

6Q

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY
FIRST TRIMESTER MBA DEGREE SUPPLEMENTARY EXAMINATION DECEMBER
2016

MBA 11QUANTITATIVE TECHNIQUES

Max. Marks: 60

Duration: 3 Hours

Use of Statistical Tables and Scientific Calculator per mitted

Part A

Answer all questions. Each question carries 2 marks

1. Define Sample Space. Write the sample space for the experiment of tossing a coin three times
2. Write the difference between absolute and relative measures of dispersion
3. Explain point estimation and interval estimation for a population parameter
4. State Central Limit Theorem
5. Explain Regression lines

(5x2 marks = 10 marks)

Part B

Answer any 3 questions. Each question carries 10 marks

6.
 - a. A card is drawn from a well shuffled pack of playing cards. What is the probability that it is either a spade or an ace (4 marks)
 - b. In a factory, machines A, B and C manufactures respectively 40%, 35% and 25% of the total items of production. The defective items are 2%, 4% and 5% respectively in a production. An item is drawn from the produced items and it is found to be defective one. What is the probability that it is manufactured by machine C? (6 marks)
7.
 - a. Calculate mean deviation from median and Coefficient of Mean Deviation from the following data. (5 marks)

Size	5	8	13	20	25	30	40
Frequency	2	10	20	35	18	7	5
 - b. The probability that a bomb dropped from a plane will strike the target is $1/5$. If 6 bombs are dropped, find the probability that (i) Exactly 2 will strike the target, (ii) Atleast 2 will strike the target. (5 marks)
8. In a test on 2000 electric bulbs, it was found that the life of a particular make was normally distributed with an average life of 2040 hours and standard deviation of 60 hours. Estimate the number of bulbs likely to burn for (i) more than 2150 hours, (ii) less than 1950 hours, (iii) more than 1920 hours but less than 2160 hours.
9. The heights of six randomly chosen sailors are (in inches): 63, 65, 68, 69, 71 and 72. Those of 10 randomly chosen soldiers are 61, 62, 65, 66, 69, 69, 70, 71, 72 and 73. Discuss the light that these data throw on the suggestion that sailors are on the average taller than soldiers.

10. A toxic material was dumped in a river leading into a large salt water commercial fishing area. Civil Engineers studied why the water carried toxic material (in parts per million) found in oystersharvested at three different locations. The observed data is given below. Conduct one-way analysis of variance and draw your conclusions.

Location 1	15	26	20	20	29	28	21
Location 2	19	15	10	26	11	20	13
Location 3	22	26	24	26	15	17	24

(3x10 marks = 30 marks)

Part C

Compulsory question, the question carries 20 marks

11. The following data relate to the scores obtained by 9 salesmen of a company in an intelligence test and their weekly sales in thousand rupees.

Salesmen	A	B	C	D	E	F	G	H	I
Intelligence test score	50	60	50	60	80	50	80	40	70
Weekly sales	30	60	40	50	60	30	70	50	60

- i) Obtain the regression equation of weekly sales on intelligence test score of the salesman
- ii) Obtain the regression equation of intelligence test score on weekly sales of the salesman
- iii) If the intelligence test score of the salesman is 65, what would be his expected weekly sales?
- iv) If the weekly sale of the salesman is 45, what would be his expected intelligence test score?
- v) Find linear correlation between intelligence test score and weekly sales of the salesman using regression coefficient.

(20 marks)