

**NETAJI SUBHAS NATIONAL INSTITUTE OF SPORTS
SPORTS AUTHORITY OF INDIA**

**NETAJI SUBHAS NATIONAL INSTITUTE OF SPORTS, FACULTY OF SPORTS SCIENCES
IN COLLABORATION WITH**

PUNJABI UNIVERSITY, PATIALA

**POST GRADUATE DIPLOMA
IN
SPORTS NUTRITION (ONE YEAR)**

FOR ACADEMIC SESSION 2023-24 onwards

2024-25

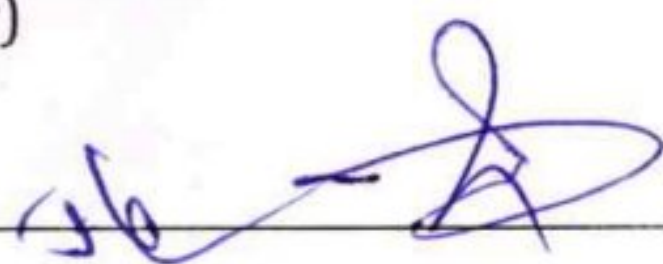


Ordinances

**POST GRADUATE DIPLOMA
IN
SPORTS NUTRITION (ONE YEAR)**

Examinations (semester system)

Program code SPND1PUP

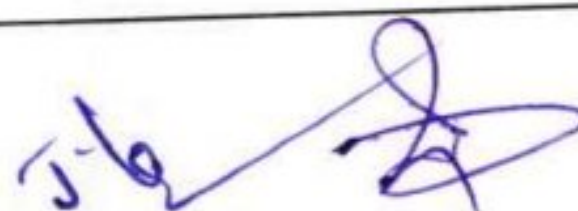


1. The examination for the degree of **POST GRADUATE DIPLOMA IN SPORTS NUTRITION (One Year)** shall be held in one academic year to be called POST GRADUATE DIPLOMA IN SPORTS NUTRITION (One Year) shall consist of two Semesters viz. Semester 1st and 2nd. The examination of the Semester 1st and 2nd shall be held as per the Academic calendar of Punjabi University, Patiala.
2. **POST GRADUATE DIPLOMA IN SPORTS NUTRITION (One Year)** shall be open to a candidate who possess **Bachelor degree with nutrition as a core subject/ Life sciences/Medical and allied health sciences/ Sports Science/ Physical education/any stream with Diploma in Sports Coaching with minimum 50% marks in the aggregate from this University or any other University recognized as equivalent there to by the Academic Council.**
3. Submission of migration certificate at the time of submission is compulsory.
 - a) The Assessment in each semester of One Year Diploma in Sports nutrition Course will be **30% internal and 70% external** for each theory paper. The result of the Internal Assessment shall be conveyed to the examination branch of Punjabi University, Patiala by the Academic wing of NSNIS.
 - b) The internal assessment of (theory) (Total marks 30) will be based on all or some of the Following:
 - Worksheets/Assignment/Seminar – 40%
 - Quiz 40%
 - Attendance 20%
 - c) The internal assessment for Practical components (Total marks 30) will be based on all or some of the Following:
 - Demonstration – 20%
 - Attendance – 20%
 - File – 20%
 - Assignments/reports/Seminar - 40%
 - d) The internal assessment for Project (Total marks 30) will be based on all or some of the Following:
 - Punctuality and Discipline 50%
 - Presentation and Report 50%

Note: If a case comes to notice of the Senior Executive Director or Director Academics, where the marks awarded by the Teacher are on a very Higher/Lower side, the award will be got moderated by the following committee.

- I. Director Academics of the NSNIS
- II. Course Coordinator / COE
- III. Head of the Department concerned
- IV. A member as nominee of Senior Executive Director NSNIS

4. The student who fails in the theory paper(s) in the external exam, the internal assessment will remain the same, and the said student will have to appear and pass the external exam only.
5. Minimum number of marks required to pass each semester examination will be 40% for each paper and 40% in the aggregate of the semester examination; 40% in practical papers.
6. The syllabus for the session shall be such as prescribed by the NSNIS and passed by members of Board of Studies of Punjabi University, Patiala.



