

Course File contents

1. Title page
2. Vision and mission of the institution and the department
3. PEOs and POs
4. Syllabus
5. Course objectives
6. Course outcomes
7. Prerequisites
8. Lesson plan
9. Micro lesson plan
10. Textbooks
11. Websites
12. Lecture notes (5 Units in A4 size sheets, handwritten)
13. Small questions and answers (5 Units in A4 size sheets, handwritten)
14. Objective questions and answers (Either handwritten or printed, unit-wise)
15. Syllabus beyond the curriculum
16. Gaps between the continuation (Printed or written)
17. Assignment questions and answers (5 Units in A4 size sheets, handwritten)
18. Mid question papers
19. Result analysis and performance
20. PPTs for 5 units
21. Timetable should be pasted on the left flap of the boxfile
22. Course file contents list printout should also be pasted on the left flap of the boxfile
23. Previous year university question paper

**DEPARTMENT
OF
ELECTRONICS & COMMUNICATION
ENGINEERING**

FACULTY COURSE FILE

(EC405ES)ANALOG COMMUNICATIONS

YEAR-II B.TECH II SEMESTER ECE (R16)



ESTD : 2001

MAHAVEER
INSTITUTE OF SCIENCE & TECHNOLOGY

Approved by AICTE, Affiliated to JNTU, Hyderabad.

Vyasapuri, Bandlaguda, Post: Keshavgiri, Hyderabad-500005.

Name of the Faculty : NENAVATH RAVI KUMAR

Designation: Assistant professor

Department: Electronics and Communication Engineering

MAHAVEER INSTITUTE OF SCIENCE & TECHNOLOGY

Vision

To be a centre of excellence in technical education with research orientation and to develop human resources to serve the society and nation building.

Mission

To provide comprehensive technical education programmes in various disciplines and to contribute effectively to the profession and the society.

Establishing centre of excellence in inter disciplinary areas which are important and relevant to industry and employment with scope for research.

To inculcate human values and ethical practices to the graduates through co-curricular and extracurricular activities.

DEPARTMENT OF ECE

Vision

To impart technical education with latest art of technology with scope for research and development and groom the students with leadership skill to suit the challenging needs industry and society.

Mission

Provide contemporary technical education programs, in the field of ECE and prepare for competitive employment and higher studies.

Provide comprehensive in depth knowledge with research orientation which are important and relevant to industry, society, environment and global needs.

Organize specific programs to inculcate values and ethical practices to the students through co-curricular and extracurricular activities.

Program Outcomes (POs):

After the completion of the course Engineering Graduates will be able to:

1. **Engineering knowledge:** Apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems.
2. **Problem analysis:** Identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences.
3. **Design/development of solutions:** Design solutions for complex engineering problems and design system components or processes that meet the specified needs with appropriate consideration for the public health and safety, and the cultural, societal, and environmental considerations.
4. **Conduct investigations of complex problems:** Use research-based knowledge and research methods including design of experiments, analysis and interpretation of data, and synthesis of the information to provide valid conclusions.
5. **Modern tool usage:** Create, select, and apply appropriate techniques, resources, and modern engineering and IT tools including prediction and modeling to complex engineering activities with an understanding of the limitations.
6. **The engineer and society:** Apply reasoning informed by the contextual knowledge to assess societal, health, safety, legal and cultural issues and the consequent responsibilities relevant to the professional engineering practice.
7. **Environment and sustainability:** Understand the impact of the professional engineering solutions in societal and environmental contexts, and demonstrate the knowledge of, and need for sustainable development.
8. **Ethics:** Apply ethical principles and commit to professional ethics and responsibilities and norms of the engineering practice.
9. **Individual and team work:** Function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings.
10. **Communication:** Communicate effectively on complex engineering activities with the engineering community and with society at large, such as, being able to comprehend and write effective reports and design documentation, make effective presentations, and give and receive clear instructions.
11. **Project management and finance:** Demonstrate knowledge and understanding of the

engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments.

12. **Life-long learning:** Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.

Program Educational Objectives:

PEO 1	Imparting knowledge on latest art of technology in curriculum to mould the Student for higher Education.
PEO 2	Produce graduates to the challenging needs of the Industry.
PEO 3	Develop the Professional and Ethical values for Society upliftment
PEO 4	To develop interest in lifelong learning process through professional memberships active participation.

Program Specific Outcomes (PSOs):

1. Impart Engineering knowledge through teaching, learning & participative process.
2. Ensure engineering fundamental concepts learning with emphasis on self learning process through lab practices and project development programs.
3. Develop Team building, Ethical values and create interest for Continuous Learning Process.

Syllabus

(EC405ES) ANALOG COMMUNICATIONS

Year-II B.Tech II semester ECE R16

UNIT I

INTRODUCTION : Introduction to communication system, Need for modulation, Amplitude Modulation, Definition, Time domain and frequency domain description, power relations in AM waves, Generation of AM waves, square law Modulator, Switching modulator, Detection of AM Waves; Square law detector, Envelope detector.

DSB MODULATION : Double side band suppressed carrier modulators, time domain and frequency domain description, Generation of DSBSC Waves, Balanced Modulators, Ring Modulator, Coherent detection of DSB-SC Modulated waves, COSTAS Loop. Radio Transmitters-Classification of Transmitters, AM transmitter block diagram and explanation of each block.

UNIT II

SSB MODULATION: Frequency domain description, Frequency discrimination method for generation of AM SSB Modulated Wave, Time domain description, Phase discrimination method for generating AM SSB Modulated waves. Demodulation of SSB Waves, Vestigial side band modulation: Frequency description, Generation of VSB Modulated wave, Time domain description, Envelope detection of a VSB Wave pulse Carrier, Comparison of AM Techniques, Applications of different AM Systems.

UNIT III

ANGLE MODULATION CONCEPTS: Basic concepts, Frequency Modulation: Single tone frequency modulation, Spectrum Analysis of Sinusoidal FM Wave, Narrow band FM, Wide band FM, Constant Average Power, Transmission bandwidth of FM Wave-Comparison of FM a & AM systems.

ANGLE MODULATION METHODS: Generation of FM Waves: Direct Method: Parametric Variation Method: Varactor Diode, Reactance Modulator, Indirect method: Armstrong Method, Detection of FM Waves: Balanced Frequency discriminator, Zero crossing detector, Phase locked loop, Foster Seeley Discriminator, Ratio detector, FM transmitter block diagram and explanation of each block.

UNIT IV

NOISE : Noise in Analog communication System, Noise in DSB& SSB System, Noise in AM System, Noise in Angle Modulation System, Threshold effect in Angle Modulation System, Pre-emphasis & de-emphasis

RECEIVERS : Radio Receiver - Receiver Types - Tuned radio frequency receiver, Superhetrodyne receiver, RF section and Characteristics - Frequency changing and tracking, Intermediate frequency, AGC, FM Receiver, Comparison with AM Receiver, Amplitude limiting.

UNIT V

PULSE MODULATION :Types of Pulse modulation, PAM (Single polarity, double polarity) PWM: Generation & demodulation of PWM, PPM, Generation and demodulation of PPM

TEXTBOOKS :

1. Principles of Communication Systems – H Taub & D. Schilling, Gautam Sahe, TMH, 2007 3rd Edition.
2. Principles of Communication Systems - Simon Haykin, John Wiley, 2nd Ed.,.

REFERENCES :

1. Electronics & Communication System – George Kennedy and Bernard Davis, TMH 2004.
2. Analog Communications-KN Hari Bhat & Ganesh Rao, Pearson Publications, 2nd Edition-2008.
3. Communication Systems Second Edition – R.P. Singh, SP Sapre, TMH, 2007.
4. Communication Systems- B.P.Lathi, BS Publication, 2006

WEBSITES: 1) <http://www.nptel.iitm.ac.in>

2) <http://www.rfdesign.com>

JOURNALS

International Journal of Digital & Analog Communication Systems

Course Objectives:

ANALOG COMMUNICATIONS (EC405ES)

This course will provide students with the theoretical underpinnings of Analog Communications, allowing them to work out quantitative values and theoretical descriptions for case examples in Analog Communications.

Students completing this course should be able to:

- Describe analog modulation and demodulation techniques.
- Develop and compare the functional blocks and performance parameters of amplitude and angle modulation and demodulation for communication systems.
- Performance evaluation of communication systems in the presence of noise.
- Develop Modern trends in communication systems and transmitter/receiver circuits.

Subject: ANALOG COMMUNICATIONS (EC405ES)

Course Outcomes:

Upon successfully completing the course, the students should be able to:

- Describe different types of noise and predict its effect on various analog communication systems.
- Analyze energy and power spectral density of the signal.
- Express the basic concepts of analog modulation schemes
- Evaluate analog modulated waveform in time /frequency domain and also find modulation index.
- Develop understanding about performance of analog communication systems
- Calculate bandwidth and power requirements for analog systems.
- Analyze different characteristics of receiver.

LESSON PLAN:

Subject	(EC405ES): ANALOG COMMUNICATIONS R16						
Faculty	Mr. NENAVATH RAVI KUMAR						
Text Books							
T1	Principles of Communication Systems – H Taub & D. Schilling, Gautam Sahe, TMH, 2007 3 rd Edition.						
T2	Principles of Communication Systems - Simon Haykin, John Wiley, 2 nd Ed.,.						
Reference Books							
R1	Electronics & Communication System – George Kennedy and Bernard Davis, TMH 2004.						
R2	Analog Communications-KN Hari Bhat & Ganesh Rao, Pearson Publications, 2 nd Edition-2008.						
R3	Communication Systems Second Edition – R.P. Singh, SP Sapre, TMH, 2007.						
R4	Communication Systems- B.P.Lathi, BS Publication, 2006						
Unit	Topic	Chapters Nos					No of classes
		T1	T2	T3	R1	R2	
I	Introduction& DSB-SC modulation and demodulation	1,2	1	1	1	1	10
II	SSB-SC Modulation and Demodulation	6,7	5	2,3	2,3	2,3	12
III	Angle Modulation Concepts and Methods	8	6	4	4,5	4	10
IV	Noise and Receivers	9	7,8	8	6	6,7	12
V	Analog pulse modulation	10	9	9	7,8	8	10
Contact classes for syllabus coverage							54
Special Descriptive Tests							2
Tutorial classes							5
Remedial classes							5
Total No. of classes							66

MICROLESSON PLAN:

Year-II B.Tech II semester ECE R16 Subject: (EC405ES) Analog Communications

Lecture Duration: 50 Min

S.No	Lecture number	Topics as per JNTU syllabus.	Modules/sub modules for each topic	Date	Suggested books	Teaching aids.
1	L1	Overview of the course	Unit-wise overview of the course and all the reference books	15/12/2017	T1,T2, R1, R2,R3	TAI, TA2
UNIT I: AMPLITUDE MODULATIONS						
2	L2	Introduction to Communication Systems	Elements of a communication System, Classifications	15/12/2017	T1,T2,R2	TAI
3	L3, L4	Need for modulation,	Need for modulation, Different types of modulation systems,	16/12/2017	T1,T2,R2	TAI, TA2
4	L5, L6	Amplitude modulation Definition. Time and Frequency domain description of AM.	Introduction, Spectrum of AM wave, Modulation Index or factor, Linear and over modulation	18/12/2017 , 19/12/2017	T1,R1	TAI
5	L7	Problems on AM	Bandwidth calculation, modulation index	22/12/2017	T1,R1	TAI
6	L8	Single Tone Modulation	Analytical Evaluation	23/12/2017	T1,R2	TAI
7	L9	Power relations in AM waves.	Calculation of power content in single tone and multi-tone AM signal	29/12/2017 ,	T1,R2	TAI
8	L10, L11	Generation of AM waves- Square law and switching modulators	Circuit description and working principle	29/12/2017 , 30/12/2017	T1,R2	TAI
9	L12, L13	Detection of AM waves- Square law detector and Envelope	Circuit description and working principle. Errors in envelope detection	02/01/2017 ,	T1,R1	TAI , TA4

		detector		02/01/2017		
10	L14	DSB Modulation	Disadvantages of DSB-FC. Introduction to DSB-SC	05/01/2017	T1,T2,R2	TA1
11	L15	Time domain and Frequency domain description of DSB-SC	Time domain waveforms and Spectrum of DSB-SC AM wave	05/01/2017	T1,T2,R2	TA1
12	L16	Generation of DSB-SC waves- Balanced Modulators	Circuit description and working principle	06/01/2017	T1,R2	TA1, TA2
13	L17	Generation of DSB-SC waves- Ring Modulators	Circuit description and working principle	08/01/2017	T1,R1	TA1, TA2
14	L18	Detection of DSB waves- Coherent detection	Circuit description and working principle, Errors in Coherent detection	09/01/2017	T1,T2	TA1
15	L19	Detection of DSB waves- COSTAS loop	Circuit description and working principle	09/01/2017	T1,T2,R1	TA1, TA2
16	L20	Frequency division Multiplexing	Concept of multiplexing, FDM	12/01/2017	T1,T2,R1	TA1, TA2
17	Tu1	EM spectrum	Concepts of transmission BW	12/01/2017		TA6

UNIT II: SINGLE SIDEBAND MODULATION

18	L21	Frequency domain description of SSB	Spectrum of SSB modulated wave	19/01/2017	T1,R2	TA1
19	L22	Frequency Discrimination method for generation of AM SSB Modulated wave	Circuit description and working principle	19/01/2017	T1,T2,R2	TA1, TA2
20	L23	Time domain description of SSB	Time domain waveforms and description	20/01/2017	T1,T2,R2	TA1
21	L24	Phase Discrimination method for generation of AM SSB Modulated wave	Circuit description and working principle	22/01/2017	T1,R2	TA1, TA4
22	L25	Demodulation of SSB waves	Coherent SSB Demodulation	23/01/2017	T1,R2	TA1

23	L26	Vestigial side band modulation: Frequency domain description of VSB modulated wave	Introduction, Spectrum of VSB modulated wave	13/01/2017	T1,T2,R 2	TAI , TA2
24	L27	Generation of VSB modulated wave	Circuit description and working principle	27/01/2017	T1,T2,R 2	TAI , TA2
25	L28	Time domain description of VSB modulated wave	Time domain waveforms and description	29/01/2017	T1,T2,R 3	TAI
26	L29	Envelope Detection of a VSB wave pulse carrier	Circuit description and working principle	30/01/2017	T1,T2,R 3	TAI , TA3
27	L30, L31	Comparison of AM techniques. Applications of different AM systems	Comparison of different parameters for AM, DSB-SC, SSB and VSB modulated systems and their applications.	30/01/2017	T1,T2	TAI, TA2, TA4
28	Tu2	Tutorial		02/02/2017		TAI
UNIT-III: ANGLE MODULATION						
29	L32	Basic concepts	Introduction to angle modulation. General mathematical analysis	02/02/2017	T1,T2,R 3	TA1
30	L33	Frequency modulation: Single tone frequency modulation	Frequency deviation, mathematical expression for FM, Modulation Index	03/02/2017	T1,T2,R 3	TA1
31	L34	Spectrum analysis of sinusoidal FM wave	Spectrum of FM modulated wave	05/02/2017	T1,T2,R 3	TAI
32	L35	Narrow band FM,	Types of FM, Performance comparison and spectrum analysis	06/02/2017	T1,T2,R 3	TAI
33	L36	Wide band FM	Performance comparison and spectrum analysis	06/02/2017	T1,T2,R 3	TAI
34	L37	Constant average power	Power relations of FM wave	10/02/2017	T1,T2,R 3	TA1
35	L38	Transmission bandwidth of FM wave	Discussion	12/02/2017	T1,T2,R 3	TA1, TA2

