

Department of Telecommunication

SEMESTER :VII
BRANCH : ECE
SUBJECT : DSPA
SUBJECT CODE : 10EC751
NO OF HRS/WK : 5

NAME OF THE FACULTY : Mrs. Pappa M.
DATE OF COMMENCEMENT : 01.08.2016
DATE OF CLOSING : 10.11.2016
CLASS STRENGTH : 130
TOTAL HRS : 52

| Session No | Chapter no (No of hrs planed for the chapter) | DATE | Topics planned for the session | Teaching Aids | Assignments/ Tests planned for the chapter | Topics covered As per plan |
|------------|---|----------|---|----------------------|--|----------------------------|
| 1 | 1/1 | 03.08.16 | Unit 1-INTRODUCTION TO DIGITAL SIGNAL PROCESSING: | Board, chalk, duster | | |
| 2 | 2/1 | 04.08.16 | DSP system | „ | | |
| 3 | 3/1 | 05.08.16 | DFT,FFT | „ | | |
| 4 | 4/1 | 06.08.16 | LTI systems, Digital filters | „ | | |
| 5 | 6/1 | 07.08.16 | Decimation and Interpolation | „ | Assignment- I | |
| 6 | 1/2 | 11.08.16 | Unit 2-ARCHITECTURES FOR PROGRAMMABLE DSP | PPT | | |
| 7 | 2/2 | 12.08.16 | Basic architectural features | „ | | |
| 8 | 3/2 | 13.08.16 | DSP computational building blocks | „ | | |
| 9 | 4/2 | 14.08.16 | Bus architecture and memory | „ | | |
| 10 | 5/2 | 14.08.16 | Data addressing | „ | | |

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|----|------------|----------|--|---|-----------------|--|
| 11 | 6/2 | 19.08.16 | Programmability and program execution | „ | | |
| 12 | 7/2 | 20.08.16 | Features for external interfacing | „ | | |
| 13 | 1/3 | 21.08.16 | Unit -3 – PROGRAMMABLE DSPs | „ | Assignment -II | |
| 14 | 2/3 | 22.08.16 | Commercial DSP devices | „ | | |
| 15 | 3/3 | 22.08.16 | Data addressing modes | „ | | |
| 16 | 4/3 | 26.08.16 | Memory space | „ | | |
| 17 | 5/3 | 27.08.16 | Problems on addressing modes | „ | | |
| 18 | 6/3 | 28.08.16 | Program control | „ | | |
| 19 | 1/4 | 29.08.16 | Unit-4-Instruction set & programming | „ | Assignment –III | |
| 20 | 2/4 | 29.08.16 | Inst set of TMS320C54XX | „ | | |
| 21 | 3/4 | 02.09.16 | On-chip peripherals | „ | | |
| 22 | 4/4 | 03.09.16 | Interrupts of TMS320C54XX | „ | | |
| 23 | 5/4 | 04.09.16 | Sample programming for accumulation, convolution | „ | | |
| 24 | 6/4 | 07.09.16 | Programming with addressing modes | „ | | |
| 25 | 7/4 | 10.09.16 | Pipelining operation | „ | | |
| 26 | 1/5 | 11.09.16 | Unit-5-IMPLEMENTATION OF BASIC DSP ALGORITHMS | „ | | |
| 27 | 2/5 | 12.09.16 | Introduction | „ | Assignment –IV | |
| 28 | 3/5 | 18.09.16 | Q-notation | „ | | |
| 29 | 4/5 | 18.09.16 | FIR filters | „ | | |
| 30 | 5/5 | 23.09.16 | IIR filters | „ | | |
| 31 | 6/5 | 25.09.16 | Interpolation filters | „ | | |
| 32 | 7/5 | 26.09.16 | Decimation Filters | „ | | |

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|----|----------------------|----------|---|---|------------------|--|
| 33 | 1/6 | 28.09.16 | Unit 6 – IMPLEMENTATION OF FFT ALGORITHMS | „ | Assignment -V | |
| 34 | 2/6 | 28.09.16 | FFT algorithm | „ | | |
| 35 | 3/6 | 01.10.16 | Comparison with DFT | „ | | |
| 36 | 4/6 | 05.10.16 | Overflow and scaling | „ | | |
| 37 | 5/6 | 06.10.16 | Butterfly structure | „ | | |
| 38 | 6/6 | 07.10.16 | Bit reversed index generation | „ | | |
| 39 | 1/7 | 07.10.16 | Unit 7- INTERFACING | „ | | |
| 40 | 2/7 | 10.10.16 | Memory space organization | „ | Assignment -VI | |
| 41 | 3/7 | 13.10.16 | External Bus interfacing signals | „ | | |
| 42 | 4/7 | 14.10.16 | Memory Interface, I/O interface | „ | | |
| 43 | 5/7 | 15.10.16 | Programmed I/O, Interrupts | „ | | |
| 44 | 6/7 | 15.10.16 | Direct memory access | „ | | |
| 45 | 1/8 | 19.10.16 | Unit 8- INTERFACING AND APPLICATIONS | „ | Assignment -VII | |
| 46 | 2/8 | 20.10.16 | Introduction | „ | | |
| 47 | 3/8 | 21.10.16 | Synchronous serial interface | „ | | |
| 48 | 4/8 | 31.10.16 | CODEC interface circuit | „ | | |
| 49 | 5/8 | 04.11.16 | DSP based Bio-telemetry system | „ | | |
| 50 | 6/8 | 05.11.16 | Speech processing system | „ | | |
| 51 | 7/8 | 06.11.16 | Image processing system | „ | | |
| 52 | miscellaneous | 07.11.16 | Revision | „ | Assignment -VIII | |

