**VASAVI COLLEGE OF ENGINEERING(A), IBRAHIMBAGH, HYDERABAD-31**

**DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING**

**COURSE PLAN**

**Subject Name:** **Analog and Digital Communication Lab** **Class**: **3/4 ECE B**

**Academic Year:** **2017-2018** **Semester - 2nd**

**Name of the Staff Members : K.R. Deepthi/ A. Srilakshmi/ G. Venkateswarulu**

|  |  |  |
| --- | --- | --- |
| **S.**  **No.** | **Brief Details of unit** | **No. of periods required** |
| 1 | AM generation and detection. | 3 |
| 2 | a) FM generation and detection.  b)Pre emphasis and De-emphasis circuits. | 3 |
| 3 | a) Balanced Modulator.  b)FD Multiplexing & De-multiplexing. | 3 |
| 4 | Sampling and reconstruction. | 3 |
| 5 | PAM / PWM / PPM generation and detection. | 3 |
| 6 | Time Division Multiplexing and De-multiplexing | 3 |
| 7 | PCM generation and detection. | 3 |
| 8 | Data formats / channel encoding and decoding | 3 |
| 9 | Linear Delta, Adaptive Delta Modulation and Demodulation. | 3 |
| 10 | ASK, FSK &BPSK generation and Detection. | 3 |
| 11 | Minimum Shift Keying generation & detection. | 3 |
| 12 | a) Optical Fibre measurements: Numerical aperture, Attenuation, Losses in Optical Fibre  b) Digital Fibre Optic Multiplexed Link. | 3 |

**Signature of the Faculty Signature of the HOD Signature of Principal**

**EC 3411 ANALOG AND DIGITAL COMMUNICATION LAB**

|  |  |  |  |
| --- | --- | --- | --- |
| Instruction | 3 Periods per week | External Examination - Duration | 3 Hours |
| Sessionals | 25 Marks | External Examination - Marks | 50 |
| Credits | 02 |  | |

**(A) Experiments on Analog Communication**

1 AM, FM generation and detection

2. Balanced Modulator

3. Pre emphasis and De-emphasis circuits

4. Radio Receiver Measurements: Sensitivity, Selectivity and Fidelity

5. Sampling and reconstruction

6. PAM, PWM, and PPM generation and detection

7. Time Division, Frequency Division Multiplexing and De-multiplexing

8. PLL Characteristics

9. Spectral Analysis of Video signals generated by TV demonstrator Kit and Pattern Generator using Spectrum analyzer

10. Mixer Characteristics

**(B) Experiments on Digital Communication**

1. PCM generation and detection
2. Error control coding
3. Data formats / channel encoding and decoding.
4. Linear Delta, Adaptive Delta Modulation and Demodulation.
5. ASK, FSK, BPSK & QPSK generation and Detection.
6. Minimum Shift Keying generation & detection
7. Optical Fibre measurements:

Numerical aperture, Attenuation, E-O and O-E characteristics

1. Digital Fibre Optic Multiplexed Link
2. Modem characteristics.
3. Wavelength Division Multiplexing

**Note:** 1. Minimum of **5** from Part A and **5** from Part B is mandatory.

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**DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING**

**LESSON PLAN**

**Subject Name:** **Analog and Digital Communication Lab** **Class**: **3/4 ECE B**

**Academic Year:** **2017-2018** **Semester - 2nd**

**Name of the Staff Members : K.R. Deepthi/ A. Srilakshmi/ G. Venkateswarulu**

**List of Experiments**

|  |  |  |
| --- | --- | --- |
| S.No | Exp.No | Experiment Name |
| 1 | E1 | AM generation and detection. |
| 2 | E2 | a) FM generation and detection.  b)Pre emphasis and De-emphasis circuits. |
| 3 | E3 | a) Balanced Modulator.  b)FD Multiplexing & De-multiplexing. |
| 4 | E4 | Sampling and reconstruction. |
| 5 | E5 | PAM / PWM / PPM generation and detection. |
| 6 | E6 | Time Division Multiplexing and De-multiplexing |
| 7 | E7 | PCM generation and detection. |
| 8 | E8 | Data formats / channel encoding and decoding |
| 9 | E9 | Linear Delta, Adaptive Delta Modulation and Demodulation. |
| 10 | E10 | ASK, FSK &BPSK generation and Detection. |
| 11 | E11 | Minimum Shift Keying generation & detection. |
| 12 | E12 | a) Optical Fibre measurements: Numerical aperture, Attenuation, Losses in Optical Fibre  b) Digital Fibre Optic Multiplexed Link. |

