

Mahatma Gandhi University
of
Medical Sciences & Technology, Jaipur

Syllabus
B.Sc. Sports Medicine
(3 Years Degree Course)

Notice

1. Amendments made by the University in Rules/ Regulations of the courses shall automatically apply.
2. The University reserves the right to make changes in the syllabus/ books/ guidelines, fee-structure or any other information at any time without prior notice. The decision of the University shall be binding on all.
3. The jurisdiction of all court cases shall be Jaipur Bench of Hon'ble Rajasthan High Court only.

SYLLABUS
B.Sc. Sports Medicine (CODE)
(3 Years Degree Course)

Rules & Regulations

1. **TITLE OF THE COURSE**

The title of the course shall be "B.Sc. Sports Medicine".

2. **DURATION OF COURSE/TRAINING**

The course shall be of three years duration from the date of commencement of academic session

3. **MEDIUM OF INSTRUCTION**

English shall be the medium of instruction.

4. **ELIGIBILITY FOR ADMISSION:**

- For admission a candidate should have passed the 10+2 (Senior Secondary) Examination or its equivalent Examination Science stream i.e. Physics, Chemistry and Biology OR Physics, Chemistry and Mathematics Subjects with 45% marks in the aggregate for General Category and 40% for SC/ST/OBC/MBC candidates or as per Govt. Guidelines from a recognized Board.
- Candidate should have completed the minimum age of 17 years as on 31st December of the year of admission.

5. **CRITERIA FOR ADMISSION**

Selection shall be done by an Admission Board of the University strictly on merit. It will consist of a two-step process –Written Entrance Examination followed by Counseling/Personal Interview (PI).

6. **RESERVATION POLICY**

Reservation shall be applicable as per policy of the State Government.

7. **ENROLMENT**

Every candidate who is admitted to the Course in Mahatma Gandhi Medical College shall be required to get himself/herself enrolled with the Mahatma Gandhi University of Medical Sciences & Technology after paying the prescribed eligibility and enrolment fees.

A candidate shall deposit enrolment fees along with tuition fees at the time of his/her admission to the course. Such a candidate who fails to submit, through the college Principal, duly filled enrolment form along with original documents including migration certificate required for enrolment within two months of his/her admission or up to November 30 of the year of admission whichever is later, he/she will have to pay late fee prescribed by the University.

8. **MIGRATION RULES**

- No student, once admitted to the course and enrolled by the University, will be permitted to migrate to any other Course/ University.
- No student will be admitted to the Course on migration from any other Course/ University.

9. **ATTENDANCE**

Minimum 75% attendance in each year, both for theory and practical classes separately. Student with deficient attendance will not be permitted to appear in University examination.

10. **CONDUCTION OF THE UNIVERSITY EXAMINATION:**

University examination shall be conducted twice in a year; that is Main and Supplementary Examination. Supplementary examination shall be conducted after 2-4 months of the main examination.

11. **SCHEME OF EXAMINATION**

I. Theory

- a) Each Theory paper examination shall be of 3 hours duration and of maximum marks **70**.

Internal assessment shall be of **30** marks for each Theory Paper.

Theory Papers	Theory		Paper Set & Evaluated	
	Total Marks	Pass Marks	No. of Internal Paper Setters	No. of External Paper Setters
Ist Year: Three Theory Papers	300	150	3	-
IInd Year: Three Theory Papers	300	150	3	-
IIIrd Year: Three Theory Papers	300	150	2	1

- b. (For the First and Second year examinations – these respective above theory papers shall be set by the Internal Examiners covering their respective areas of syllabus. For each question paper there shall be a separate Internal Examiner. The answer books shall be evaluated by the concerned Internal Examiners (Papers Setters).
- c. In Third (Final) Year examination, one of the papers shall be set and evaluated by an External Examiner. In other words, one of the Internal has to be substituted by the External Examiner. The External Examiner (Paper Setter) shall evaluate his/her paper.
- d. The Paper Setter shall set the questions within the prescribed course of study of the concerned paper. There will be a set pattern of question papers duly approved by Academic Council. Model question paper is annexed herewith.