Signature of faculty

Signature of HOD

Signature of Principal

Department of Electronics & Communication

SEMESTER :VII

NAME OF THE FACULTY : Eisha Akanksha,
Jyoti M. Roogi,

BRANCH : ECE
SUBJECT : CCN
SUBJECT CODE : 10EC71
NO OF HRS/WK : 5

DATE OF COMMENCEMENT : 28.07.2016
DATE OF CLOSING : 09.11.2016
CLASS STRENGTH :
TOTAL HRS : 60

| Sessi on No | Chapter no (No of hrs planed for the chapter) | DATE | Topics planned for the session | Teaching Aids | Assignm ents/ Tests planned for the chapter | Topics covered As per plan |
|-------------------|--|-------|---|--|--|-------------------------------------|
| 1 | 1/1 | 28-07 | Unit 1: Layered tasks, OSI Model | Board, chalk, duster, Projector | | |
| 2 | 2/1 | 29-07 | TCP/IP suite, | ” | | |
| 3 | 3/1 | 01-08 | Addressing | ” | | |
| 4 | 4/1 | 02-08 | Telephone and cable networks for data transmission | ” | | |
| 5 | 5/1 | 03-08 | Telephone network | ” | | |
| 6 | 6/1 | 04-08 | Dial up modem | ” | | |
| 7 | 7/1 | 05-08 | DSL | ” | | |
| 8 | 8/1 | 08-08 | Cable t.v for data transmission | ” | | |
| 10 | 1/2 | 09-08 | Unit 2: Data link control | Board, chalk, duster, Projector | | |

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|----|-----|-------|-----------------------------------|--|-----------------|--|
| 11 | 2/2 | 10-08 | Framing | „ | | |
| 12 | 3/2 | 11-08 | Flow and error control | „ | | |
| 13 | 4/2 | 12-08 | Protocols | „ | | |
| 14 | 5/2 | 17-08 | Noiseless channels | „ | Assignment- 2 | |
| 15 | 6/2 | 18-08 | Noisy channel | „ | | |
| 16 | 7/2 | 19-08 | HDLC | „ | | |
| 17 | 8/2 | 20-08 | Unit 3: Multiple access | „ | | |
| 18 | 9/2 | 22-08 | CSMA, CSMA/CD | „ | | |
| 19 | 1/3 | 24-08 | ALOHA | „ | | |
| 20 | 2/3 | 25-08 | Random access | „ | | |
| 21 | 3/3 | 26-08 | Controlled access | „ | | |
| 22 | 4/3 | 27-08 | Channelization | „ | Assignment –III | |
| 23 | 5/3 | 29-08 | TDMA, FDMA, CDMA | Board, chalk, duster, Projector | | |
| 24 | 6/3 | 31-08 | Unit 4: Wired LAN | „ | | |
| 25 | 7/3 | 01-09 | Ether net | „ | | |
| 26 | 1/4 | 02-09 | IEEE standards | „ | | |
| 27 | 2/4 | 09-09 | Standard Ethernet | „ | | |
| 28 | 3/4 | 10-09 | Changes in the standards | „ | Assignment –IV | |

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|----|------|-------|----------------------------------|--|---------------|--|
| 29 | 4/4 | 14-09 | Fast Ethernet | „ | | |
| 30 | 5/4 | 15-09 | Giga bit ethernet | „ | | |
| 31 | 6/4 | 16-09 | Wireless LAN | „ | | |
| 32 | 7/4 | 17-09 | IEEE 802.11 | „ | | |
| 33 | 8/4 | 19-09 | Unit 5: Connecting LAN | „ | | |
| 34 | 1/5 | 21-09 | HUB, Repeater | „ | Assignment -V | |
| 35 | 2/5 | 22-09 | Bridges | Board, chalk, duster, Projector | | |
| 36 | 3/5 | 23-09 | Routers | „ | | |
| 37 | 4/5 | 24-09 | Gateways | „ | | |
| 38 | 5/5 | 26-09 | Backbone networks | „ | | |
| 39 | 6/5 | 28-09 | Virtual LAN | „ | | |
| 40 | 7/5 | 29-09 | Membership and configuration | „ | | |
| 41 | 8/5 | 03-10 | Unit 6: Network layer | „ | | |
| 42 | 9/5 | 04-10 | Logical addressing | | | |
| 43 | 10/5 | 05-10 | IPV4 | „ | | |
| 44 | 11/5 | 07-10 | IPV6 | „ | | |
| 45 | 1/6 | 08-10 | Comparison | „ | | |
| 46 | 2/6 | 13-10 | Transition from IPV4 to IPV6 | „ | | |
| 47 | 3/6 | 14-10 | Tunneling, dual stack | „ | | |
| 48 | 4/6 | 17-10 | Unit 7: Delivery | „ | | |

