



SPORTS AUTHORITY OF INDIA
NETAJI SUBHAS NATIONAL INSTITUTE OF SPORTS
OLD MOTI BAGH: PATIALA-147001

Post Graduate Diploma in Sports Performance Analysis (One Year)
Session 2023 – 24 onwards

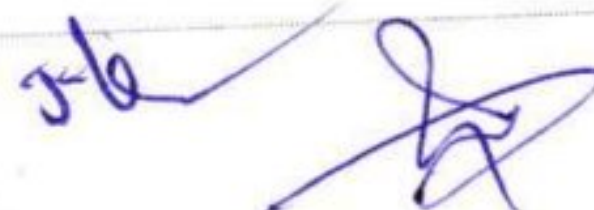
sb

ORDINANCES

Post Graduate Diploma
In
Sports Performance analysis

Examinations

(semester system)
Course Code- SPAD1PUP

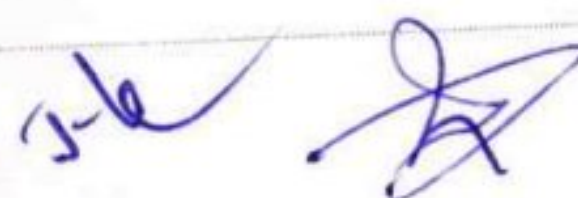


1. The examination for the degree of Post Graduate Diploma in Sports Performance Analysis (One Year) shall be held in one academic year to be called Post Graduate Diploma in Sports Performance Analysis (One Year) shall consist of two Semesters viz. Semester 1st and 2nd. The examination of the Semester 1st and 2nd shall be held as per the Academic calendar of Punjabi University, Patiala.
2. Post Graduate Diploma in Sports Performance Analysis (One Year) shall be open to a candidate who has passed Graduation in any stream with at least 50% marks in the aggregate from this University or any other University recognized as Equivalent. There to by the Academic Council.
 - a) The Assessment in each semester of Post Graduate Diploma in Sports Performance Analysis (One Year) 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:
 - Mid Semester Tests 15 Marks (Two tests in each semester will be held and best of two will be taken for internal assessment)
 - Attendance 5 Marks
 - Assignments/reports/projects/Seminar 10 Marks
 - c) The internal assessment for Practical – components will be
 - Demonstration – 10 marks
 - Viva – 10 - marks
 - Portfolio / File – 10 - marks
 - Assignments/reports/projects/Seminar 20 Marks
 - d) The internal assessment for Project / Internship
 - Project File / Case Study – 10 marks
 - Project / Internship Report – 10 marks
 - Weekly Report – 10 marks
 - Faculty / Industry Mentor Evaluation – 10 marks
 - Presentation – 10 marks

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

3. 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.



4. 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.
5. 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.
6. Post Graduate Diploma in Sports Performance Analysis (One Year) examination is open only to candidate who satisfies the following requirements:
 - a) Has been on the rolls of the NSNIS throughout the Semester term proceeding the examination.
 - b) of having good moral character.
 - c) 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.
7. The medium of instruction shall be English.
8. The medium of examination will be English
9. 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.
10. 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.
11. Only the Candidates who Need to reappear only in External Examination and marks of Internal will be carried forward.
12. 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 02 marks each, which will cover the entire syllabus.
13. 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.
14. 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.

15. Viva Voce/ Practical examination shall be conducted by a Committee consisting of the following:

- a) One external examiner.
- b) One internal examiner.

16. 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 Performance Analysis (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 2ndexaminationstaken 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

17. *A candidate who has passed Post Graduate DIPLOMA IN SPORTS PERFORMANCE ANALYSIS 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 PERFORMANCE ANALYSIS I & II semester examinations. The candidates shall also entitle to grace marks as admissible under the ordinance relating to grace marks.