7. POST GRADUATE DIPLOMA IN SPORTS NUTRITION (One Year) examination is open only to candidate who satisfies the following requirements:
- Has been on the rolls of the NSNIS throughout the Semester term proceeding the examination.
 - of having good moral character.
 - of having attended not less than 75% lectures delivered to that class in each Paper as well as 75% of the laboratory work, seminars etc. separately. Provided that a deficiency in attendances may be condoned for special reasons, as per the College rules.
8. The medium of instruction shall be English.
9. The medium of examination will be English, or Punjabi.
10. Subject to completion of attendance requirement, there will be condition of appear or passing in papers for promotion from first semester to second semester in an academic Session. A candidate placed under reappear in any paper, will be allowed two chances to clear the reappear, which should be availed within consecutive two years/chances i.e., to pass in a paper the candidate will have a total of three chances, one as regular student and two as reappear candidate.
11. The examination of reappear papers of odd semester will be held with regular examination of the odd semester and reappear examination of the even semester will be held with regular examination of even semester. But if a candidate is placed under reappear in the last semester of the course, the candidate will be provided chance to pass the reappear with the examination of the next semester, provided their reappear of lower semester does not go beyond next semester. In case a candidate fails within the prescribed period, as aforesaid, the candidate shall be declared fail. Such a candidate may, however, seek fresh admission to the first semester on merit with the new applicants. It is understood that a 'reappear' or 'failed' candidate/s shall be allowed to take the examination in papers not cleared by them according to the date sheets of the semester examinations in which such papers may be adjusted
12. If a student gets 'F' grade in a subject he/she will appear for End Semester Examination Only and his/her internal marks obtained during regular semester will be consider and carried forward.
13. If a student gets 'D' grade (Detained) in a subject then he/she will have to appear in End Semester Examination as well as Internal Examination. However, Internal Examination in this case will carry maximum marks equal to the total Internal Marks. E.g. If Internal Weightage is 30% of total 100 marks for a paper then this special Internal Test will be 'of 30 Marks. Candidate will submit application to Head of Department for this Purpose.
14. Only the Candidates who Need to reappear only in External Examination and marks of Internal will be carried forward.
15. The End -Semester examination -3 hours duration. The question paper will consist of three sections, SECTION A, B, and C. SECTION A and B will have four questions each from the respective sections of the syllabus. Each question will carry 12 marks, which may be segregated into sub-parts. Section C will be compulsory with 11 short- answer type questions of 03 marks each, which will cover the entire syllabus.
16. Viva Voce/ Practical examination shall be conducted by a Committee consisting of the following:
- One external examiner.
 - One internal examiner.
17. As soon as possible after the completion of each semester, the Registrar shall publish a list of successful candidates showing their result. Each candidate shall be supplied with a card containing his/her details of marks. Priory, the list of successful candidates on the competition of POST GRADUATE DIPLOMA IN SPORTS NUTRITION (One Year) course shall be arranged in three divisions as follows Successful candidates who obtain 60% or more of the aggregate number of Marks in Semester 1st and Semester 2nd examinations taken together, shall be Placed in first division, those who obtain 50% marks or more but less than 60% shall be placed in the second division and those

who obtain less than 50% and more than 35% shall be placed in the third division. Successful candidates who obtain 75% or more marks in the aggregate will be placed in the "First Division with Distinction". In the adopted "Choice Based Credit system" pattern the above-mentioned pass % criterion has been revised to that of letter grade as given in the table, highlighted below. Each letter grade indicates the level of performance in the course and has a grade point for the purpose of computing the "Cumulative Grade Point Average" (CGPA) as given below.

Letter Grade Marks Grade points

- O: Outstanding 91-100
- A+: Excellent 81-90
- A: very Good 71-80
- B+: Good 61-70
- B: Above Average 51-60
- C: Average 41-50
- P: Fair 35-40
- F: Fail 0
- D: Detained: 0

18. *A candidate who has passed POST GRADUATE DIPLOMA IN SPORTS NUTRITION (One Year) examination from NSNIS shall have one chance, within a period of two years, after passing the examination, to improve his division in a maximum of 1/3 of total theory papers offered in both POST GRADUATE DIPLOMA IN SPORTS NUTRITION (One Year) I & II semester examinations. The candidates shall also entitle to grace marks as admissible under the ordinance relating to grace marks.

19. POST GRADUATE DIPLOMA IN SPORTS NUTRITION (One Year) course consists of a number of courses. The term 'course' is applied to indicate a logical part of the subject matter of the program and is invariably equivalent to the subject matter of a "paper" in the conventional sense.

- a) The candidates are required to give their preference order for specialization, if any.
- b) Specialization will be choice based.

A minimum of passing marks will be given to candidates who have reappear for the purpose of calculation of their merit.

*Note: Out of papers taken up the candidate, will be given benefit of increase in marks, where the marks have increased in Paper/Papers.



PROGRAM DESCRIPTION

The course incorporates the science and art of nutrition in sports. It focuses on the nutritional implications of participation in structured sports activities. It will also consider the role of physical activity, nutrition and other lifestyle factors in promoting good health. The program takes advantage of new technologies to deliver an innovative program and to ensure that information is current, comprehensive, authoritative and accessible. Experts in the study and practice of sports nutrition pan India contribute to the program. counseling, with special emphasis on developing counseling skills.

PROGRAM NAME - POST GRADUATE DIPLOMA IN SPORTS NUTRITION (One Year)

OBJECTIVES OF THE COURSE

1. Acquire knowledge on the fundamental concepts of sports sciences disciplines for application in nutrition guidance to athletes.
2. Evaluate the pros and cons of various social media communication, seminal and contemporary literature, set realistic goals for athletes in nutrition, hydration and supplement use
3. Interpret literature and / data gathered from multi-disciplines of sports sciences for providing age, gender, sport specific and need based nutrition interventions to athletes.
4. Demonstrate skilled approach in nutrition counseling for change in knowledge, attitude and practice levels of athletes.
5. Apply appropriate assessment methods to evaluate the nutritional requirements of athletes during training and competition.
6. Identify nutritional issues and challenges of athletes in general, special population, environmental conditions and address the needs through appropriate methods.
7. Strategize pre, during and post training nutrition and hydration goals for various sports, across levels of competition.
8. Design and implement research project and critically evaluate scientific literature for providing appropriate nutritional guidance to athletes.
9. Integrate knowledge acquired on sports sciences in evidence based training optimization, performance enhancement, referrals and nutrition counseling.
10. Appreciate the role of sports nutritionist in sports academies, clubs, clinics, research and sports industry setting.

