam – 20 Marks)			
Part B – Content of the Course			
<u>Instructions for Paper- Setter:</u>			
The question paper will consist of five Units I, II, III, IV and V. Units I, II, III & IV will have two questions from their respective Units of the Syllabus and will carry 10 marks each. Unit V th will consist of 5 short answer type questions, which will cover the entire syllabus and will carry 2 marks for each question.			
Unit	Topics		Contact Hours
I	Introduction of Sports Psychology <ul style="list-style-type: none"> • Meaning and definition of Psychology and Sports Psychology • Importance of Sports Psychology in Physical Education and sports • Branches of Sports Psychology • Psychological factors effecting sports performance • Brief History of Sports Psychology. 		11
II	Leaning <ul style="list-style-type: none"> • Meaning and definition of Learning • Laws of learning and its implications in sports • Meaning of Motor Skill learning, Principles of Motor Skill Learning • Meaning of Learning Curve, Types of Learning Curve 		11



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	<ul style="list-style-type: none"> • Characteristics of Learning Curve • Implications of learning Curve in Physical Education and Sports. 	
III	Motivation <ul style="list-style-type: none"> • Meaning and definition of Motivation • Importance of Motivation in Physical Education and Sports • Types of Motivations: Intrinsic and Extrinsic • Methods of motivation applicable in Physical Education and Sports • Drive theory of Motivation 	11
IV	Personality: <ul style="list-style-type: none"> • Meaning and definition of Personality • Characteristics of Personality • Dimensions of Personality • Meaning of Personality traits and Its effects on sports performance • Factors affecting development of personality 	12

Suggested Evaluation Methods:

Maximum Marks: 70 (Internal Assessment - 20 Marks + End Term Exam - 50 Marks)

Internal Assessment: Continuous Comprehensive Evaluation (CCE): 20 Marks Class presentation = 5 Seminar/ Assignment/ Quiz/class test, etc. = 5 Mid Term Test = 10	End Term Exam: 50 Marks Time = 3 hrs One question of 10 marks from each Units I to IV = 40 Marks. Five Questions short answer from entire syllabus = 5 × 2 Marks = 10 Marks.
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Part II – Practical (Internal Assessment - 10 Marks + End Term Exam – 20 Marks)

Unit	Topics	Marks distribution	Contact Hours
I	Kabaddi: Court specifications, general rules and basic skills	15 Marks	15
II	Table tennis: General rules and basic skills	15 Marks	15
	Internal Assessment: 10 Marks Evaluation through Skill Test/ Assignments/ Quiz/ Viva Voce/ Practical Record File (5 Marks for Each Sports/Game)	End Term Exam: 20 Marks Evaluation through performance in Skill / Demonstration/ Viva Voce/ Practical Record File (10 Marks for Each Sports/Game)	

Part C-Learning Resources

- John D Lauther (2000) Psychology of Coaching. New Jersey: Prentice Hall Inc.
- John D. Lauther (1998) Sports Psychology. Englewood, Prentice Hall Inc.
- Miroslaw Vauks & Bryant Cratty (1999) . Psychology and the Superior Athlete. London: The Macmillan Co.
- Robert N. Singer. (1989) The Psychology Domain Movement Behaviour. Philadelphia: Lea and Febiger.
- Thelma Horn. (2002). Advances in Sports Psychology. Human Kinetic.
- Sahni SP (2005). Psychology and Its Application in Sports. D.V.S. Delhi. Shaw D and Other (2005). Sport & Exercise Psychology. Bios. U.K.
- Verma V (1999). Sport Psychology & All-Round Development. Sport Pub. New Delhi.
- Wann DL (1997). Sport Psychology. Prentice Hall. New Jersey.
- Kumar, Dharmander. (2018). Kabaddi and Its Playing Techniques. Writers Choice, New Delhi.
- Mishra, S.C. (2007). Teach Yourself Kabaddi. Sports Publications, New Delhi.
- Rao CV (1983). Kabaddi. Native Indian Sports. NSNIS. Patiala Publisher
- Rao EP (1994). Modern Coaching in Kabaddi. D.V.S. Pub

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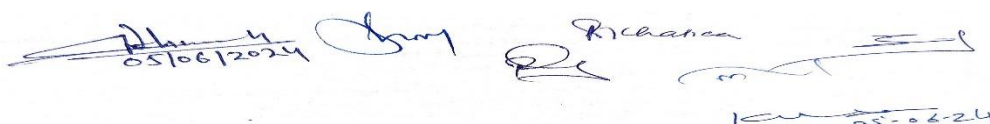
2nd Semester Subject:

Bachelor of Physical Education, Health Education and Sports Sciences

(According to NEP2020 implemented from Session 2023 – 24)

