# SARDAR PATEL UNIVERSITY
## Programme: B.Sc
## Semester: III
## Syllabus with effect from: June-2012

| Paper Code: US03CELE01 | Total Credit: 3 |
|---|---|
| **Title of Paper: Electronics & Communication** | |

| Unit | Description in detail | Weightage (%) |
|---|---|---|
| I | **Vector Algebra and Integral calculus**<br>Vector algebra, dot product, cross product, triple product, differentiation of vectors, velocity & acceleration, scalar & vector functions, gradient, divergence, curl & their application, Integration of vector, line integral, surface integral, circulation work & flux, volume integral, Green's theorem, Stoke's theorem, Divergence theorem. | 25% |
| II | **Fourier Series**<br>Periodic function, Fourier series, Euler's formula, Formulae for determining fourier co-efficient, Fourier series of discontinuous functions, change of interval, expansions of odd & even periodic function, half range fourier series. | 25% |
| III | **Laplace Transform**<br>Definition of Laplace transform, properties of laplace transform, laplace transform of derivatives and integral, multiplication by $T^n$, Inverse Laplace Transform. | 25% |
| IV | **Fourier Transform**<br>Definition of Fourier transform, properties of fourier transform, convolution theorem, Parseval's Identity, relation between Fourier and Laplace transform. | 25% |

**Basic Text & Reference Books:**

- Higher Engineering Mathematics: B.S.Grewal.
- Advanced Engineering Mathematics: E. Kreyzig.
- Applied Engineering Mathematics (VOL 1): Stroud.
- Higher Engineering Mathematics: K.R.Kachot