36	L39	Generation of FM waves- Direct FM	Circuit description and working principle	13/02/2017	T1,T2,R 3	TA1
37	L40	Detection of FM waves: Balanced frequency discriminator	Classification of FM demodulators. Balanced frequency discriminator explanation	13/02/2017	T1,T1,R 3	TA1
38	L41	Zero crossing detector	Circuit description and working principle	16/02/2017	T1,T2	TA1, TA4
39	L42	Phase locked loop	Circuit description and working principle	16/02/2017	T1	TA1
40	L43	Comparison of FM and AM	Performance comparison of FM and AM systems, SNR	17/02/2017	T1,T2,R 3	TA1 , TA4
41	Tu3	Tutorial		02/02/2017		TA6
UNIT-IV: NOISE IN ANALOG COMMUNICATION SYSTEM						
42	L44	Types of noise: Resistive (thermal) noise source	Introduction, Sources of noise, Classification	19/02/2017	T1,T2,R 2	TA1, TA5
43	L45	Shot noise, Extraterrestrial noise	Description of Shot noise, Extraterrestrial noise	20/02/2017	T1,T2,R 2	TA1
44	L46	Arbitrary noise sources, white noise	Description of Arbitrary noise sources, white noise	20/02/2017	T1,T2,R 2	TA1
45	L47	Narrowband noise-In phase and quadrature phase components and its properties	Narrowband noise – definition and analysis.	23/02/2017	T1,T2,R 2	TA1, TA2
46	L48	Modelling of noise sources	Mathematical modeling of noise sources	23/02/2017	T1,T2,R 2	TA1
47	L49	Average noise bandwidth	Noise bandwidth description	24/02/2017	T1,T2,R 2	TA1
48	L50	Effective noise temperature	Equivalent noise temperature calculation	26/02/2017	T1,T2,R 2	TA1
49	L51	Average noise figures, Average noise figure of cascaded networks	Mathematical analysis	27/02/2017	T1,T2,R 2	TA1
50	L52	Noise in DSB and SSB	Output SNR and Figure of	27/02/2017	T1,T2,R	TA1

		system	merit		2	
51	L53	Noise in AM system	Noise in envelope detector and threshold effect	03/03/2017	T1,T2,R 2	TA1
52	L54	Noise in Angle modulation system	Output SNR and Figure of merit	05/03/2017	T1,T2,R 2	TA1
53	L55	Noise triangle in Angle modulation system	Effect of modulating frequency	06/03/2017	T1,T2,R 2	TA1
54	L56	Pre- emphasis and de-emphasis	Threshold improvement through Pre- emphasis and de- emphasis	06/03/2017	T1,T2,R 2	TA4
55	Tu4	Tutorial		09/03/2017		TA3
UNIT V: RECEIVERS						
56	L57	Radio Receiver	Introduction: Function of a Radio Receiver	09/03/2017	T1,R1	TA1
57	L58	Receiver types-Tuned RF receivers	Classification of Radio Receivers- Tuned RF receivers-drawbacks	10/03/2017	T1,R1	TA2
58	L59	Superhetrodyne Receivers	Basic elements, advantages.	12/03/2017	T1,R1	TA2
59	L60	RF section and characteristics - Frequency changing and tracking	Tracking or tuning, Image frequency and its rejection	13/03/2017	T1,R1	TA1 , TA4
60	L61	Intermediate Frequency, AGC	IF Amplifiers, AGC Characteristics	13/03/2017	T1,T2,R 1	TA1 , TA2
61	L62	FM receiver and	Receiver characteristics – sensitivity, selectivity, fidelity	16/03/2017	T1,T2,R 1	TA1 , TA4
		Comparison of FM receiver with AM receiver.	comparison	16/03/2017		
62	L63	Amplitude limiting	Discussion	17/03/2017	T1,R1	TA1
63	L64	Pulse modulation: Types of pulse modulation	Introduction and classification of pulse modulation	19/03/2017	T1,R1	TA1 ,
64	L65	PAM - Single polarity	Graphical analysis	20/03/2017	T1,T2,R	TA1

					1	
65	L66	PAM - Double polarity	Graphical analysis	20/03/2017	T1,T2,R 1	TAI
66	L67	PWM: Generation of PWM	Circuit description and working principle	23/03/2017	T1,T2,R 1	TAI , TA2
67	L68	PWM: Demodulation of PWM	Circuit description and working principle	23/03/2017	T1,T2,R 1	TAI
68	L69	PPM: Generation of PPM	Circuit description and working principle	24/03/2017	T1,T2,R 1	TAI
69	L70	PPM: Demodulation of PPM	Circuit description and working principle	26/03/2017	T1,T2,R 1	TAI
70	L71	Time Division Multiplexing	Concept of multiplexing, FDM	27/03/2017	T1,T2,R 1	TA5
71	L72	Spread Spectrum	Techniques, advantages, applications	27/03/2017	T1,T2,R 1	TA6
72	Tu5	Tutorial		31/03/2017		
73	Re1	Revision		02/04/2017		TAI
74	Re2	Revision		03/04/2017		TAI

TEXT BOOK :

1. Communication Systems – Simon Haykin, 2 Ed, Wiley Publications
2. Communication Systems - B. P. Lathi, BS Publications, 2004

REFERENCES :

1. Electronics and Communication Systems – George Kennedy and Bernard Davis, 4th Edition, 2009
2. Principles of Communication Systems – H Taub, D. Schiling, Gautam Sahe, 3rd Edition, McGraw-Hill, 2007
3. Analog and Digital Communication – K Sam Shanmugam, Wiley, 2005

TEACHING AIDS:

1. Chalk and Talk
2. Power point presentation
3. Quiz
4. Role Play
5. Games
6. Brainstorming

WEB SOURCE REFERENCES:

1	http://www.nptel.iitm.ac.in
2	http://www.rfdesign.com

OBJECTIVE TYPE QUESTIONS

UNIT-1: INTRODUCTION

1. The process of varying the parameters of high frequency signal according to low-frequency signal is ____
2. The Bandwidth of Amplitude Modulation is ____
a) ω_m b) $\omega_m/2$ c) $\omega_m/4$ d) $2\omega_m$
3. The total transmitted power of Amplitude Modulation is ____
4. The efficiency of AM is ____
5. The AM is useful for ____
6. The disadvantage of AM is ____
7. By suppressing carrier component from AM wave, we have ____
a) SSB b) VSB c) DSB-SC d) None
8. The most useful detection method for the Detection of Modulating signal from AM is ____
9. AM is compared with following FM technique
a) NBFM b) WBFM c) Both d) None
10. If the Modulation index 'm' of AM is 0.4 then what is the % of Modulation is ____
a) 50% b) 80% c) 20% d) 40%
11. Two modulating signals are modulated simultaneously with modulation indices 0.4 and 0.6 then the resultant Modulation index of AM is ____.
a) 0.72 b) 0.73 c) 0.5 d) 0.6
12. The condition for AM is ____
a) Modulation index is greater than one b) Modulation index is less than one
c) Modulation index is equal to one d) modulation index is less than or equal to one
13. The percentage of Modulation of AM is 60% what is the Modulation index
a) 0.3 b) 0.6 c) 0.4 d) 0.2
14. The modulation index AM with carrier voltage V_c and modulating Voltage V_m is ____
a) $K_a V_m/V_c$ b) $K_a V_c/V_m$ c) $K_a V_m$ d) $K_a V_c$
15. The carrier and modulating signals are $A_c \cos \omega_c t$ and $A_m \cos \omega_m t$ the AM signal is ____
a) $A_c(1+m \cos \omega_c t)$ b) $A_c (1+M \cos_m t) \cos \omega_c t$
c) $A_m(1+ m \cos \omega_c t)\cos \omega_m t$ d) $A_m (1 + m \cos \omega_m t) \cos \omega_c t$
16. The unit of K_a is ____
17. The disadvantage of AM is ____
a) excess bandwidth and less transmitted power
b) less bandwidth and high transmitted power
c) excess bandwidth and high transmitted power
d) less bandwidth and less transmitted power
18. The modulation need for ____
a) frequency translation b) reduced the antenna size
c) for efficient transmission d) all
19. A_{max} and A_{min} are Maximum and Minimum values of envelope of the Modulated wave then the modulation index of AM is ____
a) $A_{max} + A_{min}/A_{max} + A_{min}$. b) $A_{max} + A_{min} / A_{max}$.
c) $A_{max} - A_{min}/A_{max} + A_{min}$ d) $A_{max} - A_{min}/ A_{max}$
20. If the Modulation index is M then the ration of total sideband power to the total power in the Modulated wave is ____
a) $M^2 / (2+M^2)$ b) $M^2 / (1 +M^2)$ c) $M^2 / (2-M^2)$ d) $M^2 / (1-M^2)$

21. The total power in the two side-frequencies of the resulting AM wave is only ___ of the total power in the modulated wave.
22. The recovering of Modulating signal from Modulated signal is called as ___
23. With modulation index 'm' the upper side frequency of lower – side band frequency power is ___
24. The unmodulated carrier Amplitude is A_c and Modulating signal is $m(t)$ then Modulated carrier Amplitude is ___
 a) $m_2 A_c^2$ b) $m_2 A_c^2/8$ c) $m_2 A_c^2/2$ d) $m_2 A_c^2/4$
25. The total radiated power due to AM with modulation index 'm' and carrier power ' P_c ' is ___
 a) $P_c (1+m^2/4)$ b) $P_c (1 + m^2/2)$ c) $P_c(1+m^2)$ d) $P_c(1+m^2/8)$
26. The Amplitude Modulated signal is $A_c(1 + 0.2\cos\omega_m t) \cos\omega_c t$, the modulation index of AM is ___
 a) 20% b) 40% c) 80% d) 60%
27. Low power AM Modulators are ___
28. A carrier is simultaneously modulated by two sine waves with modulation indices of 0.3 and 0.6 of the carrier power is 10Kw, the total modulated power will be ___
29. For a signal amplitude Modulated to a depth of 100% by a sinusoidal signal the power is ___ as power of un-modulated carrier.
 a) 1.5 times b) 2 times c) same d) $\sqrt{2}$ times
30. AM is used for ___
 a) Short – radio wave Propagation b) Medium-radio wave Propagation
 c) long – radio wave Propagation d) a&b

ANSWERS

1) Modulation	2) d	3) $P_c \left(1 + \frac{m^2}{2}\right)$	4) $\frac{A_{cmax} - A_{cmin}}{A_{cmax} + A_{cmin}} \times 100$	5) Short wave and medium wave propagation	6) Excess bandwidth and wastage of power	7) C	8) Envelope detection	9) A	10) d
11) a	12) d	13) b	14) a	15) b	16) per volt	17) c	18) d	19) c	20) a
21) b	22) demodulation or detection	23) d	24) b	25) b	26) a	27) Switching modulator	28) 12.25 KW	29) a	30) d

DSB-SC MODULATION

- Product modulators are used in ____
(a) AM-FC (b) PM (c) DSB-SC (d) FM
- The transmission Band width of DSB is ____
a) ω_m b) $2\omega_m$ c) $\omega_m/2$ d) $\omega_m/4$
- The DSB-SC Modulation is used for ____
- The ring modulator is used for which type a modulation ____
a) AM B) SSB C) DSB-SC D) VSB
- The DSB-SC expression with carrier signal $c(t)$ and modulating signal $m(t)$ is ____
- The Balance Modulator generates the ____
a) SSB B) DSB-SC C) AM D) VSB
- Frequency translation of DSB are ____
a) $f_c \pm f_m$ b) $f_c - f_m$ c) $f_c + f_m$ d) $f_c + 2 f_m$
- The power saving due to suppression of carrier in AM Modulated wave is
a) 66.6% b) 33% c) 44% d) 100%
- The saving in power in a DSB-SC system modulated at 80% is ____
a) 75.16% b) 75.36% c) 75.56% d) 75.76%
- In a low level modulation AM system, the following amplifiers can be used ____
a) Linear amplifiers. b) Harmonic generators
c) Class 'c' power amplifier d) Class B tuned amplifiers
- The radiated power of AM-Transmitter is 10Kw the power in the carrier for modulation index of 0.6 is a ____
a) 8.2Kw b) 8.47 Kw c) 9.26 Kw d) 9.6 Kw
- The choice of the product RC is an envelope detector using a diode and an R-C circuit is governed by ____
a) Both lowest and highest modulation frequencies.
b) Only the depth of modulation
c) The depth of modulation and the lowest modulation frequency. D) None.
- In a higher level modulation AM system the following amplifiers can be used.
a) Linear amplifiers. b) Harmonic generations
c) Class 'C' power amplifier d) Class B tuned amplifiers

ANSWERS

1) c	2)b	3)Point to point communication	4) c	5)c(t) m(t)	6) b	7)a
8)b	9)d	10)d	11)b	12) c	13) c	

UNIT-II: SSB MODULATION

- The bandwidth of VSB is ____
a) $f_m - f_v$ b) $f_m + f_v$ c) $f_m \pm f_v$ d) none
- For Television signal broad casting the following modulation is useful
SSB b)DSB-SC c)VSB d)AM
- For generation of SSB which method is very useful
a) Filter method b)Phase Method C) Weavers Method d)None
- SSB is used for ____ communication
- The bandwidth of SSB is ____
a) ω_m b) $2 \omega_m$ c) $\omega_m/2$ d) $\omega_m/4$
- The carrier and modulating signals are $A_c \cos \omega_c t$ and $A_m \cos \omega_m t$ then SSB signal is
a) $\frac{1}{2} A_c A_m \cos \omega_c t$ b) $A_c A_m \cos (\omega_c + \omega_m)t$
c) $\frac{1}{2} A_c A_m \cos \omega_m t$ d) $\frac{1}{2} A_c A_m \cos (\omega_c + \omega_m)t$
- The power saving due to SSB is ____
- The total transmitted power due to SSB with Modulation index 'm_a' and carrier power P_c is ____
- The carrier signal frequency is 100KHz and modulating signal frequency 1 KHz the upper sideband frequency is ____
a) 100 KHz b) 101KHz c) 99 KHz d) 98 KHz
- The carrier signal frequency is 100 KHz and modulating signal frequency 1 KHz then the upper sideband frequency is ____
a) 100 KHz b)101 KHz c)99 KHz d) KHz
- For detection of modulating signal from SSB and VSB which type of detection is widely useful ____
- Application of SSB is ____
- In VSB vestigial band is useful for ____
- SSB system is used for ____
a) Short-wave transmission b) Long-wave transmission
c)Medium-wave transmission d) None.