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|----|-----|-------|-------------------------------------|--|--|--|
| 49 | 5/6 | 18-10 | Forwarding | Board, chalk, duster, Projector | | |
| 50 | 6/6 | 19-10 | Unicast routing protocols | ” | | |
| 51 | 1/7 | 20-10 | Distance vector routing protocol | ” | | |
| 52 | 2/7 | 21-10 | Link state routing protocol | ” | | |
| 53 | 3/7 | 22-10 | Multicast routing protocol | ” | | |
| 54 | 4/7 | 27-10 | Comparison | ” | | |
| 55 | 5/7 | 02-11 | Numerical problems based on routing | | | |
| 56 | 1/8 | 03-11 | Unit 8: Transport layer | | | |
| 57 | 2/8 | 04-11 | Process to process delivery | | | |
| 58 | 3/8 | 05-11 | UDP | | | |
| 59 | 4/8 | 07-11 | TCP | | | |
| 60 | 5/8 | 09-11 | DNS, Resolution | | | |

Signature of faculty

Signature of HOD

Signature of Principal

Department of Electronics and Communication

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|--------------|-------------------------------|----------------------|------------------------|
| SEMESTER | : VII | NAME OF THE FACULTY | :Shailee anil sisodia. |
| BRANCH | : ECE “C” and “D” | DATE OF COMMENCEMENT | :28.07.2016 |
| SUBJECT | : OPTICAL FIBER COMMUNICATION | DATE OF CLOSING | :20.11.2016 |
| SUBJECT CODE | :10EC72 | CLASS STRENGTH | :48 ,53 |
| NO OF HRS/WK | :5 | TOTAL HRS | :63 |

| Session No | Chapter no (No of hrs planned for the chapter) | DATE | Topics planned for the session | Teaching Aids | Assignments/ Tests planned for the chapter | Topics covered As per plan |
|------------|---|------------|---|----------------------|---|-------------------------------|
| 1 | 1/1 | 28-07-2016 | INTRODUCTION TO THE SUBJECTS.ADVANTAGE OF OFC AND DISADVANTAGE | Board, chalk, duster | | |
| 2 | 2/1 | 29-07-2016 | GENERAL COMMUNICATION SYSTEM , APPLICATION OF OFC,OPTICAL FIBER WAVEGUIDE | ” | | |
| 3 | 3/1 | 30-07-2016 | RAY THEORY ,CYLINDRICAL FIBER ,SINGLE MODE FIBER | ” | | |
| 4 | 4/1 | 1-08-2016 | PROBLEMS ON NUMMERICAL APERTURE & PROBLEMS ON ACCEPTANCE ANGLE | ” | | |
| 5 | 5/1 | 1-08-2016 | CUTOFF WAVE LENGTH ,MODE FILED DIAMETER OPTICAL FIBERS MATERIAL | ” | | |
| 6 | 6/1 | 2-08-2016 | PHOTONIC CRYSTAL FIBER OPTIC CABLES | ” | | |
| 7 | 7/1 | 3-08-2016 | HALLIGENIDE AND CHALCOGENDIE FIBERS | ” | | |
| 8 | 1/2 | 4-08-2016 | UNIT:-2 TRANSMISSION CHARATERISTIC OF OPTICAL FIBERS ,ATTENUATION LOSS PROBLEMS ON ATTENUATION LOSS | ” | | |

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|----|-----|------------|--|---|----|--|
| 9 | 2/2 | 5-08-2016 | ABSORPTION LOSS, EXTRINSIC AND INTRINSIC | " | | |
| 10 | 3/2 | 6-08-2016 | SCATTERING LOSS, LINEAR AND NON LINEAR SCATTERING LOSS | " | | |
| 11 | 4/2 | 08-08-2016 | BENDING LOSS, PROBLEMS ON RAYLEIGH RAMAN SCATTERING | " | | |
| 12 | 5/2 | 09-08-2016 | DISERSION , INTRAMODAL AND INTERMODAL DISPERSION | " | | |
| 13 | 6/2 | 10-08-2016 | TEST ON LINEAR AND NON LINEAR SCATTERING | " | | |
| 14 | 1/3 | 11-08-2016 | OPTICAL SOURCES , THEORY FOR OPTICAL OPTICAL SOURCE INTRODUCTION | " | | |
| 15 | 2/3 | 12-08-2016 | LED, LASER DIODES, POPULATION INVERSION | " | | |
| 16 | 3/3 | 16-08-2016 | PHOTO DETECTORS , QUANTUM EFFICENCY | " | A1 | |
| 17 | 4/3 | 17-08-2016 | RESPONSE TIME, PROBLEMS ON RESPONSE TIME | " | | |
| 18 | 5/3 | 18-08-2016 | PHOTO DETECTOR NOISE, DOUBLE HETRO JUNCTION STURCTURE FOR LED | " | | |
| 19 | 6/3 | 19-08-2016 | PHOTO DIODES , DOUBLE HETRO JUNCTION FOR LASER | " | | |
| 20 | 7/3 | 20-08-2016 | COMPARIOSN OF PHOTO DETECTORS UNIT 3:- FIBER COUPLERS | " | | |
| 21 | 1/4 | 22-08-2016 | FIBER COUPLERS, CONNECTORS SPLICES, | " | | |
| 22 | 2/4 | 23-08-2016 | FIBER MISALGNMENT AND JOINT LOSS | " | | |
| 23 | 3/4 | 24-08-2016 | SINGLE MODE FIBER JOINTS | " | | |
| 24 | 4/4 | 25-08-2016 | FIBER SPLICES | " | | |
| 25 | 5/4 | 26-08-2016 | FIBER CONNECTORS ,FIBER COUPLERS | " | | |