OUTCOMES

At the end of the Course, the students will be able to

1. Acquire knowledge on the fundamental concepts of sports sciences disciplines for application in nutrition guidance to athletes.
2. Evaluate the pros and cons of various social media communication, seminal and contemporary literature, set realistic goals for athletes in nutrition, hydration and supplement use
3. Interpret literature and / data gathered from multi-disciplines of sports sciences for providing age, gender, sport specific and need based nutrition interventions to athletes.
4. Demonstrate skilled approach in nutrition counseling for change in knowledge, attitude and practice levels of athletes.
5. Apply appropriate assessment methods to evaluate the nutritional requirements of athletes during training and competition.



6. Identify nutritional issues and challenges of athletes in general, special population, environmental conditions and address the needs through appropriate methods.
7. Strategize pre, during and post training nutrition and hydration goals for various sports, across levels of competition.
8. Design and implement research project and critically evaluate scientific literature for providing appropriate nutritional guidance to athletes.
9. Integrate knowledge acquired on sports sciences in evidence based training optimization, performance enhancement, referrals and nutrition counseling.
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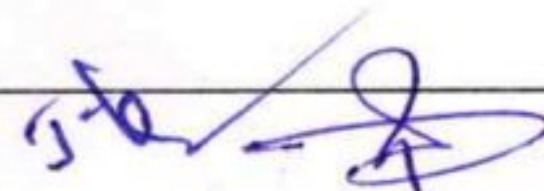


Syllabus

**POST GRADUATE DIPLOMA
IN
SPORTS NUTRITION (ONE YEAR)**

Examinations (semester system)

Program code SPND1PUP



SCHEME/ CREDIT STRUCTURE

SEMESTER I

S. No.	<u>Paper Code</u>	Subject Description	Total credits	Hours/ Week			Allocation of Marks		Total Marks
				L	T	P	Internal	External	
Theory									
1	SPND1101T	Introduction to Sports Sciences	3	2	1	0	30	70	100
2	SPND1102T	Exercise Physiology and Biochemistry	3	2	1	0	30	70	100
3	SPND1103T	Fundamentals of Sports Nutrition	3	2	1	0	30	70	100
4	SPND1104T	Sports Specific Nutrition	3	2	1	0	30	70	100
Practicum									
5	SPND1105P	Sports Science Assessments	2	0	0	4	15	35	50
6	SPND1106P	Practical Sports Nutrition I	4	0	0	8	30	70	100
7	SPND1107P	Project I	4	0	0	0	30	70	100
		Total	22	4	4	12			650

SEMESTER II

S. No.	<u>Paper Code</u>	Subject Description	Total credits	Hours/ Week			Allocation of Marks		Total Marks
				L	T	P	Internal	External	
Theory									
1	SPND1201T	Dietary Supplements	3	2	1	0	30	70	100
2	SPND1202T	Clinical Sports Nutrition	3	2	1	0	30	70	100
3	SPND1203T	Applied Sports Nutrition	3	2	1	0	30	70	100
Practicum									
4	SPND1204P	Practical Sports Nutrition II	4	0	0	8	30	70	100
5	SPND1205P	Project II	5	0	0	0	30	70	100
6	SPND1206P	Internship*	6	0	0	0	30	70	100
		Total	24	3	3	8			600

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POST GRADUATE DIPLOMA IN SPORTS NUTRITION (One Year)

FIRST SEMESTER

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PUNJABI UNIVERSITY, PATIALA

POST GRADUATE DIPLOMA IN SPORTS NUTRITION (ONE YEAR)

Course Code: SPND1PUP

PART-I SEMESTER-I

THEORY PAPER I – INTRODUCTION TO SPORTS SCIENCES

Paper Code- SPND1101T

External Marks: 70
Internal Marks: 30
Total Marks: 100
Exam Time: 3 Hours

Teaching and Tutorial Hours: 45
Credits: 03
Minimum pass Marks: 40%

Instructions for Paper Setter (Total marks=70)

The question paper will consist of three sections i.e. A, B, and C. The questions shall be covered each. Section A and B will have four questions each from respective sections of syllabus and will carry 12(12X4=48) marks each. Out of which students have to attempt two questions each from section A and B. Section C will consist of 11 short answer type questions of 2 marks each. This section will cover the entire syllabus uniformly and will carry 22 marks in all.

Instructions for the Candidates

Candidates are required to attempt two questions each from sections A and B. Section C is a compulsory consist of 11 short answer type questions of 2 marks each.

Section A

1: Introduction to the course and history of Sports Nutrition in global and Indian Context

Introduction to the Course - Curriculum/Faculty, learning objectives, Self-reflective learning, Principles of maximizing learning, Various Sports Nutrition setups in India, World & Opportunities. Origin & History of Sports Nutrition – Evolution, factors influencing growth and spread. Sports promotion programs and policies in India, National and international multi sporting events

2: Fundamentals of Strength and conditioning

Sports training: Meaning and aim, type of physical exercises, Principles. Training load - Meaning, definition, types of load. Components of load - Intensity: Movement intensity and load density, Volume: Duration of stimulus, Frequency of stimulus. Periodization of sports training, Motor fitness test - Speed, Strength, endurance, flexibility, coordination

Section B

3: Fundamentals of Sports Anthropometry

Introduction and Application of Kinanthropometry in sports, Meaning of growth and stages of Human Growth, Adolescent growth spurt: its effect on training, Developmental age, and role of developmental age in sports, Body composition, Body composition measurement techniques, Somatotyping and its importance in Sports

