**Krantiguru Shyamji Krishna Verma Kachchh University**
**Post Graduate Diploma in Computer Applications**
**Semester: II**

| | |
|---|---|
| **Paper Code:** CECS208 | **Total Credit :** 4 |
| **Title of Paper:** Data Communication and Computer Network | **Total Marks :** 70 |
| | **Time :** 3 Hrs |

| Unit | Description | Weighting |
|---|---|---|
| I | Introduction- The telephone system, Standards organizations, History and Applications of data communications; Fundamentals of data communications- Signal representation, digital and analog signals, modems, data codes, Unicode, telecommunications and voice communications. | 20% |
| II | Conducted media-Twisted pair, coaxial and fiber-optic cable, Radiated media- broadcast radio, microwave, cellular radio, SS radio, Media selection- cost, speed, errors and security, Computers and terminals, Network configurations, Terminal interfaces; Multiplexers- FDM, TDM, STDM, WDM, FDMA, TDMA, CDMA, multiplexer configurations, Concentrators, Front-end processors, Controllers, Protocol converters, Ancillary equipment. | 20% |
| III | Analog modulation- AM, FM, PM, QAM, Digital modulation-digital to analog, analog to digital and digital to digital modulation, Transmission directions-simplex, half-duplex, full-duplex, Modes- serial, parallel, Synchronization- asynchronous, synchronous, Errors- detection, correction, prevention, Data Transmission- ISDN, DSL, LMDS Protocols –OSI, Wide Area Network protocols, Internet protocols, Local Area Network protocols | 20% |
| IV | Switched circuits- DEMARC, LEC, VPN, ISDN, Dedicated circuits- voice grade, wideband, T-carrier, DSL, SONET, Fast packet services- X.25, Frame relay, ATM, SMDS, AIN, MPLS. | 20% |
| V | Physical security, Software security, Digital signatures, Security issues. Network management- objectives, meeting the objectives, Management of wireless networks, Network monitoring tools. | 20% |

| Basic Text & Reference Books :- | |
|---|---|
| 1. | Business Data Communications: Shelly / Cashman / Serwatka (Thomson Publishers) |
| 2. | Data Communication and Networking : Dr. M. Jain, Satish Jain (BPB) |
| 3. | Data Communication and Computer Networks : Brijendra Singh (PHI) |

**Krantiguru Shyamji Krishna Verma Kachchh University**
**Post Graduate Diploma in Computer Applications**
**Semester: II**

| | | | |
|---|---|---|---|
| **Paper Code:** CECS208 | | **Total Credit :** 4 | |
| **Title of Paper:** Data Communication and Computer Network | | **Total Marks :** 70 | |
| | | **Time :** 3 Hrs | |

| Unit | Description | | Total Marks |
|---|---|---|---|
| I | Q.1(A) Short / Medium Questions (With Internal Option) | 06 | 14 |
| | Q.1(B) Short / Medium Questions (With Internal Option) | 08 | |
| II | Q.2(A) Short / Medium Questions (With Internal Option) | 06 | 14 |
| | Q.2(B) Short / Medium Questions (With Internal Option) | 08 | |
| III | Q.3(A) Short / Medium Questions (With Internal Option) | 06 | 14 |
| | Q.3(A) Short / Medium Questions (With Internal Option) | 08 | |
| IV | Q.4(A) Short / Medium Questions (With Internal Option) | 06 | 14 |
| | Q.4(B) Short / Medium Questions (With Internal Option) | 08 | |
| V | Q.5(A) Short / Medium Questions (With Internal Option) | 06 | 14 |
| | Q.5(B) Short / Medium Questions (With Internal Option) | 08 | |