

15U424

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Name:

Reg.No.....

FOURTH SEMESTER B.Sc. DEGREE EXAMINATION, MAY 2017

(CUCBCSS-UG)

CC15U ST4 C04 - APPLIED STATISTICS

Statistics - Complementary Course

(2015 Admission)

Time: Three Hours

Maximum: 80 Marks

Part A.

Answer all questions

1. The error due to faulty selection of a sample is regarded as
2. Representative part of the population is called
3. Analysis of variance deals with testing the equality of of more than two populations
4. In ANOVA, mean sum of squares is obtained by dividing each sum of squares by the corresponding
5. The degrees of freedom for total sum of squares in a two-way ANOVA with 'm' rows and 'n' columns is
6. The component of time series which occur periodically but with periodicity more than one year is known as
7. The semi average method used to determine Component of time series.
8. In a control chart the manageable cause is
9. The price of an item in 2010 and 2011 are Rs.200 and Rs. 210 respectively, then its price relative in percentage is
10. Upper control limit for R Chart is **(10 x 1 =10 marks)**

Part B.

Answer all questions

11. Explain cluster sampling
12. What is systematic sampling?
13. What are the basic Assumptions for ANOVA?
14. Why Index Numbers are called Economic Barometers?
15. What do you mean by 3σ limit?
16. Explain Range chart.

(1)

Turn Over

17. Distinguish between product control and process control

(7 x 2 = 14 Marks)

Part C.

Answer any three questions

18. Distinguish in between SRSWR and SRSWOR?

19. The number of defects found in ten pieces of cloth of 10 meters length is as follows:

1,2,3,4,1,6,5,4,2,1. Construct a C chart using the data.

20. Explain the method of fitting linear trend in a time series using principle of least squares.

21. Define Laspeyre's and Paasche's index numbers.

22. Explain the various tests to be satisfied by a good index number.

(3 x 4 = 12 Marks)

Part D.

Answer any four questions

23. Explain sampling and non-sampling errors.

24. Explain the procedure followed in the ANOVA of a two-way classified data.

25. Explain the components of a time series.

26. Compute the trend values by finding four-yearly moving averages from the following time- series data.

Year : 1998 1999 2000 2001 2002 2003 2004 2005 2006

Value : 105 112 125 102 107 103 111 104 100

27. What are the uses and limitations of index numbers?

28. Explain the construction of control charts using sample mean.

(4 x 6 =24 Marks)

Part E.

Answer any two questions

29. Explain in detail the principal steps in a sample survey.

30. Following table gives the number of refrigerators sold by 4 salesmen in three months

Month	A	B	C	D
May	50	40	48	39
June	46	48	50	45
July	39	44	40	39

(2)

- (a) Determine whether there is any difference in the average sales made by four salesmen.
 (b) Determine whether the sales differ with respect to different month.

31. From the following data calculate price index numbers for 2005 with 1995 as base by :
 (i) Laspeyre's, (ii) Paasche's, (iii) Marshall-Edgeworth, and (iv) Fisher's formulae :

Commodities	1995		2005	
	Price	Quantity	Price	Quantity
A	20	8	40	6
B	50	10	60	5
C	40	15	50	15
D	20	20	20	25

32. Calculate seasonal indices for the following quarterly data.

Year	Quarter I	Quarter II	Quarter III	Quarter IV
2011	30	81	62	119
2012	33	104	86	171
2013	42	133	99	221
2014	56	172	129	335
2015	67	201	136	302

(2x 10= 20 Marks)
