



SAKUNTALA SUDARSHAN INSTITUTE OF TECHNOLOGY (SSIT) (POLYTECHNIC)  
KALAKAD, KARANJIA, MBJ, ODISHA-757037. Approved by AICTE, New Delhi & Affiliated to SCTE&VT, Orissa.  
LESSON PLAN : year :

| BRANCH: Electrical Eng. (I & C)          |                 |         | SEMESTER 6th   | NAME OF THE FACULTY: Shibani Mohanta                                                                  |           |
|------------------------------------------|-----------------|---------|----------------|-------------------------------------------------------------------------------------------------------|-----------|
| SUBJECT NAME: Advance Communication Eng. |                 |         | NO. OF CLASSES | SEMESTER FROM DATE :                                                                                  | TO DATE : |
| MONTH                                    | WEEK            | DATE    | DAY            | TOPICS / SUB - TOPICS                                                                                 |           |
| February                                 | 1 <sup>ST</sup> | 6.2.25  |                | Basic Concept of Data Communication & their data represent.                                           |           |
|                                          | 2 <sup>ND</sup> | 8.2.25  |                | Describe their data flow & modes.                                                                     |           |
|                                          | 3 <sup>RD</sup> | 10.2.25 |                | Describe the data Comm' ckt & their block dig.                                                        |           |
|                                          | 4 <sup>TH</sup> | 11.2.25 |                | Write the data Communication code of their Architecture, Standard & Protocol                          |           |
| February                                 | 1 <sup>ST</sup> | 12.2.25 |                | Types of Transmission & Transmission Modes.                                                           |           |
|                                          | 2 <sup>ND</sup> | 13.2.25 |                | Basic ideas of Error Control & Error Detection.                                                       |           |
|                                          | 3 <sup>RD</sup> | 18.2.25 |                | Modem & its basic block dig. & Common Features Voice Band modem                                       |           |
|                                          | 4 <sup>TH</sup> | 19.2.25 |                | Working of Electronic Telephone System & fun <sup>n</sup> of Switching System & Call procedures       |           |
| February                                 | 1 <sup>ST</sup> | 20.2.25 |                | Space & time Switching for numbering Plan of telephone network                                        |           |
|                                          | 2 <sup>ND</sup> | 22.2.25 |                | Working Principle of a PBX & Digital EPABX.                                                           |           |
|                                          | 3 <sup>RD</sup> | 24.2.25 |                | Unit of Power Measurement. Working Principle of Internet, Tele. & Protocol Telephone system           |           |
|                                          | 4 <sup>TH</sup> | 27.2.25 |                | Basic Radar, advantages & appl <sup>n</sup> & working their principle radar system                    |           |
| March                                    | 1 <sup>ST</sup> | 3.3.25  |                | Radar range eq <sup>n</sup> & performance feature of radar & working principle of Pulsed radar system |           |
|                                          | 2 <sup>ND</sup> | 4.3.25  |                | Fun <sup>n</sup> of radar indication & working principle of moving target indicator                   |           |
|                                          | 3 <sup>RD</sup> | 5.3.25  |                | Define Doppler effect & working principle of C.W Radar Radar aids to Navigation.                      |           |
|                                          | 4 <sup>TH</sup> | 6.3.25  |                | MTI Radar working principle of Aircraft landing system & Navigation satellite system                  |           |

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LESSON PLAN :

year :