- e. It is to be noted that the Internal and External Examiners of all the three years (First, Second and Third year) shall be appointed by the President of the University. This exercise shall be conducted through the office of the Controller of the Examinations of the University. The External Examiner of Third year shall also be appointed by the President out of the panel of names submitted by the Concerned Coordinator of the course through the Dean to the Controller of Examinations for appointment of Examiners by the President of the University.
- f. Passing Marks: A candidate will have to obtain at least 50% marks in each Theory paper including internal assessment to pass. This shall include the marks obtained in Theory paper of 70 marks and internal assessment for that paper of 30 marks.

ii. Practical and Viva-Voce Examination

- (a) Each year there shall be practical and viva-voce examination of 100 marks. It shall consist of one University practical exam of 70 marks and internal assessment of 30 marks. It shall be conducted after the Theory examination is over. A candidate will have to obtain atleast 50% marks in practical and viva-voce examination inclusive of internal assessment to pass.
- (b) The pattern of practical examination shall be as follows –

B. Sc. Course	Practical		Practical Examiners
	Total Marks	Pass Marks	
First Year	100	50	Two Internal Examiner(s)
Second Year	100	50	Two Internal
Third Year	100	50	One Internal & One External Examiner

iii. Result

1. A candidate will have to obtain at least 50% marks separately in each Theory paper including internal assessment and a minimum of 50% marks in the practical examination inclusive of internal assessment for him to be declared pass.
2. A Candidate who has failed in theory paper/s will reappear in respective theory papers/s in supplementary examination.
3. Candidate who has failed in Practical examination only will reappear only in practical examination in Supplementary examination.

iv. Supplementary Examination

- (a) Eligibility for the failed candidates to appear at the supplementary examination shall be as below –
 - (i) Failed in Theory Paper(s) and failed in Practical – shall reappear in the respective failed Theory paper(s) and Practical examination.
 - (ii) Failed in Theory paper/papers and passed in Practical examination – shall reappear only in the concerned failed Theory paper(s).
 - (iii) Passed Theory papers but failed in Practical – shall reappear only in the Practical Examination.

- (b) There shall be a supplementary examination within two months of the declaration of the result of the main examination. Internal assessment marks obtained in main examination in the concerned failed paper/papers/ practical shall be carried forward for working out the result of supplementary Theory paper(s) and or practical examination. Such candidate who has secured less than 50% marks in the internal assessment will be allowed to improve his internal assessment marks in the repeat supplementary internal assessment examination.
- (c) Marks secured by the candidate in passed main examination/supplementary examination Theory paper(s) and/or practicals, as the case may be, will be carried forward for working out his result.
- (d) **Result:**
- A candidate obtaining at least 50% marks in the supplementary Theory paper(s) and 50% marks in the supplementary practical examination, as the case may be, shall be declared successful.
 - A candidate who has failed in supplementary theory paper(s) examination shall have to reappear only in the failed theory paper(s) at the subsequent examination.
 - A candidate who has failed in supplementary practical examination shall have to reappear both in theory (all papers) and practical at the next main examination.

v.Promotion to Second/Third Year

- A candidate appeared in the University examination and failed in theory paper(s) /Practical examination shall be promoted to next year
- A candidate will be allowed to appear for the Final (3rd) year examination only when the backlog of all papers (theory and practical) of first year and second year exams is cleared
- The student is required to complete the course within 6 years from the joining of the course

vi.Result - Division: Successful candidates will be categorized as under –

1.	Those, securing 50% and above but less than 60% in the aggregate marks of First, Second & Third year taken together	-	Pass
2	Those, securing 60% and above but less than 75% in the aggregate marks of First, Second & Third year taken together	-	Pass with I Division
3	Those, securing 75% and above in the aggregate marks of First, Second & Third year taken together	-	Pass with Honours

12. GRACE MARKS

- A student who appears in the whole examination in first attempt and obtains the required minimum pass marks in the total aggregate of an examination but fails to obtain the minimum pass marks in one subject (in theory and / or practical as the case may be) will be awarded the grace marks up to a maximum of 05 marks according to the following scale, provided the candidate passes the examination by award of such grace marks:

Marks obtained by the candidate above the required minimum aggregate pass marks		Grace marks can be given up to
Up to 6 marks	-	02
Up to 12 marks	-	03
Up to 18 marks	-	04
19 marks and above	-	05

