

**SYLLABI AND SCHEME OF
EXAMINATIONS
FOR
MULTIDISCIPLINARY COURSES (MDC)
FOR
UNDERGRADUATE PROGRAMES
(SINGLE MAJOR) IN
B.SC SPORTS SCIENCE**

**(Based on Curriculum and Credit Framework and formative assessment guidelines
for UG Programs under NEP 2020)**



**MAHARSHI DAYANAND UNIVERSITY
ROHTAK (HARYANA)**

**Syllabi and Scheme of Examinations for Multidisciplinary Courses (MDC) of
Under Graduate Single Major in B.Sc Sports Science**

Multidisciplinary Courses (MDC)	TYPE OF PROGRAM			Credits Distribution			Total Credits	Workload			Total Workload	Total Marks
	SINGLE MAJOR PROGRAM	Nomenclature of Course	Course Code	L	T	P		L	T	P		Formative Assessment
	SEMESTER											
MDC 1 @ 3 credits	1	Health Education, First aids & Safety Measure	25PESX01MD01	2	0	1	3	0	0	4	4	75
MDC 2 @ 3 credits	2	Yoga & Stress Management	25PESX02MD01	2	0	1	3	0	0	4	4	75
MDC 3 @ 3 credits	3	Nutrition & Sports	26PESX03MD01	3	0	0	3	3	0	0	3	75

L: Lecture; T: Tutorial; P: Practicals

Syllabi for Multidisciplinary Courses (MDC) Under Graduate Programs for (Single Major) in B.Sc Sports Science

Semester: I

Name of Program	B.Sc. Sports Science	Program Code	UMBA4
Name of the Course	Health Education, First Aid and Safely Measures	Course Code	25PESX01MD01
Hours per Week	02 Hours	Credits	02 (L:2,T:0,P:1)
Maximum Marks	75		
Note: Distribution of Marks will be as follows:			
Written test (2x10)		20	
Lab Work (practical file)/ Field work (report)/ Portfolio		20	
Assignment/ Case study/ Mini project (2x10)		20	
Seminar/ Presentation		10	
Attendance		05	
Total:		75	
Course Learning Outcomes (CLO):			
CLO 1: Student will be able to explain the principles of health education and its role in promoting a healthy lifestyle.			
CLO 2: Student will be able to identify various types of injuries and demonstrate appropriate first aid responses.			
CLO 3: Student will be able to apply preventive health measures and maintain personal and community hygiene.			
CLO 4: Student will be able to assess safety hazards and implement suitable safety measures in daily life and physical activities.			
Unit 1: Foundations of Health Education			
• Meaning, definition, and objectives of health education • Importance of health education in schools and community • Personal hygiene: concept, components, and practices • Community health: sanitation, waste disposal, and pollution awareness • Role of physical education teachers in promoting health			
Unit 2:Introduction to First Aid			
• Meaning, objectives, and importance of first aid • Principles of first aid and qualities of a first aider • First aid for wounds, fractures, burns, sprains, bleeding, shock, choking, and unconsciousness. • List and usage of essential items in a well-equipped first aid kit.			
Unit 3: Safety Education in Daily Life			
• Meaning and need for safety education • Safety at home, school, playground, and during sports • Fire safety, road safety, and water safety guidelines • Common accidents and their prevention			

• Role of safety signs and symbols
Unit 4: Disaster Management and Emergency Response • Types of disasters: natural and man-made • Principles of disaster management: preparedness, response, and recovery • Emergency evacuation procedures and drills • Role of schools and physical education teachers in disaster response • Communication during emergencies: do's and don'ts
References: 1. Verma, M. (2021). Health Education and First Aid. New Delhi: Khel Sahitya Kendra. 2. Kapoor, R. (2022). School Health and Safety. Meerut: Friends Publications India. 3. Bhardwaj, A. (2020). Health and Physical Education. New Delhi: Sports Publications. 4. Meena, R. (2023). Fundamentals of First Aid and Safety Education. Patiala: National Coaching Press. 5. Yadav, K. (2019). Introduction to Health and Hygiene in Physical Education. Meerut: Arya Book Depot.

