Question Paper

MANIPAL ACADEMY OF HIGHER EDUCATION

**SIXTH SEMESTER BPT/BOT/B.Sc. (ESS/ RRT & DT / RT / MIT) / FOURTH SEMESTER B.Sc. (PFT / CVT / CND / MLT / HIM / BOPT / BAOTT / RT / EMT / PHYSICIAN ASSISTANT / PSYCHOLOGY / NMT) / EIGHT SEMESTER (BPT / BOT) / SECOND SEMESTER BASLP DEGREE EXAMINATION - MAY/JUNE 2024
SUBJECT: BST3201 / STAT 402 / BST 3202 - BIOSTATISTICS AND RESEARCH METHODOLOGY / BIOSTATISTICS / BASIC BIOSTATISTICS AND RESEARCH METHODOLOGY
(2016/2020/2022 SCHEME)**

Marks: 50   **Duration: 120 mins.**

Answer all the questions.

1A)	Elaborate graphical representation with examples.	(5)
1B)	Explain the properties of normal distribution with diagram.	(5)
2A)	Describe different types of clinical study designs.	(5)
2B)	Write short notes on non-probability sampling.	(5)
3A)	The triglycerides (serum) (in mg/dL) of 10 patients were as follows: 155, 150, 106, 89, 63, 68, 144, 125, 130, 74 Calculate mean, and standard for the above data.	(5)
3B)	Define the following: (i) Incidence rate (ii) prevalence rate.	(5)
3C)	Discuss about regression analysis and its two equations.	(5)
3D)	Write short notes on research process.	(5)
4A)	Define skewness.	(2)
4B)	The following are the weights for 10 patients. Calculate range and mode 60, 54, 74, 82, 59, 63, 72, 89, 58, 85.	(2)
4C)	What is meant by systematic sampling?	(2)
4D)	Define scatter plot.	(2)
4E)	Define case report.	(2)

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SIXTH SEMESTER B.Sc. EXERCISE AND SPORTS SCIENCES DEGREE EXAMINATION - MAY/JUNE 2024
SUBJECT: ESS3201 - STRENGTH AND CONDITIONING
(2020 SCHEME)

Marks: 100   **Duration: 180 mins.**

Answer all the questions.

1)	Explain the principles and models of periodization.	(20)
2)	How to perform and interpret maximal aerobic speed test (MAST)? Plan different training strategies using MAST.	(20)
3)	Write about the relationship between force and velocity in sports.	(10)
4)	Explain briefly about the tests for measuring muscular endurance.	(10)
5A)	Write a short note on procedure of testing 1RM and its implications.	(5)
5B)	Write about the strategies to improve the start in sprinting.	(5)
5C)	What are the recommended exercise guidelines for youth athletes?	(5)
5D)	Explain Running based anaerobic sprint test.	(5)
5E)	Write a Metabolic conditioning plan for an athlete with intermediate training status.	(5)
5F)	Write short notes on the needs analysis of an athlete.	(5)
6A)	What is cross-training?	(2)
6B)	What is the theory of super compensation?	(2)
6C)	List few recovery strategies in sports.	(2)
6D)	What are the common sticking points during bench press?	(2)
6E)	Write an example of an agonists-antagonist training method.	(2)

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SIXTH SEMESTER B.Sc. EXERCISE AND SPORTS SCIENCES DEGREE EXAMINATION - MAY/JUNE 2024
SUBJECT: ESS3241 - PROGRAM ELECTIVE - II : PERFORMANCE ANALYSIS
(2020 SCHEME)

Marks: 50   **Duration: 120 mins.**

Answer all the questions.

1)	What is bloomfield classification of movement? Classify movements in soccer/football using bloomfield classification. (2+8 = 10 marks)	(10)
2)	What are key performance indicators? How do you determine Key performance indicators for a sport? Describe the key performance indicators for Tennis. (2+3+5 = 10 marks)	(10)
3A)	As the performance analyst of the Manipal volleyball club- Junior Team, what would be the feedback mechanism you would want to develop for coaches during a practice session to ensure maximum performance during competition.	(5)
3B)	How would notational analysis help a basketball coach?	(5)
3C)	Describe the role of a performance analyst.	(5)
3D)	Discuss the 5 traditional techniques of data visualization.	(5)
4A)	What are the steps involved in qualitative analysis of a skill?	(2)
4B)	Write the classification of data visualization.	(2)
4C)	Name the types of biomechanical models.	(2)
4D)	What are the probable challenges faced by a performance analyst during provisioning of data?	(2)
4E)	What is performance profiling? Give one example.	(2)

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SIXTH SEMESTER B.Sc. EXERCISE AND SPORTS SCIENCES DEGREE EXAMINATION - MAY 2024
SUBJECT: ESS3242 - PROGRAM ELECTIVE - I : ADAPTED PHYSICAL ACTIVITY
(2020 SCHEME)

Marks: 50   **Duration: 120 mins.**

Answer all the questions.

1)	Explain in detail the fitness assessment in high performance disabled wheelchair athletes.	(10)
2)	Explain the physiological alterations and training benefits of visually impaired individuals.	(10)
3A)	Explain briefly the rights of disability act 2016.	(5)
3B)	Explain in brief how will the Paralympics can promote physical activity in disabled.	(5)
3C)	List any two motor impairments in cerebral palsy that could affect participation in physical activity.	(5)
3D)	Explain "6 minute push test and arm crank test".	(5)
4A)	What is gross motor development skill?	(2)
4B)	What is autonomic dysreflexia?	(2)
4C)	Relate prosthetic and mobility in disabled athletes?	(2)
4D)	What is caster?	(2)
4E)	What are "paramobile devices"?	(2)

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