

**SARDAR PATEL UNIVERSITY**  
**Programme & Subject: B.Sc. (CA & IT) – M.Sc. (CA & IT) Dual Degree**  
**Semester: II**  
**Syllabus with Effect from: June-2019**

<b>Paper Code: US02CIIT23</b>	<b>Total Credit: 4</b>
<b>Title Of Paper: Systems Analysis and Design</b>	

<b>Unit</b>	<b>Description in Detail</b>	<b>Weightage (%)</b>
<b>1</b>	<b>Systems Analysis and Systems Development Life Cycle (SDLC)</b> <ul style="list-style-type: none"> <li>- The concept of a system</li> <li>- The elements and characteristics of a system</li> <li>- Types of systems</li> <li>- Meaning of systems analysis</li> <li>- Role of a systems analyst</li> <li>- Stages of systems analysis : Problem identification, Feasibility study and cost benefit analysis, System requirement analysis</li> <li>- Stages of systems design : System design specification and programming, System implementation, follow up, maintenance, Evaluation of a system</li> </ul>	25%
<b>2</b>	<b>Structured Systems Analysis and Design Method and Input/output Design</b> <ul style="list-style-type: none"> <li>- Structured Systems Analysis and Design (SSADM) – need and Meaning</li> <li>- SSADM Methodology : System survey, Structured analysis, Structured Design, Hardware study, System Implementation, Maintenance</li> <li>- Advantages of SSADM.</li> <li>- System design control</li> <li>- Input : Data capture objectives, Data verification and validation</li> <li>- Output : Design principles of output, Output objectives</li> </ul>	25%
<b>3</b>	<b>Data Flow Diagrams &amp; Fact Gathering Techniques</b> <ul style="list-style-type: none"> <li>- Fact finding techniques : Interviewing, Questionnaires, Record inspection, Observation</li> <li>- Data Flow Diagrams (DFDs) – meaning and significance</li> <li>- Symbols used in DFDs, constructing a DFD with illustration</li> <li>- Physical and logical DFDs</li> <li>- Use of system flowcharts</li> <li>- Introduction to Decision Table and Decision Tree</li> <li>- Structured English</li> </ul>	25%
<b>4</b>	<b>Computer Assisted System Engineering ( CASE ) Tools and Quality Assurance</b> <ul style="list-style-type: none"> <li>- CASE : an introduction</li> <li>- CASE components : Diagramming Tools, Information repository, Interface generator, Code generator, Management tools</li> <li>- Benefits of CASE, limitations of CASE</li> <li>- Levels of Assurance</li> <li>- Testing strategies</li> </ul>	25%

**MAIN REFERENCE BOOKS :**

1. S. Parthasarthy & B. W. Khalkar : System Analysis & Design, 1st Edition, Master Ed. Cons., Nashik .
2. James A. Senn : Analysis & Design of Information System 2nd Edition, McGraw-Hill Int.