Semester: I

Name of Program	B.Sc. Sports Science	Program Code	UMBA4
Name of the Course	Practical: Health Education, First Aid and Safety Measures	Course Code	25PESX01MD01
Hours per Week	02 Hours	Credits	01 (L:2,T:0,P:1)
Course Learning Outcomes (CLO): CLO 1: Student will be able to demonstrate basic first aid techniques used in common injuries and emergencies. CLO 2: Student will be able to prepare and maintain a standard first aid kit and apply safety practices in various environments. CLO 3: Student will be able to identify health hazards and practice preventive health measures. CLO 4: Student will be able to respond effectively in disaster or emergency situations through simulated drills.			
Practical contents • Demonstration of Cardiopulmonary Resuscitation (CPR) on a manikin or classmate (simulation). • Bandaging practice for head, arm, ankle, and knee injuries using crepe bandages or first aid kits. • Poster making on topics like “Personal Hygiene”, “Balanced Diet”, or “Preventive Health Measures”. • Group activity on assembling a model First Aid Kit and explaining its components and usage. • Mock drill on emergency evacuation from classroom/school building in case of fire or earthquake. • Role play/skit on road safety awareness and identifying common hazards at home or school. • Drawing and labeling of basic human body systems relevant to injury (skeletal, muscular). • Making a Health Profile Chart of students including BMI, pulse rate, and daily routine. • Creating a safety checklist for school playgrounds, sports equipment, and indoor areas.			
References: 1. Sharma, V. K. (2021). First Aid and Health Education in Physical Education. New Delhi: Khel Sahitya Kendra. 2. Gupta, M. (2022). Health and Hygiene Practices in School. Meerut: Friends Publications India. 3. Yadav, R. (2020). Disaster Management and School Safety. Patiala: National Sports Publications. 4. Jain, P. (2019). Health Education and First Aid Manual. Meerut: Arya Book Depot. 5. Kumar, D. (2023). Fundamentals of Health, Safety and Hygiene. New Delhi: Sports Educational Publishers.			

Semester: II

Name of Program	B.Sc (Sports Science)	Program Code	UMBA4
Name of the Course	Yoga & Stress Management	Course Code	25PESX02MD01
Hours per Week	02 Hours	Credits	02 (L:2,T:0,P:1)
Maximum Marks	75		
Note: Distribution of Marks will be as follows:			
Written test (2x10)		20	
Lab Work (practical file)/ Field work (report)/ Portfolio		20	
Assignment/ Case study/ Mini project (2x10)		20	
Seminar/ Presentation		10	
Attendance		05	
Total:		75	
Course Learning Outcomes (CLO):			
CLO 1: Student will be able to describe the meaning, importance, and historical development of yoga and the role of yogic diet in promoting health.			
CLO 2: Student will be able to demonstrate various asanas from different positions and explain their physical, mental, and therapeutic benefits.			
CLO 3: Student will be able to practice specific pranayamas and shatkarmas with correct techniques, understanding their preventive and curative impact.			
CLO 4: Student will be able to apply yoga-based stress management techniques to improve mental well-being and prevent lifestyle diseases.			
Unit 1: Introduction to Yoga			
- Meaning, definition, and importance of yoga. - Origin and historical development of yoga. - Concept of the importance of yogic diet.			
Unit 2:Yoga-Asanas			
- Ashtanga yoga (maharishi patanjali): meaning and importance. - Supine position asanas (ardh-halasana, sarvangasana, pawanmuktasana); prone position asanas (bhujangasana, salabhasana, dhanurasana) - Sitting asanas (ardh matsyendrasana, paschimmotanasana, suptavajrasana); standing asanas (utkatasana, trikonasana and tadasana).			
Unit 3: Pranayamas and Shat Karmas			
- Meaning, procedure, precautions, and benefits of the following pranayamas: anulom-vilom, suryabheden, bhrameri, sheetali, sheetkari pranayamas. - Meaning, procedure, precautions, and benefits of the following shatkarmas: kapalbhathi, trataka, and neti (jal and sutra). - Relevance of yoga for holistic health development in society.			
Unit 4: Stress Management			
- Concept, causes, and effects of stress. - Non-communicable diseases (due to stress), stress prevention, and good health. - Stress management through relaxation techniques (autogenic training and progressive muscle			

relaxation, deep breathing, meditation), and sports, recreational, adventure sports, physical activities, and developing healthy relationships as coping strategies.

References:

1. Iyengar, B. K. S. (2021). Light on Yoga. New Delhi: HarperCollins India.
2. Saraswati, S. S. (2020). Asana Pranayama Mudra Bandha. Munger: Bihar School of Yoga.
3. Tiwari, O. P. (2019). Yoga for Health and Peace. Lonavla: Kaivalyadhama Yoga Institute.
4. Bhavanani, A. B. (2022). Yoga for Stress Relief. Pondicherry: ICYER.
5. Mangal, S. K., & Mangal, U. (2022). Yoga Education and Stress Management. Meerut: Friends Publications.

Name of Program	B.Sc. Sports Science	Program Code	UMBA4
Name of the Course	Practical: (Yoga & Stress Management)	Course Code	25PESX02MD01
Hours per Week	02 Hours	Credits	01 (L:2,T:0,P:1)

Course Learning Outcomes (CLO):

CLO 1: Student will be able to demonstrate foundational yoga asanas and explain their physical and mental benefits.