Major Core Course – 6 Part A - Introduction

Subject:	Bachelor of Physical Education, Health Education and Sports Sciences		
Semester	2 nd Semester		
Name of the Course	Sports Nutrition		
Course Code	23- B.Sc.-Phy.Edu-203		
Course Type	Major Core Course - 6		
Level of the Course			
Pre-requisite (if any)			
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. Describe basic concept of Balanced diet. 2. Illustrate basic concept of Macro Nutrients. 3. Explain basic requirement and sources of vitamins. 4. Describe basic requirement and sources of Minerals. 5. Calculate BMR and design diet plan. 		
Credits	Theory	Practical	Total
	3	1	4
Contact Hours	3 hours per week	2 hours per week (Size of practical class = 20 students)	5
Max. Marks: 100		Time: 3 Hours For End Term Exam	
Part I - Theory = 70 (Internal Assessment - 20 Marks + End Term Exam – 50 Marks)			
Part II - Practical = 30 (Internal Assessment - 10 Marks + End Term Exam – 20 Marks)			
Part B – Content of the Course			
Instructions for Paper- Setter:			
The question paper will consist of Five Units I, II, III, IV & V. Unit I, II, III & IV will have two questions from their respective Units of the Syllabus and will carry 10 marks each. Unit V will consist of 5 short answer type questions, which will cover the entire syllabus and will carry 2 marks for each question.			
Unit	Topics		Contact Hours
I	Introduction of Sports Nutrition <ul style="list-style-type: none"> • Meaning and Definition of Nutrition and Sports Nutrition • Meaning of Calories, Macro Nutrients, Micro Nutrients • Meaning of Basal Metabolic Rate (BMR) and its role in body • Meaning of Balanced diet, Components of Balanced diet • Factor affecting Balanced diet 		10
II	Macro Nutrients: <ul style="list-style-type: none"> • Carbohydrate: Meaning, Sources and Functions in Body • Fat: Meaning, Sources and Functions in Body • Protein: Meaning, Sources and Functions in Body • Ratio of Carbohydrate, Fat and Protein required in Balanced diet for Normal Adult. • Ratio of Carbohydrate, Fat and Protein required in Balanced diet for Sports persons of different categories. 		11



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III	Micro Nutrients: Vitamins <ul style="list-style-type: none"> • Meaning of Vitamins, Types of Vitamins: Fat soluble and water Soluble • Sources, Functions in body and Daily requirements: Fat soluble Vitamins:A, D, E, and K • Sources, Functions in body and Daily requirements: Water soluble Vitamins: Vitamin C and B vitamins (B₁, B₂, B₃, B₅, B₆, B₇, B₉ and B₁₂) • Disorders in body due to the deficiencies of different Vitamins. 	12
IV	Micro Nutrients: Minerals <ul style="list-style-type: none"> • Sources, Functions in body and Daily requirements of Calcium, Phosphorus Potassium, Sodium, Chloride, Magnesium, Iron, Zinc and Iodine. • Disorders in body due to the deficiencies of Minerals • Dietary requirements before and after exercise 	12

Suggested Evaluation Methods:
MaximumMarks:70 (Internal Assessment- 20 Marks +End Term Exam– 50 Marks)

Internal Assessment: 20 Continuous Comprehensive Evaluation (CCE): 20 Marks presentation = 5 Seminar/ Assignment/Quiz/class test, etc. = 5 Mid Term Test = 10	End Term Exam: 50 Marks Time = 3 hrs One question of 10 marks from each Units I to IV = 40 Marks. Five Questions short answer from entire syllabus = 5 × 2 Marks = 10 Marks.
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Part II – Practical
MaximumMarks:30 (Internal Assessment - 10 Marks + End Term Exam – 20 Marks)

Unit	Topics	Marks distribution	Contact Hours
I	Calculation of BMR for Men and Women	15 Marks	15
II	Designing of Basic Diet Plan: ratio of Carbohydrate, fat and protein in various meals	15 Marks	15
	InternalAssessment:10 Marks Evaluation through Assignments/ Quiz/Viva Voce/ Practical Record File (5 Marks for Each)	End Term Exam: 20 Marks Evaluation through Viva Voce/ Practical Record File (10 Marks for Each)	

Part C-Learning Resources

- Asker Jeukendrup and Michael Gleeson (2004) Sports nutrition Human Kinetics, inc
- Nieman, D.C., and B.K. Pederson (2000) Nutrition and Exercise Immunology. CRC press: Boca Raton, FL
- Kathleen.c. Niedert, Nutrition care of the older adult, A handbook for nutrition throughout the continuum of care; third edition.
- Lal PR (2009) Handbook of Sports Nutrition, Friends Publication
- Terras S. (1994) Stress, How Your Diet can Help: The Practical Guide to Positive Health Using Diet, Vitamins, Minerals, Herbs and Amino Acids, Thorons.
- Heather Hedrick fink, Lisa A. Burgoon, Alan E. Mikesy, (2006), Practical Application in sports Nutrition, Jones and Barlett.
- RonniChernoff , Geriatric Nutrition : The health professionals hand book; 4th edition.
- Wardlaw, Smith. Contemporary Nutrition: A Functional Approach. 2nd ed: 2012. McGraw Hill
- Williams, Melvin. Nutrition for health, fitness and sports. 2004. McGraw Hill

2nd Semester (Bachelor of Physical Education, Health Education and Sports Science)
(According to NEP 2020 from Session 2023 - 24)

Minor Core Course - 2

Part A - Introduction			
Subject:	Physical Education, Health Education and Sports Science		
Semester	2nd Semester		
Name of the Course	Asian and Commonwealth Games		
Course Code	23-BPE-204		
Course Type	Minor Core Course - 2		
Level of the Course	100-199		
Pre-requisite (if any)	Course only for students studying Physical Education, Health Education and Sports Science as Major subject		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> Describe the Philosophy, development, and structure of Asian games. Acquire knowledge the Philosophy, development, and structure of Commonwealth games. Describe the Indian Performance in the Commonwealth and Asina Games. 		
Credits	Theory	Practical	Total
	2	1	3
Contact Hours	2 hours per week	1	3
Max. Marks: 50 Part - I Theory (Internal Assessment - 10 Marks + End Term Exam – 20 Marks) Part II - Practical = 20 (Internal Assessment - 5 Marks + End Term Exam – 15 Marks)		Time: 1.5 Hours	
Part B- Content of the Course			
Instructions for Paper- Setter:			
There will be total 7 question in the question paper. Two questions will be from each units carry 5 marks each and students have to attempt one question from each unit. Five questions will be from all three units and carry 1 mark for each.			
Unit	Topics		Contact Hours
I	Asian games <ul style="list-style-type: none"> Philosophy of Asian games. Brief history of the development of the Asian Games. Reorganization and expansion of the Asian Games Symbols and Mascots of Asian Games Countries participating in the Asian Games Numbers of Events conducted in Asian games 		8
II	Commonwealth Games <ul style="list-style-type: none"> Philosophy of Commonwealth Games. Brief history of the development of the Commonwealth Games Structure of Commonwealth Games Federation Queen's baton Relay, Opening and Closing Ceremony of Commonwealth Games Countries participating in the Commonwealth Games Numbers of Events conducted in Commonwealth Games 		8