2. No grace marks would be awarded to a candidate who appears in part/supplementary/remand examination. Non appearance of a candidate in any part of the examination on account of any reason will make him ineligible for grace marks.
3. A candidate who passes the examination after the award of grace marks in a paper/practical or the aggregate will be shown in the marks sheet to have passed the examination by grace. Grace marks will not be added to the marks obtained by a candidate from the examiners.
4. If a candidate passes the examination but misses First or Second Division by one mark as applicable to the Faculty, he will be given one mark in the paper in which he gets the least marks and also in the aggregate of the subject as well as the complete examination to upgrade his division and make him entitled for the first or second division, as the case may be. Indication of this up-gradation will be given in the tabulation register as well as in the marks sheet of the candidate.
5. Nonappearance of a candidate in any part of the examination will make him ineligible for grace marks.
6. A candidate who is awarded grace marks in any subject to pass the examination will not be entitled for distinction in any subject.
7. The place of the candidate who is awarded given grace marks to pass the examination or given one mark for up-gradation of his division in the examination merit list will, however, be determined by the aggregate marks he secures from the examiners.

13. **REVALUATION / SCRUTINY**

Revaluation of answer book(s) of the B.Sc. Courses is permissible in not more than 25% of the theory papers within 15 days from the date of declaration of examination result on submission of his/her application on the prescribed form alongwith the requisite fees. Such answer book(s) shall be re-evaluated as per University rules. Revaluation of answer book(s) shall not be permitted for second attempt in any paper.

Scrutiny (re-totaling) of answer book(s) of the B.Sc. Courses is permissible within 15 days from the date of declaration of examination result on submission of his/her application on the prescribed form alongwith the requisite fees as per University Rules.

Permission for revaluation / scrutiny

1. In 1st Attempt – Revaluation shall be permitted in 25% of the appeared papers. Scrutiny shall be permitted for all the papers.
2. In 2nd Attempt – Only scrutiny shall be permitted in all the papers. Revaluation shall not be permitted.

3. Revaluation shall also be permitted in 25% of such papers in which a candidate appears for the 1st time irrespective of his attempt in the whole examination.
4. Candidates passing all the subjects of one examination at different times shall be issued their mark-sheets showing actual attempts taken by them in passing the particular examination.
5. For determining the attempt, following criteria shall be followed –

S. No.	Situation	Attempt in next examination	
1.	Candidate is detained in all subjects	His attempt in all the subjects in the next examination will be treated as	1 st Attempt
2.	Candidate permitted in all subjects But did not appear in all permitted subjects	His attempt in the next examination will be treated as	1 st Attempt
3.	Candidate is detained in one / few subjects Permitted for the rest of the subjects Appeared in permitted subjects	His attempt in the detained subject(s) in the next examination will be treated as	2 nd Attempt
4.	Candidate is detained in one / few subjects Permitted in the rest of the subjects Did not appear in the permitted subjects	His attempt in the next examination In detained subject(s) will be treated as In permitted subject(s) will be treated as	1 st Attempt
5.	Candidate permitted in all subjects But did not appear in few subjects	His attempt in the permitted subjects in the next examination will be treated as	2 nd Attempt

Curriculum Outline

Distribution of Teaching hours

1st Year B.Sc. Sports Medicine

Course Title	Hours
Human Anatomy: Sports sciences	150
Human Anatomy: Sports sciences: Specific diseases	180
Human Physiology :Sports sciences	160
Human Physiology and Applied Paraclinical Sciences :Sports sciences	150
Research and Educational Methodology	160
Total Theory Hours	800
Practical	400
Total Hours :	1200

2nd Year B.Sc. Sports Medicine

Course Title	Hours
Kinesiology	150
Biomechanics	150
Nutrition in Sports	100
Exercise Physiology	150
Sports psychology	100
Anti Doping	150
Total Theory Hours	800
Practical	400
Total Hours :	1200

3rd Year B.Sc. Sports Medicine

Course Title	Hours
Physical therapy in sports Medicine	100
Medical aspects of sports medicine	150
Sports Traumatology I	100
Sports Traumatology II	150
Emergency care in sports	100
rent concepts in sports Medicine	100
Latest advancements in sports medicine	100
Total Theory Hours	800
Practical	400
Total Hours :	1200

SYLLABUS

B.Sc.- Sports Medicine

(3 Years Degree Course)