1)b	2) c	3)b	4) line communication	5) a	6) d	7) 83.3%	8) $\frac{pcm2a}{4}$	9)b
10)c	11)coherent detection	12)for frequency multiplexing	13) audio signal	14)c	15)b	16)a	17) filter and phase method	18) $\frac{x}{y} A_c m(t) \cos \omega_c t$ $-\frac{1}{2} A_c m_s(t) \sin \omega_c t$
19)b	20)c	21)a	22)c	23)b	24)a	25)c	26)a	27)b

UNIT-III: ANGLE MODULATION CONCEPTS

- The angle of the carrier signal varies according to the modulating signal is ____ modulation.
- The instantaneous frequency of the FM is with carrier frequency f_c and
- Modulating signal $m(t)$ is.
 - $f_i = f_c + K_f m(t)$.
 - $f_i = f_c - K_f m(t)$
 - $f_i = f_c \pm K_f m(t)$
 - $f_c - m(t)$
- The relation between angular frequency ' ω ' and ' θ ' is
 - $\omega = d\theta / dt$
 - $\theta = d\omega / dt$
 - $\omega = d^2\theta / dt^2$
 - $\theta = d^2\omega / dt^2$
- The FM Signal with carrier signal $A_c \cos \omega_c t$ and modulating signal $A_m \cos \omega_m t$
- and modulating index B of FM is. (
 - $A_c \cos (\omega_c t + \beta A_m \sin \omega_m t)$
 - $A_c \cos (\omega_c t + \beta A_m \cos \omega_m t)$
 - $A_c \cos (\omega_c t + \beta \sin \omega_m t)$
 - $A_c \cos (\omega_c t + \beta \cos \omega_m t)$
- If the modulating signal is $A_m \cos \omega_m t$ then the Modulation index β Of FM is ____
 - $K_f A_m / f_m$
 - $K_f A_m / \omega_m$
 - $K_f A_m f_m$
 - all of the above.
- If the Modulation index is β according to Carson's rule the bandwidth is
 - $2 \beta f_m$
 - $2 \beta + f_m$
 - $2 f_m (\beta + 1)$
 - $2 f_m (\beta - 1)$
- The phase of the carrier signal varies according to the Modulating signal is ____ Modulation.
- The PM signal with carrier signal $A_c \cos \omega_c t$ and modulating signal $m(t)$ is
 - $A_c \cos (\omega_c t + K_p m(t))$.
 - $A_c \cos (\omega_c t + K_m \int m(t) dt)$.
 - $A_c \cos (\omega_c t - K_p m(t))$.
 - $A_c \cos (\omega_c t - K_m \int m(t) dt)$.
- As per standards the maximum frequency deviation is ____
 - 50 KHz
 - 75 KHz
 - 100 KHz
 - 125 KHz
- The modulation index β of FM less than one then the type of FM is ____
- For $\beta = 2$ the total no of side frequencies are ____
- The modulating signal frequency is 5 KHz. The frequency deviation is 50 KHz.
- Then the modulation index β is ____
 - 20
 - 10
 - 15
 - 25.
- The modulation index β in terms of frequency deviation and modulation
- signal frequency f_m is ____
 - $\Delta f / f_m$
 - $f_m / \Delta f$
 - $1 + \Delta f / f_m$
 - $1 + f_m / \Delta f$
- Which one is the correct relation?
 - $B_T = 2(f_m + \Delta f)$
 - $B_T = 2 f_m (\beta + \Delta f)$
 - $B_T = 2 \Delta f (1 + 1/\beta)$
 - all.
- For $\beta=5$ what are the total number of side frequencies ____.
- For WBFM, the modulation index of FM is ____
- The Application of NBFM is ____
- The application of WBFM is ____
- For NBFM, the number of side frequencies are ____
- The NBFM is compared with ____ Modulation.

- a) SSB-SC b) DSB-SC c) AM d) VSB
25. The FM signal is $A_c \cos(\omega_c t + 0.5 \sin 2\pi \cdot 1000 t)$ then the frequency deviation is ____
 a) 1500 Hz. b) 1000 Hz c) 500 Hz d) 1250 Hz.
26. The FM signal is $A_c (\cos(\omega_c t + \sin \omega_m t))$ and its frequency deviation is 200 Hz. Then the modulating signal frequency is ____
 a) 400 Hz b) 100 Hz. c) 200 Hz d) 300 Hz.
27. The power of FM signal with carrier amplitude A_c and Bessel functions $J_n(\beta)$ is ____
 a) $A_c^2 \sum J_n^2(\beta)$ b) $1/2 A_c^2 \sum J_n^2(\beta)$ c) A_c^2 d) b & c.
28. The frequency sensitivity of FM is 10 KHz per volt and modulating signal amplitude is 5v then frequency deviation is ____
 a) 25 KHz b) 50 KHz c) 100 KHz d) 150 KHz.
29. The Application of phase modulation is ____
30. The FM signal is $A_c \cos(\omega_c t + 0.2 \sin 50\pi t)$ and frequency sensitivity parameter is 1 Hz/v then the modulating signal is ____
 a) $\cos 50\pi t$ b) $2 \cos 50\pi t$ c) $5 \cos 50\pi t$ d) $4 \cos 50\pi t$
31. The Maximum frequency deviation of NBFM is ____
32. The WBFM is application in ____ frequency range ____
 a) VHF b) LHF c) HF d) SHF
33. WBFM is generated from NBFM using ____
 a) Frequency division. b) Frequency Multiplier.
 c) Mixer d) None.
34. The most useful method for the generation of WBFM is ____.
 a) Filter Method b) Phase Method.
 c) Filter method and Phase method d) none.
35. The modulating signal frequency range of NBFM is ____
36. An FM signal with bandwidth, β is passed through a frequency tripler, then the β of the output signal is ____
37. In WBFM spectrum the maximum frequency deviation is ____
 a) 15 KHz b) 75 KHz c) 200 KHz d) 5.2 MHz
38. In the generation of Modulated signal, a varactor diode can be used for ____.
 a) AM b) FM c) PM d) Both AM and PM.
39. FM signal is $10 \cos(2\pi 10^5 t + 15 \sin 2\pi 100 t)$ with Modulating signal, $m(t) = 5 \cos 2\pi 100 t$. Then the FM bandwidth is ____
 a) 0.1 KHz b) 1 KHz c) 3.2 KHz d) 100 KHz
40. The maximum frequency deviation for NBFM is ____
 a) 10K b) 15K c) 5K d) 20K

ANSWERS

1) Angle modulation	2) a	3) a	4) c	5) a	6) c	7) Phase modulation	8) a	9) b	10) NBFM
11) 8	12) b	13) a	14) d	15) 16	16) >> 1	17) Mobile communication, police wireless, ambulance, taxi cabs, short range VHF,	18) Radio broadcasting	19) 2	20) c

18. Inductive reactance tube using RC network behaves as an inductance of value ____
 a) C_R b) $g_m C_R$ c) g_m / C_R d) $1/ g_m C_R$
19. RC capacitive reactance FET behaves as capacitance of value ____
 a) CR b) $gmCR$ c) CR/gm d) $1/gmCR$
20. In capacitive reactance FET, it is so arranged that ____
 a) $X_c \gg R$ b) $X_c \ll R$ c) $X_c = R$ d) $X_c = 10R$
21. In RC inductive reactance FET, it is so arranged that ____
 a) $X_c \gg R$ b) $X_c \ll R$ c) $X_c = R$ d) $X_c = 10R$
22. Inductive reactance FET using RC network behaves as an inductance of value:
 a) C_R b) $g_m C_R$ c) C_R/ g_m d) $1/ g_m C_R$

ANSWERS

1)d	2)b	3)a	4)Filter method	5)a	6)b	7) avoids the amplitude variations	8) Amplitude variations
9)d	10) Long period variation in signal strength	11)b	12)a	13) Foster-Seely	14)a	15)b	16)a
17)b	18)b	19)b	20)a	21)b	22)c		

UNIT-IV: NOISE

1. Base band communication system output signal to noise ratio is ____
 a) $P_R/2WN_O$ b) P_R/WN_O c) $P_R/4WN_O$ d) $P_R/8WN_O$
2. The output SNR of DSB is ____
 a) $P_R/2WN_O$ b) P_R/WN_O c) $P_R/4WN_O$ d) $P_R/8WN_O$
3. The output SNR of SSB is ____
 a) $P_R/2WN_O$ b) P_R/WN_O c) $P_R/4WN_O$ d) $P_R/8WN_O$
4. The output SNR of DSB compared with output SNR of SSB is ____
 a) greater b) smaller c) equal d) none
5. The output SNR of AM with modulation index 'm' is ____
 a) $(m^2/1+m^2)(S/N)_b$ b) $(m^2/1-m^2)(S/N)_b$ c) $(m^2/2+m^2)(S/N)_b$ d) $(m^2/2-m^2)(S/N)_b$
6. The band pass n noise is expressed as ____
7. The envelope of band pass noise is ____
8. The phase of band pass noise is ____
9. The output of SNR of FM with modulation index β is ____
 a) $\beta^2(S/N)_b$ b) $3/2\beta^2(S/N)_b$ c) $1/2\beta^2(S/N)_b$ d) $3\beta^2(S/N)_b$
10. The output SNR of PM with modulation index β is ____
 a) $\beta^2(S/N)_b$ b) $3/2\beta^2(S/N)_b$ c) $1/2\beta^2(S/N)_b$ d) $3\beta^2(S/N)_b$
11. The received noise component after demodulation in DSB case is
 a) in-phase component b) quadrature component c) both d) none
12. The received noise component after demodulation in SSB case is ____
 a) in-phase component b) quadrature component c) both d) none
13. The received noise component after demodulation in AM case is ____

- a) in-phase component b) quadrature component c) both d) none
14. The received noise component after demodulation in FM case is
a) in-phase component b) quadrature component c) both d) None
15. The received noise component after demodulation in PM case is
a) in-phase component b) quadrature component c) both d) None
16. The output noise power of DSB is ____
a) WN_0 b) $2WN_0$ c) $4WN_0$ d) None
17. The output noise power of SSB is ____
a) $2WN_0$ b) $4WN_0$ c) WN_0 d) None
18. The output noise power of AM is ____
a) WN_0 b) $2WN_0$ c) $4WN_0$ d) None
19. The output noise power of PM is ____
a) WN_0/A^2c b) $WN_0/2A^2c$ c) $2WN_0/A^2c$ d) $WN_0/3A^2c$
20. The function of pre-emphasis is ____
21. The function of de-emphasis is similar to ____ filter
a) low pass b) high bass c) band pass d) band rejection
22. The function of pre-emphasis is similar to
a) low pass b) high bass c) band pass d) band rejection
23. The de-emphasis is used in
a) transmitter b) receiver c) both d) Neither a or b
24. The pre-emphasis is used in ____
a) transmitter b) receiver c) both d) Neither a or b
25. The threshold effect in demodulation is ____

ANSWERS

1) b	2) c	3) d	4) c	5) a	6) $n_i(t)\cos\omega_c t - n_q(t)\sin\omega_c t$	7) $\sqrt{n^2 i(t) + n^2 Q(t)}$	8) arc. Tan($n_Q(t)/n_I(t)$)	9) d
10) a	11) a	12) b	13) a	14) c	15) c	16) b	17) c	18) b
19) c	20) boosted the high frequency signal	21) b	22) a	23) b	24) a	25) the rapid fall on (S/N) when the (S/N) ₀ fall below at a particular level		

RECEIVERS

- The image channel rejection in a super heterodyne receiver comes from
a) IF stage only b) RF stage only
c) detector and RF stage only d) detector, RF and IF stages only
- The main advantage of super-heterodyne receiver is ____
(a) simple circuit (b) better tracking
- improvement in selectivity and sensitivity (d) better alignment
- The received signal frequency of a super-heterodyne receiver having IF = 456 KHz, is 1 MHz. The corresponding image signal is

- a) within its medium band (b) outside the medium band
(c) depends on modulation index (d) depends on modulating frequency
- The resonant frequency of an RF amplifier is 1 MHz and its bandwidth is 10 kHz. The Q-factor will be ____
(a) 10 (b) 100 (c) 0.01 (d) 0.1
 - A ____ is an electronic circuit that picks up a desired modulated radio frequency signal, and recovers the base band signal from it.
a) radio transmitter (b) amplifier (c) radio receiver (d) attenuator
 - The disadvantage of TRF receiver is ____
a) poor selectivity (b) high gain (c) no signal (d) all of the above
 - The radio waves contain electrical energy in the form of ____
 - The process of selecting the desired signal and rejecting the unwanted signal is called ____
a) sensitivity (b) reproduction (c) amplification (d) detectin
 - ____ is the process of recovering a baseband signal from a modulated carrier
a) sensitivity (b) reproduction (c) amplification (d) detectin
 - ____ is the process by which an electrical signal is converted into a desired physical message.
a) sensitivity (b) reproduction (c) amplification (d) detectin
 - TRF receiver works satisfactorily at ____ wave frequencies
a) very high (b) medium (c) high (d) all of the above
 - The performance of a receiver is judged from its various features such as ____
a) selectivity (b) sensitivity (c) fidelity (d) all of the above
 - ____ is the receivers ability to distinguish between two adjacent carrier frequencies
a) selectivity (b) sensitivity (c) fidelity (d) all of the above
 - The ability of a receiver to detect the weakest possible signal is known as ____
a) selectivity (b) sensitivity (c) fidelity (d) all of the above
 - The ability of a receiver to reproduce faithfully all frequency components present in the baseband signal is called
1. The RF amplifier in a radio receiver is a class ____ tued voltage amplifier
a) class A (b) class B (c) class C (d) class D
 - Hetrodyning is a process of ____ translation.
 - The relation between quality factor, Q, resonant frequency, f_0 and band width, B is given by ____
 - In super-heterodyne receiver al the incoming carrier frequencies are converted into fixed IF frequency of ____ KHz
a) 124 (b) 245 (c) 356 (d) 455
 - The adventages of TRF receiver are ____
a) simpler (b) cheaper (c) both a and b (d) none of the above

ANSWERS

1)a	2)c	3) a	4) b	5) a	6) a	7)electromagnetic waves	8)a	9)d	10) b
11)b	12)d	13) a	14) b	15) c	16) c	17)frequency	18) $q=f_0/B$	19)d	20) c

UNIT-V: PULSE MODULATION

1. The maximum permissible distance between two samples of a 2 KHz signal is

- (a) 1000 μ sec (b) 500 μ sec (c) 250 μ sec (d) None of the above

2. Pick the odd man out

- (a) PWM (b) PPM (c) PDM (d) PLM

3. The main advantage of TDM over FDM is that it

- (a) needs less power (b) needs less bandwidth
(c) needs simple circuitry (d) gives better S/N ratio

4. The PWM needs

- (a) more power than PPM (b) more samples per second than PPM
(c) more bandwidth than PPM (d) none of the above

5. The PAM signal can be detected by ____

- (a) bandpass filter (b) bandstop filter (c) high pass filter (d) low pass filter

6. In the present day standard digital voice communication, the amplitude of the voice signal is sampled at a rate of around

- (a) 2000 samples/sec (b) 800 samples/sec (c) 16000 samples/sec (d) 8000 samples/sec

7. Four independent messages have bandwidths of 100 Hz, 100 Hz, 200 Hz, and 400 Hz, respectively. Each is sampled at Nyquist rate, and samples are Time Division Multiplexed (TDM) and transmitted. The transmitted sample rate (in Hz) is ____

- (a) 800 (b) 1600 (c) 400 (d) 3200

8. Flat-top sampling leads to ____

- (a) an aperture effect (b) aliasing (c) loss of signal (d) none

9. Aliasing occurs, when the Nyquist rate is ____

- a) $2 f_m$ (b) $3 f_m$ (c) $2.5 f_m$ (d) $1.2 f_m$

10. A PAM signal can be detected by using ____

- (a) an ADC (b) an integrator (c) a bandpass filter (d) a highpass filter

STATE TRUE OR FALSE

11. The guard time between pulses increases transmission efficiency

- (a) True (b) False

12. Noise can be reduced by increasing sampling rate
 (a) True (b) False
13. TDM system is more immune to interchannel cross-talk as compared to FDM system.
 (a) True (b) False
14. ___ is used for pulse width modulation
 a) 741 b) 555 timer c) 8085 d) 74x138
15. The holding circuit is used in ___ of PAM signals
 a) generation b) demodulation c) both a and b d) none
16. The function of the low pass filter in PAM demodulation is ___
 a) to smooth the pulses b) to allow only high frequencies
 c) to attenuate the low frequency signals d) all of the above
17. PPM can be generated from ___ signals
 a) PAM b) PWM c) both a and b d) none
- 18) The pulse modulation technique in which the width of the carrier is varied according to the instantaneous value of the message signal is called ___
19. The minimum band width required to transmit the PAM signal with frequency f_m is ___
 a) f_m b) $2f_m$ c) $4f_m$ d) $8f_m$
20. In pulse modulation system, the carrier wave is ___ and the message wave is ___
 a) square, square b) square, sinusoidal c) sinusoidal, square d) sinusoidal, sinusoidal