18. POST GRADUATE DIPLOMA IN SPORTS PERFORMANCE ANALYSIS (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.

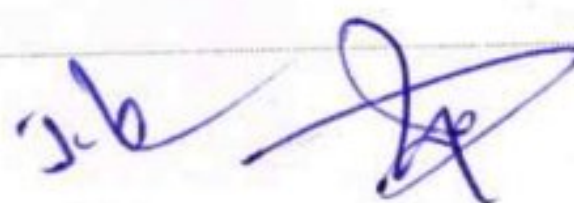


Syllabus

Post Graduate Diploma
in
Sports Performance analysis

Examinations (semester system)

Program Code- SPAD1PUP



Program Description:

The course primarily focuses on understanding, improvement and analysis of performance in sports. The curriculum helps in progressive development of tactical analysis, measuring technical effectiveness and specific technique analysis within actual sports performance with the help of modern techniques and technology. Performance Analysis modules encapsulates content from sports coaching and sports science. These elements offer the course a distinctive flavor allowing you to deep dive the theoretical principles, practical & applied skills that strengthens the learning of sports performance analysis. The course provides opportunities to develop practical, theoretical and contextual knowledge in training, coaching and performance that can be widely implemented into professional practice as a coach / analyst and high performers. The course also helps in developing specific, vocational skill set necessary to undertake sports performance analysis.

Course Name: Post Graduate Diploma in Sports Performance Analysis (One Year)

Program Objectives:

To develop student's theoretical & applied knowledge and understanding of applied sports performance analysis within the coaching process and enhance student's practical ability of performance analysis, to develop and apply systems implemented on video-based performance analysis system and communicate performance using visual presentation.

Program Outcomes:

1. Identify & appraise key performance indicators in Performance analysis
2. Understand and critically evaluate effective performance analysis, talent identification, injury prevention, and develop solutions to complex, multifaceted problems in Performance Analysis
3. Demonstrate understanding of the purpose, possibilities and limitation of performance analysis and disseminate reports based on analysis
4. Acquire and analyze complex data generated by Athletes across sports
5. Create performance analysis code window in different software and tools, capture data and statistical analysis of the data



PUNJABI UNIVERSITY, PATIALA

Session 2023-24 & 2024-25

Curriculum & Syllabus

POST GRADUATE DIPLOMA IN SPORTS PERFORMANCE ANALYSIS (ONE YEAR)

Program Code- SPAD1PUP

Scheme / Credit Structure

Part- I

Semester: 1 (Credits 22)

Theory									
S. No.	Paper code	Subject Description	Total credits	L	T	P	Allocation of Marks		Total Marks
							Internal	External	
1	SPAD-01-01-01-T	Applied Sport Sciences	3	2	1	0	30	70	100
2	SPAD-01-01-02 - T	Introduction to Performance Analysis	3	2	1	0	30	70	100
3	SPAD-01-01-03-T	Performance Indicators and Profiling	3	2	1	0	30	70	100
4	SPAD-01-01-04-T	Performance Analysis in Practice	3	2	1	0	30	70	100
Practicum									
5	SPAD-01-01-01-P	Applied Sport Sciences	2	0	0	4	15	35	50
6	SPAD-01-01-02 - P	Performance Analysis in Practice	2	0	0	4	15	35	50
7	SPAD-01-01-03-P	Project	6	0	0	0	30	70	100
		Total	22	8	5	8			600

Semester-2: (Credits 25)

Theory									
S. No	Paper code	Subject Description	Total credits	L	T	P	Allocation of Marks		Total Marks
							Internal	External	
8	SPAD-01-02-01- T	Methods and Evaluation in Sports Performance Analysis	3	2	1	0	30	70	100
9	SPAD-01-02-02- T	Applied Sports Performance Analysis	3	2	1	0	30	70	100
10	SPAD-01-02-03- T	Sports Performance Analysis in Professional Contexts	3	2	1	0	30	70	100
11	SPAD-01-02-04- T	Research, Data Analysis and Visualization	4	2	2	0	30	70	100
Practicum									
12	SPAD-01-02-01- P	Applied Sports Performance Analysis	2	0	0	4	15	35	50
13	SPAD-01-02-02- P	Research, Data Analysis and Visualization	2	0	0	4	15	35	50
14	SPAD-01-02-03- P	Internship	6	0	0	0	30	70	100
		Total	23	8	6	8			600

SYLLABUS

POST GRADUATE DIPLOMA IN SPORTS PERFORMANCE ANALYSIS (ONE YEAR)