| BRANCH         |                 | Electrical Engineering (I & II)       |     | SEMESTER                                                                                                                                 | 6 <sup>th</sup> | NAME OF THE FACULTY : Shibani Mohanta |  |
|----------------|-----------------|---------------------------------------|-----|------------------------------------------------------------------------------------------------------------------------------------------|-----------------|---------------------------------------|--|
| SUBJECT NAME : |                 | Advance Comm <sup>n</sup> Engineering |     | NO. OF CLASSES                                                                                                                           |                 | SEMESTER FROM DATE : TO DATE :        |  |
| MONTH          | WEEK            | DATE                                  | DAY | TOPICS / SUB - TOPICS                                                                                                                    |                 |                                       |  |
| March          | 1 <sup>ST</sup> | 8.3.25                                |     | Satellite Transponders & Kepler's laws                                                                                                   |                 |                                       |  |
|                | 2 <sup>ND</sup> | 10.3.25                               |     | Satellite Orbital patterns & elevation (LEO, MEO & GEO) Categories                                                                       |                 |                                       |  |
|                | 3 <sup>RD</sup> | 11.3.25                               |     | Write the Concept of Geostationary Satellite, calculate its height, velocity & round trip time delay & their advantages & disadvantages. |                 |                                       |  |
|                | 4 <sup>TH</sup> | 12.3.25                               |     | Working sub satellite system & satellite Freq. allocation & Freq. bands.                                                                 |                 |                                       |  |
| March          | 1 <sup>ST</sup> | 13.3.25                               |     | General Structure of satellite link system & Principle of broadcast system (DBS)                                                         |                 |                                       |  |
|                | 2 <sup>ND</sup> | 17.3.25                               |     | Write the Principle of VSAT system. Define multiple accessing frame various types.                                                       |                 |                                       |  |
|                | 3 <sup>RD</sup> | 18.3.25                               |     | TDMA & FDMA block dig. & it's advantages & disadvantages.                                                                                |                 |                                       |  |
|                | 4 <sup>TH</sup> | 20.3.25                               |     | Satellite APIN Comm <sup>n</sup> Satellite, Digital Satellite Radio.                                                                     |                 |                                       |  |
| March          | 1 <sup>ST</sup> | 24.3.25                               |     | Working Principle of GPS receiver & Transmitter & APIN. Optical Satellite link Transmitter & Receiver                                    |                 |                                       |  |
|                | 2 <sup>ND</sup> | 25.3.25                               |     | Basic Principle of optical fibre Comm <sup>n</sup> . Compare Advantages & disadvantages of optical fiber & metallic cable.               |                 |                                       |  |
|                | 3 <sup>RD</sup> | 25.3.25                               |     | Electromagnetic Freq. & Wave line Spectrum & optical fiber construction                                                                  |                 |                                       |  |
|                | 4 <sup>TH</sup> | 26.3.25                               |     | Types of optical fiber & Principle of Propagation in a fibre using Ray theory                                                            |                 |                                       |  |
| March & April  | 1 <sup>ST</sup> | 27.3.25                               |     | Define term Velocity of Propagation, critical Angle, Acceptance angle, numerical aperture.                                               |                 |                                       |  |
|                | 2 <sup>ND</sup> | 27.3.25                               |     | Optical fiber communication system block dig. & working principle.                                                                       |                 |                                       |  |
|                | 3 <sup>RD</sup> | 3.4.25                                |     | Modes of Propagation & Index profile of optical fiber                                                                                    |                 |                                       |  |
|                | 4 <sup>TH</sup> | 3.4.25                                |     | Describe the types of optical fibers & configuration. Single mode step, multi-mode step & multi mode. Graded Index.                      |                 |                                       |  |

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LESSON PLAN :

year :