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III	Indian performance in Asian Games and Commonwealth Games <ul style="list-style-type: none"> • Organization of Asian Games in India • Organization of Commonwealth Games in India • Indian Performance in Asian Games • Indian Performance in Commonwealth Games 	7
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Suggested Evaluation Methods:

Maximum Marks: 50 (Internal Assessment - 10 Marks + End Term Exam – 20 Marks)

Internal Assessment:

Continuous Comprehensive Evaluation (CCE): 10 Marks
 Class presentation = 4
 Seminar/ Assignment/Quiz/class test, etc. = 4
 Mid Term Test = 7

End Term Exam: 35 Marks Time = 2 hrs

One question of 10 marks from each Units I to III = 30 Marks.
 Five Questions short answer from entire syllabus = 5 x 1 Marks = 5 Marks.

Practical (Internal Assessment): 05

File Preparation from the contents of the course provided above

Practical (External): 15

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Part B - Learning Resources

Suggested Readings:

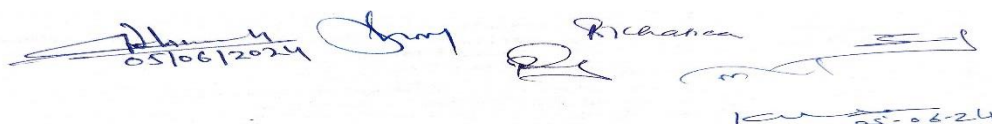
- Ajmeer Sing, Jagdish Bans, Jagtar Sing Gill , Rachpal Singh Brar and Nirmaljit Kaur Rathee (2004) Essentials of Physical Education, New Delhi: Kalyani Publisheres.
- <https://www.commonwealthsport.com/commonwealth-games>.
- https://oca.asia/media/oca_files/OCA_CONSTITUTION_AND_RULE.pdf
- <https://oca.asia>

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2nd Semester Subject: **Basics of Naturopathy**
 Bachelor of Physical Education, Health Education and Sports Sciences
 (According to NEP2020 implemented from Session 2023 – 24)

Multidisciplinary course - 2

Part A - Introduction			
Subject:	Bachelor of Physical Education, Health Education and Sports Sciences		
Semester	2 nd Semester		
Name of the Course	Basics of Naturopathy		
Course Code	23- B.Sc.-Phy.Edu-205		
Course Type	Multidisciplinary course - 2		
Level of the Course	100 - 199		
Pre-requisite (if any)	It is open for all.		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to:		
	1. Describe the meaning and principles of Basics of Naturopathy 2. Illustrate the basic knowledge of various types of yoga 3. Explain the basic knowledge of various types of Hydrotherapy 4. Able to Perform Surya Namaskar, Jal Neti and Rubber Neti.		
Credits	Theory	Practical	Total
		1	3
Contact Hours	2 hours per week	2 hours per week (Size of practical class = 20 students)	4
Max. Marks: 75 Part I - Theory = 50 (Internal Assessment - 15 Marks + External – 35 Marks) Part II - Practical = 25 (Internal Assessment - 5 Marks + External – 20 Marks)			Time: 3 Hours For End Term Exam
Part B – Content of the Course			
Instructions for Paper- Setter:			
The question paper will consist of Four Units I, II, III & IV. Unit I, II and III will have two questions from their respective Units of the Syllabus and will carry 10 marks each. Unit IV will consist of 5 short answer type questions, which will cover the entire syllabus and will carry 1 mark for each question.			
Unit	Topics		Contact Hours
I	Introduction of Naturopathy <ul style="list-style-type: none"> • Meaning and Definition of Naturopathy • Philosophy of Naturopathy • Principles of Naturopathy • Misconceptions about Naturopathy, • Relationship of Naturopathy with Yoga 		10



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II	Mudtherapy <ul style="list-style-type: none"> • Meaning and Definition of Prithvi Tatva. • Principles of Mudtherapy. • Importance of Prithvi Tatva. • Different techniques of Mudtherapy and their benefits. • Uses of Mudtherapy in different illness. 	10
III	Hydrotherapy <ul style="list-style-type: none"> • Meaning and Definition of Jal Tatva. • General Principles of Hydro-therapy • Importance of Jal Tatva. • Different techniques of Hydrotherapy and their benefits • Uses of Hydrotherapy in different illness 	10

Suggested Evaluation Methods:

Maximum Marks: 50 (Internal Assessment - 15 Marks + External – 35 Marks)