Program Code- SPAD1PUP

Part-I Semester-I



PUNJABI UNIVERSITY, PATIALA
POST GRADUATE DIPLOMA IN
SPORTS PERFORMANCE ANALYSIS (ONE YEAR)
PART – I: SEMESTER – I: EXAMINATION

Paper 1 – Applied Sports Sciences

Paper Code- SPAD-01-01-01-T

THEORY PAPER	
Course Title: Applied Sports Sciences	Course Code: SPAD-01-01-01-T
External Marks: 70	Teaching Hours: 45
Internal Marks: 30	Credit: 03
Total Marks: 100	Minimum Pass Marks: 40%
Examination Time: 03 Hours	

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. Exercise Physiology for performance analyst**
 - 1.1. Introduction and scope of exercise physiology
 - 1.2. An overview of the systems of organization in the human body
 - 1.3. Role of exercise physiology in high performance sports
- 2. Sports Anthropometry and Sports Biochemistry**
 - 2.1. Kinanthropometry in Sports, Body composition, Human growth and development
 - 2.2. Concept of physique and somatotype



2.3. Exercise metabolism, energy substrate and integration of exercise metabolism, actors affecting energy metabolism

2.4. Biochemical basis of fatigue and recovery

3. Applied Sports Psychology

3.1. Meaning and importance of sports psychology

3.2. Cognitive and emotional process in sports performance

3.3. Personality and sports performance

3.4. Psychological preparation in sports

Section - B

4. Kinesiology

4.1. Meaning and importance of kinesiology in sports, reference system, fundamental movements

4.2. Muscular system and muscles action at various joints

4.3. Structure of motor action and Movement quality

4.4. Kinesiological analysis of various movements – walking, running, jumping, throwing, catching

5. Sports Biomechanics

5.1. Meaning and scope of sports biomechanics in field of performance analysis

5.2. Form of motion, concept of force and integration with sporting performance

5.3. Applying Newton's laws of motion in understanding of sporting performance

5.4. Projectile motion and implication in analysing the performance

5.5. Lever system, equilibrium and stability

6. Strength and Conditioning

6.1. Definition, aims and characteristics of sports training, training means, physical exercise, classification of physical exercises

6.2. Principles of sports training, training load and recovery

6.3. Motor abilities – definition, types, factors, program designing and methods of training

6.4. periodization

6.5. Sports performance – definition, performance capacity and training structure, model of sports performance

I. Pedagogical intervention

Blended learning approach attending lectures, seminars, workshops, problem solving tasks, small group discussion and presentations and self-directed studies

II. Assessment

a. Internal Assessment – attendance, internal test, Presentations, written assignment, case studies, placement log books

b. End semester assessment – Written exam

III. References

a. NSCA's Essentials of Sport Science, Lorena Torres Ronda, Duncan French (2021)

b. Sports Science: A complete Introduction. Simon Rea (2015)

c. The Secret Science of Sports: Jennifer Swanson (2021)

d. Behavioral Analysis of Sports. John Dickinson.

Practical-1

Applied Sports Sciences

Paper Code- SPAD-01-01-01-P

PRACTICAL PAPER	
Course Title: Applied Sports Sciences	Course Code: SPAD-01-01-01-P
External Marks: 35	Teaching Hours: 20
Internal Marks: 15	Credit: 02
Total Marks: 50	Minimum Pass Marks: 40%
Examination Time: 02 Hours	

- I. Kin-anthropometry: Body composition, Somatotype, Anthropometric Techniques landmarks
- II. Psychological Techniques, JPMR, autogenic technique
- III. Projectile motion and implication in analysing the performance
- IV. Leverage system, equilibrium and stability
- V. Motor abilities: Components & Measurements



PUNJABI UNIVERSITY, PATIALA
POST GRADUATE DIPLOMA IN
SPORTS PERFORMANCE ANALYSIS (ONE YEAR)
PART – I: SEMESTER – I: EXAMINATION

Paper 2 - Subject Name: Introduction to Performance Analysis

Paper Code- SPAD-01-01-02-T

THEORY PAPER	
Course Title: Introduction to Performance Analysis	Course Code: SPAD-01-01-02-T
External Marks: 70	Teaching Hours: 45
Internal Marks: 30	Credit: 03
Total Marks: 100	Minimum Pass Marks: 40%
Examination Time: 03 Hours	

