Practical questions for B.sc CSIT II sem

Set A

Attempt any two questions (5×2=10)

|  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- |
| No of advertisement | 3 | 7 | 4 | 2 | 0 | 4 | 1 | 2 |
| Computer purchased | 11 | 18 | 9 | 4 | 7 | 6 | 3 | 8 |

1. Estimate the purchased number of computer when they saw the advertisement 8 times
2. Draw scatter diagram
3. Compute CV and test the consistency of data

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Series A | 23 | 30 | 18 | 25 | 32 | 40 |
| Series B | 20 | 35 | 44 | 27 | 41 | 38 |

1. Mr. X recorded number of emails be received over a period of 150 days with the following results

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Number of emails | 0 | 1 | 2 | 3 | 4 |
| Number of days | 51 | 54 | 36 | 6 | 3 |

1. Find the mean numbers of email per day
2. Calculate the frequencies of the Poisson distribution having the some mean

Set B

Attempt any two questions (5×2=10)

1. Compute mean,median,mode, range, coefficient of range, Quartile deviation, coefficient of QD, mean deviation, standard deviation and CV of the following data

|  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 43 | 37 | 50 | 51 | 58 | 105 | 52 | 45 | 45 | 10 | 43 | 43 |

1. The number of failure of a computer system in a week of operation has the following pmf;

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| No of failure | 0 | 1 | 2 | 3 | 4 | 5 | 6 |
| probability | 0.18 | 0.28 | 0.25 | 0.18 | 0.06 | 0.04 | 0.01 |

Find E(X), E() , Var(X), E(2X+3), Var(2X+3)

1. Fit the Binomial of the following data

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| X | 0 | 1 | 2 | 3 | 4 |
|  | 28 | 62 | 46 | 10 | 4 |

Set C

Attempt any two questions (5×2=10)

1. The following table shows the survey result regarding the purchase behavior of TV’s and DVD players in the last six months of 300 household.

|  |  |  |
| --- | --- | --- |
| Purchase TV | Purchase DVD |  |
|  | Yes | No |
| Yes | 38 | 42 |
| No | 70 | 150 |

1. Find the probability that a randomly selected household that purchased a TV.
2. Find the probability that a randomly selected household that purchased a TV and a DVD player
3. What is the probability that a randomly selected household that purchased a TV or a DVD player?
4. What is the probability that a randomly selected household that purchased a DVD player given that household purchased a TV?
5. The monthly production of certain types of computer parts of a company was found to be Normal random variate with the mean number of computers parts 10000 and a standard deviation of 20000. Compute the probabilities that the monthly production of computer parts is
6. less than 125000
7. between 15000 and 130000
8. more than 120000.
9. Calculate the appropriate measures of central tendency, dispersion and skewness of the following data

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| Class interval | Below 10 | 10-14 | 16-19 | 20-24 | 25-29 | Above 29 |
| Frequency | 9 | 20 | 35 | 40 | 24 | 12 |

Set D

Attempt any two questions (5×2=10)

1. Calculate Karl Pearson’s coefficient of skewness, Bowley’s coefficient skewness and Percentile coefficient of Kurtosis and interpret the result.

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| Class interval | 10-20 | 20-30 | 30-40 | 40-50 | 50-60 |
| Frequency | 5 | 18 | 35 | 20 | 12 |

1. Compute five number summaries and construct Box -Whisker plot. Also describe the shape

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| 10 | 50 | 70 | 80 | 90 | 55 | 65 | 70 | 85 | 90 | 15 | 40 | 35 | 25 | 20 | 5 | 75 | 45 |

1. A factory produces a certain type of output by three types of machines. The respective daily production figures are Machine I: 3000 units, Machine II: 2500 units and Machine III: 4500 units. Past experience shows that 3% of the output produced by machine I is defective. The corresponding fraction of defectives for the other two machines is 1.2% and 2% respectively. An item is drawn at random from the production and is found to be defective. What is the probability that it comes from the output of
2. Machine I ii. Machine II iii. Machine III