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| |  |  |  | | --- | --- | --- | | 13CS1101 | - | ADVANCED COMPUTER NETWORKING | | | | | | | | |
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| Hours / Week | : | 4 | |  | Sessional Marks | : | 40 |
| Credits | : | 4 | |  | End Examination Marks | : | 60 |

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| **UNIT - I** |
| **Network Overview:** Interfaces, protocols and services, connection-oriented and connectionless services, OSI & TCP/IP Reference Models, ATM, Novel Netware, Local Area Networks: Topologies - star, bus, ring. |
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| **UNIT – II** |
| **Media Access Control:** deterministic and probabilistic, IEEE 802.x. wireless networking. **Data Link Protocols:** framing and data transparency, error detection & correction, flow control. |
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| **UNIT – III** |
| **Interconnecting Networks:** Transparent and source routing bridges, switches. Routers - adaptive and non-adaptive routing protocols. Internet Protocols: IP Addressing, ARP & RARP, IP & ICMP, UDP & TCP |
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| **UNIT – IV** |
| **Overview of distributed system architecture**: Motivation, system structures, ODS Reference model and distribution transparencies, design issues, Client-Server Model. **Interaction primitives:** message passing, remote procedure call, remote object invocation. |
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| **UNIT – V** |
| **Interaction implementation:** message passing, RPC, concurrency and threads  **Security:** threat analysis, access control concepts - identification, authentication, authorization and delegation, access control lists, capabilities, secret and public key encryption, Kerberos |
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| TEXT BOOKS |
| 1. Computer Networks, 5th / 4th Ed., A.S.Tanenbaum, Prentice Hall, 2010. 2. Advanced Operating System, 2nd Ed., A.S.Tanenbaum |
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| REFERENCE BOOKS |
| 1. Data Communications and Networking, Behrouz a Forouzan. 2. Distributed Systems: principles and paradigms, A.S.Tanenbaum, |