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. Meaning, Need & Importance of Performance Analysis**
 - 1.1. Definition, Meaning and importance of Performance Analysis of Sport
 - 1.2. Theoretical Aspects of Sports Performance Analysis
 - 1.3. PA and anticipation and decision making in sports
- 2. Performance Analysis Evolution and Development**
 - 2.1. History and current trends of SPA
 - 2.2. Roles of Performance Analyst
 - 2.3. Development of computerized analysis in sports
- 3. Performance Analysis and Data Analysis**



- 3.1. Sports performance data and information
- 3.2. Principles of data analysis
- 3.3. Microsoft excel: Components, Usage in Performance analysis
- 3.4. Dartfish: Components, Usage in Performance analysis
- 3.5. Visualisation and reliability

Section - B

- 4. Performance Analysis Team and Sports Science**
 - 4.1. Integrating sports sciences with performance analysis
 - 4.2. Performance analysis and sports coaching
- 5. Developing Analysis Systems**
 - 5.1. Components of analysis
- 6. Athlete management system**

II. Pedagogical intervention

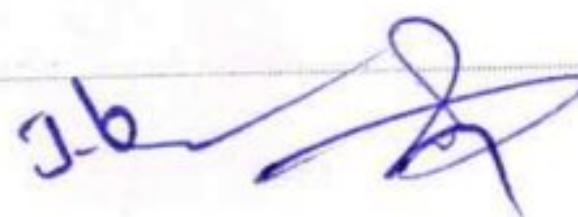
Blended learning approach attending lectures, seminars, workshops, problem solving tasks, small group discussion and presentations and self-directed studies

III. Assessment

- a. Internal Assessment – attendance, internal test, Presentations, written assignment, case studies, placement log books
- b. End semester assessment – Written exam

IV. References

- a. An Introduction to performance Analysis of Sports. Peter O'Donoghue. Routledge studies in sports performance analysis (2020).
- b. Essentials of performance analysis of sports, Mike Huges, Ian M, Franks, Henriette Dancs (2020), Third edition, Routledge
- c. Sports performance Measurement and Analytics: The Science of Assessing performance, predicting outcomes, Interpreting Statistical Model and Evaluating the Market value of Athletes. Martin L.(2016). Pearson/FT Press



PUNJABI UNIVERSITY, PATIALA
POST GRADUATE DIPLOMA IN
SPORTS PERFORMANCE ANALYSIS (ONE YEAR)
PART – I: SEMESTER – I : EXAMINATION

Paper 3 - Subject Name: Performance Indicators and Profiling

Paper Code- SPAD-01-01-03-T

THEORY PAPER	
Course Title: Performance Indicators and Profiling	Course Code: SPAD-01-01-03-T
External Marks: 70	Teaching Hours: 45
Internal Marks: 30	Credit: 03
Total Marks: 100	Minimum Pass Marks: 40%
Examination Time: 03 Hours	

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. Performance indicators in Sports and Identifying KPI's**
 - 1.1. Various indicators for performance and their significance
 - 1.2. External load KPIs
 - 1.3. Internal Load KPIs
- 2. Collective variables for analysing performance in sports**
 - 2.1. Meaning of various variables



- 2.2. Measuring different variables for performance analysis
- 2.3. Interpretation of the variable in context to performance analysis

Section B

3. Environment

- 3.1. Indoor vs Outdoor
- 3.2. Team vs Individual
- 3.3. Competition vs training
- 3.4. Graphic vs analytical vs computation

4. Challenges in performance analysis

II. Pedagogical intervention

Blended learning approach attending lectures, seminars, workshops, problem solving tasks, small group discussion and presentations and self-directed studies

III. Assessment

- a. Internal Assessment – attendance, internal test, Presentations, written assignment, case studies, placement log books
- b. End semester assessment – Written exam