<p style="text-align: center;">Internal Assessment: 15</p> <p>Continuous Comprehensive Evaluation (CCE): 15 Marks</p> <p style="text-align: center;">Class presentation = 4</p> <p style="text-align: center;">Seminar/ Assignment/Quiz/class test, etc. = 4</p> <p>Mid Term Test = 7</p>	<p style="text-align: center;">University Exam (UE): 35 Marks Time = 3 hrs</p> <p>One question of 10 marks from each Units I to III = 30 Marks.</p> <p>Five Questions short answer from entire syllabus = 5 × 1 Marks = 5 Marks.</p>
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Part II – Practical

Maximum Marks: 25 (Internal Assessment - 5 Marks + External – 20 Marks)

Topics	Marks distribution	Contact Hours
Surya Namaskar : 12 Counts	10 Marks	15
Shatkarma: Rubber Neti and Jal Neti	10 Marks	15
Internal Assessment: 5 Marks Demonstration of Skill/Viva-Voce/ Practical Record File	University Exam (UE): 20 Marks Evaluation through performance in Skill Test/ Demonstration/ Viva Voce/ Practical Record File: (10 Marks for each)	

Part C-Learning Resources

- History & Philosophy of Naturophaty – Dr. S. J. Singh
- Philosophy of Nature Cure – Dr. Henri Lindlhai.
- Rational Hydrotherapy: A Manual of the Physiological and Therapeutic Effects of Hydratic
- Procedures, and the Technique of their Application in the Treatment of Disease Hardcover – 9 Sep. 2004 by John Harvey Kellogg (Author), Publisher: TEACH Services, Inc. (9 September 2004), ISBN-13: 978-1572582095
- Mud Therapy: Healing Through One of the Five Elements Paperback – 13 Sep 2013 by
- Ashish Indani (Author), Publisher: B Jain Publishers Pvt. Ltd. (13 September 2013), ISBN-13:978-8131908457. Rational Fasting (Ehret’s Health Literature) Mass Market Paperback – Import, Jun 1971 by
- Arnold Ehret (Author), Publisher: Benedict Lust Publications (1 June 1971), ISBN-13:978

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III	Micro Nutrients: Vitamins <ul style="list-style-type: none"> • Meaning of Vitamins, Types of Vitamins: Fat soluble and water Soluble • Sources, Functions in body and Daily requirements: Fat soluble Vitamins:A, D, E, and K • Sources, Functions in body and Daily requirements: Water soluble Vitamins: Vitamin C and B vitamins (B₁, B₂, B₃, B₅, B₆, B₇, B₉ and B₁₂) • Disorders in body due to the deficiencies of different Vitamins. 	12
IV	Micro Nutrients: Minerals <ul style="list-style-type: none"> • Sources, Functions in body and Daily requirements of Calcium, Phosphorus Potassium, Sodium, Chloride, Magnesium, Iron, Zinc and Iodine. • Disorders in body due to the deficiencies of Minerals • Dietary requirements before and after exercise 	12

Suggested Evaluation Methods:

MaximumMarks:70 (Internal Assessment- 20 Marks +End Term Exam– 50 Marks)

Internal Assessment: 20 Continuous Comprehensive Evaluation (CCE): 20 Marks Class presentation = 5 Seminar/ Assignment/Quiz/class test, etc. = 5 Mid Term Test = 10	End Term Exam: 50 Marks Time = 3 hrs One question of 10 marks from each Units I to IV = 40 Marks. Five Questions short answer from entire syllabus = 5 × 2 Marks = 10 Marks.
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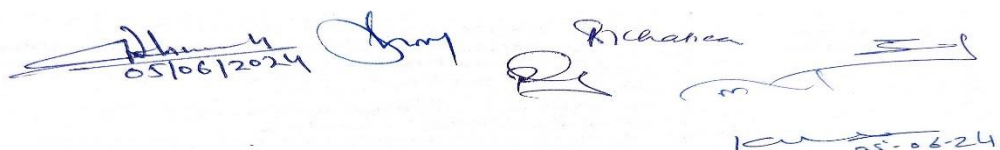
Part II – Practical

MaximumMarks:30 (Internal Assessment - 10 Marks + End Term Exam – 20 Marks)

Unit	Topics	Marks distribution	Contact Hours
I	Calculation of BMR for Men and Women	15 Marks	15
II	Designing of Basic Diet Plan: ratio of Carbohydrate, fat and protein in various meals	15 Marks	15
	InternalAssessment:10 Marks Evaluation through Assignments/ Quiz/Viva Voce/ Practical Record File (5 Marks for Each)	End Term Exam: 20 Marks Evaluation through Viva Voce/ Practical Record File (10 Marks for Each)	

Part C-Learning Resources

- Asker Jeukendrup and Michael Gleeson (2004) Sports nutrition Human Kinetics, inc
- Nieman, D.C., and B.K. Pederson (2000) Nutrition and Exercise Immunology. CRC press: Boca Raton, FL
- Kathleen.c. Niedert, Nutrition care of the older adult, A handbook for nutrition throughout the continuum of care; third edition.
- Lal PR (2009) Handbook of Sports Nutrition, Friends Publication
- Terras S. (1994) Stress, How Your Diet can Help: The Practical Guide to Positive Health Using Diet, Vitamins, Minerals, Herbs and Amino Acids, Thorons.
- Heather Hedrick fink, Lisa A. Burgoon, Alan E. Mikesy, (2006), Practical Application in sports Nutrition, Jones and Barlett.
- RonniChernoff , Geriatric Nutrition : The health professionals hand book; 4th edition.
- Wardlaw, Smith. Contemporary Nutrition: A Functional Approach. 2nd ed: 2012. McGraw Hill.
- Williams, Melvin. Nutrition for health, fitness and sports. 2004. McGraw Hill


