Class Test #4, Statistics
Mark: 20 Time: 20 minutes

a) Explain the standard Notation of Kendall for queuing system.
b) How will you mitigate the effects of long queues?
c) Consider the following scenario: the inter-arrival time is exponentially distributed with a mean of 10 minutes and the service time is also exponentially distributed with a mean of 8 means, find the (i) mean wait in the queue, (ii) mean number in the queue,(iii) the mean wait in the system, (iv) mean number in the system and (v) proportion of time the server is idle.

Class Test #1
Dept. of CSE, RUET
Time: 20 minutes

1. Suppose the marks of 30 students of a subject are as follows

30 35 45 65 70 39 46 55 30 45 70 40 46 55 38 36 53 43 47 53 63

65 60 45 55 57 65 45 55

i. Find the five-number summary of data
ii. Draw a box-and-whisker diagram.
iii. Find the 90th percentile.
iv. Find the median, mode, sample mean, and sample standard deviation?
v. Which of above measures (sample mean, median and mode) do you feel is the best measure of central tendency of the data? Why?

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Class Test
Dept. of CSE, RUET
Time: 20 minutes

1 a) State Bayes theorem and prove it. 10

b) A bag contains 4 red, 6 black and 7 white marbles. A marble is chosen at random from the bag. If the marble is not white, what is the probability that it is red? 5

c) Define sampling with replacement and sampling without replacement. Which one is better in your opinion?

Class Test #2
Dept. of CSE, RUET
Time: 30 minutes

1. Show graphically the approximate position of mean, median and mode when the distribution is (i) negatively skewed, (ii) positively skewed and (iii) symmetrical. 05

2. Which scale of measurement (ordinal, nominal, interval, and ratio) will you use to represent the following variables: 10

family size, religion, race, level of satisfaction, day temperature, length of schooling, happiness, age, room number, telephone number, opinion, hair colour, work status.

Which type of graphs and diagrams would be suitable for representing the above variables?

3. Find out the basic point of differences of interval level data and ratio type data. 05