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

**Paper Code:** PS03CINT02  
**Title Of Paper:** Data Communication and Networking  
**Total Credits:** 4

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

**Basic Text & Reference Books:**

- Andrew Tanenbaum: Computer Networks - PHI
- Robert Orfali, Dan Harkey: Client/Server Programming with Java & Corba
- Richard Grimes: Professional DCOM Programming – Wrox
- Professional WAP - Pearson Education