IV. References

- a. Sports Medicine and Sport Science practitioners experiences of organizational change. Wagstaff, C. R. D., Gilmore, S., & Thelwell. Scandinavian Journal of ZMedicine & Science in Sports, 25 (5), 685-698
- b. An Introduction to performance Analysis of Sports. Peter O'Donoghue. Routledge studies in sports performance analysis (2020).
- c. Essentials of performance analysis of sports, Mike Huges, Ian M, Franks, Henriette Dancs (2020), Third edition, Routledge
- d. Sports performance Measurement and Analytics: The Science of Assessing performance, predicting outcomes, Interpreting Statistical Model and Evaluating the Market value of Athletes. Martin L.(2016). Pearson/FT Press



PUNJABI UNIVERSITY, PATIALA
POST GRADUATE DIPLOMA IN
SPORTS PERFORMANCE ANALYSIS (ONE YEAR)
PART – I: SEMESTER – I: EXAMINATION

Paper 4 – Performance Analysis in Practice

Paper Code- SPAD-01-01-04-T

THEORY PAPER	
Course Title: Performance Analysis in Practice	Course Code: SPAD-01-01-04-T
External Marks: 70	Teaching Hours: 45
Internal Marks: 30	Credit: 03
Total Marks: 100	Minimum Pass Marks: 40%
Examination Time: 03 Hours	

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. Measurement and Evaluation in Sports Performance**
 - 1.1. Concept in test and measurements
 - 1.2. Using technology in measurement and evaluation
 - 1.3. Descriptive statistics and the normal distribution
- 2. Data Gathering and Analysis Process**
 - 2.1. Validity and Reliability – Norm referenced; criterion referenced
 - 2.2. Correlation and prediction



2.3. Inferential statistics

3. Feedback of Performance Analysis and Communication

Section B

4. Introduction to basic tools in Performance Analysis

4.1.

5. Qualitative and Quantitative Analysis

5.1. Qualitative analysis of sports performance

5.2. Quantitative analysis of sports performance

5.3. Interpretation of the qualitative & quantitative data in context to performance in sports

6. Qualitative Biomechanical Analysis of

6.1. Motion analysis

6.2. Geospatial analysis

7. Performance Analysis for Individual and Team Sports

7.1. Characteristics of individual and team sports

7.2. Coaching process and variables characterizing performance and performance indicators in individual and team games

7.3. Performance analysis in individual and team game

7.4. Team member interaction analysis

II. Pedagogical intervention

Blended learning approach attending lectures, hand-on practical, seminars, workshops, problem solving tasks, small group discussion and presentations and self-directed studies

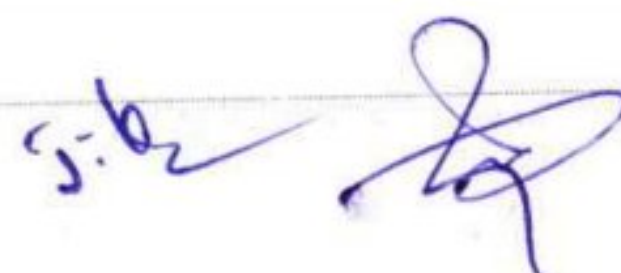
III. Assessment

a. Internal Assessment – attendance, internal test, Presentations, written assignment, case studies, placement log books

b. End semester assessment – Written exam

IV. References

- a. Measurement and Evaluation in Human Performance 4th Edition. Morrow Jr J, Jackson A, Disch J, Mood D (2010). Human Kinetics
- b. Sports performance Measurement and Analytics: The Science of Assessing performance, predicting outcomes, Interpreting Statistical Model and Evaluating the Market value of Athletes. Martin L.(2016). Pearson/FT Press



Practical -2

Performance Analysis in Practice
Paper Code- SPAD-01-01-02-P

PRACTICAL PAPER	
Course Title: Performance Analysis in Practice	Course Code: SPAD-01-01-02-P
External Marks: 35	Teaching Hours: 20
Internal Marks: 15	Credit: 02
Total Marks: 50	Minimum Pass Marks: 40%
Examination Time: 02 Hours	

- I. Measurement and Evaluation of variables
- II. SPSS, Dartfish
- III. MS Excel
- IV. Performance analysis in individual and team game
- V. Interpretation of the qualitative & quantitative data in context to performance in sports