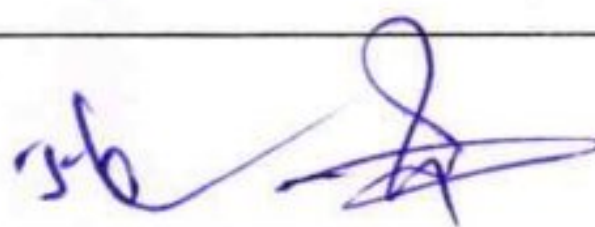
4: Introduction to Sports psychology and biomechanics

Introduction to sports Psychology, Predominant model of Sports Psychology, Sports psychology tests of importance for different sports, Psychological interventions in sports

Introduction to Kinesiology and its importance in coaching, Concept of reference system and its significance, various references, Centre of gravity, Mechanical axis, anatomical and standard standing position, Types of planes and axes, Definition and explanation of various fundamental and auxiliary movements

REFERENCE BOOKS

- Rea, S. (2015). Sports Science: A complete Introduction. Hachette UK.
- Gregory, H.F. and Travis. N. T. (2015). Essentials of strength training and conditioning. 4th Edition, Human Kinetics.
- Eston R and Reilly T. (2019). Kinanthropometry 4th Edition. E & F.N. SPON, London
- Matt, J. (2006). Sport Psychology: A student's handbook. Routledge.
- Kremer, J., Moran, A. P., & Kearney, C. J. (2019). Pure sport: Practical sport psychology. Routledge.
- Biomechanical basis of human movement. Hamill, J. and Knutzen, K. M. (2006). Lippincott Williams & Wilkins.



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POST GRADUATE DIPLOMA IN SPORTS NUTRITION (ONE YEAR)

Course Code: SPND1PUP

PART-I SEMESTER-I

THEORY PAPER II – EXERCISE PHYSIOLOGY AND BIOCHEMISTRY

Paper Code- SPND1102T

External Marks: 70
Internal Marks: 30
Total Marks: 100
Exam Time: 3 Hours

Teaching and Tutorial Hours: 45
Credits: 03
Minimum pass Marks: 40%

Instructions for Paper Setter (Total marks=70)

The question paper will consist of three sections i.e. A, B, and C. The questions shall be covered each. Section A and B will have four questions each from respective sections of syllabus and will carry 12(12X4=48) marks each. Out of which students have to attempt two questions each from section A and B. Section C will consist of 11 short answer type questions of 2 marks each. This section will cover the entire syllabus uniformly and will carry 22 marks in all.

Instructions for the Candidates

Candidates are required to attempt two questions each from sections A and B. Section C is a compulsory consist of 11 short answer type questions of 2 marks each.

Section A

1: Fundamentals of exercise Physiology and Training adaptations

Training adaptations - muscular system, cardio-respiratory system, gastrointestinal system, nervous system,
Physiological basis of anaerobic power, Factors affecting aerobic capacity, Lactate dynamics,

2. Cardio-respiratory and metabolic response during exercise. High altitude physiology. Lung function tests, Field and lab based tests of importance, Energy expenditure measurements

Section B

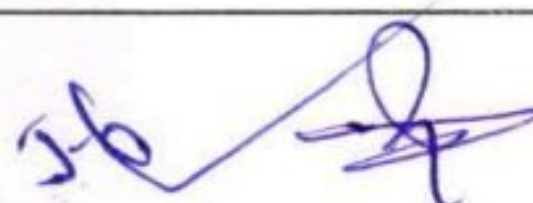
3: Bioenergetics and exercise biochemistry

Bioenergetics - Different energy systems involved in different types of activities, Endocrine system and Hormonal response during sports training, Blood, its components and haematological adaptations during sports training, Biochemical adaptations - aerobic and anaerobic training, Fatigue and Recovery,

4. Biochemical markers and Importance of Biochemical monitoring in sports - Nutritional markers, Muscle damage markers, Metabolic markers, Inflammatory markers, Overtraining markers. Introduction to nutrigenetics and nutrigenomics

REFERENCE BOOKS

- Kenney, L., Wilmore, J., Costill, D. Physiology of Sport and Exercise 6th Edition with Web Study Guide-Loose-Leaf Edition by W.
- McArdle, W.D., Katch, F. I., Katch, V. L. (2015) Exercise Physiology: Nutrition, Energy and Human Performance 8th Edition. Wolters Kluwer Health/Lippincott Williams & Wilkins.
- Maughan R.J. and Gleeson M. (2010). The Biochemical basis of Sports Performance. Oxford University press.
- MacLaren, D and Morton, J. (2011). Biochemistry for Sports and Exercise Metabolism. Wiley.
- Tiidus, P.M., Timpling, A.R., Houston, M.E. (2012). Biochemistry Primer for Exercise Science.



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POST GRADUATE DIPLOMA IN SPORTS NUTRITION (ONE YEAR)

Course Code: SPND1PUP

PART-I SEMESTER-I

THEORY PAPER III – FUNDAMENTALS OF SPORTS NUTRITION

Paper Code- SPND1103T

External Marks: 70
Internal Marks: 30
Total Marks: 100
Exam Time: 3 Hours

Teaching and Tutorial Hours: 45
Credits: 03
Minimum pass Marks: 40%

Instructions for Paper Setter (Total marks=70)

The question paper will consist of three sections i.e. A, B, and C. The questions shall be covered each. Section A and B will have four questions each from respective sections of syllabus and will carry 12(12X4=48) marks each. Out of which students have to attempt two questions each from section A and B. Section C will consist of 11 short answer type questions of 2 marks each. This section will cover the entire syllabus uniformly and will carry 22 marks in all.