LEARNING OBJECTIVES

At the end of the course the candidate shall be able to:

1. Estimate the baseline physical fitness of the sporting population and design programmes for various sports depending upon the fitness level of the individuals based on the exercise physiology principles.
2. Use Kinanthropometric principles for designing and recommending games to the young children so that they can excel according to their genetic and physical characteristics.
3. Do a complete psychological analysis and using the principles of psychology for relaxation and peaking.
4. Use biomechanical principles for prevention and rehabilitation of sporting injuries.
5. Give advice on ergogenic procedures and sports nutrition for performance enhancement.
6. Utilize a thorough knowledge and understanding of Sports Medicine and relevant applied sciences to maintain standards of best practices in the prevention and treatment of sports related injuries

SUBJECT SPECIFIC COMPETENCIES

By the end of the course, the student should have acquired knowledge (cognitive domain), professionalism (affective domain) and skills (psychomotor domain) as given below:

A. Cognitive domain

1. Utilize knowledge of relevant aspects of musculo-skeletal medicine in prevention and treatment of sports related injuries
2. Integrate and apply thorough knowledge and understanding of applied anatomy, sports bio-mechanics and relevant kinesiology to clinical Sports Medicine practice.
3. Utilize advanced clinical competency and expertise, including clinical reasoning, in assessment and treatment of sports related injuries.
4. Develop an evidence-based approach. This will help to interpret and utilize published literature using analytical and critical approach.
5. Acquire knowledge and ability to conceptualize and write a research proposal

B. Affective domain

1. Should be able to function as a part of a team, develop an attitude of cooperation with colleagues, and interact with the patient and the clinician or other colleagues to provide the best possible diagnosis or opinion.
2. Always adopt ethical principles and maintain proper etiquette in dealings with patients, relatives and other health personnel and to respect the rights of the patient including the right to information and second opinion.
3. Develop communication skills to word reports and professional opinion as well as to interact with patients, relatives, peers and paramedical staff, and for effective teaching.
4. Communicate effectively and appropriately with athletes, coaches and health professionals in maintaining standards of best practice in Sports Medicine.

C. Psychomotor domain

1. Design, implement, evaluate and modify programs specifically related to prevention and management of sports injuries.
2. Perform detailed and relevant musculo-skeletal assessment, which are specific to the athlete.
3. Demonstrate oral and written communication skills and critical thinking at masters level of competency
4. Students will undergo practical training as follows:
 - Application of above learnt theoretical knowledge (Anatomy and Physiology) to understand applied sports sciences and for on-field purpose.
 - Application of research knowledge to do research, paper presentations, posters related to sports medicine.
 - Undergo training In the Sports Psychology and Exercise Physiology Laboratories
 - Undergo training on Kinanthropometry equipment for body composition analysis, somatotyping and age determination
 - Undergo training on Biomechanical Principles
 - Undergo Clinical training in departments of Orthopaedics, Cardiology, General Medical and Emergency Care
 - Undergo training in hospital and field management

First Year

Theory Paper :

Paper-I - **Human Anatomy: Sports sciences**

Paper-II - **Human Physiology and Applied Paraclinical Sciences :Sports sciences**

Paper-III - **Research and Educational Methodology**

Part-I : Paper-I -Human Anatomy: Sports sciences

Anatomy of the nerve injuries
Bodily Habitus
Anatomical Angles and stiff joints
The pathology of nerves, bones in terms of anatomy
Anatomical basis of clinical tests
Anatomy of certain diseases

Reference Books:

- Reed: Sports Injuries - Assessment and Rehabilitation, W.B. Saunders.
- Brukner and Khan: Clinical Sports Medicine, McGraw Hill.
- Torg, Welsh and Shephard: Current Therapy in Sports Medicine III - Mosby.
- Lee and Dress: Orthopaedic Sports Medicine - W.B Saunders

Part-I : Paper-II - Human Physiology and Applied Paraclinical Sciences :Sports sciences

- Blood Cardiovascular system
- Neuromuscular system
- Respiratory system
- Temperature regulation
- Endocrine system
- Applied Paraclinical Sciences Pathology and tissue healing, Pharmacology, Radiology

Reference Books:

- Reed: Sports Injuries - Assessment and Rehabilitation, W.B. Saunders.
- Brukner and Khan: Clinical Sports Medicine, McGraw Hill.
- Lee and Dress: Orthopaedic Sports Medicine - W.B Saunders
- Torg, Welsh and Shephard: Current Therapy in Sports Medicine III - Mosby.