**Tuesday:**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **2/1** | **9/1** | **16/1** | **23/1** | **30/1** | **6/2** | **20/2** | **27/2** | **6/3** | **13/3** | **20/3** | **27/3** | **3/4** | **10/4** | **17/4** |
| **B1** | **E1** | **E2** | **E3** | **E4** | **E5** | **CT-1** | **E6** | **E7** | **E8** | **E9** | **E10** | **E11** | **E12** | **R** | **IE** |
| **B2** | **E1** | **E2** | **E3** | **E4** | **E5** | **CT-1** | **E6** | **E7** | **E8** | **E9** | **E10** | **E11** | **E12** | **R** | **IE** |
| **B3** | **E2** | **E3** | **E4** | **E5** | **E6** | **CT-1** | **E1** | **E8** | **E9** | **E10** | **E11** | **E12** | **E7** | **R** | **IE** |
| **B4** | **E2** | **E3** | **E4** | **E5** | **E6** | **CT-1** | **E1** | **E8** | **E9** | **E10** | **E11** | **E12** | **E7** | **R** | **IE** |
| **B5** | **E3** | **E4** | **E5** | **E6** | **E1** | **CT-1** | **E2** | **E9** | **E10** | **E11** | **E12** | **E7** | **E8** | **R** | **IE** |
| **B6** | **E3** | **E4** | **E5** | **E6** | **E1** | **CT-1** | **E2** | **E9** | **E10** | **E11** | **E12** | **E7** | **E8** | **R** | **IE** |
| **B7** | **E4** | **E5** | **E6** | **E1** | **E2** | **CT-1** | **E3** | **E10** | **E11** | **E12** | **E7** | **E8** | **E9** | **R** | **IE** |
| **B8** | **E4** | **E5** | **E6** | **E1** | **E2** | **CT-1** | **E3** | **E10** | **E11** | **E12** | **E7** | **E8** | **E9** | **R** | **IE** |
| **B9** | **E5** | **E6** | **E1** | **E2** | **E3** | **CT-1** | **E4** | **E11** | **E12** | **E7** | **E8** | **E9** | **E10** | **R** | **IE** |
| **B10** | **E5** | **E6** | **E1** | **E2** | **E3** | **CT-1** | **E4** | **E11** | **E12** | **E7** | **E8** | **E9** | **E10** | **R** | **IE** |
| **B11** | **E6** | **E1** | **E2** | **E3** | **E4** | **CT-1** | **E5** | **E12** | **E7** | **E8** | **E9** | **E10** | **E11** | **R** | **IE** |
| **B12** | **E6** | **E1** | **E2** | **E3** | **E4** | **CT-1** | **E5** | **E12** | **E7** | **E8** | **E9** | **E10** | **E11** | **R** | **IE** |

**\*\* IE: Internal Exam, CT-1 Class test -1 , R: Repetition**

**Thursday: 4/1/18: Introduction to the lab**

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
|  | **4/1** | **11/1** | **18/1** | **25/1** | **1/2** | **8/2** | **15/2** | **22/2** | **8/3** | **15/3** | **22/3** | **29/3** | **12/4** | **12/4** | **19/4** |
| **B1** | **E1** | **E2** | **E3** | **E4** | **E5** | **E6** | **E7** | **CT-1** | **E8** | **E** | **E9** | **E10** | **E11** | **E12** | **IE** |
| **B2** | **E1** | **E2** | **E3** | **E4** | **E5** | **E6** | **E7** | **CT-1** | **E8** | **E** | **E9** | **E10** | **E11** | **E12** | **IE** |
| **B3** | **E2** | **E3** | **E4** | **E5** | **E6** | **E1** | **E8** | **CT-1** | **E9** | **E** | **E10** | **E11** | **E12** | **E7** | **IE** |
| **B4** | **E2** | **E3** | **E4** | **E5** | **E6** | **E1** | **E8** | **CT-1** | **E9** | **E** | **E10** | **E11** | **E12** | **E7** | **IE** |
| **B5** | **E3** | **E4** | **E5** | **E6** | **E1** | **E2** | **E9** | **CT-1** | **E10** | **E** | **E11** | **E12** | **E7** | **E8** | **IE** |
| **B6** | **E3** | **E4** | **E5** | **E6** | **E1** | **E2** | **E9** | **CT-1** | **E10** | **E** | **E11** | **E12** | **E7** | **E8** | **IE** |
| **B7** | **E4** | **E5** | **E6** | **E1** | **E2** | **E3** | **E10** | **CT-1** | **E11** | **E** | **E12** | **E7** | **E8** | **E9** | **IE** |
| **B8** | **E4** | **E5** | **E6** | **E1** | **E2** | **E3** | **E10** | **CT-1** | **E11** | **E** | **E12** | **E7** | **E8** | **E9** | **IE** |
| **B9** | **E5** | **E6** | **E1** | **E2** | **E3** | **E4** | **E11** | **CT-1** | **E12** | **E** | **E7** | **E8** | **E9** | **E10** | **IE** |
| **B10** | **E5** | **E6** | **E1** | **E2** | **E3** | **E4** | **E11** | **CT-1** | **E12** | **E** | **E7** | **E8** | **E9** | **E10** | **IE** |
| **B11** | **E6** | **E1** | **E2** | **E3** | **E4** | **E5** | **E12** | **CT-1** | **E7** | **E** | **E8** | **E9** | **E10** | **E11** | **IE** |
| **B12** | **E6** | **E1** | **E2** | **E3** | **E4** | **E5** | **E12** | **CT-1** | **E7** | **E** | **E8** | **E9** | **E10** | **E11** | **IE** |

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