Instructions for the Candidates

Candidates are required to attempt two questions each from sections A and B. Section C is a compulsory consist of 11 short answer type questions of 2 marks each.

Section A

1: Energy - expenditure, energy balance and energy efficiency, Resting Energy Expenditure, Factors influencing energy requirements, Exercise energy expenditure, non-exercise energy expenditure, Concept of energy availability in sports

2: Macronutrients and Sports: Carbohydrate requirement - during training, recovery and competition. Natural, commercial carbohydrates, artificial sweeteners: role and significance in sports. Impact of alcohol on recovery in sports. Protein turnover and amino acid metabolism in sports, Requirements of proteins for training and recovery: Timing, doses and source of proteins. Protein supplements, Pros and Cons associated of high protein diet. Fat requirements for training and recovery, utilization - fat burning zone, heart rate and training

Section B

3: Micronutrients and special components in Sports

Water and fat soluble vitamins – role in sports, effect of exercise on requirement of athletes. Minerals and trace minerals – role in sports, effect of exercise on requirement of athletes. Vitamin and Mineral of special attention in Sports - Vitamin D metabolism, functions and its deficiency symptoms in athletes, Hemoglobin, anemia and types of anemia. Effects of micronutrient supplementation on physical performance, Risks associated with high intake of vitamin and mineral supplementation. Role in sports - Phytochemicals. Prebiotics, probiotics and antioxidants.

4: Hydration and electrolyte balance in Sports

Fluid and electrolyte homeostasis in body, Effect of fluid and electrolyte imbalance on health and sports performance, Assessing and monitoring hydration status of athletes, Guidelines for fluid, electrolyte intake - practical implications, Commercial fluid and electrolyte replacers: composition and uses.

REFERENCE BOOKS

- Maughan, R. J., & Shirreffs, S. M. (Eds.). (2013). Food, Nutrition and Sports Performance III. Routledge
- Sport Nutrition 3rd Edition by Asker Jeukendrup, Michael Gleeson, Human Kinetics, 2018.
- Nutrition for Sport, Exercise, and Health by Marie Spano, Laura Kruskall, D. Travis Thomas, Human Kinetics.
- Fundamental of Foods, Nutrition & Diet Therapy 5th edition by S.R. Mudambi, M.V. Rajagopal, New Age International Limited, New Delhi



PUNJABI UNIVERSITY, PATIALA

POST GRADUATE DIPLOMA IN SPORTS NUTRITION (ONE YEAR)

Course Code: SPND1PUP

PART-I SEMESTER-I

THEORY PAPER IV – SPORTS SPECIFIC NUTRITION

Paper Code- SPND1104T

External Marks: 70
Internal Marks: 30
Total Marks: 100
Exam Time: 3 Hours

Teaching and Tutorial Hours: 45
Credits: 03
Minimum pass Marks: 40%

Instructions for Paper Setter (Total marks=70)

The question paper will consist of three sections i.e. A, B, and C. The questions shall be covered each. Section A and B will have four questions each from respective sections of syllabus and will carry 12(12X4=48) marks each. Out of which students have to attempt two questions each from section A and B. Section C will consist of 11 short answer type questions of 2 marks each. This section will cover the entire syllabus uniformly and will carry 22 marks in all.

Instructions for the Candidates

Candidates are required to attempt two questions each from sections A and B. Section C is a compulsory consist of 11 short answer type questions of 2 marks each.

Section A

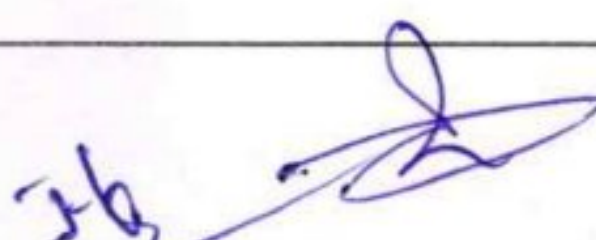
- 1: Physiological and metabolic characteristics, nutritional recommendations, issues and challenges: Road cycling and triathlon, Middle and long distance running, Swimming and rowing
- 2: Physiological and metabolic characteristics, nutritional recommendations, issues and challenges: Sprinting and jumping, Team sports, Racket sports

Section B

- 3: Physiological and metabolic characteristics, nutritional recommendations, issues and challenges: Strength and power sports, Weight making sports and gymnastics and other aesthetic sports
- 4: Physiological and metabolic characteristics, nutritional recommendations, issues and challenges: Winter sports, Para sports

REFERENCE BOOKS

- Burke L., (2007). Practical Sports Nutrition. Human Kinetics.
- Maughan, R. J., & Shirreffs, S. M. (Eds.). (2013). Food, Nutrition and Sports Performance III. Routledge
- Sport Nutrition 3rd Edition by Asker Jeukendrup, Michael Gleeson, Human Kinetics, 2018.