Practical -3

Project

Paper Code- SPAD-01-01-03-P

PRACTICAL PAPER	
Course Title: <u>Project</u>	Course Code: SPAD-01-01-03-P
External Marks: 30	Teaching Hours: 20
Internal Marks: 70	Credit: 06
Total Marks: 100	Minimum Pass Marks: 40%
Examination Time: 02 Hours	



SYLLABUS

**POST GRADUATE DIPLOMA IN
SPORTS PERFORMANCE ANALYSIS (ONE YEAR)**

Program Code- SPAD1PUP

Part-I Semester-II



PUNJABI UNIVERSITY, PATIALA
POST GRADUATE DIPLOMA IN
SPORTS PERFORMANCE ANALYSIS (ONE YEAR)
PART – I: SEMESTER – II: EXAMINATION

Paper 1 – Methods and evaluation in Sports Performance Analysis

Paper Code- SPAD-01-02-01-T

THEORY PAPER	
Course Title: Methods and evaluation in Sports Performance Analysis	Course Code: SPAD-01-02-01-T
External Marks: 70	Teaching Hours: 45
Internal Marks: 30	Credit: 03
Total Marks: 100	Minimum Pass Marks: 40%
Examination Time: 03 Hours	

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. Theoretical Aspects of Sports performance Analysis**
 - 1.1. Athlete-centred practice for expert performance
 - 1.2. Performance Analysis to Improve Anticipation and Decision Making in Sport
 - 1.3. The Intending-Perceiving-Acting Cycle in Sports Performance
 - 1.4. Self-Organisation and Constraints in Sports Performance
 - 1.5. Sport Competition as a Dynamical Self-Organizing System
- 2. Sports Performance Testing and Evaluation**
 - 2.1. Testing
 - 2.2. Evaluation
 - 2.3. Interpretation



Section - B

3. Technique of Evaluation

- 3.1. Tactical Performance Analysis
- 3.2. Collective Variables for Analysing Performance
- 3.3. Performance Indicators in Game Sports
- 3.4. Sports Performance Profiling

4. Evaluation methodology and visualization

- 4.1. Interactive visualisation
- 4.2. The Analysis of Technique
- 4.3. Match Analysis and Sports Notation
- 4.4. The Measurement of Anticipation and Decision-Making Skills: Capturing Expert Performance

I. Pedagogical intervention

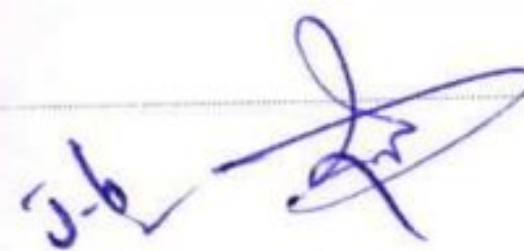
Blended learning approach attending lectures, seminars, workshops, problem solving tasks, small group discussion and presentations and self-directed studies

II. Assessment

- a. Internal Assessment – attendance, internal test, Presentations, written assignment, case studies, placement log books
- b. End semester assessment – Written exam

III. References

- a. Sports Analytics: Analysis, Visualisation and Decision Making in Sports Performance. Ambikesh Jayal. Allistair McRobert, Giles Oatley, Peter O'Donoghue. Routledge. (2018).
- b. Routledge Handbook of Sports Performance Analysis. Tim McGarry, Peter O'Donoghue, Jaime Sampaio (2013).
- c. Performance Analysis of Sport IX. Derek peters, Peter O'Dooghue. Routledge. (2014).
- d. Textbook of Applied Measurement, Evaluation & Sports Selection. Devinder Kumar Kansal. Sports and Spiritual Science Publications. (2008)
- e. Performance Assessment for field Sports. Christopher Carling, Tom Reilly, A. Mark Williams. Routledge. (2008).



