

**E 6627**

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Reg. No.....

Name.....

**B.B.A. DEGREE (C.B.C.S.S.) EXAMINATION, MAY 2017**

**Second Semester**

**Complementary Course—STATISTICS FOR RESEARCH**

(2013 Admission onwards)

Time : Three Hours

Maximum Marks : 80

**Part A**

*Answer all questions. 1 mark each.*

- 1 Define sample space.
- 2 Define mutually exclusive event.
- 3 Probability sampling.
- 4 What is confidence level.
- 5 What is cluster analysis.
- 6 Hypothesis Testing.
- 7 What is outlier.
- 8 State any *two* applications of F-test.
- 9 What is Type II error.
- 10 What is alternate hypothesis.

(10 × 1 = 10)

**Part B**

*Answer any eight questions. 2 marks each.*

- 11 Differentiate between sample survey and census method.
- 12 Why sampling is necessary in many statistical enquires.
- 13 What are random sampling numbers ? How does it can be used for the selection of a sample from a given population.
- 14 Explain conditional probability.
- 15 State Baye's Theorem.
- 16 Explain F-test.
- 17 In how many ways can the letters in the word 'READ' be arranged.

**Turn over**

- 18 What is degree of freedom.
- 19 What are the conditions to perform 't' test.
- 20 What are the limitations of *chi-square* test.
- 21 What are the qualities of a good sample.
- 22 Distinguish between parameter and statistic.

(8 × 2 = 16)

### Part C

Answer any **six** questions. 4 marks each.

- 23 What is hypothesis ? Explain the procedure followed in testing a hypothesis.
- 24 A candidates in selected for interview for three posts. For the first post three are 3 candidates, for the second there are 4 and for the third there are 2. What are the chances of his getting at least one post ?
- 25 Explain different methods for selecting samples.
- 26 Distinguish between a large sample and a small sample. Explain the law of inertia of large numbers.
- 27 A sample survey indicates that out of 3232 births, 1705 were boys and the rest were girls. Do these figures confirm the hypothesis that the sex ratio is 50 : 50 ? Test at 5 percent level of significance.
- 28 A sample of 10 is drawn randomly from a certain population. The sum of the squared deviation from the mean of the given sample is 50. Test the hypothesis that the variance of population is 5 at 5% level of significance.
- 29 What is probability ? Explain the different approaches to probability.
- 30 Explain Analysis of variance. What are the usefulness of Analysis of variance technique in business decision making.
- 31 Differentiate between parametric and non-parametric tests.

(6 × 4 = 24)

### Part D

Answer any **two** questions. 15 marks each.

- 32 In a certain town, males and females form 50% of the population. It is known that 20% of the males and 5% of the females are unemployed. A research student studying the employment situation selects an unemployed person at random. What is the probability that the person selected is a (i) male (ii) female ? How does this conditional probability change if the person selected is employed ?

33 A die is thrown 132 times with following result. Examine whether the die is biased or not :

Number turned up	...	1	2	3	4	5	6
Frequency	...	16	20	25	14	29	28

34 Write short notes :

- (i) Coding in the context of analysis of variance.
- (ii) F-ratio.
- (iii) Significance of the analysis of variance.

35 Explain any *two* non parametric test. Discuss their advantages and limitations.

(2 × 15 = 30)