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|----|------|------------|---|----|----|--|
| 26 | 1/5 | 27-08-2016 | OPICAL RECEIVER ,INTRODUCTION | '' | | |
| 27 | 2/5 | 29-08-2016 | OPICAL RECEIVER OPERATION | '' | | |
| 28 | 3/5 | 30-08-2016 | RECEIVER SENSTIVITY | '' | | |
| 29 | 4/5 | 31-08-2016 | QUANTUM LIMIT,EYE DIAGRAM | '' | | |
| 30 | 5/5 | 1-09-2016 | COHERENT DETECTION | '' | A4 | |
| 31 | 6/5 | 9-09-2016 | BURST MODE RECEIVER , OPERATION ANALOG RECEIVER | '' | | |
| 32 | 1/6 | 10-09-2016 | ANALOG AND DIGITAL LINKS INTRODUCTION | '' | | |
| 33 | 2/6 | 13-09-2016 | OVERIVIEW OF ANALOG LINKS ,CNR | '' | | |
| 34 | 3/6 | 14-09-2016 | MULTICHANNEL TRANSMISSION TECHNIQUE,RF OVER FIBER | '' | | |
| 35 | 4/6 | 15-09-2016 | KEY LINK PARAMETERS, RADIO OVER FIBER LINKS | '' | | |
| 36 | 5/6 | 16-09-2016 | RADIO OVER FIBER LINKS ,MICROWAVE PHOTONICS | '' | | |
| 37 | 6/6 | 17-09-2016 | DIGITAL LINKS:-POINT TO POINT LINKS | '' | | |
| 38 | 7/6 | 19-09-2016 | SYSTEM CONSIDERATION , LINK POWER BUDGET | '' | | |
| 39 | 8/6 | 20-09-2016 | SHORT WAVE LENGTH BAND, TRANSMISSION DISTANCE FOR SINGLE MODE | '' | | |
| 40 | 9/6 | 21-09-2016 | POWER PENALTIIES, NODAL NOISE | '' | | |
| 41 | 10/6 | 22-09-2016 | NODAL NOISE AND CHIRPING | '' | A2 | |

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|----|-----|------------|---|---|----|--|
| 42 | 1/7 | 23-09-2016 | WDM CONCEPTS AND COMPONENTS | " | | |
| 43 | 2/7 | 24-09-2016 | OVERVIEW OF WDM OPERATION PRINCIPLES WDM STANDARDS | " | | |
| 44 | 3/7 | 26-09-2016 | MACH-ZEHENDER INTERFEROMETER, MULTIPLEXER | " | | |
| 45 | 4/7 | 27-09-2016 | MEMS TECHNOLOGY, VARIABLE OPTICAL ATTENUATOR | " | | |
| 46 | 5/7 | 28-09-2016 | TUNABLE OPTICAL FIBER, DYNAMIC GAIN EQUALIZER | " | | |
| 47 | 6/7 | 29-09-2016 | OPTICAL DROP MULTIPLEXER POLARIZATION CONTROLLER | " | | |
| 48 | 7/7 | 30-09-2016 | CHROMATIC DISPERSION COMPENSATOR TUNABLE LIGHT SOURCES | " | | |
| 49 | 8/7 | 3-10-2016 | TEST ON CHAPTER 7 | " | | |
| 50 | 1/8 | 4-10-2016 | OPTICAL AMPLIFIER AND NETWORKS | " | | |
| 51 | 2/8 | 5-10-2016 | OPTICAL AMPLIFIER | " | A6 | |
| 52 | 3/8 | 6-10-2016 | BASIC APPLICATIONS AND TYPES | " | | |
| 53 | 4/8 | 7-10-2016 | SEMICONDUCTOR OPTICAL AMPLIFIER | " | | |
| 54 | 5/8 | 8-10-2016 | OPTICAL NETWORKS ,INTRODUCTION | " | | |
| 55 | 6/8 | 17-10-2016 | SONET /SDH | " | | |
| 56 | 7/8 | 18-10-2016 | OPTICAL INTERFACES | " | | |
| 57 | 7/8 | 19-10-2016 | SONET /SDH RINGS | " | A7 | |
| 58 | 7/8 | 21-10-2016 | HIGH SPEED ,LIGHT WAVEGUIDES | " | | |

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|----|--|------------|----------|---|----|--|
| 59 | | 22-10-2016 | REVISION | ” | | |
| 60 | | 24-10-2016 | REVISION | ” | A8 | |
| 61 | | 25-10-2016 | REVISION | ” | | |
| 62 | | 26-10-2016 | REVISION | ” | | |
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Signature of faculty

