

Question Paper

Exam Date & Time: 25-Jan-2023 (10:00 AM - 12:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST SEMESTER M.Sc. (EXERCISE & SPORTS SCIENCES) DEGREE EXAMINATION - JANUARY 2023
SUBJECT: ESS5101- BIOMECHANICS IN SPORT
(2021 SCHEME)

Marks: 50

Duration: 120 mins.

Answer all the questions.

- 1) Explain Drag Force. Describe the types of Drag force with application in sports. Define Magnus effect. Explain Magnus effect during a curveball throw of a baseball pitcher and Golf backspin. (20)
(10+10 = 20 marks)
- 2A) Explain the Kinematics and Kinetics of Gait in Sagittal Plane with suitable graphs. (10)
- 2B) A hammer thrower releases the hammer at an angle of 35° from a height of 3.8m with a uniform velocity of $105^\circ/s$. Calculate the velocity at the time of release. Solve the range of the shot. Explain how the thrower can optimize his range. (10)
(3+7 = 10 marks)
- 3A) Discuss Impulse momentum relationship with an example. (5)
- 3B) Explain Stress. Compare Stress Strain relationship of a cortical and a cancellous bone. (5)

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Question Paper

Exam Date & Time: 27-Jan-2023 (10:00 AM - 12:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST SEMESTER M.Sc. (EXERCISE & SPORTS SCIENCES) DEGREE EXAMINATION - JANUARY 2023
SUBJECT: ESS5102- FOUNDATIONS OF SPORTS NUTRITION
(2021 SCHEME)

Marks: 50

Duration: 120 mins.

Answer all the questions.

- 1) Write in detail about importance and requirement of macro nutrients for overall health and sports performance. (20)
- 2A) Discuss the symptoms of dehydration and ways to assess hydration requirement for an athlete. (10)
- 2B) Explain the cycles of bioenergetics. (10)
- 3A) Write about importance of Iron and Calcium for athletes. (5)
- 3B) Explain the balanced diet and also discuss the food pyramid. (5)

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Question Paper

Exam Date & Time: 30-Jan-2023 (10:00 AM - 12:00 PM)



MANIPAL ACADEMY OF HIGHER EDUCATION

FIRST SEMESTER M.Sc. (EXERCISE & SPORTS SCIENCES) DEGREE EXAMINATION - JANUARY 2023
SUBJECT: ESS5103- FOUNDATIONS OF SPORT AND EXERCISE PSYCHOLOGY
(2021 SCHEME)

Marks: 50

Duration: 120 mins.

Answer all the questions.

1) Yashvi is a 21-year-old Rifle Shooter who has sustained an injury in her shoulders. The injury is chronic and the ortho and physio has put forth a plan of rehabilitation for almost 4 months. She was looking to participate in the pre-senior world championships but the trials will be clashing with her 4th month of rehabilitation. She is highly stressed regarding the trials and her rehabilitation. She tends to overdo her exercises as well. As a sport scientist who would want to recommend her to a sport psychologist, what will be your answers to the following questions:

- 1A) Identify and explain the common signs that shows poor signs of adjustment (5)
- 1B) Explain in detail the common points that you can evaluate to find a relationship between stress and her injury (5)
- 1C) Explain the common emotional responses to the injury using GRIEF MODEL that you will notice in her (5)
- 1D) What are the other reactions that she may exhibit due to chronic injury, according to Petipas & Danish (1995)? (5)
- 2) Explain in detail the Conceptual Model of Cohesion. List and explain the factors in the model of cohesion (10)
(2+8 = 10 marks)
- 3) Outline the common eating disorders in sports. Explain in detail the impact of coaching and environmental factors on eating disorders (10)
(2+8 = 10 marks)
- 4A) Define motivation in sports. Explain in detail the TARGET model. (5)
(1+4 = 5 marks)
- 4B) Describe the psychological impact caused by Covid19 on the athletes according to McCarthy et al. (5)
Explain in detail the various kinds of losses experienced by athletes

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