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| <b>Subject Code:2SC1000424</b> | <b>Subject Title: Business Mathematics-IV</b> |
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**Course Objective:**

This course is designed to enable students to acquire the understanding the application of Integral Calculus and Transportation Problem in real life situation problem.

| Teaching Scheme (Hours per week) |          |           |        | Evaluation Scheme (Marks) |           |                                |                                 |                                |       |
|----------------------------------|----------|-----------|--------|---------------------------|-----------|--------------------------------|---------------------------------|--------------------------------|-------|
| Lecture                          | Tutorial | Practical | Credit | University Assessment     |           | Institutional Assessment       |                                 |                                | Total |
|                                  |          |           |        | Theory                    | Practical | Mid-term Examination Component | Continuous Evaluation Component | Practical Evaluation Component |       |
| 2                                | -        | -         | -      | 35                        | -         | 15                             | -                               | -                              | 50    |

| Subject Contents |                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        |             |            |
|------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------|------------|
| Unit No.         | Topic                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  | Total Hours | Weight (%) |
| 1                | <p><u>[Integral Calculus]</u> [only examples]<br/> Indefinite integral: Definition, Working rules of integration, integration of <math>x^n</math>, <math>a^x</math>, <math>e^x</math>, integration of <math>\frac{1}{x^2 \pm a^2}</math>; <math>\frac{1}{\sqrt{x^2 \pm a^2}}</math>; <math>\frac{1}{\sqrt{a^2 - x^2}}</math>; <math>\frac{1}{ x \sqrt{x^2 - a^2}}</math><br/> integration of trigonometric functions, integration by method of substitution,<br/> <b>Some standard results:</b> <math>\int f(x)dx = F(x) + c \Rightarrow</math><br/> <math>\int f(ax+b)dx = \frac{1}{a}F(ax+b) + c</math>, <math>\int [f(x)]^n \cdot f'(x)dx</math>, <math>\int \frac{f'(x)}{f(x)}dx</math>,<br/> <math>\int \frac{1}{ax^2 + bx + c}dx</math>, <math>\int \frac{1}{\sqrt{ax^2 + bx + c}}dx</math>.</p> | 15          | 25         |
| 2                | <p><b>Transportation Problem:</b><br/> Meaning, Definition, Uses and Mathematical form of the T.P, Obtaining the initial feasible solution by North-West corner rule, Least cost method and Vogel's approximation method.</p>                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          | 15          | 25         |

**Course Outcome:**

- After successfully completion of the course, the student will be able to ...
- Understanding the application of Integral Calculus.
- Know about the application of Transportation Problem.

**List of References:**

- (1) Business Mathematics by. D.C.Sancheti & V.K.Kapoor, Sultan Chad & Sons Publication, New Delhi.
- (2) Business Mathematics by. B.S.Shah Prakashsan, Ahmedabad.
- (3) Any Advance Calculusbooks used in Science Streme .
- (4) Operations Research , by. J.K.Sharma. Macmillan Publishers India Ltd.