Kathmandu University School of Management
MPhil Admission Test
Sample Question for Quantitative Aptitude Test

Time: 20 minutes/Marks: 20   **Symbol no: _____**

(Note: In admission test there are going to be 20 MCQs for 40 marks to do in 40 minutes)

Given below are ten multiple choice questions. *Choose the best answer* for each question by using a circle around your choice. Each question carries equal marks.

1. Given X ={1,3,5,7,8,9} and Y ={2,4,7,9} where X and Y are two sets. Here X∩Y is:
   a) {1,3,5,7,8,9, 2,4,7,9}
   b) {1,3,5,7,8,9,2,4}
   c) {7,9}
   d) {1,3,5,8,2,4}

2. The results of a survey to 75 adults which asked, "Did you read newspaper last week?" is shown in the table below.

		Did you read newspaper last week	
		Yes	No
Gender	Male	46	3
	Female	11	15

   Calculate P (Yes|Male), or the probability that a person responded "Yes" given that the person chosen is male is
   a) 46/49
   b) 46/75
   c) 46/57
   d) 49/75

3. What will be the 1st quartile value for the following data set?
   42, 56, 64, 65, 71, 74, 78, 82, 86, 89, 90, 92, 94, 97, 98, 100
   a) 65
   b) 71
   c) 68
   d) 72.5

4. One of the following comments on standard deviation is false? Which one?
   a) It is a measure of variation in a data set from its mean.
   b) It has same unit as the unit of the parent data set
   c) Its values are bounded between –ve infinity to +ve infinity
   d) In finance literature, it is used as a measure of risk

5. A random variable has binomial distribution with probability of success equal to 0.4. If a sample of size 5 is drawn, then

a) mean and variance of this variable are 2 and 3 respectively
b) mean and variance of this variable are 2 and 1.2 respectively
c) mean and variance of this variable are 5 and 1.2 respectively
d) mean and variance of the variable can't be calculated from given information

6. If a researcher selects every kth item from a population of N items, then she is likely conducting which random sampling?
a) judgmental
b) systematic
c) cluster
d) stratified

7. A researcher is testing a hypothesis on a population mean taking a specific value. The critical z value for $\alpha = .05$ and a two tailed critical value is ± 1.96. The observed z value for the sample data is -2.11. The decision made by the researcher based on this information is to
a) reject the alternative hypothesis
b) not reject the null hypothesis
c) increase sample size
d) reject the null hypothesis

8. A researcher finds that in a community 20% of families have average monthly income of Rs 50000 and 80% of families have average monthly income of Rs 20000. Assuming same family size, the overall average monthly income of a family in the community would be
a) Rs 20000
b) Rs 26000
c) Rs 35000
d) can't be determined from the given information

9. Which of the following will most likely cause selection bias in a survey that investigates whether smoking should be prohibited for age under 21?
a) conducting survey on telephone
b) receiving only 50% of responses on questionnaire through mail
c) using of Likert scale rather than having opinion based survey
d) using a random sample of smokers

10. In a regression of Y on X, it was found that: estimated Y = 23.4 + 1.0 X. R^2 value for the regression was 0.64. Which of the following is false?
a) 64% of variation in Y is explained by the regression
b) correlation between Y and X is 1
c) Increase in X by 1 unit increases Y by 1 unit as well
d) There is a positive relation between Y and X

Answer:

1	2	3	4	5	6	7	8	9	10
c	a	c	c	b	b	d	b	d	b