Signature of HOD

Signature of Principal

Department of Electronics and Communication

SEMESTER :VII
BRANCH : ECE
SUBJECT : Image Processing
SUBJECT CODE : 10EC763
NO OF LECTURES/WK : 5

NAME OF THE FACULTY : Ammu.R
DATE OF COMMENCEMENT : 01.08.2016
DATE OF CLOSING : 09.11.2016
CLASS STRENGTH : 48 (Sec C), 52 (Sec D)
TOTAL HRS : 55

| Sessi on No | Chapter no (No of hrs planed for the chapter) | DATE | Topics planned for the session | Teaching Aids | Assign ments/ Tests planned for the chapter | Topics covered As per plan |
|-------------|---|------------|---|-------------------|---|----------------------------|
| 1. | Pre-requisites | 01.08.2016 | Introduction to image processing | Board, chalk, ppt | | |
| 2. | Pre-requisites | 02.08.2016 | Origins of digital image processing | PPT | | |
| 3. | Pre-requisites | 03.08.2016 | Examples of fields that use digital image processing | „ | | |
| 4. | 1/1 | 04.08.2016 | Fundamental steps in digital image processing system | Board, chalk, ppt | | |
| 5. | 2/1 | 05.08.2016 | Components of an image processing system | „ | | |
| 6. | 3/1 | 08.08.2016 | Elements of visual perception: Structure of human eye, Image formation in the eye | PPT | Presena tion by student s | |
| 7. | 4/1 | 09.08.2016 | Brightness Adaptation and discrimination | „ | A1 | |
| 8. | 1/2 | 10.08.2016 | Image sensing and acquisition: Single sensor, sensor strips, sensor arrays | „ | | |
| 9. | 2/2 | 11.08.2016 | A simple image formation model, Image sampling and | „ | | |

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| | | | quantization, Representing digital images | | | |
| 10. | 3/2 | 12.08.2016 | Spatial and gray level resolution, Zooming and shrinking, Relationships between pixels: Neighbors, adjacency, connectivity, Distance measures | „ | | |
| 11. | 4/2 | 17.08.2016 | Problems on relationship between pixels | Board, chalk | Exercis e on VTU questio ns | |
| 12. | 1/5 | 18.08.2016 | Image enhancement in spatial domain: Introduction | Board, chalk, ppt | | |
| 13. | 2/5 | 19.08.2016 | Point processing, Image negative, Contrast enhancement | Board, chalk, ppt | | |
| 14. | 3/5 | 20.08.2016 | Logarithmic and power-law transformation | Board, chalk, ppt | | |
| 15. | 4/5 | 22.08.2016 | Gray-level and bit- plane slicing, Histogram Processing- Introduction | Board, chalk, ppt | | |
| 16. | 5/5 | 24.09.2016 | Histogram Equalization and problems | Board, chalk, ppt | | |
| 17. | 6/5 | 25.09.2016 | Histogram specification and problems | Board, chalk, ppt | | |
| 18. | 7/5 | 26.09.2016 | Local Enhancement and Enhancement using arithmetic/logic operations | Board, chalk, ppt | | |
| 19. | 8/5 | 27.09.2016 | Basics of spatial filtering | Board, chalk, ppt | Assign ment on Matlab(A2) | |
| 20. | 1/3 | 29.09.2016 | Image Transforms: Two dimensional orthogonal & unitary transforms | Board, chalk | | |
| 21. | 2/3 | 31.09.2016 | Two dimensional orthogonal & unitary | Board, chalk | | |

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| | | | transforms | | | |
| 22. | 3/3 | 01.09.2016 | Properties of unitary transforms | Board, chalk | Exercise on VTU questions | |
| 23. | 4/3 | 02.09.2016 | Properties of unitary transforms | Board, chalk | | |
| 24. | 5/3 | 09.09.2016 | Two dimensional discrete Fourier transform. | Board, chalk | | |
| 25. | 6/3 | 10.09.2016 | Two dimensional discrete Fourier transform. | Board, chalk | | |
| 26. | 1/4 | 14.09.2016 | Discrete cosine transform | Board, chalk | | |
| 27. | 2/4 | 15.09.2016 | Discrete cosine transform | Board, chalk | | |
| 28. | 3/4 | 16.09.2016 | Sine transform | Board, chalk | | |
| 29. | 4/4 | 17.09.2016 | Hadamard transform | Board, chalk | | |
| 30. | 5/4 | 19.09.2016 | Haar transform | Board, chalk | | |
| 31. | 6/4 | 21.09.2016 | Slant transform | Board, chalk | | |
| 32. | 7/4 | 22.09.2016 | KL transform | Board, chalk | A3 | |
| 33. | 1/6 | 23.09.2016 | Image enhancement in the Frequency Domain filters | Board, Chalk,ppt | | |
| 34. | 2/6 | 24.09.2016 | Smoothing Frequency Domain filters-Ideal, Butterworth | Board, Chalk,ppt | | |
| 35. | 3/6 | 26.09.2016 | Smoothing Frequency Domain filters-Gaussian | Board, Chalk,ppt | | |
| 36. | 4/6 | 28.09.2016 | Smoothing Frequency Domain filters-Additional examples | Board, Chalk,ppt | | |
| 37. | 5/6 | 29.09.2016 | Sharpening Frequency Domain filters-Ideal, Butterworth | Board, Chalk,ppt | | |
| 38. | 6/6 | 03.10.2016 | Sharpening Frequency Domain filters- | Board, Chalk,ppt | | |