PUNJABI UNIVERSITY, PATIALA
POST GRADUATE DIPLOMA IN
SPORTS PERFORMANCE ANALYSIS (ONE YEAR)
PART – I: SEMESTER – II: EXAMINATION

Paper 2 – Applied Sports Performance Analysis

Paper Code- SPAD-01-02-02-T

THEORY PAPER	
Course Title: Applied Sports Performance Analysis	Course Code: SPAD-01-02-02-T
External Marks: 70	Teaching Hours: 45
Internal Marks: 30	Credit: 03
Total Marks: 100	Minimum Pass Marks: 40%
Examination Time: 03 Hours	

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. Data collection and gathering using technology**
 - 1.1. Principles of data analysis for sports performance analyst
 - 1.2. Analysis facilities of commercial packages
 - 1.3. Arranging data for smooth computation
- 2. Data interpretation and its implications on training programme**
 - 2.1. Understanding of the data
 - 2.2. Computation
 - 2.3. Interpretation of the data in context to sports performance



Section - B

3. Behavioural observation and analysis

- 3.1. Behavioural analysis of sport
- 3.2. Observational Methodology in sport: performance Key Elements
- 3.3. Qualitative observation
- 3.4.

4. Evidence based practice

- 4.1. Evidence based scenarios in sports performance analysis

I. Pedagogical intervention

Blended learning approach attending lectures, seminars, workshops, problem solving tasks, small group discussion and presentations and self-directed studies

II. Assessment

- a. Internal Assessment – attendance, internal test, Presentations, written assignment, case studies, placement log books
- b. End semester assessment – Written exam

III. References

- a. An Introduction to performance Analysis of Sports. Peter O'Donoghue. Routledge studies in sports performance analysis (2020).
- b. Essentials of performance analysis of sports, Mike Huges, Ian M, Franks, Henriette Dancs (2020), Third edition, Routledge
- c. Data Analysis of Sports. Peter O'Donoghue, Lucy Holmes. Routledge. (2015)
- d. Behavioral Analysis of Sports. John Dickinson.



Practical

PRACTICAL PAPER	
Course Title: Applied Sports Performance Analysis	Course Code: SPAD-01-02-01-P
External Marks: 30	Teaching Hours: 20
Internal Marks: 70	Credit: 06
Total Marks: 100	Minimum Pass Marks: 40%
Examination Time: 02 Hours	

Applied Sports Performance Analysis

Paper Code- SPAD-01-02-02-P

- I. Data collection and gathering using technology
- II. Computing Data
- III. Interpreting and analyzing data using software
- IV. Conclusions from the data in the sports context
- V. Behavioural observation and analysis



PUNJABI UNIVERSITY, PATIALA
POST GRADUATE DIPLOMA IN
SPORTS PERFORMANCE ANALYSIS (ONE YEAR)
PART – I: SEMESTER – II: EXAMINATION

Paper 3 – Sports Performance Analysis in Professional Contexts

Paper Code- SPAD-01-02-03-T

THEORY PAPER	
Course Title: Sports Performance Analysis in Professional Contexts	Course Code: SPAD-01-02-03-T
External Marks: 70	Teaching Hours: 45
Internal Marks: 30	Credit: 03
Total Marks: 100	Minimum Pass Marks: 40%
Examination Time: 03 Hours	

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. Performance analysis, feedback and communication in coaching**
- 2. Coach Behaviors**
- 3. Strategic Team and Player Development Implications**

Section - B

- 4. Sports Performance Analysis for High Performance Manager**



- 4.1. Establishing and developing Resilience
- 4.2. Developing Athletic capabilities
- 4.3. Enhancing and sustaining performance

5. Media Applications of Performance Analysis

- 6. Applied Sports Performance Analysis (Soccer, Hockey, Basketball, Handball, Combat Sports, Target Sports, Track & Field event)
 - 6.1. Performance measures
 - 6.2. Performance analysis methodology
 - 6.3. Writing a performance analysis report

I. Pedagogical intervention

Blended learning approach attending lectures, seminars, workshops, problem solving tasks, small group discussion and presentations and self-directed studies

II. Assessment

- a. Internal Assessment – attendance, internal test, Presentations, written assignment, case studies, placement log books
- b. End semester assessment – Written exam

III. References

- a. Performance analysis in team Sports. Pedro Passos, Duarte Araujo, Anna Volossovitch. Routledge. (2016)
- b. Hight-performance training for sports. David Joyce, Daniel Lewindon
- c. Routledge Handbook of Sports Performance Analysis. Tim McGarry, Peter O'Donoghue, Jaime Sampaio (2013).