ANSWERS

1. (c)	2. (b)	3. (c)	4. (a)	5. (d)	6. (d)	7. (d)	8. (a)	9. (d)	10. (b)
11. (b)	12. (b)	13. (a)	14) b	15) b	16) a	17) b	18) pulse width modulating	19) b	20) b

UNIT-I: INTRODUCTION

1.
 - a) With necessary expressions, waveforms and spectrums, Explain AM for an arbitrary baseband signal $m(t)$.
 - b) The output power of an AM transmitter is 1KW when sinusoidally modulated to a depth of 100%. Calculate the power in each side band when the modulation depth is reduced to 50%.
2.
 - a) What are the main objectives of a communication system design? What are the primary resources of any communication system.
 - b) The RC load for a diode envelope detector consists of a 1000 pF capacitor in parallel with a 10-K resistor. Calculate the maximum modulation depth that can be handled for sinusoidal modulation at a frequency of 10 KHz if diagonal peak clipping is to be avoided.
 - c) A broadcast AM transmitter radiates 50 KW of carrier power. What will be the radiated power at 85 % of modulation and what is the side band power?
3.
 - a) Draw the one cycle of AM wave and calculate the modulation index of it in terms of V_{max} and V_{min} voltages.
 - b) A modulating signal consists of a symmetrical triangular wave having zero dc component and peak to peak voltage of 12V. It is used to amplitude modulate a carrier of peak voltage 10V. Calculate the modulation index and the ratio of the side lengths L_1/L_2 of the corresponding trapezoidal pattern.
 - c) The rms antenna current of an AM transmitter is 10 A when un-modulated and 12 A when sinusoidally modulated. Calculate the modulation index.
4.
 - a) Draw the one cycle of AM wave and calculate the modulation index of it in terms of V_{max} and V_{min} voltages.
 - b) The rms antenna current of an AM transmitter is 10 A when un-modulated and 12 A when sinusoidally modulated. Calculate the modulation index.
5.
 - a) Explain the collector modulation method for generating AM wave with a neat circuit diagram and waveforms.
 - b) An AM amplifier provides an output of 106 W at 100% modulation. The internal loss is 20 W
 - i. What is un-modulated carrier power?
 - ii. What is the side band power?
6.
 - a) Write AM equation. Define modulation index, and percentage modulation.

- b) Define under-modulation and over-modulation. Explain why over modulation is undesirable.
- c) The output of a diode envelope detector is fed through a dc blocking capacitor to an amplifying stage, which has an input resistance of 10 K. If the diode detector load resistor is 5 K, determine the maximum depth of sinusoidal modulation the detector can handle without negative peak clipping.
7. a) Explain operation of square law detector with circuit diagram and waveforms.
- b) An AM transmitter has un-modulated carrier power of 10 KW. It can be modulated by sinusoidal modulating voltage to a maximum depth of 40%, without overloading. If the maximum modulation index is reduced to 30%. What is the extent up to which the un modulated carrier power can be increased to avoid over loading.
8. a) Draw the one cycle of AM wave and calculate the modulation index of it in terms of V_{max} and V_{min} voltages.
- b) A modulating signal consists of a symmetrical triangular wave having zero dc component and peak to peak voltage of 12V. It is used to amplitude modulate.
9. a) Define communication. Explain with block diagram the basic communication system. Write about modern communication system.
- b) A carrier wave of frequency 10 MHz and peak value of 10 V is amplitude modulated by a 5 KHz sine wave of amplitude 6 V. Determine the modulation index and draw the one sided spectrum of modulated wave.
10. a) An AM wave is given by $s(t) = 25(1 + 0.7 \cos 5000t - 0.3 \cos 10000t)\sin 5 \times 10^6 t$.
- What are the amplitudes and frequencies of the carrier and the side bands?
 - Draw the one sided amplitude spectrum.
 - Determine the bandwidth.
- b) A diode envelope detector with a load resistance $R = 250 \text{ K}$ in parallel with a capacitor $C = 100 \text{ pF}$ is used to detect an AM carrier with 60 % modulation. Find the highest modulation frequency that can be detected without distortion.

DSB MODULATION

1. a) Draw the circuit diagram for balanced ring modulator and explain its operation indicating all the waveforms and spectrums.
- b) In an AM-SC system, modulating signal is a single tone sinusoid $4 \cos 2 \times 10^3 t$, which modulates a carrier signal $6 \cos 2 \times 10^6 t$. Write the equation of modulated wave. Plot the two sided spectrum of the modulated wave. Calculate the amount of power transmitted.
2. Considering the modulating and carrier waves as sinusoids, Explain the single tone

modulation and demodulation of DSB-SC wave with necessary expressions, waveforms and spectrums and explain how only one side band is necessary for transmission of information.

3.
 - a) Explain about the quadrature null effect of coherent detector.
 - b) In DSB-SC, suppression of carrier so as to save transmitter power results in receiver complexity - Justify this statement.
4.
 - a) Explain the DSB-SC generation by balanced modulator using diodes.
 - b) The modulating signal in an AM-SC system is a multiple-tone signal given by $m(t) = A_1 \cos \omega_1 t + A_2 \cos \omega_2 t + A_3 \cos \omega_3 t$. The signal $m(t)$ modulates a carrier $A_c \cos \omega_c t$. Plot the single sided spectrum and find the bandwidth of the modulated signal. Assume that $\omega_3 > \omega_2 > \omega_1$ and $A_1 > A_2 > A_3$.
5. Explain the operation of Costas loop for demodulating DSB-SC waves.
6.
 - a) Explain the concept of frequency translation using the spectrum of DSB-SC wave.
 - b) For the balanced ring modulator circuit, the carrier input frequency $f_c = 500\text{kHz}$ and modulating input signal frequency ranges from 0 to 5 kHz. Determine output frequency range and output frequency for a single input frequency of 3.4 KHz.
7.
 - a) Consider the wave obtained by adding a non coherent carrier $A_c \cos (2\pi f_c t + \phi)$ to DSB-SC wave $m(t) \cos (2\pi f_c t)$ where $X(t)$ is the message waveform. This waveform is applied to an ideal envelope detector. Find the resulting detector output. Evaluate the output for.
 - i. $\phi = 0$ and
 - ii. $\phi \neq 0$ and $|X(t)| \ll A_c/2$.
 - b) Explain the DSB-SC generation by balanced modulator using FET amplifiers.
8.
 - a) Explain the DSB-SC generation by balanced modulator using FET amplifiers.
 - b) The output current of a 60 % AM generator is 1.5 A. To what value will this current rise if the generator is modulated additionally by another audio wave, whose modulation index is 0.7? What would be the percentage of power saving if the carrier is suppressed before transmission took place?
9.
 - a) Classify radio transmitters in detail.
 - b) Compare low level modulation and high level modulation of radio transmitters.
10.
 - a) Classify radio transmitters according to the type of modulation and according to the frequency range involved.
 - b) With the help of block diagram explain AM transmitter with modulation at low carrier power level.

11. a) Discuss about the requirements of carrier frequency with respect to a radio transmitter.
- b) A carrier wave of 1MHz frequency and amplitude of 3volts is frequency modulated by a sinusoidal modulating signal frequency of 500Hz and of peak amplitude of 1volt. The frequency deviation is 1Khz. The peak level of the modulating wave form is changed to 5volts and the modulating frequency is changed to 2KHz. Write the expression for the new Modulated wave.

UNIT-II: SSB MODULATION

1.
 - a) Describe the time domain band-pass representation of SSB with necessary sketches.
 - b) Find the percentage of power saved in SSB when compared with AM system.
2. A synchronous detection of SSB signal shows phase and frequency discrepancy.
 Consider $S(t) = \sum_{i=1}^N [\cos(\omega_c t) \cos(\omega_i t + \phi_i) - \sin(\omega_c t) \sin(\omega_i t + \phi_i)]$ is an SSB signal. The signal is multiplied by the locally generated carrier $\cos\omega_c t$ and then passed through a low-pass filter.
3.
 - a) Prove that the modulating signal can be completely recovered if the cut-off frequency of the filter is $f_N < f_o < 2f_c$.
 - b) Determine the recovered signal when the multiplying signal is $\cos[\omega_c t + \phi_i]$.
 - c) Determine the recovered signal when the multiplying signal is $\cos\omega_c t$.
4.
 - a) Why VSB system is widely used for TV broadcasting - Explain?
 - b) An AM transmitter of 1KW power is fully modulated. Calculate the power transmitted if it is transmitted as SSB.
 - c) Calculate the filter requirement to convert DSB signal to SSB Signal, given that the two side bands are separated by 200HZ. The suppressed carrier is 29MHZ.
5. Describe the single tone modulation of SSB. Assume both modulating and carrier signals are sinusoids. Write SSB equation and plot all the waveforms and spectrums.
6.
 - a) Why SSB transmission is the preferred than DSB-SC?
 - b)
 - i. Prove that the signal $s(t) = S(t) = \sum_{i=1}^N [\cos(\omega_c t) \cos(\omega_i t + \phi_i) - \sin(\omega_c t) \sin(\omega_i t + \phi_i)]$ is an SSB signal ($f_c \gg f_N$), where $\omega_c = 2\pi f_c$, carrier angular frequency and $\omega_i = 2\pi f_i$ is modulating angular frequency. Identify the side band.
 - ii. Obtain an expression for missing side band.
 - iii. Obtain an expression of the total DSB-SC signal.
7.
 - a) Explain the Third method of generating SSB modulated waves.

- b) Explain the coherent detection of SSB signals.
- 8.
- a) Explain the envelope detection of VSB wave plus carrier.
 - b) Calculate the percentage power saving when the carrier and one of the sidebands are suppressed in an AM wave modulated to a depth of
 - i. 100 %
 - ii. 50 % .
9. Explain with block diagram, the phase discrimination method of generating SSB modulated waves.
- 10.
- a) Explain about Diagonal Clipping in a diode detector. How to avoid it?
 - b) A 45Volts(rms) sinusoidal carrier is amplitude modulated by a 30Volts(rms) sinusoidal base band signal. Find the Modulation index of the resulting signal.

UNIT-III: ANGLE MODULATION CONCEPTS

1.
 - a) Describe generation of FM carrier by Transistor reactance modulator with necessary diagrams.
 - b) Compare the phasor diagram of narrow band FM signal and AM signal and discuss about the similarities and differences of the two signals.
2.
 - a) FM Give the procedure to determine the effective bandwidth of an signal.
 - b) Which method of FM signal generation is the preferred choice, when the stability of the carrier frequency is of major concern? Discuss about the method in detail.
3.
 - a) An FM wave with modulation index $\beta = 1$ is transmitted through an ideal band pass filter with mid band frequency f_c and bandwidth is $5f_m$, where f_c is the carrier frequency and f_m is the frequency of the sinusoidal modulating wave. Determine the amplitude spectrum of the filter output.
 - b) An angle modulated signal has the form $v(t) = 100 \cos (2\pi f_c t + 4 \sin 2000 \pi t)$ when $f_c = 10$ MHz.
 - i. Determine average transmitted power.
 - ii. Determine peak phase deviation.
 - iii. Determine the peak frequency deviation.
 - iv. Is this an FM or a PM signal? Explain.
4.
 - a) Compute the bandwidth requirement for the transmission of FM signal having a frequency deviation 75 KHz and an audio bandwidth of 10KHz.
 - b) An FM radio link has a frequency deviation of 30 kHz. The modulating frequency is 3 kHz. Calculate the bandwidth needed for the link. What will be the bandwidth if the deviation is reduced to 15 kHz?

- c) Determine the Bandwidth occupied by a sinusoidally frequency modulated carrier for which the modulation index is 2.4 and modulating signal frequency is 3 KHz.

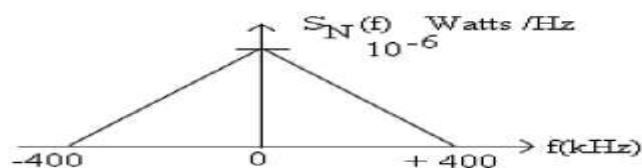
ANGLE MODULATION METHODS

1.
 - a) Explain the operation of the balanced slope detector using a circuit diagram and draw its response characteristics. Discuss in particular the method of combining the outputs of the individual diodes. In what way is this circuit an improvement on the slope detector and in turn what are the advantages?
 - b) Compute the bandwidth requirement for the transmission of FM signal having a frequency deviation 75 KHz and an audio bandwidth of 10KHz.
2. Explain demodulation of FM signal with the help of PLL.
3.
 - a) Explain the operation of the balanced slope detector using a circuit diagram and draw its response characteristics. Discuss in particular the method of combining the outputs of the individual diodes. In what way is this circuit an improvement on the slope detector and in turn what are the advantages?
 - b) Compute the bandwidth requirement for the transmission of FM signal having a frequency deviation 75 KHz and an audio bandwidth of 10KHz.
4.
 - a) Explain the operation of limiter circuit in fm demodulation.
 - b) An FM radio link has a frequency deviation of 30 kHz. The modulating frequency is 3 kHz. Calculate the bandwidth needed for the link. What will be the bandwidth if the deviation is reduced to 15 kHz?
 - c) Determine the Bandwidth occupied by a sinusoidally frequency modulated carrier for which the modulation index is 2.4 and modulating signal frequency is 3 KHz.
5.
 - a) Explain about FM generation using transistor reactance tube modulator.
 - b) Explain balanced ratio detector for detecting FM signal.
6.
 - a) Why are limiters and preemphasis filters used in FM radio.
 - b) Classify radio transmitters based on the type of modulation and Service involved.
7.
 - a) Classify radio transmitters in detail.
 - b) Compare low level modulation and high level modulation of radio transmitters.
8. Draw the block diagram of FM stereo broadcast transmitters and explain its operation.

UNIT-IV: NOISE

1.
 - a) Find the output SNR in a PM system for tone modulation.

- b) A phase modulation (PM) system, with the modulated wave defined by $S(t) = A_c \cos [2\pi f_c t + k_p m(t)]$ where k_p is a constant and $m(t)$ is the message signal. The additive noise $n(t)$ at the phase detector input is $n(t) = n_i(t) \cos(2\pi f_c t) - n_q(t) \sin(2\pi f_c t)$. Assuming that the carrier-to-noise ratio at the detector input is high compared with unity, determine
- the output signal-to-noise ratio and
 - the figure of merit of the system
- Explain how S/N ratio is a figure of merit in case of performance of a communication channel.
 - Derive the expression for figure of merit of AM system for large case.
 - Explain the noise performance of SSB - SC receiver and prove its S/N Ratio is unity.
 - Compare noise performance of PM and FM system.
 - Explain the equivalent model of a generalized communication system for noise calculation.
 - Explain the noise performance of DSB - SC scheme with the help of block diagram.
 - Explain the noise performance of SSB - SC receiver and prove its S/N Ratio is unity.
 - Derive the expression for the S/N ratio of AM system.
 - What is capture effect? Explain FM Threshold effect.
 - Prove that the figure of merit of AM system for single tone modulation with 100% modulation is $1/3$.
 - An AM system with envelope detection is operating at threshold. Determine the power gain in decibels needed at the transmitter to produce $(S/N)_o = 30\text{dB}$ for tone modulation with $m = 1$.
 - Prove that the figure of merit of DSB - SC system is 1.
 - A DSB-SC modulated is transmitted over a noisy channel, with the power spectral density of the noise being as shown in figure below. The message bandwidth is 4 kHz and the carrier frequency is 200 kHz. Assuming that the average power of the modulated wave is 10 watts, find the output signal-to-noise ratio of the receiver.



