PhD and MPhil Admission Test

Model Statistical Test 2018

Circle the appropriate answer.

1. A researcher reports that the value of correlation between sales and advertising is 0.7. From this information we can infer that
   a) 70% of variation in sales is explained by advertising
   b) 70% of variation in advertising is explained by sales
   c) 49% of variation in sales is explained by advertising
   d) A higher degree of positive association exists between sales and advertising

2. For a random variable Y with normal distribution, what percentage of values of Y falls between its mean and one standard deviation on right?
   a) 34%
   b) 68%
   c) 95%
   d) It can't be answered without data set

3. You are given a data set containing only three numbers: 1, 0, and -1. The coefficient of variation for the data set is:
   a) 0
   b) 1
   c) Square root (2)
   d) 2

4. A random variable has binomial distribution with probability of success equal to 0.2. If a sample of size 10 is drawn, then
   a) mean and variance of this variable are 10 and 2 respectively
   b) mean and variance of this variable are 2 and 1.6 respectively
   c) mean and variance of this variable are 10 and 1.6 respectively
   d) mean and variance of the variable can't be calculated from given information

5. Suppose you are testing the null hypothesis that a population mean is less than or equal to 80, against the alternative hypothesis that the population mean is greater than 80. The sample size is 49 and alpha =.05. If the sample mean is 84 and the population standard deviation is 14, the observed z value is:
   a) 2
   b) -2
   c) 14
   d) -14

(There will be 15 questions to be completed in 30 minutes)