Part- I : Paper-III :Research and Educational Methodology

- Ethical issues in research.
- Structure, formulation and implementation of a research project
- Research questions Types of research Data analysis
- Experimental research
- Survey research Oral presentations at conferences/seminars

Reference Books:

- Reed: Sports Injuries - Assessment and Rehabilitation, W.B. Saunders.
- Brukner and Khan: Clinical Sports Medicine, McGraw Hill.
- Torg, Welsh and Shephard: Current Therapy in Sports Medicine III - Mosby
- Lee and Dress: Orthopaedic Sports Medicine - W.B Saunders

Second Year

Theory Papers :

Paper - I : **Kinesiology**

Paper - II : **Exercise Physiology and nutrition**

Paper - III : **Sports Psychology**

Part-II : Paper - I : Kinesiology

Introduction, Anatomical concepts in Kinesiology Assessment and Evaluation in Sports Medicine Kinanthropometry Biomechanics

Reference Books:

- Reed: Sports Injuries - Assessment and Rehabilitation, W.B. Saunders.
- Nordin and Frankel - Basic Biomechanics of Musculoskeletal System - Williams and Wilkins.

Part-II :Paper-II : Exercise Physiology and nutrition

Exercise Physiology and Nutrition Nutrition, energy transfer for physical activity, cardiovascular system and exercise, exercise and respiratory system, skeletal system, gastrointestinal tract and endocrine system Applied Exercise Physiology: Body composition, aging and exercise, temperature regulation. Physiological Basis and Principles of Training and Conditioning Principles of endurance and strength training, fundamentals that aid training and performance, Analysis of training

Reference Books:

- Reed: Sports Injuries - Assessment and Rehabilitation, W.B. Saunders.
- Nordin and Frankel - Basic Biomechanics of Muscular Skeletal System - Williams and Wilkins.
- Mc Ardle, Katch, Katch: Exercise Physiology, Edition IV.

Part-II :Paper- III : Sports Psychology

Personality assessment and sports personality. Attention and perception in sports, concentration training in sports, motivational orientation in sports, pre-competitive anxiety, relaxation training, aggression in sports, role of Psychology in dealing with injuries, eating disorders, Goal setting (Psychological aspects of doping, Stress management, Group behaviour and leadership, Emotion)

Reference Books:

- Drugs and Doping in Sports by O'Leary
- Reed: Sports Injuries - Assessment and Rehabilitation, W.B. Saunders.
- Brukner and Khan: Clinical Sports Medicine, McGraw Hill.
- Torg, Welsh and Shephard: Current Therapy in Sports Medicine III - Mosby.

Third Year

Theory Papers :

Paper- I :Introduction to Sports Physical Therapy and Medical Aspects of Sports Medicine

Paper- II :Sports Traumatology and Emergency care

Paper- III :Current Concepts in Sports Medicine

Part-III : Paper- I : Introduction to Sports Physical Therapy and Medical Aspects of Sports Medicine

Massage, Heat Therapy, Hydrotherapy, Electrotherapy, Functional bandages and Orthotic aids, Cryotherapy, manual therapy, clinical reasoning and decision making.

Medical Aspects of Sports Medicine

Exercise and common pulmonary conditions Exercise and cardiac conditions Doping in sports Diabetes and exercise Exercises for special categories Non-Traumatic medical conditions: In females, age-related issues.

Reference Books:

- Reed: Sports Injuries - Assessment and Rehabilitation, W.B. Saunders.
- Brukner and Khan: Clinical Sports Medicine, McGraw Hill.
- Torg, Welsh and Shephard: Current Therapy in Sports Medicine III - Mosby.

Part-III : Paper-II : Sports Traumatology and Emergency care

Sports Traumatology Pre-participation examination. Causes and mechanism of sports injuries, prevention of sports injuries Common acute and overuse injuries, Sporting emergencies and first aid and pharmacological treatment of injuries in the athletes. Cardio-pulmonary resuscitation Sports specific injuries, with special emphasis on the specific risk factor, nature of sports, kind of medical intervention anticipated and prevention with respect to individual sports (Individual events: Team events: Contact and Non-contact sports, Water sports specific injuries) Over use training in sports

Emergency Care and Cardiopulmonary Therapeutics Cardiopulmonary Resuscitation. Health club and fitness Concept, use and misuse of equipment. Basics of Cardiac Rehabilitation.