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| | | | Gaussian | | | |
| 39. | 7/6 | 04.10.2016 | Sharpening Frequency Domain filters-Laplacian | Board, Chalk,ppt | | |
| 40. | 8/6 | 05.10.2016 | Unsharp masking,High-boost filtering,High frequency emphasis filtering | Board, Chalk,ppt | | |
| 41. | 9/6 | 07.10.2016 | Homomorphic filtering | Board, Chalk,ppt | A4 | |
| 42. | 1/7 | 08.10.2016 | Model of image degradation/restoration process, noise models | Board, Chalk,ppt | | |
| 43. | 2/7 | 13.10.2016 | Restoration in the Presence of Noise, Only-Spatial Filtering | Board, Chalk,ppt | | |
| 44. | 3/7 | 14.10.2016 | Periodic Noise Reduction by Frequency Domain Filtering | Board, Chalk,ppt | | |
| 45. | 4/7 | 17.10.2016 | Linear Position-Invariant Degradations | Board, Chalk,ppt | | |
| 46. | 5/7 | 19.10.2016 | inverse filtering, minimum mean square error (Weiner) Filtering | Board, Chalk,ppt | A5 | |
| 47. | 1/8 | 20.10.2016 | Color Fundamentals | Board, Chalk,ppt | | |
| 48. | 2/8 | 21.10.2016 | Color Models | Board, Chalk,ppt | | |
| 49. | 3/8 | 22.10.2016 | Pseudo color Image Processing | Board, Chalk,ppt | | |
| 50. | 4/8 | 27.10.2016 | Color Fundamentals. Color Models | Board, Chalk,ppt | | |
| 51. | 5/8 | 02.11.2016 | Pseudo color Image Processing | Board, Chalk,ppt | | |
| 52. | 6/8 | 03.11.2016 | Basics of full color image processing | Board, Chalk,ppt | A6 | |
| 53. | - | 04.11.2016 | Revision | Board, Chalk,ppt | | |
| 54. | - | 05.11.2016 | Revision | Board, Chalk,ppt | | |
| 55. | - | 07.11.2016 | Revision | Board, Chalk,ppt | | |

Signature of faculty

Signature of HOD

Signature of Principal

Department of Electronics & Communication Engineering

SEMESTER : VII

NAME OF THE FACULTY : JAGADISH KUMAR PATRA
TANIA.H.M

BRANCH : ECE

DATE OF COMMENCEMENT : 1.08.2016

SUBJECT : PE

DATE OF CLOSING : 19.11.2016

SUBJECT CODE : 10EC73

CLASS STRENGTH :

NO OF HRS/WK :

TOTAL HRS :

| Session No | Chapter no (No of hrs planned for the chapter) | DATE | Topics planned for the session | Teaching Aids | Assignment/ Tests planned for the chapter | Topics covered As per plan |
|------------|--|---------|---|----------------------|---|----------------------------|
| 1 | 1/1 | 1.08.16 | Unit 1: Prerequisites – Basic Laws of Electrical (KCL,KVL, Ohms Law | Board, chalk, duster | | |
| 2 | 2/1 | 2.08.16 | Behavior of Inductor, Capacitor and Resistor for DC and AC Excitation. | | | |
| 3 | 3/1 | 4.08.16 | Introduction to Power Electronics Devices. | „ | | |
| 4 | 4/1 | 5.08.16 | Block diagram of Power Electronics Systems. | „ | Assignment -I | |
| 5 | 5/1 | 6.08.16 | Characteristics and applications of different thyristor family devices, Power Transistors, MOSFET and IGBT. | „ | | |
| 6 | 6/1 | 8.08.16 | Control characteristics of different power electronic devices. | „ | | |
| 7 | 7/1 | 9.08.16 | Study of different power electronics circuits. Applications, Advantages, Disadvantages . | „ | | |

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| 8 | 8/1 | 11.08.16 | Peripheral effects of Power Electronic Devices. | | | |
| 9 | 1/2 | 12.08.16 | UNIT 2 - Introduction to BJT, MOSFET, IGBT. | „ | | |
| 10 | 2/2 | 15.08.16 | Input and Output characteristics of power BJT and problems | Board, chalk, duster | | |
| 11 | 3/2 | 16.08.16 | Switching characteristics of power BJT and Darlington operation. | „ | | |
| 12 | 4/2 | 17.08.16 | Safe operating area of power BJT. | „ | Assignment - II | |
| 13 | 5/2 | 18.08.16 | Different isolation circuit for power BJT and anti-saturation circuit (Backer Clamp Circuit) | | | |
| 14 | 6/2 | 20.08.16 | Switching Characteristics power MOSFET and IGBT . | „ | | |
| 15 | 7/2 | 22.08.16 | Isolation Circuits for power MOSFET and IGBT . | | | |
| 16 | 1/3 | 23.08.16 | UNIT 3 – VI characteristic of SCR | „ | | |
| 17 | 2/3 | 24.08.16 | Two Transistor analogy of SCR. | „ | | |
| 18 | 3/3 | 25.08.16 | Switching characteristic of SCR. | „ | | |
| 19 | 4/3 | 27.08.16 | Turn on methods of SCR. | | | |
| 20 | 5/3 | 29.08.16 | Snubber Circuits of SCR .Problems on Snubber Circuits.. | | Assignment - III | |
| 21 | 6/3 | 30.09.16 | Gate characteristics of SCR and R Triggering and Problems. | | | |
| 22 | 7/3 | 31.09.16 | Half Wave and Full Wave RC Triggering Circuits and Problems. | | | |
| 23 | 8/3 | 1.09.16 | Half Wave and Full Wave UJT Triggering circuit and Problems. | | | |
| 24 | 1/6 | 10.09.16 | UNIT 4 – Introduction to controlled rectifier and | „ | | |

