D 41990-A (Pages : 4) Name.....

Reg. No.....

FOURTH SEMESTER B.Sc. DEGREE EXAMINATION, APRIL 2018

(CUCBCSS—UG)

Complementary Course

STS 4C 04—APPLIED STATISTICS

(Multiple Choice Questions for SDE Candidates)

Time : 15 Minutes	Total No. of Questions : 20	Maximum : 20 Marks

INSTRUCTIONS TO THE CANDIDATE

1. This Question Paper carries Multiple Choice Questions from 1 to 20.
2. The candidate should check that the question paper supplied to him/her contains all the 20 questions in serial order.
3. Each question is provided with choices (A), (B), (C) and (D) having one correct answer. Choose the correct answer and enter it in the main answer-book.
4. The MCQ question paper will be supplied after the completion of the descriptive examination.

STS 4C 04—APPLIED STATISTICS

(Multiple Choice Questions for SDE Candidates)

1. 3-sigma trial control limits with p' as mean number of defectives based on a sample of size n are :

   (A) U.C.L. $= n\bar{p} + \sqrt{n\bar{p}(1-\bar{p})}$, C.L. $= \bar{p}$ and $L.C.L. = n\bar{p} + \sqrt{n\bar{p}(1-\bar{p})}$.

   (B) U.C.L. $= n\bar{p} + 3\sqrt{n\bar{p}(1-\bar{p})}$, C.L. $= n\bar{p}$ and L.C.L. $= n\bar{p} - 3\sqrt{n\bar{p}(1-\bar{p})}$.

   (C) U.C.L. $= n\bar{p} + 3\sqrt{n\bar{p}(1-\bar{p})}$, C.L. $= \bar{p}$ and L.C.L. $= \bar{p} - 3\sqrt{n\bar{p}(1-\bar{p})}$.

   (D) None of the above.

2. 2-sigma trial control limits for c-chart for equal size samples are given as :

   (A) U.C.L. $= \bar{C} + 3\sqrt{\bar{C}}$, C.L. $= \bar{C}$ and L.C.L. $= \bar{C} - 3\sqrt{\bar{C}}$.

   (B) U.C.L. $= \bar{C} + \sqrt{2\bar{C}}$, C.L. $= 2\bar{C}$ and L.C.L. $= \bar{C} - \sqrt{2\bar{C}}$.

   (C) U.C.L. $= \bar{C} + 2\sqrt{\bar{C}}$, C.L. $= \bar{C}$ and L.C.L. $= \bar{C} - 2\sqrt{\bar{C}}$.

   (D) U.C.L. $= \bar{C} + 2\sqrt{\bar{C}}$, C.L. $= C$ and L.C.L. $= \bar{C} - 2\sqrt{\bar{C}}$.

3. The control limits delimited by the consumer are called :

   (A) Modified control limits. (B) Natural control limits.

   (C) Specified control limits. (D) None of the above.

4. Paasche was :

   (A) An English mathematician. (B) A French economist.

   (C) A German statistician. (D) None of the above.

5. If Laspeyre's price index is 324 and Paasche's price index 144, then Fisher's ideal index is :

   (A) 234. (B) 180 .

   (C) 216. (D) None of the above.

6. Chance or random variation in the manufactured product is :

(A) Controlable. (B) Not controlable.

(C) Both (A) and (B). (D) None of the above.

7. The causes leading to vast variation in the specifications of a product are usually due to :

(A) Random process. (B) Assignable causes.

(C) Non-traceable causes. (D) All the above.

8. The faults due to assignable causes :

(A) Can be removed. (B) Cannot be removed.

(C) Can sometimes be removed. (D) All the above.

9. Any value computed using population observations is called :

(A) Statistic. (B) Parameter.

(C) Estimator. (D) None of these.

10. ——— is devoid of sampling errors.

(A) Sampling survey. (B) Census survey.

(C) Questionnaire method. (D) None of these.

11. Questionnaires and schedule are :

(A) Same in its kind and degree. (B) Same in its degree and vary in its kind.

(C) Vary in its kind and degree. (D) Same in its kind and vary in its degree.

12. Equality of two population variances can be tested by :

(A) t-test. (B) F-test.

(C) Both (A) and (B). (D) Neither (A) nor (B).

13. The ratio of between sample variance and with in sample variance follows :

(A) F-distribution. (B) χ^2 distribution.

(C) Z-distribution. (D) t-distribution.

14. Customarily the large variance in the variance ratio for F statistic is taken :

(A) In the numerator. (B) In the denominator.

(C) Eitherway. (D) None of the above.

15. One of the limitations in the construction of index numbers is :

(A) The choice of the type of average. (B) Choice of investigators.

(C) Choice of variables to be studied. (D) All the above.

16. Base period for an index number should be :

(A) A year only. (B) A normal period.

(C) A period at distant past. (D) None of the above.

17. Laspeyre's index formula uses the weight of the :

(A) Base year.

(B) Current year.

(C) Average of the weights of a number of years.

(D) None of the above.

18. Laspeyre's index numbers possess :

(A) Downward bias. (B) No bias.

(C) Upward bias. (D) None of the above.

19. Paasche's quantity index formula for n items is :

(A) $(\Sigma p_1 q_1 / \Sigma p_0 q_1) \times 100$. (B) $(\Sigma p_1 q_1 / \Sigma p_0 q_0) \times 100$.

(C) $(\Sigma p_0 q_1 / \Sigma p_1 q_1) \times 100$. (D) $(\Sigma p_1 q_1 / \Sigma p_1 q_0) \times 100$.

20. The price index as the arithmetic mean of Laspeyre's and Paasche's indices was expounded by :

(A) Kelly. (B) Irving Fisher.

(C) Drobish and Bowley. (D) Walsh.