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2nd Semester Subject: **Athletic Field Event**
 Bachelor of Physical Education, Health Education and Sports Sciences
 (According to NEP 2020 implemented from Session 2023–24)

Ability Enhancement Course (AEC) - 2

Part A-Introduction			
Subject:	Bachelor of Physical Education, Health Education and Sports Sciences		
Semester	2 nd Semester		
Name of the Course	Athletic Field Event		
Course Code	23- B.Sc.-Phy.Edu-206		
Course Type	Ability Enhancement Course - 2		
Level of the Course	100 - 199		
Pre-requisite (if any)	Candidate has taken Physical Education as Major Course		
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to:		
	1. Describe the about Athletics field events and rules, technique and specification of Javelin throw event. 2. Illustrate the basic rules, technique and specification of Discus Throw events. 3. Describe the rules, technique and specification of Long Jump events. 5. Demonstrate the techniques of Long Jump, shot-put and javelin throw.		
Credits	Theory	Practical	Total
	1	1	2
Contact Hours	2 hours per week	1 hours per week (Size of practical class = 20 students)	3
Max. Marks: 50		Time: 1.5 Hours For End Term Exam	
Part I - Theory = 30 (Internal Assessment - 10 Marks + External – 20 Marks)			
Part II - Practical = 20 (Internal Assessment - 5 Marks + External – 15 Marks)			
Part B – Content of the Course			
Instructions for Paper- Setter:			
The question paper will consist of Four Units I, II, III & IV. Unit I, II and III will have two questions from their respective Units of the Syllabus and will carry 05 marks each. Unit IV will consist of 5 short answer type questions, which will cover the entire syllabus and will carry 1 mark for each question.			
Unit	Topics		Contact Hours
I	Introduction of Athletics Field Events and Javelin throw: <ul style="list-style-type: none"> Various Categories of Field events Dimensions of Javelin throw sector, Specifications of Javelin in various categories Basic rules of Javelin throw, Basic rules of conduction Javelin throw event. 		8

II	<p>Discus Throw</p> <ul style="list-style-type: none"> • Dimensions of Discus Throw sector, Specifications of Discus for various categories • Basic rules of Discus Throw and Shot-put and conduction Discus Throw event. • Basic technique of Discus Throw • National, Olympics and World records in Discus Throw • Men & Women. 	8
III	<p>Long Jump</p> <ul style="list-style-type: none"> • Dimensions of long Jump: Landing Pit, runway and Takeoff board. • Basic rules of Long Jump and conduction Long Jump event. • Basic technique of Long Jump • National, Olympics and World records in Long Jump Men & Women. 	8

Suggested Evaluation Methods:
Maximum Marks: 30 (Internal Assessment - 10 Marks + External – 20 Marks)

<p>Internal Assessment: 10 Class presentation = 5 Seminar/ Assignment/Quiz/class test, etc. = 5</p>	<p>University Exam (UE): 20 Marks Time = 1.5hrs One question of 05 marks from each Units I to III = 15 Marks. Five Questions short answer from entire syllabus = 5 × 1 Marks = 5 Marks.</p>
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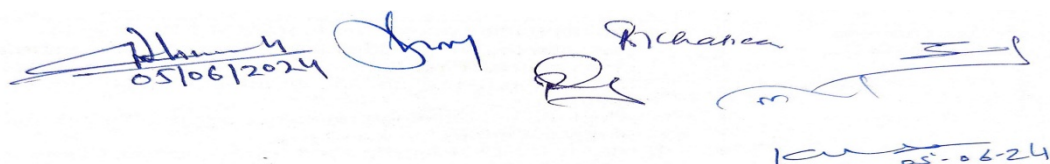
Part II – Practical
Maximum Marks: 20 (Internal Assessment - 5 Marks + External – 15 Marks)

Topics	Marks distribution	Contact Hours
Techniques of Discus throw	05 Marks	055
Techniques of Long Jump	05 Marks	04
Techniques of Javelin throw	05 Marks	04
<p>Internal Assessment: 5 Marks Practical Record File</p>	<p>University Exam (UE): 15 Marks Evaluation through performance in Skill Test/ Demonstration/ Viva Voce/ Practical Record File: (05 Marks for each)</p>	

Part C-Learning Resources

- Arnheim, D., & William, E Prentice. (1991). Principles of athletic training. St. Louis: Mosby Year Book.
- ArnheimD.,& William E Prentice. (1978). Athletic Training. St. Louis: Mosby Year Book.
- Authors Guide (2018) IAAF Competition Rules 2018-2019, Monaco Cedex: IAAF Publishing.
- Authors Guide (2002) Rules of Games and Sports, New Delhi : YMCA Publishing House.September 2004), ISBN-13: 978-1572582095
- Mud Therapy: Healing Through One of the Five Elements Paperback – 13 Sep 2013 by
- AshishIndani (Author), Publisher: B Jain Publishers Pvt. Ltd. (13 September 2013), ISBN-13:978-8131908457. Rational Fasting (Ehret’s Health Literature) Mass Market Paperback – Import, Jun 1971 by