CLO 2: Student will be able to practice and teach pranayama and shatkarmas with proper techniques and precautions.

CLO 3: Student will be able to apply yoga-based techniques to reduce and manage physical and psychological stress.

CLO 4: Student will be able to identify the role of yogic practices and a balanced yogic diet in promoting holistic well-being.

Practical contents

- Demonstration and group performance of any 4 basic yoga asanas from supine, prone, sitting, and standing positions.
- Poster-making on “Importance of Yoga in Daily Life” showing ancient roots and modern-day relevance.
- Drawing and labeling chart of Yogic Diet: Sattvic, Rajasic, and Tamasic foods with examples.
- Demonstration and explanation of Anulom-Vilom and Bhramari Pranayama with correct breathing rhythm.
- Practice session of Shatkarma – Kapalabhati and Trataka (gaze-based meditation) with reflection notes.
- Role play/skit on causes and effects of stress in school or home environment with coping tips.
- Creating a stress diary for one week with physical/emotional symptoms and yoga-based solutions used.
- Conducting a small yogic fitness routine including Surya Namaskar, pranayama, and meditation.

References:

1. Tiwari, O. P. (2020). Asana Pranayama Mudra Bandha. Kaivalyadhama Publishing.
2. Bhavanani, A. B. (2019). Yoga for Health and Personality Development. Pondicherry: ICYER.
3. B.K.S. Iyengar. (2021). Light on Yoga. New Delhi: HarperCollins India.
4. Mangal, S. K., & Mangal, U. (2022). Yoga Education and Stress Management. Meerut: Friends Publications.
5. Swami Satyananda Saraswati. (2020). Four Chapters on Freedom (Patanjali Yoga Sutras). Bihar School of Yoga.

Name of Program	B.Sc. (Sports Science)	Program Code	UMBA4
Name of the Course	Nutrition and Sports	Course Code	26PESX03MD01
Hours per Week	03 Hours	Credits	03 (L:3,T:0,P:0)
Maximum Marks	75		
Note: Distribution of Marks will be as follows:			
Regular assessment through observation and class discussion:	10		
Lab work (practical file)/ Field work (report)/ Portfolio:	30		
Assessment/ Case study/ Mini project (2x10):	20		
Seminar/ Presentation:	10		
Attendance:	05		
Total:	75		
Course Learning Outcomes (CLO):			
CLO 1: Student will be able to understand the importance of balanced nutrition in enhancing athletic performance.			
CLO 2: Student will be able to identify the role of macro and micronutrients in maintaining energy and health in sports.			
CLO 3: Student will be able to analyze dietary requirements and hydration strategies based on sports activity.			
CLO 4: Student will be able to apply nutrition knowledge to improve recovery, prevent fatigue, and plan athlete-specific diets.			
Unit 1: Introduction to Nutrition and Its Importance in Sports			
• Meaning and definition of nutrition, diet, and sports nutrition. • Importance of nutrition in enhancing sports performance. • Basic nutrients: carbohydrates, proteins, fats, vitamins, minerals, and water. • Balanced diet – concept and components. • Malnutrition and overnutrition – effects on athlete health.			
Unit 2:Macronutrients and Micronutrients			
• Carbohydrates – types, sources, role in energy metabolism. • Proteins – essential amino acids, sources, role in muscle repair. • Fats – types (saturated, unsaturated), dietary role in sports. • Vitamins – water-soluble and fat-soluble vitamins and their roles. • Minerals – calcium, iron, sodium, potassium and their importance for athletes.			
Unit 3: Hydration, Supplements, and Sports Diet Planning			
• Role of water and electrolytes in sports performance. • Symptoms and prevention of dehydration and overhydration. • Nutritional supplements – types, risks, and benefits. • Diet planning before, during, and after sports activity. • Energy requirements based on different sports and body types.			
Unit 4: Nutrition, Recovery, and Special Considerations			
• Role of nutrition in recovery from fatigue and injury. • Nutritional needs of athletes in different age groups. • Gender-based differences in sports nutrition. • Special diets – vegetarian, vegan, gluten-free athletes. • Doping and banned substances in sports supplements.			

References:

1. Joshi, S. A. (2021). Nutrition and Dietetics. Tata McGraw Hill Education.
2. Sharma, H. L. (2020). Health and Physical Education. Khel Sahitya Kendra.
3. Ghosh, B. N. (2019). Nutrition and Fitness in Sports. Sports Publications.
4. Srilakshmi, B. (2022). Dietetics. New Age International Publishers.
5. Tripathi, K. D. (2020). Essentials of Nutrition in Sports. Sports Educational Publishers.