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| | | | principle of operation of controlled rectifier. | | | |
| 25 | 2/6 | 13.9.16 | Single phase half controlled rectifier with R and RL load and Problems . | „ | Assignment –IV | |
| 26 | 3/6 | 14.09.15 | Single phase full controlled rectifier with R load and Problems . | „ | | |
| 27 | 4/6 | 15.09.15 | Single phase full controlled rectifier with RL load and Problems . | „ | | |
| 28 | 1/7 | 16.09.15 | Dual Converter and problems. | „ | | |
| 29 | 2/7 | 19.09.15 | Unit 6: Introduction to AC Voltage Controllers . ON and OFF Controller and Problems . | | | |
| 30 | 3/7 | 20.09.15 | Phase Control of AC voltage controllers and Problems . | Board, chalk, duster | Assignmmt – V | |
| 31 | 4/7 | 21.09.15 | Phase control of AC voltage controllers and Problems. | „ | | |
| 32 | 5/7 | 22.09.15 | AC Voltage controller using RL load and Problems . | „ | | |
| 33 | 6/7 | 23.09.15 | Unit 7: Introduction to Step up Chopper. | „ | | |
| 34 | 7/7 | 25.09.15 | Problems on Chopper and control strategies of Choppers. | „ | | |
| 35 | 8/7 | 27.09.15 | Chopper with RL load and Problems . | „ | | |
| 36 | 9/7 | 28.09.15 | DCM for Step Down Chopper and Principle of Step Up Chopper . | „ | | |
| 37 | 10/7 | 04.10.15 | Continued- Step Up Chopper. | „ | Assignment –VI | |
| 38 | 11/7 | 05.10.15 | Class E Chopper. | „ | | |
| 39 | 12/7 | 06.10.15 | Classification of Chopper. | Board, chalk, duster | | |

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| 40 | 1/8 | 07.10.15 | Analysis of Impulse Commutated Chopper. | „ | | |
| 41 | 2/8 | 08.10.15 | Analysis of Impulse Commutated Chopper cnt. | | | |
| 42 | 3/8 | 14.10.15 | Buck regulator with CCM and DCM mode. | „ | | |
| 43 | 4/8 | 17.10.15 | Boost regulator with CCM and DCM mode. | „ | | |
| 44 | 1/4 | 18.10.15 | Buck-Boost regulator with CCM and DCM mode. | „ | | |
| 45 | 2/4 | 19.10.15 | Single phase half controlled rectifier with R and RL load and Problems . | „ | | |
| 46 | 3/4 | 21.10.15 | Unit 8: Introduction to Inverters, I Phase Voltage Source Inverter . | „ | | |
| 47 | 4/4 | 22.10.15 | Performance parameters of Inverter. | | Assignment - VII | |
| 48 | 5/4 | 27.10.15 | DC link Inverter and current source Inverter.. | „ | | |
| 49 | 1/5 | 28.10.15 | Different types of output voltage control strategies of inverter. | „ | | |
| 50 | 2/5 | 2.11.15 | UNIT 5 – Introduction to commutation circuits and different types of Thyristor turn off methods. | „ | | |
| 51 | 3/5 | 4.11.15 | Line and Load commutation | | Assignment - VIII | |
| 52 | 4/5 | 5.11.15 | Complimentary and Auxillary Commutation. | „ | | |
| 53 | 5/5 | 7.11.15 | External pulse commutation, Class B Commutation or Current Commutation. | „ | | |

Signature of faculty

Signature of HOD

Signature of Principal

Session wise – Course Plan

Department of Telecommunication

Semester : VIII
Branch : ECE
Subject : Embedded System Design
Subject Code : 10EC74
No Of Hrs/ Wk: 5

Name Of The Faculty : Bhumika Narang
Date Of Commencement : 25.07.2016
Date Of Closing : 19.11.2016
Class Strength : 103
Total Hrs : 60

| Sessi on No | Chapter no (No of hrs planed for the chapter) | DATE | Topics planned for the session | Teaching Aids | Assignments / Tests planned for the chapter | Topics covered as per plan |
|-------------|---|----------|--|---------------|---|----------------------------|
| 1 | 1/1 | 03.08.16 | Unit1: Introduction to Embedded System- Introducing Embedded Systems, Philosophy | Board & chalk | | |
| 2 | 2/1 | 04.08.16 | Embedded Systems, Embedded System Design | „ | Assignment- I | |
| 3 | 3/1 | 05.08.16 | Development Process | „ | | |
| 4 | 4/1 | 06.08.16 | Embedded design life cycle | „ | | |
| 5 | 1/2 | 07.08.16 | Unit 2: The Hardware Side: An Introduction, The Core Level | „ | | |
| 6 | 2/2 | 11.08.16 | Representing Information, Understanding Numbers | „ | | |
| 7 | 3/2 | 12.08.16 | Addresses, Instructions | „ | | |
| 8 | 4/2 | 13.08.16 | Registers-A First Look, Embedded Systems-A Register View, Register View of a Microprocessor | „ | | |
| 9 | 5/2 | 14.08.16 | Embedded Systems-An Instruction Set View | „ | Assignment - II | |
| 10 | 6/2 | 14.08.16 | The Hardware Side: Storage Elements | „ | | |
| 11 | 7/2 | 19.08.16 | Finite-State Machines The concepts of State and Time, The State Diagram | „ | | |

