Code: 9EBS105

MBA I Semester Regular and Supplementary Examinations February 2014

STATISTICAL METHODS FOR MANAGEMENT

(For students admitted in 2010, 2011, 2012 and 2013 only)

Time: 3 hours Max. Marks: 60

Answer any FIVE questions

All questions carry equal marks

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1 (a) Give the list of methods of data collection.

(b) Give a brief explanation about classification and tabulation of data.

2 The administrator of a hospital has ordered a study of the amount of a time a patient must wait before being treated by emergency room personnel. The following data were collected during a typical day:

Waiting time (minutes)									
12	16	21	20	24	3	11	17	29	18
26	4	7	14	25	1	27	15	16	5

(a) Arrange the data in an array from lowest to highest. What comment can you make about patient waiting from your data array?

(b) Now construct a frequency distribution using 6 classes. What additional interpretation can you give to the data from the frequency distribution?

3 For the following frequency distribution, determine:

(a) The median class.

(b) The number of items that represents the median.

(c) The width of the equal steps in the median class.

(d) The estimated value of the median for this data.

Class	Frequency
100-149.5	12
150-199.5	14
200-249.5	27
250-299.5	58
300-349.5	72
350-399.5	63
400-449.5	36
450-499.5	18

4 (a) Explain the significance of correlation.

(b) List the methods of correlation and explain it.

5 (a) What is the purpose of correlation analysis?

(b) Cost accountant often estimate overhead based on the level of production. At the Standard Knitting Co., they have collected information on overhead expenses and units produced at different plants, and want to estimate a regression equation to predict future overhead.

Overhead:	191	170	272	155	280	173	234	116	153	178
Units:	40	42	53	35	56	39	48	30	37	40

Develop the regression equation for the cost accountants.

6 (a) Two events, A and B are statistically dependent if $P(A) = 0.39$, $P(B) = 0.21$ and $P(A \text{ or } B) = 0.47$, find the probability that:

(i) Neither A nor B will occur.

(ii) B will occur, given that A has occurred.

(iii) Both A and B will occur.

(iv) A will occur given that B has occurred.

(b) What is the probability that a candidate selected at random will require fewer them 580 hours to complete the program.

7 (a) List the basic laws of derivative.

(b) Find the derivative of the function $\sqrt{\frac{1+x}{1-x}}$.

8 (a) Determine: $\lim_{x\to 2}\left\{\frac{1}{x-2} - \frac{1}{\log(x-1)}\right\}$.

(b) Explain elasticity of demand with respect to the price.

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