



STAMFORD COLLEGE

SCHOOL OF HUMAN RESOURCE MANAGEMENT DIPLOMA IN HUMAN RESOURCE MANAGEMENT SEMESTER 6

DHRM 726 : INTRODUCTION TO STATISTICS

Date : 05 September 2007 (Wednesday)

Time : 9.30 am-12.30pm

Duration: 3 hours

Instructions to Candidates

Answer **ALL** questions.

Please ensure that this examination paper contains **FIVE (5)** questions on **FOUR (4)** printed pages before you start the examination.

Books, papers and other written materials are not allowed to be brought into the examination hall. A candidate who violates the examination rules of Stamford College or commits a malpractice will be disqualified from the examination.

Candidates may use calculators provided the calculators give no printout, have no work display facilities, are silent and cordless.

Write your Examination Index Number on each page of your answer booklet.

Answer ALL questions.

Question 1

- a) Below are the times taken by 40 swimmers to finish a 100m swimming race.

50.6 57.9 54.6 54.0 49.6 59.6 49.9 50.3
 52.3 54.3 56.0 51.0 59.6 49.3 50.7 56.3
 52.4 55.3 56.7 55.0 57.3 51.3 53.6 51.0
 52.5 54.8 57.8 56.9 59.0 51.8 53.4 53.9
 52.6 57.1 57.3 54.4 55.0 59.8 50.3 53.9

- i) Tabulate the data into a table using the classes that follow: 48.0-49.9, 50.0-51.9, 52.0-53.9 and so on. (6 marks)
 ii) From the table, draw a histogram and hence find the mode. (5 marks)
- b) Complete the table below and draw a pie chart.

Brands	Sales	Percentage	Angle
Intel	498,589		
Asus	359,102		
Dell	289,365		
MSI	389,655		
AMD	479,120		
HP	189,369		
Others	100,710		

(7 marks)

How much is the difference of the sales of Intel and its nearest competitor? (2 marks)

(Total = 20 marks)

Question 2

- a) Find the range, mean, mode and median of the following set of data:

$-2.8, 4.8, 2.8, -6.7, \frac{3}{8}, 4.8, \sqrt{58}, 0.5, -\frac{3}{2}$ (9 marks)

b) Study the table below:

Over time / hours	No. of staff
1.5	4
2	1
3	8
3.8	9
4	2
5.9	4
8	2

Find the

- i) Mean, (3 marks)
- ii) Mean absolute deviation, (4 marks)
- iii) Standard deviation. (4 marks)

(Total = 20 marks)

Question 3

The following data show the distance and time taken to travel the distance:

Distance/km	Time/min
3.54	4.38
4.89	8.70
6.12	8.47
7.69	10.25
8.99	11.78
9.69	12.89

- a) Calculate the product moment correlation coefficient. (10 marks)
- b) Comment on your results. (2 marks)
- c) Using the least square regression equation, estimate the time taken to travel 10km. (8 marks)

(Total = 20 marks)

Question 4

- a) A bookshelf contains 4 English books, 5 history books and 2 comics. Find the probabilities of:
- i) getting a history book, if one book is chosen randomly from the bookshelf.
 - ii) getting one comic and one English book, if two books are chosen randomly from the bookshelf where replacement of the 1st book is allowed.
 - iii) getting 2 history books, if two books are chosen randomly from the bookshelf where replacement of the 1st book is not allowed. (9 marks)
- b) Two hundred and fifty employees of a company were selected at random and asked whether they intended to accept the current pay offer. The following table shows the intentions and the department of the employees.

Department	Intention		
	Accept	Uncertain	Reject
Production	72	36	7
Sales	46	29	10
Administration	32	10	8

Test whether there is evidence of significant association between intention and department. (11 marks)

(Total = 20 marks)

Question 5

- a) Briefly explain the difference between the additive and multiplicative model in the time series analysis. How would you decide which model to use for a given set of data? (5 marks)

- b) The following data shows the quarterly sales of a product over the past three years:

	Sales			
	Spring	Summer	Autumn	Winter
1990	56	78	82	104
1991	64	86	94	122
1992	69	90	106	148

- i) Plot the data. (3 marks)
- ii) Using an appropriate model, find by means of a moving average the trend and the seasonal factors. (12 marks)
- (Total = 20 marks)**

- END OF PAPER -