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| 12 | 8/2 | 20.08.16 | Finite State Machines- A Theoretical Model. | „ | | |
| 13 | 1/3 | 21.08.16 | Unit 3: Memories and the Memory Subsystem: Classifying Memory, A General Memory Interface, ROM Overview | LCD Projector | | |
| 14 | 2/3 | 22.08.16 | Static RAM Overview | „ | | |
| 15 | 3/3 | 22.08.16 | Dynamic RAM Overview | „ | | |
| 16 | 4/3 | 26.08.16 | Chip Organization, Terminology | „ | | |
| 17 | 5/3 | 27.08.16 | A Memory Interface in Detail, SRAM Design | „ | Assignment –III | |
| 18 | 6/3 | 28.08.16 | DRAM Design | „ | | |
| 19 | 7/3 | 29.08.16 | DRAM Memory Interface | „ | | |
| 20 | 8/3 | 29.08.16 | The Memory Map, Memory Subsystem Architecture | „ | | |
| 21 | 9/3 | 02.09.16 | Basic Concepts of Caching, Designing a Cache System | „ | | |
| 22 | 10/3 | 03.09.16 | Dynamic Memory Allocation. | „ | | |
| 23 | 1/4 | 04.09.16 | Unit 4: Embedded Systems Design and Development : System Design and Development, Life-cycle Models | Board & chalk | | |
| 24 | 2/4 | 07.09.16 | Life-cycle Models | „ | | |
| 25 | 3/4 | 10.09.16 | Problem Solving-Five Steps to Design, The Design Process | „ | | |
| 26 | 4/4 | 11.09.16 | Identifying the Requirements, Formulating the Requirements Specification | „ | | |
| 27 | 5/4 | 12.09.16 | The System Design Specification | „ | Assignmnt – IV | |
| 28 | 6/4 | 18.09.16 | System Specifications versus System Requirements, Partitioning and Decomposing a System | „ | | |
| 29 | 7/4 | 18.09.16 | Functional Design | „ | | |
| 30 | 8/4 | 23.09.16 | Architectural Design | „ | | |
| 31 | 9/4 | 25.09.16 | Functional Model versus Architectural Model, Prototyping | LCD Projector | | |

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| 32 | 10/4 | 26.09.16 | Other Considerations, Archiving the Project. | „ | | |
| 33 | 1/5&6 | 28.09.16 | Unit 5 & 6: Real-Time Kernels and Operating Systems: Tasks and Things, Programs and Processes | LCD Projector | | |
| 34 | 2/5&6 | 28.09.16 | The CPU is a resource | „ | | |
| 35 | 3/5&6 | 01.10.16 | Threads – Lightweight and heavyweight | „ | Assignment - V | |
| 36 | 4/5&6 | 05.10.16 | Sharing Resources, Foreground/ Background Systems | „ | | |
| 37 | 5/5&6 | 06.10.16 | The operating System, The real time operating system (RTOS) | „ | | |
| 38 | 6/5&6 | 07.10.16 | OS architecture | „ | | |
| 39 | 7/5&6 | 07.10.16 | Tasks and Task control blocks | „ | Assignment - VI | |
| 40 | 8/5&6 | 10.10.16 | Tasks and Task control blocks | „ | | |
| 41 | 9/5&6 | 13.10.16 | Memory management revisited | „ | | |
| 42 | 10/5&6 | 14.10.16 | Memory management revisited | „ | | |
| 43 | 1/7&8 | 15.10.16 | Unit 7 & 8: Performance Analysis and Optimization: Performance or Efficiency Measures, Complexity Analysis | „ | | |
| 44 | 2/7&8 | 15.10.16 | The methodology | „ | | |
| 45 | 3/7&8 | 19.10.16 | Analyzing code | „ | Assignment - VII | |
| 46 | 4/7&8 | 20.10.16 | Instructions in Detail | „ | | |
| 47 | 5/7&8 | 21.10.16 | Time, etc. – A more detailed look, Response Time | „ | | |
| 48 | 6/7&8 | 31.10.16 | Time Loading | „ | | |
| 49 | 7/7&8 | 04.11.16 | Memory Loading | „ | | |
| 50 | 8/7&8 | 05.11.16 | Evaluating Performance, Thoughts on Performance Optimization | Board & chalk | Assignment - VIII | |
| 51 | 9/7&8 | 06.11.16 | Performance optimization, Tricks of the Trade | „ | | |

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| 52 | 10/7&8 | 07.11.16 | Hardware Accelerators | „ | | |
| 53 | 11/7&8 | 08.11.16 | Caches and Performance. | „ | | |
| 54 | 12/7&8 | 09.11.06 | Revision | „ | | |

Signature of faculty
Literature:

Signature of HOD

Signature of Principal

| Book Type | Code | Author & Title | Publication info | |
|-----------------|------|--|---------------------------------|-------------------|
| | | | Edition & Publisher | ISBN # |
| Text Book1 | TB1 | Embedded Systems – A contemporary Design Tool , James K. Peckol | John Weily India Pvt. Ltd, 2008 | 978-81-265-2456-3 |
| Reference Book1 | RB1 | Embedded Systems: Architecture and Programming , Raj Kamal | TMH. 2008 | 978-0-07-066764-8 |
| Reference Book2 | RB2 | Embedded Systems Architecture – A Comprehensive Guide for Engineers and Programmers , Tammy Noergaard | Elsevier Publication, 2005 | -- |
| Reference Book3 | RB3 | Programming for Embedded Systems , Dreamtech Software Team | John Wiley India Pvt. Ltd, 2008 | -- |