

**ROYAL CIVIL SERVICE COMMISSION
BHUTAN CIVIL SERVICE EXAMINATION (BCSE) 2012
EXAMINATION CATEGORY: TECHNICAL**

PAPER III: SUBJECT SPECIALIZATION PAPER for STATISTICS

Date	: 14 October 2012
Total Marks	: 100
Examination Time	: 150 minutes (2.5 hours)
Reading Time	: 15 Minutes (prior to examination time)

READ THE FOLLOWING INSTRUCTIONS CAREFULLY:

1. Write your Roll Number clearly on the Answer Booklet in the space provided.
2. The first 15 minutes is being provided to check the number of pages, printing errors, clarify doubts and to read the instructions. You are NOT PERMITTED TO WRITE during this time.
3. Use either Blue or Black ink pen or ball point pen for the written part and Pencils for the sketches and drawings.
4. All answers should be written on the Answer Booklet provided. Candidates are not allowed to write anything on the question paper or any other materials.
5. All answers must be labeled with appropriate question numbers (Section, Question and sub-Question Numbers wherever applicable). Unlabelled answers will not be assessed.
6. This paper is divided into two sections-namely SECTION A and SECTION B.
7. SECTION A consists of two parts: Part I and Part II.

Part I consists of 30 Multiple-Choice Questions carrying one (1) mark each and is compulsory. The answer of your choice should be clearly written in whole along with the question and option number on your answer booklet. Eg. 31(c).

Part II consists of four (4) short answer questions of five (5) marks each and all questions are compulsory.
8. SECTION B consists of two Case Studies. Choose only ONE case study and answer the questions under your choice. Each case study carries fifty (50) marks in total.
9. This Paper consists of SEVEN (7) pages including this Instruction page.

SECTION A

PART I - Multiple Choice Questions (30 Marks)

Choose the correct answer and write down the letter of the correct answer chosen in the Answer Sheet against the question number. E.g. 31 (c). Each question carries ONE mark.

1. Consider the weighted mean and mean with respective representation

Weighted mean: $x_w = \frac{\sum_{i=1}^n w_i x_i}{\sum w_i}$ and mean: $x = \frac{\sum_{i=1}^n x_i}{n}$

- a) Mean takes into account of observed values according to their relative importance
 - b) Weighted mean takes into account of observed values according to their relative importance
 - c) Both take into account observed values according to their relative importance
 - d) None of them take account of observed values according to their relative importance
2. Measure of the height of a person is an example of
- a) Discrete variable
 - b) Continuous variable
 - c) Ordinal variable
 - d) Categorical variable
3. In conducting surveys which of the following statement is true?
- a) Sample size is determined first
 - b) Domain identification is determined first
 - c) Sample allocation is determined first
 - d) Stratification is determined first
4. Coefficient of Variation
- a) Has a unit of measurement
 - b) Is expressed always as a percent
 - c) Both of the above are true
 - d) None of the above are true
5. For a bell-shaped distribution the following statement is true
- a) 68% of the observation lie within three standard deviations of the mean
 - b) 95% of the observations lie within three standard deviations of the mean
 - c) 99.7% of the observations lie within three standard deviations of the mean
 - d) None of the above

6. If the mean is greater than the median, the distribution is said to be
- Normally distributed
 - Negatively skewed
 - Positively skewed
 - None of the above
7. $p(x) = \frac{e^{-u} u^x}{x!}$ is the distribution function of
- Binomial Distribution
 - Hypergeometric Distribution
 - Trinomial Distribution
 - Poisson Distribution
8. In the design of questionnaire, the following statement is true
- Use simple and direct language
 - Make items as brief as possible
 - Do not use uncommon words or long sentences
 - All of the above
9. The question “How old is Sangay as of last birthday and what is his marital status” is an example of
- Leading question
 - Double-barreled question
 - None of the above
 - Both the above
10. Format of responses to a survey question can be of how many types?
- 1 type
 - 2 types
 - More than two types
 - None of the above
11. The GDP of a country can be estimated by which of the following?
- Production approach
 - Income approach
 - Expenditure approach
 - All of the above
12. The budget of a survey depends largely on
- Survey design
 - Precision required
 - Geographical coverage
 - All of the above

