1105N248

Candidate's Seat No :_____

IMBA-1 Sem.-2 IMBA/IMBA (BEM)/IMBA (FM)/IMBA (HRPA) Examination
BBA_CC_106/BEM_BBA_CC_106/FM_BBA_CC_106/HR_BBA_CC_106
Business Statistics-I

Time : 2-00 Hours]

May 2022

[Max. Marks : 50

Instructions :(1) This paper contains **SEVEN** questions.
(2) Attempt any five.
(3) All questions carry equal marks.

Q:1   Calculate Mean and Coefficient of Variation of both the machine: 10

Class	Machine A	Machine B
485-490	12	10
490-495	18	15
495-500	20	24
500-505	22	20
505-510	24	18
510-515	4	13

Q:2   Calculate range and inter quartile range of the following data: 10

Consumption (kilowatt hour)	No. of Users
0-10	6
10-20	25
20-30	36
30-40	20
40-50	13

Q:3   Mr. X and Mr. Y appear in an interview for two vacancies in the same post. The   10 probability of Mr. X's selection is 1/7 and that of Mr. Y's selection is 1/5. What is the probability that
a) both of them will be selected
b) None of them will be selected
c) At least one of them will be selected

Q:4   In the manufacturing of cotter pins it is known that 5% of the pins are defective.   10 The pins are sold in boxes of 100 and it is guaranteed that not more than 4 pins will be defective in a box. What is the probability that a box will meet this guarantee? $(e^{-5}=0.0067)$

P.T.O

Q:5 An aptitude test for selecting officers in a bank was conducted on 1000 candidates. **10**
The average score is 42 and standard deviation of score is 24. Assuming normal distribution for the score , find the
a) Number of candidates hose scores exceeds 58.
b) Number of candidates whose scores between 30 and 66.
($Z=0.67=0.2486, Z=0.5=0.1915, Z=1=0.3413$)

Q:6 A machine is set to deliver packets of given weight. Ten sample of size 5 each **10**
were recorded. Below are given the relevant data:

Sample Number	1	2	3	4	5	6	7	8	9	10
Mean ($\bar{x}$)	15	17	15	18	17	14	18	15	17	16
Range (R)	7	7	4	9	8	7	12	4	11	5

Calculate the chart limits for mean and R chart and shows it in graph. (n=5: $A_2=0.58, D_3=0$ and $D_4=2.115$)

Q:7 Multiple Choice Question (MCQ): (Each of 1 Mark) **10**

1. Formula for Median in grouped data.
   a) $\frac{n}{4} th\ observation$
   b) $\frac{\Sigma fixi}{n}$
   c) $L + \frac{\frac{n}{2}-cfi}{fi} \times C$
   d) None of the above

2. Formula for quartile deviation is____
   a) $\frac{Q_3+Q_1}{2}$
   b) $\frac{Q_3-Q_1}{2}$
   c) $\frac{Q_3-Q_1}{Q_3+Q_1}$
   d) None of the above

3. If $P(A) = \frac{1}{3}, P(B') = \frac{1}{4}$ and $P(A \cap B) = \frac{1}{6}$, then $P(A \cup B) = $ ____.
   a) $\frac{3}{4}$
   b) $\frac{1}{11}$
   c) $\frac{11}{12}$
   d) $\frac{1}{3}$

4. The standard deviation formula for binomial distribution is____
   a) np
   b) npq
   c) $\sqrt{npq}$
   d) nq

5. As per Poisson distribution, mean ____ Variance.
   a) Equal
   b) Greater than
   c) Lesser than
   d) Not Equal

6. Aggregate of all the probability is equal to____
   a) 0
   b) 1
   c) 3
   d) 10

7. Formula for P(A/B)=_____
   a) $\dfrac{P(A \cap B)}{P(A)}$
   b) $\dfrac{P(A \cup B)}{P(A)}$
   c) $\dfrac{P(A \cap B)}{P(B)}$
   d) $\dfrac{P(A \cup B)}{P(A)}$

8. If two or more events cannot occur simultaneously in a single trial of an experiment, then such events are called____
   a) Mutually Exclusive Event
   b) Independent Event
   c) Exhaustive Event
   d) None of the above

9. C Charts follows _____ distribution.
   a) Normal Distribution
   b) Binomial Distribution
   c) Poisson Distribution
   d) None of the above

10. Which of the following is not chart for attributes?
    a) p chart
    b) np Chart
    c) R chart
    d) c Chart

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