PUNJABI UNIVERSITY, PATIALA

POST GRADUATE DIPLOMA IN SPORTS NUTRITION (ONE YEAR)

Course Code: SPND1PUP

PART-I SEMESTER-I

PRACTICAL PAPER I – SPORTS SCIENCE ASSESSMENTS

Paper Code- SPND1105P

External Marks: 35
Internal Marks: 15
Total Marks: 50
Exam Time: 2 Hours

Practical Hours: 60
Credits: 02
Minimum pass Marks: 40%

1. Fitness tests and Interpretation of data, results/reports
2. Anthropometric Measurement techniques and Interpretation of data, results/reports
3. Field and lab based tests of Physiology
4. High Altitude Training
5. Interpretation of data, results/reports of Physiology and Biochemistry tests

REFERENCE BOOKS

- Rea, S. (2015). Sports Science: A complete Introduction. Hachette UK.
- Gregory, H.F. and Travis. N. T. (2015). Essentials of strength training and conditioning. 4th Edition, Human Kinetics.
- Eston R and Reilly T. (2019). Kinanthropometry 4th Edition. E & F.N. SPON, London
- McArdle, W.D., Katch, F. I., Katch, V. L. (2015) Exercise Physiology: Nutrition, Energy and Human Performance 8th Edition. Wolters Kluwer Health/Lippincott Williams & Wilkins.
- Maughan R.J. and Gleeson M. (2010). The Biochemical basis of Sports Performance. Oxford University press.



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POST GRADUATE DIPLOMA IN SPORTS NUTRITION (ONE YEAR)

Course Code: SPND1PUP

PART-I SEMESTER-I

PRACTICAL PAPER II – PRACTICAL SPORTS NUTRITION I

Paper Code- SPND1106P

External Marks: 70
Internal Marks: 30
Total Marks: 100
Exam Time: 2 Hours

Practical Hours: 120
Credits: 04
Minimum pass Marks: 40%

1. Nutritional Assessment of Athletes
2. Designing questionnaire for nutritional assessment of athletes
3. Calculating REE, Exercise Energy Expenditure, Non-Exercise Energy Expenditure and Total Energy Expenditure and Energy Availability
4. Calculating Carbohydrate, Protein and Fat Requirements
5. Enlisting vitamin and mineral age and gender wise requirements in sports
6. Estimating Sweat Rate, fluid requirement calculations
7. Preparing Sports drinks
8. Sport wise Nutritional strategy and diet planning

REFERENCE BOOKS

- Burke L., (2007). Practical Sports Nutrition. Human Kinetics.
- Maughan, R. J., & Shirreffs, S. M. (Eds.). (2013). Food, Nutrition and Sports Performance III. Routledge
- Sport Nutrition 3rd Edition by Asker Jeukendrup, Michael Gleeson, Human Kinetics, 2018.
- Nutrition for Sport, Exercise, and Health by Marie Spano, Laura Kruskall, D. Travis Thomas, Human Kinetics.
- Fundamental of Foods, Nutrition & Diet Therapy 5th edition by S.R. Mudambi, M.V. Rajagopal, New Age International Limited, New Delhi
- Clark. N (2013). Sports Nutrition Guidebook 5th edition. Human Kinetics.
- Jeukendrup, A. (2010). Sports nutrition: from lab to kitchen High performance cycling. Meyer & Meyer Sport (UK) Ltd



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POST GRADUATE DIPLOMA IN SPORTS NUTRITION (ONE YEAR)

Course Code: SPND1PUP

PART-I SEMESTER-I

PRACTICAL PAPER III – PROJECT I

Paper Code- SPND1107P

External Marks: 70
Internal Marks: 30
Total Marks: 100
Exam Time: 2 Hours

Practical Hours: 120
Credits: 04
Minimum pass Marks: 40%

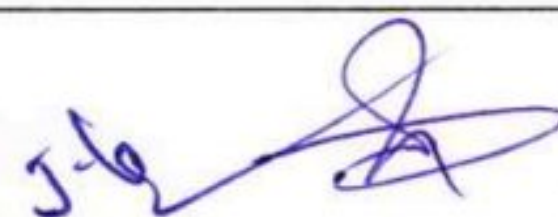
Preparation of Nutrition education Material for athletes
Case Studies

Assessment areas

Sr. No.	Assessment Area	Marks allotted	
		Internal	External
1	Punctuality and discipline <ul style="list-style-type: none">• Regularity• Punctuality• Discipline• Originality• Innovation	15	--
4	Viva <ul style="list-style-type: none">• Comprehension• Critical thinking• Confidence• Communication• Spontaneity and mannerism	--	35
5	Presentation and report <ul style="list-style-type: none">• Content• Report writing• Powerpoint presentation• Language and delivery• Audience interaction	15	35

Post Graduate Diploma in Sports Nutrition (One Year)

SECOND SEMESTER



PUNJABI UNIVERSITY, PATIALA

POST GRADUATE DIPLOMA IN SPORTS NUTRITION (ONE YEAR)

Course Code: SPND1PUP

PART-I SEMESTER-II

THEORY PAPER II – DIETARY SUPPLEMENTS

Paper Code- SPND1201T

External Marks: 70
Internal Marks: 30
Total Marks: 100
Exam Time: 3 Hours

Teaching and Tutorial Hours: 45
Credits: 03
Minimum pass Marks: 40%

Instructions for Paper Setter (Total marks=70)

The question paper will consist of three sections i.e. A, B, and C. The questions shall be covered each. Section A and B will have four questions each from respective sections of syllabus and will carry 12(12X4=48) marks each. Out of which students have to attempt two questions each from section A and B. Section C will consist of 11 short answer type questions of 2 marks each. This section will cover the entire syllabus uniformly and will carry 22 marks in all.

Instructions for the Candidates

Candidates are required to attempt two questions each from sections A and B. Section C is a compulsory consist of 11 short answer type questions of 2 marks each.