- Arnold Ehret (Author), Publisher: Benedict Lust Publications (1 June 1971), ISBN-13:978
- Chauhan VS (1999). KhelJagat Mein Athletics. A.P. Pub, Jalandhar.
- Evans DA (1984). Teaching Athletics. Hodder, London
- George Immanuel.(1997).Track and Field Event layout and Marking. Chennai:
- Kumar, Pardeep. (2008). Historical Development of Track & Field. Friends Publication. New Delhi
- Renwick GR (2001). Play Better Athletics. Sports Pub, Delhi.
- Shrivastav AK. Abhay Kumar (1997). Athletics. S & S Parkashan.
- Singh Granth (1998). Track and Field Athletics. Ashoka, Delhi.
- ThaniLokesh (1995). Skills and Tactics-Track Athletics. Sports Pub. Delhi.
- Thani Y. (1991). Encyclopedia of Athletics. Gian Pub., Delhi.
- Josse, P, Moprtensen.,& John, M,Copper. (1998). Track and Field for Coach and Athlete. St.Louis: C.V.Mosphy Company

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III	MicroNutrients: Vitamins <ul style="list-style-type: none"> • Meaning of Vitamins, Types of Vitamins: Fat soluble and water Soluble • Sources, Functions in body and Daily requirements: Fat soluble Vitamins: A, D, E, and K • Sources, Functions in body and Daily requirements: Water soluble Vitamins: Vitamin C and B vitamins (B₁, B₂, B₃, B₅, B₆, B₇, B₉ and B₁₂) • Disorders in body due to the deficiencies of different Vitamins. 	12	
I V	MicroNutrients: Minerals <ul style="list-style-type: none"> • Sources, Functions in body and Daily requirements of Calcium, Phosphorus P, potassium, Sodium, Chloride, Magnesium, Iron, Zinc and Iodine. • Disorders in body due to the deficiencies of Minerals 	12	
Maximum Marks: 70 Daily requirements before and after exercise			
Suggested Evaluation Methods: (Internal Assessment-20 Marks + End Term Exam-50 Marks)			
Internal Assessment: 20 Continuous Comprehensive Evaluation (CCE): 20 Marks Class presentation = 5 Seminar/Assignment/Quiz/class test, etc. = 5 Maximum Marks: 30 Term Test = 10		End Term Exam: 50 Marks Time = 3 hrs One question of 10 marks from each Unit I to IV = 40 Marks. Five Questions short answer from entire syllabus = 5 × 2 Marks = 10 Marks.	
Part II – Practical (Internal Assessment-10 Marks + End Term Exam-20 Marks)			
Unit	Topics	Marks distribution	Contact Hours
I	Calculation of BMR for Men and Women	15 Marks	15
II	Designing of Basic Diet Plan: ratio of Carbohydrate, fat and protein in various meals	15 Marks Viva Voce/ Practical Record File	15
	Internal Assessment: 10 Marks Evaluation through Assignments/Quiz/Viva Voce/Practical Record File (5 Marks for Each)	End Term Exam: 20 Marks Evaluation through (10 Marks for Each)	
Part C - Learning Resources			
<ul style="list-style-type: none"> • Asker Jeukendrup and Michael Gleeson (2004) Sports nutrition Human Kinetics, inc • Nieman, D.C., and B.K. Pederson (2000) Nutrition and Exercise Immunology. CRC press: Boca Raton, FL • Kathleen.c. Niedert, Nutrition care of the older adult, A handbook for nutrition throughout the continuum of care; third edition. • Lal PR (2009) Handbook of Sports Nutrition, Friends Publication II. • Terras S. (1994) Stress, How Your Diet can Help: The Practical Guide to Positive Health Using Diet, Vitamins, Minerals, Herbs and Amino Acids, Thorons. • Heather Hedrick fink, Lisa A. Burgoon, Alan E. Mikesy, (2006), Practical Application in sports Nutrition, Jones and Barlett. • Ronni Chernoff, Geriatric Nutrition : The health professionals hand book; 4th edition. 			

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Wardlaw, Smith. Contemporary Nutrition: A Functional Approach. 2nd ed: 2012. McGraw Hi

- Williams, Melvin. Nutrition for health, fitness and sports. 2004. McGraw Hill


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2nd Semester
Bachelor of Physical Education, Health Education, and Sports Sciences
 (According to NEP 2020 implemented from Session 2023 – 24)

Skill Enhancement Course (SEC – 2)

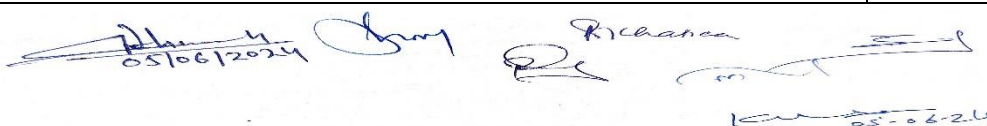
Skill Enhancement Course (SEC – 2) Part A - Introduction			
Subject	Bachelor of Physical Education, Health Education and Sports Sciences		
Semester	2 nd Semester		
Name of the Course	Self Defense Technique		
Course Code	23-SEC-226		
Course Type	Skill Enhancement Course (SEC – 2)		
Level of the course			
Pre-requisite (if any)			
Course Learning Outcomes (CLO):	After completing this course, the learner will be able to: <ol style="list-style-type: none"> 1. Learn the principles of Self Defense and analyzes of various situations 2. Acquire the knowledge of strikes, Defensive Maneuvers, locking and chocking techniques. 3. Acquire the skill of improvising self-defense tools and various self-defense based techniques. 		
Credit	Theory	Practical	Total
	1	1	2
Contact Hours	2 Hours per week	2 hours per week (Size of Practical Group: 20 Students)	4
Max. Marks: 75 Part I - Theory = 50 (15 Internal + 35 End Term Exam) Part II - Practical = 25 (5 Internal + 20 End Term Exam)		Time: 2 Hours For End Term Exam	

Part – B Content of the Course

Instructions for Paper-Setter:

The question paper will consist of four units. I, II, and III units contains two questions of 10 marks each from their respective units and students have to attempt one question from each unit. Unit IV comprise of 5 short answer type questions of one mark each and students have to attempt all questions of unit IV respectively.