| BRANCH: Electrical Eng (I & C)          |                 | SEMESTER 6 <sup>th</sup> | NAME OF THE FACULTY: Shibani Mohanta |                                                                                               |
|-----------------------------------------|-----------------|--------------------------|--------------------------------------|-----------------------------------------------------------------------------------------------|
| SUBJECT NAME: Advance Comm. Engineering |                 | NO. OF CLASSES           | SEMESTER FROM DATE : TO DATE :       |                                                                                               |
| MONTH                                   | WEEK            | DATE                     | DAY                                  | TOPICS / SUB - TOPICS                                                                         |
| April                                   | 1 <sup>ST</sup> | 5.4.25                   |                                      | Attenuation in optical fibres Absorption loss, scattering, loss at bending losses at core.    |
|                                         | 2 <sup>ND</sup> | 7.4.25                   |                                      | Cladding losses, dispersion material dispersion, waveguide dispersion, intermodal dispersion. |
|                                         | 3 <sup>RD</sup> | 8.4.25                   |                                      | Optical Sources (Transmitter) & types LED semiconductor laser, diode                          |
|                                         | 4 <sup>TH</sup> | 9.4.25                   |                                      | What is LASER it's working principles block diag. Using laser feedback control ckt.           |
| April                                   | 1 <sup>ST</sup> | 10.4.25                  |                                      | Optical detectors - PIN & APD diode & block diag. Using APD connector & optical cable         |
|                                         | 2 <sup>ND</sup> | 12.4.25                  |                                      | Optical Repeater & single channel system.                                                     |
|                                         | 3 <sup>RD</sup> | 15.4.25                  |                                      | APPL <sup>n</sup> of optical fibres - civil industry & military appl <sup>n</sup> .           |
|                                         | 4 <sup>TH</sup> | 16.4.25                  |                                      | Concept of wave length Division Multiplexing (WDM) Principles.                                |
| April                                   | 1 <sup>ST</sup> | 17.4.25                  |                                      | Basic Concept of Cell Phone, freq. reuse channel assignment strategies                        |
|                                         | 2 <sup>ND</sup> | 19.4.25                  |                                      | Hand off, co-channel interference & system capacity of a cellular Radio system.               |
|                                         | 3 <sup>RD</sup> | 21.4.25                  |                                      | Concept of Improving coverage & capacity in cellular system.                                  |
|                                         | 4 <sup>TH</sup> | 22.4.25                  |                                      | Concept of wireless system & it's standards.                                                  |
| April                                   | 1 <sup>ST</sup> | 23.4.25                  |                                      | Discuss the GSM services & features.                                                          |
|                                         | 2 <sup>ND</sup> | 24.4.25                  |                                      | Architecture of GSM system & GSM mobile station & channel type of system.                     |
|                                         | 3 <sup>RD</sup> | 25.4.25                  |                                      | Working of forward & Reverse CDMA channel, freq. of specific channel.                         |
|                                         | 4 <sup>TH</sup> | 28.4.25                  |                                      | Architecture & features of GPRS.                                                              |

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LESSON PLAN :

year :

| BRANCH                     |                 | SEMESTER       | NAME OF THE FACULTY : |                                                                 |
|----------------------------|-----------------|----------------|-----------------------|-----------------------------------------------------------------|
| Electrical Eng. (E & C)    |                 | 6th            |                       |                                                                 |
| SUBJECT NAME :             |                 | NO. OF CLASSES | SEMESTER FROM DATE :  |                                                                 |
| Advance Communication Eng. |                 |                | TO DATE :             |                                                                 |
| MONTH                      | WEEK            | DATE           | DAY                   | TOPICS / SUB - TOPICS                                           |
| April & May                | 1 <sup>ST</sup> | 29.4.25        |                       | Discuss the mobile TCP, IP Protocol.                            |
|                            | 2 <sup>ND</sup> | 30.4.25        |                       | Working of wireless Application Protocol (WAP)                  |
|                            | 3 <sup>RD</sup> | 1.5.25         |                       | Write the features of SMS, MMS 4G, 2G, 3G, 4G & 5G wireless N/w |
|                            | 4 <sup>TH</sup> | 3.5.25         |                       | GSM mobile station & channel type of system                     |
| May                        | 1 <sup>ST</sup> | 5.5.25         |                       | Aircraft landing system & Navigation Satellite system.          |
|                            | 2 <sup>ND</sup> | 6.5.25         |                       | Optical detection PIN & APD diode.                              |
|                            | 3 <sup>RD</sup> | 7.5.25         |                       | What is GSM system & GSM mobile system?                         |
|                            | 4 <sup>TH</sup> | 8.5.25         |                       | Optical fiber & metallic cable. Advantages & disadvantages.     |
| May                        | 1 <sup>ST</sup> | 10.5.25        |                       | Advantages & Disadvantages of TDMA & CDMA                       |
|                            | 2 <sup>ND</sup> | 12.5.25        |                       | Geostationary Satellite. Velocity & round trip time delay       |
|                            | 3 <sup>RD</sup> | 13.5.25        |                       | Navigation Satellite system & GPS system.                       |
|                            | 4 <sup>TH</sup> | 14.5.25        |                       | GPS Receiver & Transmitter Application.                         |
| May                        | 1 <sup>ST</sup> | 15.5.25        |                       | Different kind of optical fiber construction                    |
|                            | 2 <sup>ND</sup> | 17.5.25        |                       | Various kind of optical fiber step index mode.                  |
|                            | 3 <sup>RD</sup> |                |                       |                                                                 |
|                            | 4 <sup>TH</sup> |                |                       |                                                                 |

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