Section A

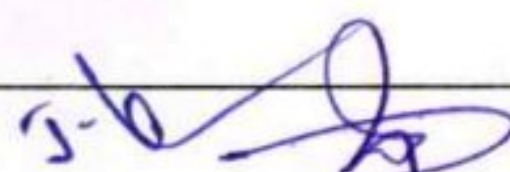
1. Introduction to dietary supplements and ergogenic aids, Sports food. Supplements for weight loss, weight gain, muscle building and immunity.
2. Supplements for performance enhancement: Caffeine, Creatine, Nitrates, Bicarbonate, Beta alanine and Other supplements of importance.
3. Herbal Supplements

Section B

4. Supplement manufacturing, regulations and quality control, commercially available supplements.
5. Doping in sports: Introduction, permitted and banned substances in sports, Regulatory structure of anti-doping in sport.

REFERENCE BOOKS

- Burke, Louise, and Vicki Deakin. (2015). Clinical sports nutrition. McGraw-Hill.
- Maughan, R. J., & Shirreffs, S. M. (Eds.). (2013). Food, Nutrition and Sports Performance III. Routledge
- Sport Nutrition 3rd Edition by Asker Jeukendrup, Michael Gleeson, Human Kinetics, 2018.
- Nutrition for Sport, Exercise, and Health by Marie Spano, Laura Kruskall, D. Travis Thomas, Human Kinetics



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POST GRADUATE DIPLOMA IN SPORTS NUTRITION (ONE YEAR)

Course Code: SPND1PUP

PART-I SEMESTER-II

THEORY PAPER II – CLINICAL SPORTS NUTRITION

Paper Code- SPND1202T

External Marks: 70
Internal Marks: 30
Total Marks: 100
Exam Time: 3 Hours

Teaching and Tutorial Hours: 45
Credits: 03
Minimum pass Marks: 40%

Instructions for Paper Setter (Total marks=70)

The question paper will consist of three sections i.e. A, B, and C. The questions shall be covered each. Section A and B will have four questions each from respective sections of syllabus and will carry 12(12X4=48) marks each. Out of which students have to attempt two questions each from section A and B. Section C will consist of 11 short answer type questions of 2 marks each. This section will cover the entire syllabus uniformly and will carry 22 marks in all.

Instructions for the Candidates

Candidates are required to attempt two questions each from sections A and B. Section C is a compulsory consist of 11 short answer type questions of 2 marks each.

Section A

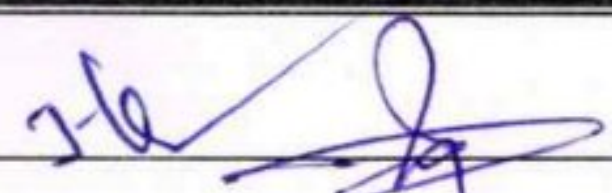
1. Eating disorders, Relative energy deficiency syndrome, Nutrition for diabetic athlete, Food intolerances, allergies and GI disorders in sports, Common nutrient drug interactions in sports,
2. Common weight loss practices among athletes, Nutritional strategies - weight gain, loss and maintenance. Fad diets for weight loss, Myths and fallacies in sports nutrition.

Section B

3. First Aid in sports - Cuts and wounds, fractures, CPR, Environmental hazards like Heat stroke, wind chill. Sports Injury: Classification, Causes, General guidelines for prevention. Principles and methods – recovery, injury, and rehabilitation in sports.
4. Nutrition related issues and challenges for special population - females athletes, children, adolescents, master athletes, vegetarian athletes, army personnel. Nutrition related issues and challenges during training at high altitude, extreme heat and cold. Nutritional issues – recovery, injury, rehabilitation, illnesses, overseas travel and within country travel.

REFERENCE BOOKS

- Burke, Louise, and Vicki Deakin. (2015). Clinical sports nutrition. McGraw-Hill.
- Maughan, R. J., & Shirreffs, S. M. (Eds.). (2013). Food, Nutrition and Sports Performance III. Routledge
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POST GRADUATE DIPLOMA IN SPORTS NUTRITION (ONE YEAR)

Course Code: SPND1PUP

PART-I SEMESTER-II

THEORY PAPER III – APPLIED SPORTS NUTRITION

Paper Code- SPND1203T

External Marks: 70
Internal Marks: 30
Total Marks: 100
Exam Time: 3 Hours

Teaching and Tutorial Hours: 45
Credits: 03
Minimum pass Marks: 40%

Instructions for Paper Setter (Total marks=70)

The question paper will consist of three sections i.e. A, B, and C. The questions shall be covered each. Section A and B will have four questions each from respective sections of syllabus and will carry 12(12X4=48) marks each. Out of which students have to attempt two questions each from section A and B. Section C will consist of 11 short answer type questions of 2 marks each. This section will cover the entire syllabus uniformly and will carry 22 marks in all.

Instructions for the Candidates

Candidates are required to attempt two questions each from sections A and B. Section C is a compulsory consist of 11 short answer type questions of 2 marks each.

Section A

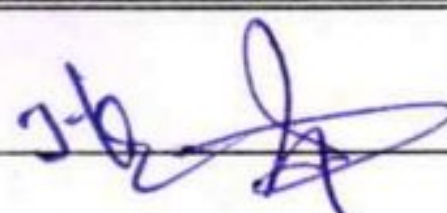
1. Introduction to nutrition periodization, Types on nutrition training, Macro nutrition periodization and Micro nutrition periodization.
2. Food Service Management in Sports Set-up: Planning cyclic menu for athletes: Fixed meal and buffet service, Managing HACCP guidelines at food service center for athletes, Managing raw material, human resource and cost at food service center for athletes, Food service management at multi sporting events,

Section B

3. Food Product Development: Sports food development - Ideation and creation, Sensory evaluation, Packaging, storage and shelf life testing. Entrepreneurship in sports nutrition
4. Nutrition counseling - Definition; Requirement; Procedures to adopt; Role of a Sports Nutritionist and theories and strategies to be adopted in nutrition counseling. Computer applications and protocols for nutrition counseling: Counseling session for individual athlete, for team, for coaches and other supporting staff.