Reference Books:

- Reed: Sports Injuries - Assessment and Rehabilitation, W.B. Saunders.
- Brukner and Khan: Clinical Sports Medicine, McGraw Hill.
- Torg, Welsh and Shephard: Current Therapy in Sports Medicine III - Mosby.

Part-III : Paper-III : Current Concepts in Sports Medicine

Current Concepts in Sports Medicine Segmental Stabilization Concepts of Spine Emergency medical planning and cover for sports events Exercise for growing bones Precision heart rate training Current concepts in obesity management Electromyography and rehabilitation Current concepts in tendinopathies

Reference Books:

- Reed: Sports Injuries - Assessment and Rehabilitation, W.B. Saunders.
- Brukner and Khan: Clinical Sports Medicine, McGraw Hill.
- Torg, Welsh and Shephard: Current Therapy in Sports Medicine III - Mosby.

MODEL PAPER

B.Sc. Sports Med...-I
Code

Short Name

B.Sc. Sports Medicine Part-I (Main) Examination Month Year

Paper - I **Human Anatomy: Sports sciences**

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Attempt all questions

- | | | |
|-----|---|--------|
| Q.1 | Describe anatomy of Brachial Plexus | 15 |
| Q.2 | Radial Nerve anatomy | 15 |
| Q.3 | Long Answer Type | |
| | a) Arches of foot | 10 |
| | b) Anatomy of Knee and locking mechanism | 10 |
| Q.4 | Short Notes (any 4 out of 6) | 4x5=20 |
| | a) Ligament of knee joints | |
| | b) Rotator cuff muscles | |
| | c) Stabilising factors of shoulder joints | |
| | d) Anatomy of ACL | |
| | e) Cartilage | |
| | f) Types of Epiphysis | |

MODEL PAPER

B.Sc. Sports Med...I
Code

Short Name

B.Sc. Sports Medicine Part-I (Main) Examination Month Year

Paper - II **Human Physiology and Applied Paraclinical Sciences :Sports sciences**

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Attempt all questions

Q.1	Physiology of cardiac muscles	15
Q.2	Motor end plate	15
Q.3	Long Answer Type	
	a) Chronaxie and rheobase	10
	b) Components of blood	10
Q.4	Short Notes (any 4 out of 6)	4x5=20
	a) Temperature regulation mechanism	
	b) GFR	
	c) Regulation of respiratory rate	
	d) Hypothalamus	
	e) Growth Hormone	
	f) Functions of Adrenal	

MODEL PAPER

B.Sc. Sports Medi..-I
Code

Short Name

B.Sc. Sports Medicine Part-I (Main) Examination Month Year

Paper - III **Research and Educational Methodology**

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Attempt all questions

Q.1	Level of evidence	15
Q.2	RCT	15
Q.3	Long Answer Type	
	a) Case control studies	10
	b) Cohart studies	10
Q.4	Short Notes (any 4 out of 6)	4x5=20
	a) Types of research	
	b) Data analysis	
	c) Experimental research	
	d) Types of Survey research	
	e) Seminars	
	f) Steps of framing a Research Questions	

MODEL PAPER

B.Sc. Sports Med...-II
Code

Short Name

B.Sc. Sports Medicine Part-II (Main) Examination Month Year

Paper - I **Kinesiology**

Time: Three Hours
Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Attempt all questions

- | | | |
|-----|-------------------------------------|--------|
| Q.1 | Objectives of study of kinesiology | 15 |
| Q.2 | Importance of study of biomechanics | 15 |
| Q.3 | Long Answer Type | |
| | a) Kinematic chain | 10 |
| | b) Closed chain exercise | 10 |
| Q.4 | Short Notes (any 4 out of 6) | 4x5=20 |
| | a) biomechanics of ACL injury | |
| | b) Trendelberg Gait | |
| | c) Highsteppage Gait | |
| | d) Quadriceps lurch | |
| | e) Duck Waddle | |
| | f) Biomechanics of Hip Joint | |