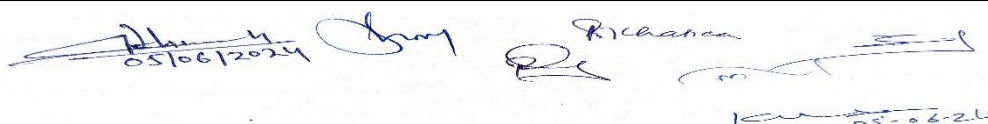
Unit	Topic	Contact Hours
I	Introduction of Self Defence: <ul style="list-style-type: none"> • Meaning of self-defence & personal safety and its significance in everyday life. • Basic principles of Self-defence and mindset required for effective self-defence. • Meaning of Situational Awareness, Techniques of observing and assessing one's surroundings, recognizing potential threats and techniques of avoiding dangerous situations. • Meaning of Self-defence Tools, everyday objects as improvised self-defence tools. 	10



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Unit - II	Awareness and Prevention <ul style="list-style-type: none"> • Situational Awareness: Techniques for staying alert and avoiding danger. Recognizing potential threats and risky situations. • Risk Assessment: Identifying personal risk factors. Strategies to minimize vulnerability. • Personal Safety Tips: Home safety. Safety while traveling. • Legal Aspects: Overview of self-defense laws. Knowing when and how to defend oneself legally. • Managing Fear and Stress: Techniques for staying calm and focused. 	10
III	Practical aspects of Self Defence: <ul style="list-style-type: none"> • Fundamental strikes: Punches, Kicks, Knee strikes and Elbow Strikes. • Meaning of Defensive Maneuvers, Meaning and Techniques for blocking, parrying and evading attacks to neutralize threats. • Meaning of Joint Locks, Chokes and Escapes, types joint Locking and choking techniques. • Meaning and techniques of escaping from holds. • Basics of self-defence when on the ground and defending against ground attacks. 	10
Suggested Evaluation Methods: (Internal Assessment: 15 Marks + End Term Exam: 35 Marks)		
Internal Assessment: 15 Marks <ul style="list-style-type: none"> • Continuous Comprehensive Evaluation (CCE): 50 Marks • Class presentation = 5 • Seminar/ Assignment/Quiz/class test, etc. = 5 		End Term Exam: 35 Marks Time = 2 Hours <ul style="list-style-type: none"> • One question of 10 marks from each unit I to III = 30 Marks. • Five Questions short answer from entire syllabus = 5 × 1 Marks = 5 Marks.

Part II – Practical			
Maximum Marks: 25			
(Internal Assessment: 5 Marks + End Term Exam: 20 Marks)			
Unit	Topic	Marks	Contact Hours
I	Improvised Self-Defence Tools: Technique of utilizing everyday objects as improvised self defence tools and understanding their effectiveness.	10	10
II	General Awareness of self defence	10	10
III	Techniques of self defence against common weapons suchas Knife, sticks, and firearms.	10	10
Internal Assessment: 05 Marks Evaluation through demonstration of skills/assignment/quiz/viva-voice/practical record file.			
External Assessment: 20 Marks Evaluation through demonstration of techniques/assignment/quiz/viva-voice/practical record file.			
Learning Resources:			
Books			
1. De Becker, G. (1997). <i>The gift of fear: Survival signals that protect us from violence.</i> Dell Publishing.			
2. Kirschner, D. (2004). <i>Self-defense: The psychology of attack and survival.</i> AMI Books.			

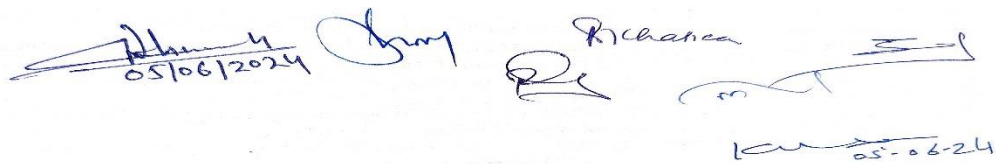


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3. Kahn, D. (2004). *Krav Maga: An essential guide to the renowned method – for fitness and self-defense*. St. Martin's Griffin.
4. Strong, S. (1996). *Strong on defense: Survival rules to protect you and your family from crime*. Pocket Books.

Websites and Online Courses

1. Krav Maga Worldwide. (n.d.). Retrieved from <https://www.kravmaga.com/>
2. Self Defense Company. (n.d.). Retrieved from <https://www.myselfdefensetraining.com/>
3. Udemy. (n.d.). Self-defense courses. Retrieved from <https://www.udemy.com/topic/self-defense/>
4. Self Defense Company. (n.d.). [YouTube channel]. Retrieved from <https://www.youtube.com/c/TheSelfDefenseCo/>
5. Krav Maga Training. (n.d.). [YouTube channel]. Retrieved from <https://www.youtube.com/user/kravmagatraining/>

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2nd Semester
Bachelor of Physical Education, Health Education, and Sports Sciences
 (According to NEP 2020 implemented from Session 2023 – 24)