REFERENCE BOOKS

- Burke, Louise, and Vicki Deakin. (2015). Clinical sports nutrition. McGraw-Hill.
- Maughan, R. J., & Shirreffs, S. M. (Eds.). (2013). Food, Nutrition and Sports Performance III. Routledge
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POST GRADUATE DIPLOMA IN SPORTS NUTRITION (ONE YEAR)

Course Code: SPND1PUP

PART-I SEMESTER-II

PRACTICAL PAPER I – PRACTICAL SPORTS NUTRITION II

Paper Code- SPND1204P

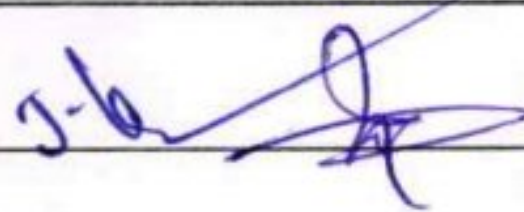
External Marks: 70
Internal Marks: 30
Total Marks: 100
Exam Time: 2 Hours

Teaching and Tutorial Hours: 120
Credits: 04
Minimum pass Marks: 40%

1. Tabulating commercial supplements in the market
2. Case study on application of nutrition training
3. Diet plan for weight loss, enumerate myths and evidence based solutions
4. Nutrition plans for special population and conditions
5. Diet plans for injury, rehabilitation and recovery
6. Demonstration of Nutrition Counseling
7. Preparation of cyclic menu according to budget
8. Preparation of Sports Food/recovery food

REFERENCE BOOKS

- Burke L., (2007). Practical Sports Nutrition. Human Kinetics.
- Burke, Louise, and Vicki Deakin. (2015). Clinical sports nutrition. McGraw-Hill.
- Maughan, R. J., & Shirreffs, S. M. (Eds.). (2013). Food, Nutrition and Sports Performance III. Routledge
- Sport Nutrition 3rd Edition by Asker Jeukendrup, Michael Gleeson, Human Kinetics, 2018.
- Clark. N (2013). Sports Nutrition Guidebook 5th edition. Human Kinetics.
- Jeukendrup, A. (2010). Sports nutrition: from lab to kitchen High performance cycling. Meyer & Meyer Sport (UK) Ltd



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POST GRADUATE DIPLOMA IN SPORTS NUTRITION (ONE YEAR)

Course Code: SPND1PUP

PART-I SEMESTER-II

PRACTICAL PAPER II – PROJECT II

Paper Code- SPND1205P

External Marks: 70
Internal Marks: 30
Total Marks: 100
Exam Time: 2 Hours

Teaching and Tutorial Hours: 90
Credits: 03
Minimum pass Marks: 40%

Writing a Sports Nutrition Review article

Assessment areas

Sr. No.	Assessment Area	Marks allotted	
		Internal	External
1	Punctuality and discipline <ul style="list-style-type: none">• Regularity• Punctuality• Discipline• Originality• Innovation	15	--
4	Viva <ul style="list-style-type: none">• Comprehension• Critical thinking• Confidence• Communication• Spontaneity and mannerism	--	35
5	Presentation and report <ul style="list-style-type: none">• Content• Report writing• Powerpoint presentation• Language and delivery• Audience interaction	15	35

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Course Code: SPND1PUP

PART-I SEMESTER-II

PRACTICAL PAPER III – INTERNSHIP

Paper Code- SPND1206P

External Marks: 70

Internal Marks: 30

Total Marks: 100

Exam Time: Hours

Duration: 4 Weeks

Credits: 06

Minimum pass Marks: 40%

Places of Internship: 23 NCOES SAI centres across India
The internship centres will be allotted based on the choice given by candidate (as per merit order in 1st semester) and the availability of seats at a particular centre

Mentor/ Supervisor: SO/HPA/PA (Nutrition) incharge of the particular centre

Boarding and Lodging: The boarding and lodging facility can be provided at the centres, if available. The expenditure of the boarding and lodging will be borne by the candidate of their own
At the centres, where boarding and lodging facilities are not available, candidates will have to arrange the boarding and lodging of their own

Stipend: No stipend will be paid to the candidates for the internship

Assessment areas			Remarks
Sr. No.	Assessment Area	Assessment Criteria	
1	Ethics, punctuality and discipline	I. Discipline II. Punctuality III. Commitment towards training IV. Dynamism	
2	Nutritional Assessment and Diet Planning	I. 24 Hour diet recall II. Hydration assessment III. Physical activity recall IV. Supplement intake assessment V. Data entry	
3	Counseling and case studies	I. Communication skills II. Ability to adjust with Group of athlete III. Ability to motivate athletes for following diet plan IV. Monitoring V. Follow ups	
4	Mess related activities	I. Menu planning II. Quality control activities III. Menu Compliance observance IV. Standardization of recipes	
5	Presentation and report	I. Interpretation of reports II. Data presentation III. Case study presentation IV. Overall work report	

At the end of the internship, the Mentor/ Supervisor of the respective centre need to provide the remarks of the candidates in the given format.