

MODEL QUESTION PAPER

MBA05

I Semester MBA Examination, August 2011 QUANTITATIVE TECHNIQUES

Time: 3 Hours

Max. Marks: 75

GROUP A : Answer any three questions.

Q.1 Compute the median for the following series?

Size	0-10	10-20	20-30	30-40	40-50	50-60
Freq.	8	15	22	20	10	5

Q.2 A bag contains 3 red and 7 black balls drawn at random without replacement. If the second selection is given to be red what is the probability the first is also red?

Q.3 a post office two clerks are assign to process incoming mail. The first clerk B1 process 40% and second clerk B2 process 60% of the mail. The first clerk has an error rate of 0.05 the second has an error rate of 0.08. a mail is selected at random at particular day is found to have error. The post master wants to know the probability that the mail was processed by first or by second clerk?

Q.4 Calculate the rank correlation coefficient for the following data?

X	60	34	40	50	45	41	22	43	42	66	64	46
Y	75	32	35	40	45	33	12	30	36	72	41	57

Q.5 A sample of 100 dry battery cells tested to find the length of life produced the following

result: mean(x)=12 hrs, σ =3 hours. Assuming that the data are normally distributed

what percentage of battery cells are expected to have life

i) More than 15 hours

ii) Less than 6 hours

Between 10 and 14 hours.

GROUP B : Answer any three questions.

Q.6 What are different methods of sampling?

Q.7 A bag contains 3 red and 7 black balls two balls drawn at random without replacement. If the second selection is given to be red what is the probability the first is also red?

Q.8 Explain various methods of non-random sampling.

Q.9 Find the Maximum and minimum values of $8X^5 - 15X^4 + 10X^2$?

- Q.10 The probability that a secretary will not post correctly a letter is 0.2. Find the probability that this secretary will not post correct postage at least 3 of 9 letters?

GROUP C : All Questions are Compulsory.

Q.11 Fill in the blanks

- (i) When $y=x^n$ then $\frac{dy}{dx}$ is equals to _____.
- (ii) For binomial distribution variance is given by _____.
- (iii) The formula for calculating mode is _____.
- (iv) Algebraic sum of deviations of all observations from arithmetic mean is always _____.
- (v) The formula for chi-square is given by _____.

Q.12 Multiple choice question.

- (i) A function which assigns fixed value for every value of x is called as _____.
 - (a) Algebraic function
 - (b) Logarithmic Function
 - (c) Exponential Function
 - (d) Constant Function
- (ii) $A \cup B$ is same as _____.
 - (a) $A' \cup B'$
 - (b) $B \cup A$
 - (c) $B' \cup A'$
 - (d) None of these
- (iii) Probability sampling is also referred as _____.
 - (a) Multistage sampling
 - (b) Systematic Sampling
 - (c) Non-random sampling
 - (d) Random sampling
- (iv) In Poisson distribution e is given by _____.
 - (a) 2.5183
 - (b) 2.7183
 - (c) 3.245
 - (d) None of these
- (v) In asymmetrical distribution arithmetical mean is _____.
 - (a) Equal to G.M.
 - (b) Equal to H.M
 - (c) Equal to Both
 - (d) None of these

Q.13 True or false

- (i) If two sets are subsets of each other then they are equal sets.
- (ii) Lower quartile is given by $(Q_1) = \text{size of } (N+1)/4 \text{ item.}$
- (iii) A function which as sign fixed value for every value of x is called as exponential function.
- (iv) Two event are said to be mutually exclusive when both can happen simultaneously in a single trial.
- (v) Derivative of constant function is zero.