Value Added Course – 2

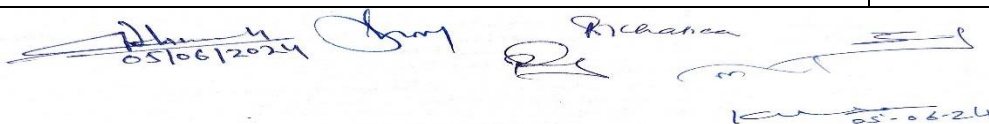
Value Added Course – 2 Part A - Introduction			
Subject	Bachelor of Physical Education, Health Education and Sports Sciences		
Semester	2 nd Semester		
Name of the Course	Environment Studies		
Course Code	B-23-VAC-201		
Course Type	Value Added Course – 2		
Level of the course			
Pre-requisite (if any)			
Course Learning Outcomes (CLO):	After completing the course, the learner will be able to:- <ol style="list-style-type: none"> 1. Define key environmental concepts and understand the importance of environmental awareness. 2. Identify natural resources and pollution sources, and recognize the role of individuals in conservation and waste management. 3. Understand ecosystem types, structures, and functions. 4. Appreciate India's biodiversity and its bio-geographical classifications. 5. Actively participate in environmental protection and sustainability efforts. 		
Credit	Theory	Practical	Total
	1	1	2
Contact Hours	2 Hours per week	1 hours per week (Size of Practical Group: 20 Students)	3
Max. Marks: 50 Part I - Theory = 30 (10 Internal + 20 End Term Exam) Part II - Practical = 20 (5 Internal + 15 End Term Exam)	Time: 1.5 Hours For End Term Exam		

Part – B Content of the Course

Instructions for Paper-Setter:

The question paper will consist of four units. I, II, and III units contains two questions of 5 marks each from their respective units and students must attempt one question from each unit. Unit IV comprise of 5 short answer type questions of one mark each and students have to attempt all questions of unit IV respectively.

Unit	Topic	Contact Hours
I	Basic of Environment Studies <ul style="list-style-type: none"> • Introduction to environment studies • Definition and importance • Need for public awareness • Public awareness 	10



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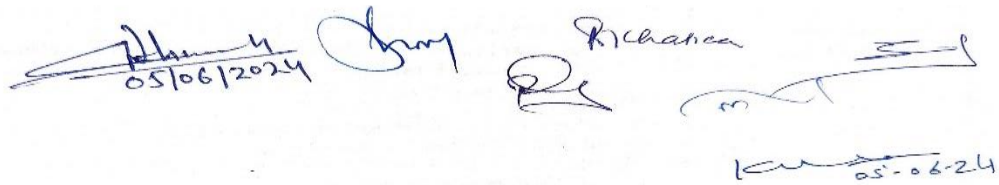
II	Natural Resource and Pollution <ul style="list-style-type: none"> • A brief introduction to forest resources, water resources, mineral resources, food resources, energy resources, land resources • Role of an individual in conservation of natural resources • Sources of air pollution, water pollution, soil pollution, noise pollution • Role of an Individual in Prevention of Pollution and Waste management 	10
III	Eco System and Biodiversity <ul style="list-style-type: none"> • Concept of an ecosystem • Type of ecosystem. Structure and function of an ecosystem • Concept of Biodiversity. India as a Mega-diversity Nation • Bio-geographical Classification of India 	10
Suggested Evaluation Methods: (Internal Assessment: 15 Marks + End Term Exam: 35 Marks)		
Internal Assessment: 10 Marks <ul style="list-style-type: none"> • File/assignment: 5 • Viva Voice: 5 		End Term Exam: 20 Marks Time = 1.5 Hours <ul style="list-style-type: none"> • One question of 10 marks from each unit I to III = 15 Marks. • Five Questions short answer from entire syllabus = 5 × 1 Marks = 5 Marks.

Part II – Practical			
Maximum Marks: 20			
(Internal Assessment: 5 Marks + End Term Exam: 15 Marks)			
Unit	Topic	Marks	Contact Hours
I	Awareness Campaign/Case Study Analysis	5	6
II	Resource Audit/Pollution Sampling/Recycling and Waste Segregation	5	6
III	Field Visit to a Local Ecosystem/Biodiversity Survey/Ecosystem Mapping	5	6
Internal Assessment: 05 Marks Evaluation through demonstration of skills/assignment/quiz/viva-voice/practical record file.			
External Assessment: 15 Marks Evaluation through demonstration of techniques/assignment/quiz/viva-voice/practical record file.			
Learning Resources:			
Books			
<ol style="list-style-type: none"> 1. Cunningham, W. P., & Cunningham, M. A. (2019). Environmental Science: A Global Concern (15th ed.). McGraw-Hill Education. 2. Miller, G. T., & Spoolman, S. (2020). Living in the Environment (20th ed.). Cengage Learning. 3. Chiras, D. D. (2021). Environmental Science (11th ed.). Jones & Bartlett Learning. 4. Raven, P. H., Hassenzahl, D. M., & Berg, L. R. (2018). Environment (9th ed.). Wiley. 5. Singh, J. S., Singh, S. P., & Gupta, S. R. (2017). Ecology, Environmental Science and Conservation. S. Chand Publishing. 6. Wright, R. T., & Boorse, D. F. (2020). Environmental Science: Toward a Sustainable Future (13th ed.). Pearson. 			



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7. Tyler Miller, G., & Spoolman, S. (2019). **Essentials of Ecology** (9th ed.). Cengage Learning.
8. Barrow, C. J. (2014). **Environmental Management for Sustainable Development** (3rd ed.). Routledge.
9. Withgott, J., & Laposata, M. (2017). **Environment: The Science Behind the Stories** (6th ed.). Pearson.
10. Botkin, D. B., & Keller, E. A. (2014). **Environmental Science: Earth as a Living Planet** (9th ed.). Wiley.

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