IV. Web resources

- a. An expert guide to performance analysis E-Book (<https://thevideoanalyst.com/wp-content/uploads/2013/07/Full-Ebook.pdf>)



PUNJABI UNIVERSITY, PATIALA
POST GRADUATE DIPLOMA IN
SPORTS PERFORMANCE ANALYSIS (ONE YEAR)
PART – I: SEMESTER – II: EXAMINATION

Paper 4 – Research, Data Analysis and Visualization

Paper Code- SPAD-01-02-04-T

THEORY PAPER	
Course Title: Research, Data Analysis and Visualization	Course Code: SPAD-01-02-04-T
External Marks: 70	Teaching Hours: 45
Internal Marks: 30	Credit: 03
Total Marks: 100	Minimum Pass Marks: 40%
Examination Time: 03 Hours	

Instructions for Paper Setter (Total marks=70)

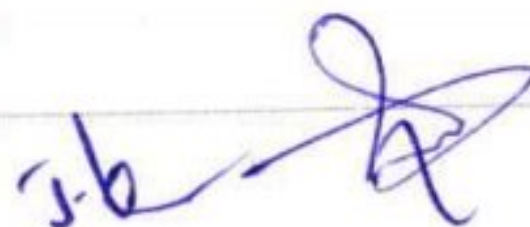
The question paper will consist of three sections i.e. A, B, and C. The questions shall be covered each. Section A and B will have four questions each from respective sections of syllabus and will carry 12(12X4=48) marks each. Out of which students have to attempt two questions each from section A and 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. Research Methodology in Sports Performance Analysis
 - 1.1. Introduction: Meaning, Objective, types of research
 - 1.2. Significance of research
 - 1.3. Approach and process of research
2. Professional Practice (Sport Performance Analysis)
 - 2.1. Research problem



- 2.2. Research design
- 2.3. Sampling fundamentals and Sampling Design
- 3. Data Collection
 - 3.1. Measurement and Scaling Technique
 - 3.2. Methods of data Collection
- 4. Contemporary Research in Performance Analysis

Section - B

- 5. Collective Variables for Analysing Performance in Team Sports
- 6. Sports Performance Profiling
- 7. Statistical analysis
 - 7.1. Inferential & Descriptive statistics, Exploratory data analysis
 - 7.2. Theory of Probability, Possible probability distribution
 - 7.3. Statistical Inference and Hypothesis testing
 - 7.4. Correlation and Regression
- 8. Issues
 - 8.1. Ethical issue in performance analysis
 - 8.2. Measurement issue in performance analysis

I. Pedagogical intervention

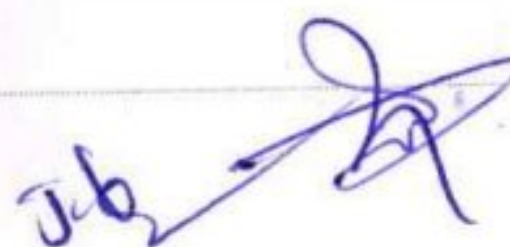
Blended learning approach attending lectures, seminars, workshops, problem solving tasks, small group discussion and presentations and self-directed studies

II. Assessment

- a. Internal Assessment – attendance, internal test, Presentations, written assignment, case studies, placement log books
- b. End semester assessment – Written exam

III. References

- a. Research Methods for Performance analysis. Peter O'Donoghue. Routledge. (2010)
- b. Research Methodology: Methods and Techniques. C. R Kothari. New Age International Publisher.
- c. Basic Statistics: Understanding conventional methods and modern insights. Rand R. Wilcox. Oxford University press (2009).



Practical -5

Research, Data Analysis and Visualization

Paper Code- SPAD-01-02-02-P

External marks: 35

Internal marks: 15

Total: 50

Exam time: 02 hours

Credit: 04

- I. Inferential & Descriptive statistics, Exploratory data analysis
- II. Measurement issue in performance analysis
- III. Research design for Performance Analysis
- IV. Planning a Research in Performance Analysis
- V. Using applications for research analysis

Practical-6

Internship

Paper Code: SPAD-01-02-03- P

External marks: 70

Internal marks: 30

Total: 50

Exam time: 02 hours

Credit: 06

