



MEHRAN UNIVERSITY OF ENGINEERING & TECHNOLOGY,
JAMSHORO



TENTATIVE TEACHING PLAN

Name of Teacher: Faheem Yar Khan

Subject: Communication Systems (TH)

Semester Starting Date: 20-07-2015

Batch: 13TL Year: 3rd Semester: 6th

Semester Suspension Date: 06-11-2015

| Serial # | Topic | # of Lectures |
|----------|---|---------------|
| 1 | Introduction to Communication System, Transmission Modes, Types of Electronic Communications, Elements of Communication System, Prerequisites for Communication | 1 |
| 2 | Transmission Media for Trunks/Links, Bandwidth and Data Rate, Classes of Bandwidth | 1 |
| 3 | Electromagnetic Spectrum, Signal, Signal Types, Spectral Analysis | 1 |
| 4 | PSTN, Topology, Switching Hierarchy, Class-5,4,3,2,1 Switch Functions | 1 |
| 5 | Basic functions and components of the Telephone set, DTMF, Fax, | 1 |
| 6 | Modulation Fundamentals, AM Concept, Information Signal and Modulated Carrier Waveform, Envelope, AM Equation | 1 |
| 7 | AM Modulation Index, Over-modulation, AM Sidebands, Problems | 1 |
| 8 | AM Bandwidth, AM Circuit, ASK Concept, Problems | 1 |
| 9 | FM Concept, FM Equation, FM Modulation Index, FM Advantages and Disadvantages | 1 |
| 10 | FM Bandwidth, Carson's Rule, FSK Concept, Problems | 1 |
| 11 | PM Concept, PM Equation, PM Modulation Index, PM Bandwidth, PSK Concept | 1 |
| 12 | Multiplexing Principles, FDM Concept, FDM Block Diagram, Example and Problems on FDM | 1 |
| 13 | TDM Concept, TDM time slots, TDM frame rate and bit rate, Example and Problems on TDM, Pulse Modulation, PAM, PPM, PWM, PCM | 1 |
| 14 | RADAR Concept, RADAR Distance Equation, Nautical Mile, RADAR Received Power Equation, Problems | 1 |
| 15 | Pulse Wave RADAR Concept, PRT, PRF, Duty Cycle, Problems on RADAR | 1 |
| 16 | Continuous Wave RADAR Concept, Doppler Effect, RADAR Velocity Equation, Problems | 1 |
| 17 | Satellite Concept, Satellite Circular and Elliptical Orbit, Satellite Orbital Plane, Geocenter, Posigrade, Retrograde, Apogee, Perigee, Satellite Speed | 1 |
| 18 | Satellite Angle of Elevation, Multiple Satellite System, LEO and MEO Orbits, Geosynchronous Orbits | 1 |
| 19 | Satellite Communication System Block Diagram, Repeater, Transponder, Satellite Bands, Common Satellite Uplink and Downlink Frequency | 1 |
| 20 | Satellite Applications, Reflection, Refraction, Critical Angle, Total Internal Reflection, Index of Refraction, Optical Spectrum | 1 |
| 21 | Fiber Optic Principle, Fiber Core-Cladding Description, Basic Elements of Fiber Optic Communication, Application and Benefits of Fiber Optics | 1 |
| 22 | Revision, Students Presentation, Q/A | 1 |

Signature of Teacher

Dated: March 07, 2015

Remarks of DMRC

Dated: _____

Signature of Chairman

Dated: _____