11. Prove that narrow band FM offers no improvement in SNR over AM.

RECEIVERS

1.
 - a) With the aid of the block diagram explain TRF receiver. Also explain the basic superheterodyne principle.
 - b) List out the advantages and disadvantages of TRF receiver.
2.
 - a) Describe the circuit of an FET amplitude limiter, and with the aid of the transfer characteristic explain the operation of the circuit.
 - b) What can be done to improve the overall limiting performance of an FM receiver? Explain the operation of the double limiter and also AGC in addition to a limiter.
3.
 - a) Discuss how the gain of an ac gain amplifier can be controlled by a dc AGC level, Give the relevant circuit details to support your answer.
 - b) When a super heterodyne receiver is tuned to 555 KHz, its local oscillator provides the mixer with an input at 1010 KHz what is the image frequency ? The antenna at receiver is connected to mixer via a tuned circuit whose loaded Q is 40. What will be rejection ratio for the calculated image frequency ?
4.
 - a) Explain the working of TRF receiver with its block diagram.
 - b) A TRF receiver is turned to 1000 KHz AM radio broadcast signal by a variable tuned circuit with 1 KHz bandwidth. Find the bandwidth when receiver is returned to 1550 KHz and 550 KHz. Determine the recovered baseband.
5.
 - a) What is meant by the term 'tracking error'? Draw a typical tracking error curve. What is meant by the term adjacent channel selectivity?
 - b) Find the image frequency for a standard broadcast band AM receiver using a 455 kHz IF and tuned to a station at 640 kHz.
6.
 - a) Explain the purpose and working of Tracking circuits.
 - b) Explain the purpose of pre emphasis and de emphasis circuits and the working of these circuits.
7.
 - a) List and discuss the factors influencing the choice of the intermediate frequency for a radio receiver.
 - b) What is simple automatic gain control? What are its functions?
8.
 - a) What factors govern the choice of intermediate frequency ?
 - b) In a broadcast super heterodyne receiver having no RF amplifier, the loaded Q of the antenna coupling circuit is 100. If the IF frequency is 455 kHz, determine the image frequency and its rejection ratio for tuning at 1.1. kHz a station.
9.
 - a) Discuss about the alignment of Radio receiver with all details.

- b) Discuss about the need for limiter and de-emphasis circuits in FM receivers.

Unit-V: PULSE MODULATION

1.
 - a) Describe the synchronization procedure for PAM, PWM and PPM signals.
 - b) Discuss about the spectra of PWM and PDM signals.
2.
 - a) Describe the generation and demodulation of PPM with the help of block diagram and hence discuss its spectral characteristics.
 - b) Define and distinguish between PTM and PAM schemes. Sketch and explain their waveform for a single tone sinusoidal input signal.
3.
 - a) How is PDM wave converted into PPM system.
 - b) Explain why a single channel PPM of system requires the transmission of synchronization signal, where as a single channel PAM or PDM system does not it.
4.
 - a) What is the fundamental difference between pulse modulation, on the one hand, and frequency and amplitude modulation on the other?
 - b) What is pulse width modulation? What other names does it have? How is it demodulated?
5. Why is cross talk present in PTM system? Explain the generation and demodulation of PDM signals with suitable diagrams.
6.
 - a) How is PDM wave converted into PPM system.
 - b) Explain why a single channel PPM of system requires the transmission of synchronization signal, where as a single channel PAM or PDM system does not it.
7.
 - a) Why is cross talk present in PTM system ? Explain the generation and demodulation of PDM signals with suitable diagrams.
 - b) How a PPM signal can be generated from a PWM signal.

ASSIGNMENT QUESTIONS

UNIT-1: INTRODUCTION

1. Distinguish between negative peak clipping and diagonal peak clipping in an envelope detector. The output of a diode envelope detector is fed through a DC blocking capacitor to an amplifying stage, which has an input resistance of 10 kilo-ohms. If the diode load resistor is 5k-ohm, determine the maximum depth of sinusoidal modulation the detector can handle without negative peak clipping.
2. Define amplitude modulation? And describe the basic operation of an AM modulator?
3. A broadcast AM transmitter radiates 50kW of carrier power. What will be the radiated power at 80percent modulation?
4. Describe the relationship between the carrier and sideband powers in an AM wave?

DSB MODULATION

1. Consider a composite wave obtained by adding a non coherent carrier $A_c \cos(2\pi f_c t + \phi)$ to DSB-SC wave $X(t) = \cos(2\pi f_m t)$ where $X(t)$ is the message waveform. This composite waveform is applied to ideal envelope detector. Find the resulting detector output. Evaluate this for .
 - i. $\phi = 0$ and
 - ii. $\phi = 0$ and $|X(t)| \ll A_c$
2. Name the constituent stages of A.M. radio transmitter and briefly give the function of each stage.
3. What are the main requirements of a radio transmitter regarding the carrier frequency? Briefly discuss these requirements.
4. Explain the modulation and demodulation of DSB-SC?

UNIT-2 : SSB MODULATION

1. Explain with the help of sketches and mathematical expressions how VSB Modulation can be obtained and mention its applications.
2. An AM broadcast station has a modulation index, which is 0.75 on the average. What would be the average power saving if it could go over to SSB-SC transmission, while having to maintain the same signal strength in the reception area?
3. (a) Explain the operation of ISB transmitter with block diagram. Where it is used?
(b) What is the function of crystal filters in SSB transmitter?
(c) State and explain with respect to 'Q', various types of filters used to separate side bands?
4. Draw the circuit and explain the generation of SSB-SC wave using phase shift method?

UNIT-3: ANGLE MODULATION CONCEPTS

1. The equation of an angle-modulated voltage $v(t) = 10 \sin(108t + 3 \sin 104t)$, what form of angle modulation is this? Calculate the carrier and modulating frequencies, the modulation index and deviation and power dissipated in a 100-ohm resistor.
2. A single tone modulating signal $\cos(10\pi 103t)$ frequency modulates a carrier of 10MHz and produces a frequency deviation of 75kHz. Find
 - i. the modulation index and
 - ii. phase deviation produced in the FM wave.

iii. if another modulating signal produces a modulation index of 100 while maintaining the same deviation, find the frequency and amplitude of the modulating signal,, assuming $K_f = 10\text{kHz/V}$.

3. Compute the bandwidth requirement for the transmission of FM signal having a frequency deviation 75 KHz and an audio bandwidth of 10KHz.
4. Compare FM and AM systems
5. Differentiate between narrow band FM and wide band FM.

ANGLE MODULATION METHODS

1. Draw the complete block diagram of the Armstrong frequency modulation system and explain the function of the mixer and multipliers. In what circumstances can we dispense with the mixer?
2. Draw the block diagram and describe the working of a simple FM transmitter using reactance modulator.
3. What is the principle of sources of frequency drift in reactance modulator FM transmitter and how can such a drift be reduced.
4. Draw the circuit and explain the working of reactance modulator FM transmitter using AFC frequency stabilization.

UNIT-4: NOISE

1. Derive an expression for SNR and figure of merit coherent reception of SSB modulated wave.
2. Define Noise, Figure of Merit, and Signal to Noise ratio. List out the assumptions of Noise calculation in communication system.
3. Give the general representation of noise in communication system and Calculate the power spectral density of it.
4. Calculate the power spectral density of Noise in case of DSB-SC and also calculate Figure of merit.

RECEIVERS

1. What is meant by fading? Explain with suitable figures and example. Explain the principle of frequency and space diversity techniques employed to reduce the effect of fading.
2. (a) Distinguish between simple AGC and delayed AGC.
(b) Draw a block diagram of a super-heterodyne receiver and explain the function of each stage.
(c) What is meant by the term "tracking error"? Explain.
3. Draw the block diagram and explain the working of a TRF receiver. List out its advantages and disadvantages.
4. Explain the necessity of a mixer in a receiver. Give a circuit schematic and explain.
5. Discuss the need for limiter and de-emphasis circuit in FM receivers
6. Illustrate the FM detection by a PLL with the help of its Schematic

UNIT-5: PULSE MODULATION

1. What is meant by Pulse Amplitude Modulation and explain any one-modulation technique in detail.
2. What is meant by Pulse Width Modulation Explain the generation of Pulse width modulation?
3. What is meant by Pulse Width Modulation Explain the demodulation of Pulse width modulation?
4. What is meant by Pulse Position Modulation Explain the generation of Pulse Position modulation?

5. What is meant by Pulse Position Modulation Explain the demodulation of Pulse Position modulation?
6. Compare the performance of PAM, PWM, and PPM
7. What is Pulse modulation? Explain in brief various types of pulse modulation with neat sketches.

Mahaveer Institute of Science and Technology, Hyderabad

Department of ECE

II-B.Tech II- Semester

I Mid Examination Question Paper

Analog Communications (AC)

Set 1

Max .Marks: 10M

Time: 1 Hr

Branch: ECE A

Date:09-02-20198

Answer any TWO questions.

1. Draw the circuit diagram of Ring modulator and explain its operation and indicate all the waveforms and spectrums.
2. Explain the switching modulator for generating AM wave with a neat block diagram and necessary mathematical expressions.
3. Consider the message signal $m(t)=30\cos 2\pi t$ volts and the carrier wave $c(t)=50\cos 100\pi t$: i. Give the time domain expression for the resulting conventional AM wave for 75% modulation ii. Find the power developed across a load of 100Ω due to this AM wave.
4. Evaluate the condition for distortion less demodulation of VSB signal, initially generated by passing a DSB signal through a VSB filter, using synchronous detection.

Mahaveer Institute of Science and Technology, Hyderabad

Department of ECE

II-B.Tech II- Semester

I Mid Examination Question Paper

Analog Communications (AC)

Set 2

Max .Marks: 10M

Time: 1 Hr

Branch: ECE A

Date:09-02-2018

Answer any TWO questions.

1. Define modulation. Explain the need and importance of modulation.
2. Consider the message signal $m(t)=30\cos 2\pi t$ volts and the carrier wave $c(t)=50\cos 100\pi t$: i. Give the time domain expression for the resulting conventional AM wave for 75% modulation ii. Find the power developed across a load of 100Ω due to this AM wave.
3. Define SSBSC modulation. Describe the SSBSC modulation with frequency spectrum. Also discuss the advantages, applications and disadvantages of it.
4. Describe with suitable block diagram the coherent detection of DSB-SC modulated wave using Coostas receiver.

Mahaveer Institute of Science and Technology, Hyderabad

Department of ECE

II-B.Tech II- Semester

I Mid Examination Question Paper

Analog Communications (AC)

Set 3

Max .Marks: 10M

Time: 1 Hr

Branch: ECE A

Date:09-02-2018

Answer any TWO questions.

1. Compare various Amplitude modulation schemes ii. Explain with neat block diagram phase discrimination method for the generation of SSB waves.
2. Consider the message signal $m(t)=30\cos 2\pi t$ volts and the carrier wave $c(t)=50\cos 100\pi t$: i. Give the time domain expression for the resulting conventional AM wave for 75% modulation ii. Find the power developed across a load of 100Ω due to this AM wave.
3. Consider the message signal $m(t)=30\cos 2\pi t$ volts and the carrier wave $c(t)=50\cos 100\pi t$: i. Give the time domain expression for the resulting conventional AM wave for 75% modulation ii. Find the power developed across a load of 100Ω due to this AM wave.
4. Explain the concept of frequency division multiplexing with relevant block diagram.

Result Analysis

Faculty: Nenavath Ravi Kumar

Department:ECE

Sl.no	Subject	Course	Academic Yr.	Branch	Sem	No. of students appeared	passed	Failed	% Of Pass
1	PTSP	B.TECH	2012-2013	II ECE-A	I	69	56	13	81.15
2	DLD	B.TECH	2012-2013	IICSE -A	I	59	45	14	76.2
3	DFTS	M.TECH	2012-2013	VLSI	I	9	8	1	88.89
4	PDC	B.TECH	2012-2013	II ECE-A	II	65	61	4	93.84
5	VLSI	B.TECH	2013-2014	IV ECE B	I	67	60	7	89.5

Designation: Assistant professor

Course:B.Tech

6	MPI	B.TECH	2013-2014	III CSE-A	I	59	50	9	84.75
7	ECA	B.TECH	2013-2014	II ECE-A	II	59	49	10	83
8	EMI	B.TECH	2014-2015	III ECE-C	I	36	33	3	92
9	MWE	B.TECH	2015-2016	IV ECE-B	I	56	44	12	78.57
10	RS	B.TECH	2015-2016	IV ECE-B	II	56	48	8	85.71
11	LDICA	B.TECH	2016-2017	III ECE-A	I	45	25	20	55.55
12	DLD	B.TECH	2017-2018	II CSE-A	I	56	35	21	62.55

- Describe different types of noise and predict its effect on various analog communication systems.
- Analyze energy and power spectral density of the signal.
- Express the basic concepts of analog modulation schemes
- Evaluate analog modulated waveform in time /frequency domain and also find modulation index.
- Develop understanding about performance of analog communication systems
- Calculate bandwidth and power requirements for analog systems.
- Analyze different characteristics of receiver.

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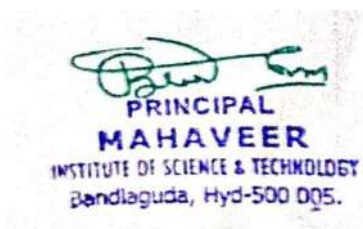
CounselingCode:MHVR,UniversityCode:**E3**

1.4.1 Institution obtains feedback on the syllabus and transaction at the Institution from the following stakeholders

SUMMARY REPORT

S.No.	Feedback
1	Feedback from Students
2	Feedback Teachers
3	Feedback from Employers
4	Feedback from Alumni

PRINCIPAL






STUDENTS FEEDBACK FORM

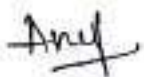
Name of the Student:	Kurasaam Anu		
Hall Ticket No:	19E31A0115	Class:	2nd Yr
Branch:	Civil	Seni:	1 st
Academic Year:	2020-2021	Section:	

Rating Scale: 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1-Not Satisfactory

S. No.	Parameters	SUBJECT					
		1	2	3	4	5	6
	Name of the Subject ->	Sur	EG	SOM-I	P&S	FM	
1.	Extent to which the syllabus of the Course meets their stated Objectives .	4	4	3	5	4	
2.	The Pre-Requisite courses are appropriate for this course	5	4	5	5	5	
3.	The role of Elective courses in professional development	5	4	3	3	4	
4.	Syllabus content is sufficient to acquire technical skills to meet Industry demands.	4	3	5	4	5	
5.	Extent to which theoretical syllabus is helpful in its practical application.	4	5	4	5	3	
6.	Coverage of the Syllabus in Class Room	4	5	4	5		
7.	Extent to which Course Outcomes were achieved	5	4	3	5	4	
8.	The Provision of learning resources in the Library/Campus was adequate and appropriate	4	4	5	3	3	
9.	The Learning and Teaching Methods encourage student participation.	4	4	5	3	4	
10.	The overall environment in the class was conducive for learning	3	5	3	5	4	

Any other comments:


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Bandlaguda, Hyd-500 005.


