



JK Lakshmipat University, Jaipur
Institute of Management
End Term Examination
(December 2019)

Programme: BBA–III Sem (Regular/Backlog)
Time: 2 Hours

Course: QT06: Business Statistics
Max Marks: 40

Instructions: Attempt all questions. Statistical Tables shall be provided on request.

1. State the appropriate null and alternate hypotheses for following scenarios: (6 marks)
 - i) A University wants to determine whether the percentages of female students in Management and Engineering departments are same.
 - ii) A grocery merchant wants to determine whether sales of groceries are better in the first halves of months than the second halves.
 - iii) An advertising researcher wonders whether the fuel efficiency of a brand of bike is significantly less than 90 kmph as stated in the advertisement.
2. Differentiate between following with suitable illustrations: (any four) (4x4=16 marks)
 - i. Null and Alternate Hypotheses
 - ii. Type I and Type II Errors
 - iii. One-tailed and Two-tailed tests
 - iv. Confidence Level and Significance Level
 - v. Standard Deviation and Standard Error
 - vi. Normal Distribution and t-Distribution
3. A University is contemplating whether to continue with the minimum attendance requirement of 75% for appearing in the examination or not. A survey of 600 students indicated that only 42 of them were in favor of attendance requirement. A similar survey done last year showed that 5% of the students were in favor. At a 2% level of significance, can we conclude that the students' attitude towards attendance requirement has changed? (6 marks)
4. Out of two independent samples, the first with 60 elements had a mean of 86 and a standard deviation of 6, while the second with 75 elements had a mean of 82 and a standard deviation of 9. Compute the standard error of difference between the two means. Also, at $\alpha = 0.01$, test whether the two samples can be considered to have come from the same population. (6 marks)
5. At $\alpha = 0.10$, can we conclude that the following 200 observations follow a Poisson distribution with $\lambda = 3$? (6 marks)

# of Calls received per hour	0	1	2	3	4	5 or more
# of hours	10	28	49	43	39	31

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