Time: 2 ½ Hrs **Total Marks: 75**

N, B.:(1) All questions are compulsory.

(2) Make suitable assumptions wherever necessary and state the assumptions made.

(3) Answers to the same question must be written together.

(4) Numbers to the right indicate marks.

(5) Draw neat labeled diagrams wherever necessary.

(6) Use of Non-programmable calculators is allowed.

Q 1) Attempt any three from the following: **[15]**

a. What is the cricketr package in R, and what are its key features?

b. What types of cricket formats can be analyzed using cricketr?

c. Explain how cricketr can be used to compare players' performances over different matches.

d. How can cricketr be used to analyze batting and bowling performances?

e. How does cricketr handle historical cricket data?

f. How can visualization techniques be used in cricketr for better analysis?

Q 2) Attempt *any three* from the following: **[15]**

a. What is the significance of strike rate and average in ODI cricket analysis?

b. How does cricketr adapt to Twenty20 cricket analytics?

c. Explain the importance of match situations in T20 cricket analytics

d. What are the advantages of using cricketr over manual statistical analysis?

e. How can the Sixer Shiny app enhance cricketr's functionalities?

f. What statistical metrics does cricketr provide for evaluating ODI batsmen?

Q 3) Attempt any three from the following: **[15]**

a. How can cricketr be used to compare legendary all-rounders of past decades?

b. What insights can be gained from analyzing bowlers' performances in Tests and ODIs?

c. What parameters can be used to compare Sachin Tendulkar, Brian Lara, and Ricky Ponting?

d. What role do partnerships and team dependencies play in performance analysis?

e. How can we use cricketr to generate a statistical summary of a player's career?

f. What statistical indicators help determine the greatest cricketers of all time?

Q 4)Attempt <u>any three</u> from the following: [15]

a. What is cricpy, and how does it differ from cricketr in R?
b. What are the advantages of using Python (cricpy) over R (cricketr) for cricket analytics?
c. How can cricpy be used to analyze ODI performances?
d. How can cricpy be used for predictive analytics in cricket?
e. What are some key visualization techniques used in cricpy for cricket analytics?
f. What insights can be derived from comparing a batsman's performances across different teams?

Q 5)Attempt <u>any three</u> from the following: [15]

a. How can machine learning be used to analyze cricket legends like Tendulkar, Kohli, and Dravid?
b. What statistical features are most relevant for predicting player performance?
c. How does machine learning help in selecting the best batsman of all time?
d. How does machine learning improve cricket analytics?
e. How can machine learning models help in team selection and match predictions?
f. What are the key differences between traditional cricket statistics and machine learning-based analysis?

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