Signature of the Student



STUDENTS FEEDBACK FORM

Name of the Student:	Pavulraj Mahesh	
Hall Ticket No:	19E31A0120	Class: 3rd Yr
Branch:	CIVIL	Sem: 1st
Academic Year:	2020-2021	Section:

Rating Scale: 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1-Not Satisfactory

S. No.	Parameters	SUBJECT					
		1	2	3	4	5	6
	Name of the Subject ->	SOY	EGH	SOM-I	PGS	FM.	
1.	Extent to which the syllabus of the Course meets their stated Objectives .	5	4	3	5	4	
2.	The Pre-Requisite courses are appropriate for this course	4	5	4	5	3	
3.	The role of Elective courses in professional development	5	4	3	4	5	
4.	Syllabus content is sufficient to acquire technical skills to meet Industry demands.	4	5	4	5	3	
5.	Extent to which theoretical syllabus is helpful in its practical application.	3	5	4	5	5	
6.	Coverage of the Syllabus in Class Room	5	4	5	4	3	
7.	Extent to which Course Outcomes were achieved	4	5	5	4	5	
8.	The Provision of learning resources in the Library/Campus was adequate and appropriate	3	4	5	4	3	
9.	The Learning and Teaching Methods encourage student participation.	4	5	3	5	4	
10.	The overall environment in the class was conducive for learning	5	4	5	4	5	

Any other comments:


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INSTITUTE OF SCIENCE & TECHNOLOGY
Bandlaguda, Hyd-500 005.

P. Mahesh
Signature of the Student



STUDENTS FEEDBACK FORM

Name of the Student:	RASALA SANDHYA					Class:	II Yr
Hall Ticket No:	20E3SA0104					Semi:	I
Branch:	CIVIL					Section:	
Academic Year:	2020-2021						
Rating Scale: 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1-Not Satisfactory							
S. No.	Parameters	SUBJECT					
		1	2	3	4	5	6
	Name of the Subject ->	SVR	EG	SOM-I	P&S	FM	
1.	Extent to which the syllabus of the Course meets their stated Objectives .	4	4	3	4	5	
2.	The Pre-Requisite courses are appropriate for this course	3	4	5	4	4	
3.	The role of Elective courses in professional development	5	3	4	5	4	
4.	Syllabus content is sufficient to acquire technical skills to meet Industry demands.	4	3	5	5	4	
5.	Extent to which theoretical syllabus is helpful in its practical application.	4	4	5	5	3	
6.	Coverage of the Syllabus in Class Room	5	5	4	3	4	
7.	Extent to which Course Outcomes were achieved	4	4	4	4	4	
8.	The Provision of learning resources in the Library/Campus was adequate and appropriate	5	4	3	5	5	
9.	The Learning and Teaching Methods encourage student participation.	4	3	3	4	4	
10.	The overall environment in the class was conducive for learning	5	4	4	4	5	
Any other comments:							


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Bandlaguda, Hyd-500 005.


Signature of the Student



STUDENTS FEEDBACK FORM

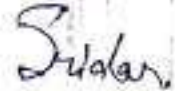
Name of the Student:	Sridar		
Hall Ticket No:	18E35A0206		Class: IV Yr
Branch:	EEE		Sem: II
Academic Year:	2020-21		Section:

Rating Scale: 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1-Not Satisfactory

S. No.	Parameters	SUBJECT					
		1	2	3	4	5	6
	Name of the Subject ->	RES	EDS	UEP			
1.	Extent to which the syllabus of the Course meets their stated Objectives.	3	4	5	-	-	-
2.	The Pre-Requisite courses are appropriate for this course	4	5	3	-	-	-
3.	The role of Elective courses in professional development	4	5	3	-	-	-
4.	Syllabus content is sufficient to acquire technical skills to meet Industry demands.	3	4	5	-	-	-
5.	Extent to which theoretical syllabus is helpful in its practical application.	5	4	3	-	-	-
6.	Coverage of the Syllabus in Class Room	4	3	5	-	-	-
7.	Extent to which Course Outcomes were achieved	4	5	3	-	-	-
8.	The Provision of learning resources in the Library/Campus was adequate and appropriate	3	4	5	-	-	-
9.	The Learning and Teaching Methods encourage student participation.	5	4	3	-	-	-
10.	The overall environment in the class was conducive for learning	3	4	5	-	-	-

Any other comments:


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Signature of the Student



STUDENTS FEEDBACK FORM

Name of the Student:	VISHNU VARDHAN				
Hall Ticket No:	18E31A 0217				
Branch:	EEF				
Academic Year:	2020-21				
	Class:	III	Yr		
	Sem:	II			
	Section:				

Rating Scale: 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1-Not Satisfactory

S. No.	Parameters	SUBJECT					
		1	2	3	4	5	6
	Name of the Subject ->	NCE	PSD	CS	MP&MC	PSOC	
1.	Extent to which the syllabus of the Course meets their stated Objectives .	5	5	3	4	3	-
2.	The Pre-Requisite courses are appropriate for this course	3	4	5	3	5	-
3.	The role of Elective courses in professional development	4	4	3	5	3	-
4.	Syllabus content is sufficient to acquire technical skills to meet Industry demands.	4	3	5	3	5	-
5.	Extent to which theoretical syllabus is helpful in its practical application.	5	4	3	3	4	-
6.	Coverage of the Syllabus in Class Room	3	5	3	4	5	-
7.	Extent to which Course Outcomes were achieved	3	5	4	5	5	-
8.	The Provision of learning resources in the Library/Campus was adequate and appropriate	5	5	4	5	4	-
9.	The Learning and Teaching Methods encourage student participation.	3	3	5	4	5	-
10.	The overall environment in the class was conducive for learning	5	4	5	4	3	-
Any other comments:							

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Signature of the Student



STUDENTS FEEDBACK FORM

Name of the Student:	Manjula		
Hall Ticket No:	19E31A0216	Class:	II Yr
Branch:	EEE	Sem:	5
Academic Year:	2020-21	Section:	

Rating Scale: 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1-Not Satisfactory

S. No.	Parameters	SUBJECT					
		1	2	3	4	5	6
	Name of the Subject ->	LTNMGV	CSM-II	DE	CS	PS-I	-
1.	Extent to which the syllabus of the Course meets their stated Objectives.	5	3	5	4	4	-
2.	The Pre-Requisite courses are appropriate for this course	4	5	4	5	3	-
3.	The role of Elective courses in professional development	3	3	5	5	4	-
4.	Syllabus content is sufficient to acquire technical skills to meet Industry demands.	4	4	3	3	5	-
5.	Extent to which theoretical syllabus is helpful in its practical application.	3	4	5	3	4	-
6.	Coverage of the Syllabus in Class Room	5	4	4	5	4	-
7.	Extent to which Course Outcomes were achieved	3	3	4	5	3	-
8.	The Provision of learning resources in the Library/Campus was adequate and appropriate	5	5	3	5	5	-
9.	The Learning and Teaching Methods encourage student participation.	4	5	5	5	5	-
10.	The overall environment in the class was conducive for learning	3	4	5	5	4	-
Any other comments:							



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Signature of the Student



STUDENTS FEEDBACK FORM

Name of the Student:	TEJAVATHI SRIKANTHI		
Hall Ticket No:	16E31A0337	Class:	4 th Yr
Branch:	Mechanical	Sem:	2 nd
Academic Year:	2020-21	Section:	A

Rating Scale: 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1-Not Satisfactory

S. No.	Parameters	SUBJECT					
		1	2	3	4	5	6
Name of the Subject ->		CAD/CAM	ICS	PPE	ROBOTICS	AMT	
1.	Extent to which the syllabus of the Course meets their stated Objectives .	5	4	5	4	5	
2.	The Pre-Requisite courses are appropriate for this course	5	4	5	5	4	
3.	The role of Elective courses in professional development	5	4	4	3	4	
4.	Syllabus content is sufficient to acquire technical skills to meet Industry demands.	5	3	4	5	4	
5.	Extent to which theoretical syllabus is helpful in its practical application.	4	5	5	4	5	
6.	Coverage of the Syllabus in Class Room	5	4	3	5	3	
7.	Extent to which Course Outcomes were achieved	4	5	5	4	3	
8.	The Provision of learning resources in the Library/Campus was adequate and appropriate	3	5	5	3	5	
9.	The Learning and Teaching Methods encourage student participation.	5	4	5	5	4	
10.	The overall environment in the class was conducive for learning	5	4	4	5	5	
Any other comments:							

Tejvathi
 Signature of the Student

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 Bandlaguda, Hyderabad-500005.

BW/B



STUDENTS FEEDBACK FORM

Name of the Student:	MADHAGONE AKHIL TEJA			
Hall Ticket No:	1GE31A0362		Class:	4 th Yr
Branch:	Mechanical		Sem:	2 nd
Academic Year:	2020-21		Section:	A

Rating Scale: 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1-Not Satisfactory

S. No.	Parameters	SUBJECT					
		1	2	3	4	5	6
Name of the Subject ->		CAD/CAM	ICS	PPE	ROBOTICS	AMT	
1.	Extent to which the syllabus of the Course meets their stated Objectives.	5	5	5	3	4	
2.	The Pre-Requisite courses are appropriate for this course	5	4	5	5	5	
3.	The role of Elective courses in professional development	4	5	5	4	4	
4.	Syllabus content is sufficient to acquire technical skills to meet Industry demands.	5	4	3	5	4	
5.	Extent to which theoretical syllabus is helpful in its practical application.	5	5	5	4	5	
6.	Coverage of the Syllabus in Class Room	3		4	5	4	
7.	Extent to which Course Outcomes were achieved	5	5	3	5	5	
8.	The Provision of learning resources in the Library/Campus was adequate and appropriate	5	4	5	4	5	
9.	The Learning and Teaching Methods encourage student participation.	3	5	5	5	5	
10.	The overall environment in the class was conducive for learning	4	5	5	5	4	

Any other comments:

Akhil Teja
Signature of the Student



STUDENTS FEEDBACK FORM

Name of the Student:	T HONGAR NARAYANA		
Hall Ticket No:	16E31A0338	Class:	4th Yr
Branch:	Mechanical	Sem:	1 st
Academic Year:	2020-21	Section:	A

Rating Scale: 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1-Not Satisfactory

S. No.	Parameters	SUBJECT					
		1	2	3	4	5	6
Name of the Subject ->		CAD/CAM	ICS	PPE	Robotics	AMT	
1.	Extent to which the syllabus of the Course meets their stated Objectives .	5	4	5	5	4	
2.	The Pre-Requisite courses are appropriate for this course	4	5	4	4	3	
3.	The role of Elective courses in professional development	5	4	5	5	4	
4.	Syllabus content is sufficient to acquire technical skills to meet Industry demands.	4	5	4	5	5	
5.	Extent to which theoretical syllabus is helpful in its practical application.	5	4	3	5	4	
6.	Coverage of the Syllabus in Class Room	4	5	5	5	5	
7.	Extent to which Course Outcomes were achieved	5	4	5	4	4	
8.	The Provision of learning resources in the Library/Campus was adequate and appropriate	4	5	4	5	5	
9.	The Learning and Teaching Methods encourage student participation.	4	5	5	4	4	
10.	The overall environment in the class was conducive for learning	5	4	5	5	5	
Any other comments:							


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BNV

T. Narayana
Signature of the Student



STUDENTS FEEDBACK FORM

Name of the Student:	Ch. Praveen	Class:	III rd Yr
Hall Ticket No:	18C51A01006	Sem:	II
Branch:	ECE	Section:	A
Academic Year:	2020-2021		

Rating Scale: 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1-Not Satisfactory

S. No.	Parameters	SUBJECT					
		1	2	3	4	5	6
	Name of the Subject ->	EMI	MPMC	DCN	CS	BEFA	IPP
1.	Extent to which the syllabus of the Course meets their stated Objectives.	5	5	5	5	5	5
2.	The Pre-Requisite courses are appropriate for this course	5	5	5	4	5	5
3.	The role of Elective courses in professional development	5	5	5	5	5	5
4.	Syllabus content is sufficient to acquire technical skills to meet Industry demands.	5	5	5	5	4	5
5.	Extent to which theoretical syllabus is helpful in its practical application.	4	5	4	5	5	4
6.	Coverage of the Syllabus in Class Room	5	4	5	5	5	5
7.	Extent to which Course Outcomes were achieved	5	5	5	5	5	5
8.	The Provision of learning resources in the Library/Campus was adequate and appropriate	5	5	3	4	5	5
9.	The Learning and Teaching Methods encourage student participation.	4	4	5	5	4	4
10.	The overall environment in the class was conducive for learning	5	5	5	5	5	5

Any other comments: Cover Advanced topics

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Mahaveer Institute of Science & Technology
Bandlaguda, Hyderabad - 500 005



STUDENTS FEEDBACK FORM

Name of the Student:	D. Madhukar	Class:	III Yr
Hall Ticket No:	18031A01009	Sem:	II
Branch:	ECE	Section:	A
Academic Year:	2020-2021		

Rating Scale: 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1-Not Satisfactory

S. No.	Parameters	SUBJECT					
		1	2	3	4	5	6
	Name of the Subject ->	[07]	mpmc	DCN	CS	REFA	IPR
1	Extent to which the syllabus of the Course meets their stated Objectives.	5	5	5	5	5	5
2	The Pre-Requisite courses are appropriate for this course	5	5	5	5	4	5
3	The role of Elective courses in professional development	5	5	4	5	5	5
4	Syllabus content is sufficient to acquire technical skills to meet Industry demands.	5	5	5	5	5	4
5	Extent to which theoretical syllabus is helpful in its practical application.	4	5	5	5	5	5
6	Coverage of the Syllabus in Class Room	5	4	5	5	5	4
7	Extent to which Course Outcomes were achieved	5	5	5	4	5	5
8	The Provision of learning resources in the Library/Campus was adequate and appropriate	5	5	5	5	4	5
9	The Learning and Teaching Methods encourage student participation.	5	5	5	5	5	5
10	The overall environment in the class was conducive for learning	5	5	4	5	5	5

Any other comments: Increase number of theory hours.

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Bandlaguda, Hyderabad-500 005

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Bandlaguda, Hyd-500 005.



STUDENTS FEEDBACK FORM

Name of the Student: J. Javali
 Hall Ticket No: 18021A0116
 Branch: ECE
 Academic Year: 2020-2021
 Class: III Yr
 Sem: II
 Section: A

Rating Scale: 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactor, 1-Not Satisfactory

Sl. No.	Parameters	SUBJECT					
		1	2	3	4	5	6
	Name of the Subject ->	END	MIMC	DEV	CS	BEEA	JPF
1	Extent to which the syllabus of the Course meets their stated Objectives.	5	5	5	5	5	5
2	The Pre-Requisite courses are appropriate for this course	5	5	5	5	5	5
3	The role of Elective courses in professional development	5	5	5	5	4	4
4	Syllabus content is sufficient to acquire technical skills to meet Industry demands.	5	4	5	5	5	5
5	Extent to which theoretical syllabus is helpful in its practical application.	4	5	4	5	5	5
6	Coverage of the Syllabus in Class Room	5	5	5	5	5	5
7	Extent to which Course Outcomes were achieved	5	5	5	5	4	5
8	The Provision of learning resources in the Library Campus was adequate and appropriate	4	5	5	4	5	4
9	The Learning and Teaching Methods encourage student participation.	5	4	5	5	5	5
10	The overall environment in the class was conducive for learning	5	5	5	5	5	5
Any other comments:		make syllabus Industry oriented.					

