# SARDAR PATEL UNIVERSITY
## Programme: B.Sc (Information Technology)
## Semester: V
## Syllabus with effect from: June - 2013

| Paper Code: US05CINT05 | Total Credit: 3 |
|---|---|
| **Title of Paper: System Analysis Design & Software Engineering** | |

| Unit | Description in detail | Weightage (%) |
|---|---|---|
| I | The Concepts of System & Systems Analysis. <br> The concept of a system. <br> The elements and characteristics of a system. <br> Types of systems. <br> Meaning of systems analysis. <br> Role of a systems analyst. | 25% |
| II | **Systems Development Life Cycle (SDLC).** <br> SDLC – Introduction. <br> Stages of systems analysis : Problem identification, Feasibility study and cost benefit analysis, System requirement analysis. <br> Stages of systems design : System design specification and programming, System implementation, follow up, maintenance, Evaluation of a system. | 25% |
| III | **Structured Systems Analysis and Design Method.** <br> Structured Systems Analysis and Design (SSADM) – need and meaning. <br> SSADM Methodology : System survey, Structured analysis, Structured Design, Hardware study, System Implementation, Maintenance. <br> Advantage s of SSADM. | 25% |
| IV | **Introduction to Software Engineering.** <br> Introduction: Software and Software Engineering. <br> General Characteristics of Software & development process. <br> Phases in Software development. <br> Effort and Error Distribution. <br> Process Models: Waterfall, Prototype, Iterative enhancement, spiral. <br> Software metrics: introduction, product metrics, process metrics. | 25% |

**Basic Text & Reference Books:**

- S. Parthasarthy & B. W. Khalkar: System Analysis & Design, 6th Edition, Master Ed. Cons., Nashik.
- James A. Senn : Analysis & Design of Information System 2nd Edition, McGraw-Hill Int.
- An Integrated Approach to Software Engineering : By Pankaj Jalote, Narosa Publishing House, Second Edition,1997