

**SARDAR PATEL UNIVERSITY**  
**Programme: MSC (Information Technology)**  
**Semester: III**  
**Syllabus with effect from: June 2010**

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| <b>Paper Code:</b> PS03CINT02                            | <b>Total Credits: 4</b> |
| <b>Title Of Paper:</b> Data Communication and Networking |                         |

| Unit     | Description in detail  | Weightage (%) |
|----------|--|---------------|
| <b>1</b> | <b>Network Communication:</b><br>Reference models (OSI and TCP/IP) & their comparison<br>Network devices (Repeater, Bridge, Router, Gateway)<br>Network Management   | <b>18 %</b>   |
| <b>2</b> | <b>Internet Protocol:</b><br>Introduction to TCP/IP (IPV4, IPV6), HTTP, FTP, SMTP, MIME, TELNET, UDP<br>IP header, IP routing, subnet addressing, subnet mask<br>TCP Service model, segment header, connection management, transmission policy, congestion control | <b>16 %</b>   |
| <b>3</b> | <b>Wireless Technology – I:</b><br>Satellite Networks<br>Digital Cellular Radio<br>BlueTooth<br>SMS  | <b>16 %</b>   |
| <b>4</b> | <b>Wireless Technology – II:</b><br>Introduction and architecture<br>WAP: Architecture and features, Understanding WAP Browser and server<br>WML<br>Understanding tags: Creating WML scripts, execution using WAP browser  | <b>18 %</b>   |
| <b>5</b> | <b>Distributed Computing – I:</b><br>Introduction to distributed computing environment.<br>COM - Basic fundamentals, creating simple client and server<br>DCOM: Architecture , reusability, scalability, performance, fault tolerance                              | <b>16 %</b>   |
| <b>6</b> | <b>Distributed Computing – II:</b><br>DCOM – Connection management, Concurrency management, security issues<br>CORBA – Architecture, object model, communication model, CORBA Services, CORBA Facilities.<br>Introduction to Jini                                  | <b>16 %</b>   |

**Basic Text & Reference Books:**

- Andrew Tanenbaum: Computer Networks - PHI
- R. Smith: Cryptography and Network Security Principles and Practice 2<sup>nd</sup> edition – PHI
- Robert Orfali, Dan Harkey: Client/Server Programming with Java & Corba
- Richard Grimes: Professional DCOM Programming – Wrox
- Professional WAP - Pearson Education