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 Bandlaguda, Hyderabad - 500 005

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J. Javali
 Signature of the Student

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 Bandlaguda, Hyd-500 005.



STUDENTS FEEDBACK FORM

Name of the Student:	L. Samhitha			Class:	IV Yr
Hall Ticket No:	17E31A1216			Sem:	II
Branch:	IT			Section:	
Academic Year:	2020-2021				

Rating Scale: 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1-Not Satisfactory

S. No.	Parameters	SUBJECT					
		1	2	3	4	5	6
	Name of the Subject ->	MIS	MSE	HCL			
1.	Extent to which the syllabus of the Course meets their stated Objectives.	5	5	3			
2.	The Pre-Requisite courses are appropriate for this course	4	4	4			
3.	The role of Elective courses in professional development	3	3	5			
4.	Syllabus content is sufficient to acquire technical skills to meet Industry demands.	4	3	3			
5.	Extent to which theoretical syllabus is helpful in its practical application.	3	5	5			
6.	Coverage of the Syllabus in Class Room	3	4	4			
7.	Extent to which Course Outcomes were achieved	5	5	5			
8.	The Provision of learning resources in the Library/Campus was adequate and appropriate	4	3	5			
9.	The Learning and Teaching Methods encourage student participation.	4	4	4			
10.	The overall environment in the class was conducive for learning	3	3	5			
Any other comments:							

Dr. A. Nanda Gopal Reddy
 HOD, Dept. of Information Technology
 Mahaveer Institute of Science & Technology
 Vysaspuri, Bandlaguda Post, Keshavnagar
 Hyderabad-500005.

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 Bandlaguda, Hyd-500 005.

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STUDENTS FEEDBACK FORM

Name of the Student:	M. Moumika			Class:	IV Yr
Hall Ticket No:	17E31A1219			Sem:	IV
Branch:	IT			Section:	
Academic Year:	2020-2021				

Rating Scale: 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1-Not Satisfactory

S. No.	Parameters	SUBJECT					
		1	2	3	4	5	6
	Name of the Subject ->	MIS	MSE	HCL			
1.	Extent to which the syllabus of the Course meets their stated Objectives.	4	5	4			
2.	The Pre-Requisite courses are appropriate for this course	5	5	4			
3.	The role of Elective courses in professional development	4	4	5			
4.	Syllabus content is sufficient to acquire technical skills to meet Industry demands.	3	5	4			
5.	Extent to which theoretical syllabus is helpful in its practical application.	4	5	5			
6.	Coverage of the Syllabus in Class Room	4	4	4			
7.	Extent to which Course Outcomes were achieved	5	5	5			
8.	The Provision of learning resources in the Library/Campus was adequate and appropriate	3	3	5			
9.	The Learning and Teaching Methods encourage student participation.	4	4	5			
10.	The overall environment in the class was conducive for learning	5	5	3			

Any other comments:

Dr. A. Nanda Copal Reddy
 HOD, Dept. of Information Technology
 Mahaveer Institute of Science & Technology
 Vysapuri, Bandlaguda, Post Keshavgi
 Hyderabad-500005.

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M. Moumika
 Signature of the Student



STUDENTS FEEDBACK FORM

Name of the Student:	M. Sai kishna		Class:	IV Yr
Hall Ticket No:	ME31A1218		Sem:	II
Branch:	IT		Section:	
Academic Year:	2020-2021			

Rating Scale: 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1-Not Satisfactory

S. No.	Parameters	SUBJECT					
		1	2	3	4	5	6
	Name of the Subject ->	MIS	MSE	HCI			
1.	Extent to which the syllabus of the Course meets their stated Objectives .	5	4	3			
2.	The Pre-Requisite courses are appropriate for this course	4	4	5			
3.	The role of Elective courses in professional development	3	3	4			
4.	Syllabus content is sufficient to acquire technical skills to meet Industry demands.	4	5	3			
5.	Extent to which theoretical syllabus is helpful in its practical application.	3	3	5			
6.	Coverage of the Syllabus in Class Room	3	5	4			
7.	Extent to which Course Outcomes were achieved	5	4	3			
8.	The Provision of learning resources in the Library/Campus was adequate and appropriate	4	3	5			
9.	The Learning and Teaching Methods encourage student participation.	3	5	4			
10.	The overall environment in the class was conducive for learning	4	3	5			

Any other comments:


 Dr. A. Nanda Gopal Reddy
 HOD, Dept. of Information Technology
 Mahaveer Institute of Science & Technology
 Vyasapuri, Bandlaguda, Post: Keshavgiri,
 Hyderabad-500005.


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 Bandlaguda, Hyd-500 005,

M. Sai kishna
 Signature of the Student



STUDENTS FEEDBACK FORM

Name of the Student:	A. Spindana		Class:	IV Yr
Hall Ticket No:	ME 31A 2103		Sem:	III
Branch:	Aeronautical		Section:	A
Academic Year:	2020-21			

Rating Scale: 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1-Not Satisfactory

S. No.	Parameters	SUBJECT					
		1 HE OF-3	2 GOOD PE-5	3 EJA PE-6	4	5	6
1.	Extent to which the syllabus of the Course meets their stated Objectives.	2	5	4			
2.	The Pre-Requisite courses are appropriate for this course	3	4	5			
3.	The role of Elective courses in professional development	4	5	5			
4.	Syllabus content is sufficient to acquire technical skills to meet Industry demands.	4	3	4			
5.	Extent to which theoretical syllabus is helpful in its practical application.	5	4	5			
6.	Coverage of the Syllabus in Class Room	4	5	4			
7.	Extent to which Course Outcomes were achieved	2	4	5			
8.	The Provision of learning resources in the Library Campus was adequate and appropriate	5	5	4			
9.	The Learning and Teaching Methods encourage student participation.	4	4	5			
10.	The overall environment in the class was conducive for learning	4	5	4			
Any other comments:		No					

Spindana
Signature of the Student

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Bandlaguda, Hyderabad



STUDENTS FEEDBACK FORM

Name of the Student:	Kamadi Shiva Sahithi		Class:	4 Yr
Hall Ticket No:	AE31A2113		Sem:	II
Branch:	Automat. Cal		Section:	A
Academic Year:	2020-2021			

Rating Scale: 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1-Not Satisfactory

S. No.	Parameters	SUBJECT					
		1 HE OE-3	2 EnvAg PE-5	3 ESA PE 6	4	5	6
1	Name of the Subject ->						
1	Extent to which the syllabus of the Course meets their stated Objectives.	5	4	5			
2	The Pre-Requisite courses are appropriate for this course	4	5	4			
3	The role of Elective courses in professional development	5	4	5			
4	Syllabus content is sufficient to acquire technical skills to meet Industry demands.	4	5	5			
5	Extent to which theoretical syllabus is helpful in its practical application.	4	5	5			
6	Coverage of the Syllabus in Class Room	5	4	4			
7	Extent to which Course Outcomes were achieved	4	5	5			
8	The Provision of learning resources in the Library/Campus was adequate and appropriate	5	4	5			
9	The Learning and Teaching Methods encourage student participation.	5	5	5			
10	The overall environment in the class was conducive for learning	5	5	5			

Any other comments:

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 Signature of the Student

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 Hyderabad, India-500005



STUDENTS FEEDBACK FORM

Name of the Student:	GURUSE VINAY kumar		Class:	1 st Yr
Hall Ticket No:	17E31AD11		Sem:	1 st Sem
Branch:	Aeronautical		Section:	1
Academic Year:	2020-2021			

Rating Scale: 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1-Not Satisfactory

S. No.	Parameters	SUBJECT					
		1	2	3	4	5	6
	Name of the Subject ->	HE DE2	GDPS PE5	RIA PE6			
1.	Extent to which the syllabus of the Course meets their stated Objectives .	5	4	5			
2.	The Pre-Requisite courses are appropriate for this course	4	5	5			
3.	The role of Elective courses in professional development	5	4	5			
4.	Syllabus content is sufficient to acquire technical skills to meet Industry demands.	5	4	5			
5.	Extent to which theoretical syllabus is helpful in its practical application.	5	4	5			
6.	Coverage of the Syllabus in Class Room	5	5	5			
7.	Extent to which Course Outcomes were achieved	5	4	5			
8.	The Provision of learning resources in the Library/Campus was adequate and appropriate	5	4	5			
9.	The Learning and Teaching Methods encourage student participation.	5	4	5			
10.	The overall environment in the class was conducive for learning	5	4	5			

Any other comments: No

Signature of the Student

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STUDENTS FEEDBACK FORM

Name of the Student:	RUGULOTHU VARSHA					Class:	I Yr
Hall Ticket No:	20E31A2108				Sem:	II	
Branch:	AERO					Section:	
Academic Year:	2020-21						
Rating Scale: 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1-Not Satisfactory							
S. No.	Parameters	SUBJECT					
		1	2	3	4	5	6
	Name of the Subject ->	MII	EC	EM	ENG		
1.	Extent to which the syllabus of the Course meets their stated Objectives.	5	4	5	3		
2.	The Pre-Requisite courses are appropriate for this course	4	5	3	4		
3.	The role of Elective courses in professional development	5	3	4	5		
4.	Syllabus content is sufficient to acquire technical skills to meet Industry demands.	5	4	5	5		
5.	Extent to which theoretical syllabus is helpful in its practical application.	4	5	5	5		
6.	Coverage of the Syllabus in Class Room	5	5	5	5		
7.	Extent to which Course Outcomes were achieved	3	5	5	3		
8.	The Provision of learning resources in the Library/Campus was adequate and appropriate	5	4	5	5		
9.	The Learning and Teaching Methods encourage student participation.	4	5	5	4		
10.	The overall environment in the class was conducive for learning	5	4	3	5		
Any other comments:							

G. Varsha

Signature of the Student

HOD

Department of Humanities & Sciences
Mahaveer Institute of Science & Technology,
HYDERABAD

Principal


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Bandlaguda, Hyd-500 005.



STUDENTS FEEDBACK FORM

Name of the Student:	Chawan Sandeep					Class:	I Yr
Hall Ticket No:	20E31A0204					Sem:	II
Branch:	EEE					Section:	
Academic Year:	2020-21						
Rating Scale: 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1-Not Satisfactory							
S. No.	Parameters	SUBJECT					
		1	2	3	4	5	6
	Name of the Subject ->	M-II	AP	PPS	EG1		
1.	Extent to which the syllabus of the Course meets their stated Objectives .	4	5	3	5		
2.	The Pre-Requisite courses are appropriate for this course	5	3	4	5		
3.	The role of Elective courses in professional development	5	5	4	5		
4.	Syllabus content is sufficient to acquire technical skills to meet Industry demands.	4	5	4	5		
5.	Extent to which theoretical syllabus is helpful in its practical application.	3	5	4	5		
6.	Coverage of the Syllabus in Class Room	4	4	5	5		
7.	Extent to which Course Outcomes were achieved	4	5	5	5		
8.	The Provision of learning resources in the Library/Campus was adequate and appropriate	5	5	4	4		
9.	The Learning and Teaching Methods encourage student participation.	5	5	5	5		
10.	The overall environment in the class was conducive for learning	5	4	3	5		
Any other comments:							

c. Sandeep
Signature of the Student


HOD
Department of Humanities & Science
Mahaveer Institute of Science & Technology,
HYDERABAD


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INSTITUTE OF SCIENCE & TECHNOLOGY
Bandlaguda, Hyd-500 005.



STUDENTS FEEDBACK FORM

Name of the Student:	G Venkatesh	Class:	I Yr
Hall Ticket No:	30E31A0417	Sem:	II
Branch:	ECE	Section:	
Academic Year:	2020-21		

Rating Scale: 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1-Not Satisfactory

S. No.	Parameters	SUBJECT					
		1	2	3	4	5	6
	Name of the Subject ->	MII	EC	BEE	ENG		
1.	Extent to which the syllabus of the Course meets their stated Objectives .	4	5	4	5		
2.	The Pre-Requisite courses are appropriate for this course	5	4	5	4		
3.	The role of Elective courses in professional development	4	4	3	5		
4.	Syllabus content is sufficient to acquire technical skills to meet Industry demands.	5	5	5	4		
5.	Extent to which theoretical syllabus is helpful in its practical application.	4	5	5	4		
6.	Coverage of the Syllabus in Class Room	5	4	3	2		
7.	Extent to which Course Outcomes were achieved	5	5	5	3		
8.	The Provision of learning resources in the Library/Campus was adequate and appropriate	5	5	4	5		
9.	The Learning and Teaching Methods encourage student participation.	4	5	5	4		
10.	The overall environment in the class was conducive for learning	5	5	4	5		
Any other comments:							

G Venkatesh

Signature of the Student

B
HOD

Department of Humanities & Science
Mahaveer Institute of Science & Technology
HYDERABAD

[Signature]
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Bandlaguda, Hyd-500 005.



TEACHERS FEEDBACK FORM

Name of the Faculty:	K. Sai Pradeep	Academic Year:	2020-2021			
Designation:	Asst. Prof	Class:	: II Yr			
Department:	Civil ENGG	Sem:	II sem			
Name of the Subject:	Building materials and construction planning	Section:	—			
Rating Scale: 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1-Not Satisfactory						
S.No.	Parameters	1	2	3	4	5
1	Curriculum is based on the needs of the stake holders	4	5	4	4	5
2	Extent to which the course content meets Industrial requirement	4	4	5	5	4
3	Availability of Text Books/Reference Books to the prescribed syllabus	5	4	5	5	5
4	How manageable is the syllabus load to the student	4	4	4	5	4
5	Extent to which the course content helps the student in his real time applications	4	5	5	4	5
6	The course offers good balance between theory and its practical applications	4	4	5	5	5
7	Teaching Facilities provided for adopting latest trends in research and technology.	4	4	5	4	5
8	The number of periods allotted to the course is sufficient to cover syllabus	4	4	4	5	3
Any other comments:						

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Signature of the Teacher



TEACHERS FEEDBACK FORM

Name of the Faculty:	B. VARALAKSHMI	Academic Year:	2020-2021			
Designation:	ASST. PROF	Class:	II Yr			
Department:	CIVIL ENGG	Sem:	I			
Name of the Subject:	SURVEYING AND GEOMETRICS	Section:				
Rating Scale:5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1-Not Satisfactory						
S.No.	Parameters	1	2	3	4	5
1	Curriculum is based on the needs of the stake holders	4	5	3	4	5
2	Extent to which the course content meets Industrial requirement	4	4	4	5	3
3	Availability of Text Books/Reference Books to the prescribed syllabus	4	5	4	5	4
4	How manageable is the syllabus load to the student	3	4	5	4	3
5	Extent to which the course content helps the student in his real time applications	4	5	4	5	4
6	The course offers good balance between theory and its practical applications	3	4	5	5	4
7	Teaching Facilities provided for adopting latest trends in research and technology.	4	4	5	4	5
8	The number of periods allotted to the course is sufficient to cover syllabus	3	4	5	4	3
Any other comments:						

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Bandlaguda, Hyd-500 005.

