

E 8244

(Pages : 2)

Reg. No.....

Name.....

B.B.A. DEGREE (C.B.C.S.S.) EXAMINATION, MAY 2014

Second Semester

Complementary Course—STATISTICS FOR RESEARCH

[2013 Admissions]

Time : Three Hours

Maximum : 80 Marks

Part A (Short Answer Questions)

*Answer all questions.
Each question carries 1 mark.*

Write the meaning of the following :—

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|-------------------------------|-------------------------|
| 1. Mutually exclusive events. | 2. Census. |
| 3. Hypothesis. | 4. Degrees of freedom. |
| 5. Power of a test. | 6. Contingency table. |
| 7. ANOVA. | 8. Parametric test. |
| 9. Large sample. | 10. Non-sampling error. |

(10 × 1 = 10)

Part B (Brief Answer Questions)

*Answer any eight questions.
Each question carries 2 marks.*

11. What is "Axiomatic Approach to Probability" ?
12. In how many ways can the letters of the word ACCOUNTANT be arranged ?
13. What is Chi-square test ?
14. State Bayes theorem.
15. Define population and sample.
16. What is Type II error ?
17. What is a "Point Estimator" ? Give example.
18. Distinguish between Null and Alternative hypothesis.
19. What is F-test ?
20. What are the uses of analysis of variance ?
21. Explain Sampling error.
22. Define Student's t-statistic.

(8 × 2 = 16)

Turn over

Part C (Descriptive/Short Essay Type Questions)

*Answer any six questions.
Each question carries 4 marks.*

23. Explain the concept of probability and point out its role in business decision-making.
24. Explain the concept of standard error. How is it useful in testing of hypothesis ?
25. Describe the uses of Chi-square test.
26. Point out the role and limitations of sampling.
27. Write notes on each of the following :—
 - (i) Sampling distribution.
 - (ii) Important applications of *t*-test.
28. Briefly discuss the various non-probability sampling methods.
29. In a hospital 480 female and 520 male babies were born in a week. Do these figures confirm the hypothesis that males and females are born in equal number ?
30. A company has 300 employees of whom 20 are men. When questioned, 180 people agreed that they were happy in their work. What is the probability that a man employee in the company is unhappy ?
31. The average life of 26 electric bulbs were found to be 1200 hours with a standard deviation of 150 hours. Test whether these bulbs could be considered as a random sample from a normal population with mean 1300 hours.

(6 × 4 = 24)

Part D (Long Essays)

*Answer any two questions.
Each question carries 15 marks.*

32. Explain the procedure generally followed in testing of a hypothesis. Point out the difference between one tail and two tail tests.
33. A sample analysis of examination results of 200 MBA's was made. It was found that 46 students had failed, 68 secured a third division, 62 secured a second division and the rest were placed in the first division. Are these figures commensurate with the general examination result which is in the ratio of 2 : 3 : 3 : 2 for various categories respectively.
(Given : Table value of Chi-square for 3 d.f. at 5 % level of significance is 7.81).
34. A bag contains 4 red and 3 blue balls. Two drawings of 2 balls are made. Find the probability of drawing first 2 red balls and second 2 blue balls.
 - (i) If the balls are returned to the bag after the first draw.
 - (ii) If the balls are not returned after the first draw.
35. Describe the technique of analysis of variance for a one way classification.

(2 × 15 = 30)