

NATIONAL UNIVERSITY OF SCIENCE AND TECHNOLOGY

SSC1103

FACULTY OF APPLIED SCIENCES
BACHELOR OF SCIENCE HONOURS DEGREE EXAMINATIONS
DEPARTMENT OF SPORTS SCIENCE AND COACHING
SUPPLEMENTARY: SSC1103: STATISTICS IN SPORTS

AUGUST 2004

3 HOURS (100 MARKS)

INSTRUCTIONS

Answer 4 questions only. Each question carries 25 marks. Where a question contains subdivisions, the mark value for each subdivision is given in brackets. Illustrate your answer where appropriate with large clearly labeled diagrams.

1. Write short notes on the following:
 - a) Mean [5 marks]
 - b) Median [5 marks]
 - c) Normal Distribution [5 marks]
 - d) Coefficient of Variance [5 marks]
 - e) Correlation [5 marks]
2. (a) Set out in detail the steps of hypothesis testing. [12 marks]
(b) Explain the meaning of null hypothesis and alternative hypothesis. Use specific examples. [13 marks]
3. (a) Explain what you understand by the term scatter plot. [5 marks]
(b) Using the log standings (see table 1 on page 2), plot a scatter plot of the points against the goals scored by each team. Explain the correlation of the two. [20 marks]
4. Consider the following Premiership log standings (see table 1 on page 2). Using the points, calculate the following:
 - a) (i) Mean, mode and median. [9 marks]
 - (ii) Range, variance and standard deviation [9 marks]
 - (iii) Skewness and kurtosis [2 marks]
b) Represent the distribution on a graph. [5 marks]

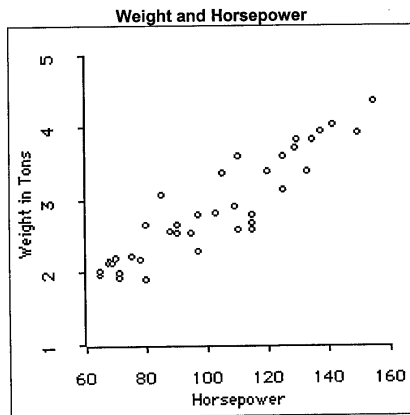
TABLE 1

25 AUGUST 2003 PREMIERSHIP STANDINGS

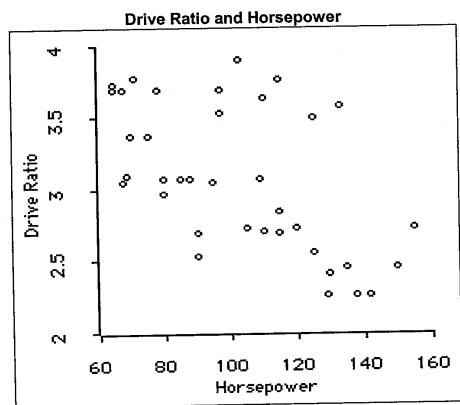
	P	W	D	L	F	A	Pts
Amazulu.....	18	10	6	2	41	16	35
Highlanders.....	16	11	3	2	29	13	36
• Dynamos.....	18	11	5	2	30	15	35
CAPS United.....	18	11	1	6	32	15	34
Motor Action.....	18	8	4	6	24	17	34
Black Rhinos.....	17	6	4	6	26	26	28
Sporting Lions.....	17	6	7	4	21	20	25
Chapungu.....	17	6	3	10	27	30	21
Shabanie Mine.....	17	5	4	9	27	31	19
Lancashire Steel.....	18	4	7	8	17	24	19
Sundowns.....	18	5	3	10	14	24	19
Wankie.....	18	6	1	11	23	39	19
Kambuzuma.....	19	4	4	11	20	36	16
Blue Swallows.....	19	3	4	12	17	31	13

5. (a) Briefly explain the Pearson Correlation coefficient. [5 marks]

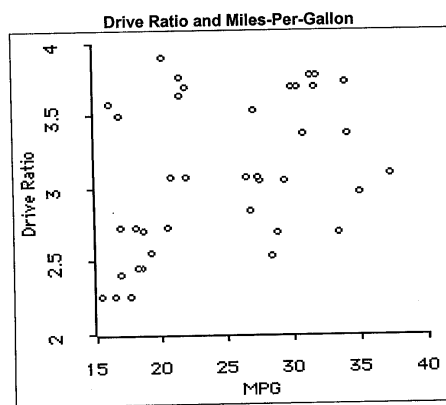
(b) Analyze the following three graphs (A, B AND C) and for each explain the direction degree and the shape of the relationship. [20 marks]



Graph A



Graph B



Graph C

6. Using examples from sports state where and why we use correlations?

END OF EXAM QUESTION PAPER