MODEL PAPER

B.Sc. Sports Med..-II
Code

Short Name

B.Sc. Sports Medicine
Part-II (Main) Examination Month Year

Paper - II

Exercise Physiology and nutrition

Time: Three Hours

Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Attempt all questions

Q.1	Energy transfer for physical activity	15
Q.2	Adaptations in CVS in exercise	15
Q.3	Long Answer Type	
	a) Skeletal muscle	10
	b) Physiological Basis and Principles of Training and Conditioning	10
Q.4	Short Notes (any 4 out of 6)	4x5=20
	a) Training load	
	b) Endurance Sports	
	c) Temperature and performance	
	d) Principles of strength training	
	e) Eccentric loading	
	f) Loading in tendinopathies	

MODEL PAPER

B.Sc. Sports Med..-II
Code

Short Name

B.Sc. Sports Medicine
Part-II (Main) Examination Month Year

Paper - III **Sports Psychology**

Time: Three Hours

Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Attempt all questions

- | | | |
|-----|--|--------|
| Q.1 | Personality assessment in sports personality | 15 |
| Q.2 | Concentration training in sports | 15 |
| Q.3 | Long Answer Type | |
| | a) Role of Psychology in dealing with injuries | 10 |
| | b) Eating disorders in athletes | 10 |
| Q.4 | Short Notes (any 4 out of 6) | 4x5=20 |
| | a) Group behaviour and leadership | |
| | b) Psychological aspects of doping | |
| | c) Stress management | |
| | d) Pre-competitive anxiety | |
| | e) Relaxation training | |
| | f) Goal setting | |

MODEL PAPER

B.Sc. Sports Med.-III
Code

Short Name

B.Sc. Sports Medicine Part-III (Main) Examination Month Year

Paper - I

Introduction to Sports Physical Therapy and Medical Aspects of Sports Medicine

Time: Three Hours

Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Attempt all questions

Q.1	Exercise and cardiac conditions	15
Q.2	Exercise and female gender	15
Q.3	Long Answer Type	
	a) Hydrotherapy	10
	b) Electrotherapy	10
Q.4	Short Notes (any 4 out of 6)	4x5=20
	a) Taping	
	b) Orthopedic braces	
	c) Manual therapy	
	d) Heat therapy	
	e) Diabetes and exercise	
	f) PRICE	

B.Sc. Sports Med...-III
Code

MODEL PAPER

Short Name

B.Sc. Sports Medicine Part-III (Main) Examination Month Year

Paper - II **Sports Traumatology and Emergency care**

Time: Three Hours

Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book
Draw diagrams wherever necessary

Attempt all questions

Q.1	Pre-participation examination	15
Q.2	Overuse injuries	15
Q.3	Long Answer Type	
	a) Causes and mechanism of sports injuries	10
	b) Sporting emergencies and first aid	10
Q.4	Short Notes (any 4 out of 6)	4x5=20
	a) Contact Sports	
	b) Water sports specific injuries	
	c) Stress fracture	
	d) CPR	
	e) Team events and sports injuries	
	f) Concussion	

MODEL PAPER

B.Sc. Sports Med...-III
Code

Short Name

B.Sc. Sports Medicine Part-III (Main) Examination Month Year

Paper - III

Current Concepts in Sports Medicine

Time: Three Hours

Maximum Marks: 70

Students shall be allowed to take only one supplementary copy along with one main answer book. All the parts of one question should be answered at one place. Different parts of one question should not be answered at different places in the answer book

Draw diagrams wherever necessary

Attempt all questions

- | | | |
|-----|--|--------|
| Q.1 | Segmental Stabilization Concepts of Spine Essay Type Question | 15 |
| Q.2 | Emergency medical planning and cover for sports events Essay Type Question | 15 |
| Q.3 | Long Answer Type | |
| | a) Exercise for growing bones | 10 |
| | b) Precision heart rate training | 10 |
| Q.4 | Short Notes (any 4 out of 6) | 4x5=20 |
| | a) Current concepts in tendinopathies | |
| | b) PRP | |
| | c) Current concepts in obesity management | |
| | d) Functional bracing | |
| | e) Electromyography and rehabilitation | |
| | f) Load Management in tendinopathy | |