Signature of the Teacher



TEACHERS FEEDBACK FORM

Name of the Faculty:	R. KALYANI	Academic Year:	2020-21			
Designation:	Asst. Prof	Class:	3 Yr			
Department:	E.E.E	Sem:	II			
Name of the Subject:	Power System Protection (P.S.P)	Section:	-			
Rating Scale: 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1-Not Satisfactory						
S.No.	Parameters	1	2	3	4	5
1	Curriculum is based on the needs of the stake holders	3	4	5	4	3
2	Extent to which the course content meets Industrial requirement	5	4	3	5	4
3	Availability of Text Books/Reference Books to the prescribed syllabus	5	3	4	5	4
4	How manageable is the syllabus load to the student	3	5	4	3	5
5	Extent to which the course content helps the student in his real time applications	3	5	4	3	4
6	The course offers good balance between theory and its practical applications	3	4	3	4	3
7	Teaching Facilities provided for adopting latest trends in research and technology.	4	5	3	4	5
8	The number of periods allotted to the course is sufficient to cover syllabus	5	5	3	4	5
Any other comments:						

R. Kalyani
Signature of the Teacher

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Bandlaguda, Hyd-500 005.



TEACHERS FEEDBACK FORM

Name of the Faculty:	T. Himabindu	Academic Year:	2020-21
Designation:	Asst. Prof	Class:	II Yr
Department:	E.E.E.	Sem:	II
Name of the Subject:	Digital Electronics (DE)	Section:	-

Rating Scale: 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1-Not Satisfactory

S.No.	Parameters	1	2	3	4	5
1	Curriculum is based on the needs of the stake holders	3	5	4	3	4
2	Extent to which the course content meets Industrial requirement	5	3	4	3	5
3	Availability of Text Books/Reference Books to the prescribed syllabus	4	5	3	4	5
4	How manageable is the syllabus load to the student	3	4	3	5	3
5	Extent to which the course content helps the student in his real time applications	5	4	4	3	4
6	The course offers good balance between theory and its practical applications	5	3	5	3	5
7	Teaching Facilities provided for adopting latest trends in research and technology.	4	3	5	5	3
8	The number of periods allotted to the course is sufficient to cover syllabus	3	4	4	3	5

Any other comments:

T. Himabindu
 Signature of the Teacher

[Signature]
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TEACHERS FEEDBACK FORM

Name of the Faculty:	G. Srikanth Reddy	Academic Year:	2020-21			
Designation:	Assistant Professor	Class:	III rd Yr			
Department:	Mechanical	Sem:	I			
Name of the Subject:	Dynamics of machinery	Section:	A			
Rating Scale: 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1-Not Satisfactory						
S.No.	Parameters	1	2	3	4	5
1	Curriculum is based on the needs of the stake holders				✓	
2	Extent to which the course content meets Industrial requirement					✓
3	Availability of Text Books/Reference Books to the prescribed syllabus				✓	
4	How manageable is the syllabus load to the student					✓
5	Extent to which the course content helps the student in his real time applications				✓	
6	The course offers good balance between theory and its practical applications					✓
7	Teaching Facilities provided for adopting latest trends in research and technology.				✓	
8	The number of periods allotted to the course is sufficient to cover syllabus					✓
Any other comments:						


 Signature of the Teacher


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BRN



TEACHERS FEEDBACK FORM

Name of the Faculty:	B. NAGESWAR	Academic Year:	20-21			
Designation:	Asst. Prof	Class:	III Yr			
Department:	Mechanical Engineering	Sem:	I			
Name of the Subject:	Thermal Engineering - II	Section:	A			
Rating Scale: 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1-Not Satisfactory						
S.No.	Parameters	1	2	3	4	5
1	Curriculum is based on the needs of the stake holders					✓
2	Extent to which the course content meets Industrial requirement					✓
3	Availability of Text Books/Reference Books to the prescribed syllabus					✓
4	How manageable is the syllabus load to the student				✓	
5	Extent to which the course content helps the student in his real time applications					✓
6	The course offers good balance between theory and its practical applications				✓	
7	Teaching Facilities provided for adopting latest trends in research and technology.					✓
8	The number of periods allotted to the course is sufficient to cover syllabus					✓
Any other comments:						


 Signature of the Teacher


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BNU



TEACHERS FEEDBACK FORM

Name of the Faculty:	R. Boyjanya	Academic Year:	2020-21			
Designation:	Asst. professor	Class:	IV Yr			
Department:	ECE	Sem:	I			
Name of the Subject:	Microprocessor Engineering	Section:	-			
Rating Scale: 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1-Not Satisfactory						
S.No.	Parameters	1	2	3	4	5
1	Curriculum is based on the needs of the stake holders				✓	
2	Extent to which the course content meets Industrial requirement				✓	
3	Availability of Text Books/Reference Books to the prescribed syllabus					✓
4	How manageable is the syllabus load to the student				✓	
5	Extent to which the course content helps the student in his real time applications				✓	
6	The course offers good balance between theory and its practical applications				✓	
7	Teaching Facilities provided for adopting latest trends in research and technology.					✓
8	The number of periods allotted to the course is sufficient to cover syllabus				✓	

S. R. R.

Signature of the Teacher

[Signature]

K. R. R.

Head, Electronics & Comm. Engg. Dept.
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 Bandlaguda, Hyderabad - 500 005

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 Bandlaguda, Hyd-500 005.



TEACHERS FEEDBACK FORM

Name of the Faculty:	Ch. Sundeep Kumar	Academic Year:	2020-2021			
Designation:	Asst. Professor	Class:	IV Yr			
Department:	ECE	Sem:	II			
Name of the Subject:	VLSI Design	Section:	—			
Rating Scale: 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1-Not Satisfactory						
S.No.	Parameters	1	2	3	4	5
1	Curriculum is based on the needs of the stake holders				✓	
2	Extent to which the course content meets Industrial requirement					✓
3	Availability of Text Books/Reference Books to the prescribed syllabus				✓	
4	How manageable is the syllabus load to the student				✓	
5	Extent to which the course content helps the student in his real time applications				✓	
6	The course offers good balance between theory and its practical applications				✓	
7	Teaching Facilities provided for adopting latest trends in research and technology.					✓
8	The number of periods allotted to the course is sufficient to cover syllabus				✓	

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Mahaveer Institute of Science & Technology
Bandlaguda, Hyderabad - 500 005

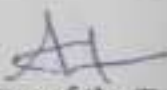
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INSTITUTE OF SCIENCE & TECHNOLOGY
Bandlaguda, Hyd-500 005.


Signature of the Teacher




TEACHERS FEEDBACK FORM

Name of the Faculty:	N. Ashwan Kumar	Academic Year:	2020-21			
Designation:	Asst. Prof.	Class:	II Yr			
Department:	CSE	Sem:	I			
Name of the Subject:	Data structures	Section:	A			
Rating Scale: 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1-Not Satisfactory						
S.No.	Parameters	1	2	3	4	5
1	Curriculum is based on the needs of the stake holders					✓
2	Extent to which the course content meets Industrial requirement			✓		✓
3	Availability of Text Books/Reference Books to the prescribed syllabus			✓		
4	How manageable is the syllabus load to the student				✓	
5	Extent to which the course content helps the student in his real time applications					✓
6	The course offers good balance between theory and its practical applications					✓
7	Teaching Facilities provided for adopting latest trends in research and technology.				✓	
8	The number of periods allotted to the course is sufficient to cover syllabus				✓	
Any other comments:						


Signature of the Teacher


Head of the Department
Computer Science & Engineering
Vyasapuri, Bandlaguda
Post: Keshavpuri, Hyderabad-500005
Telangana, India


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INSTITUTE OF SCIENCE & TECHNOLOGY
Bandlaguda, Hyd-500 006.



TEACHERS FEEDBACK FORM

Name of the Faculty:	B. Seva Naik	Academic Year:	2020-21
Designation:	Associate Professor	Class:	15 Yr
Department:	CSE	Sem:	II
Name of the Subject:	CF (Computer Forensics)	Section:	B

Rating Scale: 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1-Not Satisfactory

S.No.	Parameters	1	2	3	4	5
1	Curriculum is based on the needs of the stake holders				✓	
2	Extent to which the course content meets Industrial requirement			✓		
3	Availability of Text Books/Reference Books to the prescribed syllabus					✓
4	How manageable is the syllabus load to the student			✓		
5	Extent to which the course content helps the student in his real time applications				✓	
6	The course offers good balance between theory and its practical applications			✓		
7	Teaching Facilities provided for adopting latest trends in research and technology.					✓
8	The number of periods allotted to the course is sufficient to cover syllabus				✓	

Any other comments:

More text books required as per syllabus

BH
 Signature of the Teacher

[Signature]
 Head of the Department
 Computer Science & Engineering
 Vyasapuri, Bandlaguda
 Post: Keshavgi, Hyderabad-500005
 Telangana, India

[Signature]
 PRINCIPAL
 MAHAVEER
 INSTITUTE OF SCIENCE & TECHNOLOGY
 Bandlaguda, Hyd-500 005



TEACHERS FEEDBACK FORM

Name of the Faculty:	B. Mallaiyah	Academic Year:	2020-21
Designation:	Assistant Professor	Class:	IV Yr
Department:	IT	Sem:	II
Name of the Subject:	HCI	Section:	

Rating Scale: 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1-Not Satisfactory

S.No.	Parameters	1	2	3	4	5
1	Curriculum is based on the needs of the stake holders			✓		
2	Extent to which the course content meets Industrial requirement				✓	
3	Availability of Text Books/Reference Books to the prescribed syllabus			✓		
4	How manageable is the syllabus load to the student					✓
5	Extent to which the course content helps the student in his real time applications				✓	
6	The course offers good balance between theory and its practical applications					✓
7	Teaching Facilities provided for adopting latest trends in research and technology.				✓	
8	The number of periods allotted to the course is sufficient to cover syllabus				✓	

Any other comments:

Dr. A. Nanda Gopal Reddy
 HOD, Dept. of Information Techno
 Mahaveer Institute of Science & Te
 Vysapuri, Bandlaguda, Post Kes
 Hyderabad-500005.

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Signature of the Teacher



TEACHERS FEEDBACK FORM

Name of the Faculty:	K Priyanka	Academic Year:	2020-21
Designation:	Assistant Professor	Class:	IV Yr
Department:	IT	Sem:	III
Name of the Subject:	MIS	Section:	

Rating Scale: 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1-Not Satisfactory

S.No.	Parameters	1	2	3	4	5
1	Curriculum is based on the needs of the stake holders				✓	
2	Extent to which the course content meets Industrial requirement				✓	
3	Availability of Text Books/Reference Books to the prescribed syllabus					✓
4	How manageable is the syllabus load to the student					✓
5	Extent to which the course content helps the student in his real time applications					✓
6	The course offers good balance between theory and its practical applications				✓	
7	Teaching Facilities provided for adopting latest trends in research and technology.					✓
8	The number of periods allotted to the course is sufficient to cover syllabus					✓

Any other comments:

Dr. A. Nanda Gopal Reddy
 HOD, Dept. of Information Technology
 Mahaveer Institute of Science & Technology
 Vysapuri, Bandlaguda, Post Keshavgiri,
 Hyderabad-500005.

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Signature of the Teacher



TEACHERS FEEDBACK FORM

Name of the Faculty:	Tirupatibaiyah Muvva	Academic Year:	2020-21
Designation:	Asst professor	Class:	IV Yr
Department:	Aeronautical Engg	Sem:	II
Name of the Subject:	Helicopter Engineering	Section:	I

Rating Scale: 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1-Not Satisfactory

S.No.	Parameters	1	2	3	4	5
1	Curriculum is based on the needs of the stake holders			✓		
2	Extent to which the course content meets Industrial requirement			✓		
3	Availability of Text Books/Reference Books to the prescribed syllabus				✓	
4	How manageable is the syllabus load to the student				✓	
5	Extent to which the course content helps the student in his real time applications					✓
6	The course offers good balance between theory and its practical applications				✓	
7	Teaching Facilities provided for adopting latest trends in research and technology.					✓
8	The number of periods allotted to the course is sufficient to cover syllabus					✓

Any other comments: The gap should be filled by other extra classes

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Bandlaguda, Hyd-500 005.

Signature of the Teacher

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TEACHERS FEEDBACK FORM

Name of the Faculty:	D. Naveen	Academic Year:	2020-21			
Designation:	Asst Professor	Class:	IV Yr			
Department:	Aeronautical Engineering	Sem:	II			
Name of the Subject:	Environment Impact Assessment	Section:	3			
Rating Scale: 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1-Not Satisfactory						
S.No.	Parameters	1	2	3	4	5
1	Curriculum is based on the needs of the stake holders.			✓		
2	Extent to which the course content meets Industrial requirement			✓		
3	Availability of Text Books/Reference Books to the prescribed syllabus				✓	
4	How manageable is the syllabus load to the student				✓	
5	Extent to which the course content helps the student in his real time applications			✓		
6	The course offers good balance between theory and its practical applications				✓	
7	Teaching Facilities provided for adopting latest trends in research and technology.				✓	
8	The number of periods allotted to the course is sufficient to cover syllabus					✓
Any other comments: NO						

Signature of the Teacher

(Signature)
MAHAVEER
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 Bandlaguda, Hyderabad-500 005



TEACHERS FEEDBACK FORM

Name of the Faculty:	<i>P. Mahendra Verma</i>	Academic Year:	<i>2020-21</i>			
Designation:	<i>Assistant Professor</i>	Class:	<i>I Yr</i>			
Department:	<i>Humanities and Sciences (HAS)</i>	Sem:	<i>II</i>			
Name of the Subject:	<i>Mathematics</i>	Section:				
Rating Scale: 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1-Not Satisfactory						
S.No.	Parameters	1	2	3	4	5
1	Curriculum is based on the needs of the stake holders			✓		
2	Extent to which the course content meets Industrial requirement				✓	
3	Availability of Text Books/Reference Books to the prescribed syllabus					✓
4	How manageable is the syllabus load to the student					✓
5	Extent to which the course content helps the student in his real time applications				✓	
6	The course offers good balance between theory and its practical applications				✓	
7	Teaching Facilities provided for adopting latest trends in research and technology.			✓		
8	The number of periods allotted to the course is sufficient to cover syllabus					✓
Any other comments:						

P. Mahendra Verma
Signature of the Teacher

P. Mahendra Verma
Department of Humanities & Sciences
Mahaveer Institute of Science & Technology
HYDERABAD

P. Mahendra Verma
PRINCIPAL
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Bandlaguda, Hyderabad-500 005



TEACHERS FEEDBACK FORM

Name of the Faculty:	Dr. K. Madhusudhana	Academic Year:	2020-2021			
Designation:	Assistant professor	Class:	I Yr			
Department:	Humanities and sciences (HES)	Sem:	II			
Name of the Subject:	Applied Physics	Section:				
Rating Scale: 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1-Not Satisfactory						
S.No.	Parameters	1	2	3	4	5
1	Curriculum is based on the needs of the stake holders			✓		
2	Extent to which the course content meets Industrial requirement		✓			
3	Availability of Text Books/Reference Books to the prescribed syllabus				✓	
4	How manageable is the syllabus load to the student			✓		
5	Extent to which the course content helps the student in his real time applications					✓
6	The course offers good balance between theory and its practical applications				✓	
7	Teaching Facilities provided for adopting latest trends in research and technology.			✓		
8	The number of periods allotted to the course is sufficient to cover syllabus				✓	
Any other comments:						

Dr. K. Madhusudhana

Signature of the Teacher

A
HOD
Department of Humanities & Sciences
Mahaveer Institute of Science & Technology,
HYDERABAD

Dr. K. Madhusudhana
PRINCIPAL
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Bandlaguda, Hyd-500 005.

Vysapuri, Bandlaguda Post:Keshavgiri,
Hyderabad-500 005, Telangana, INDIA
Tel: 040-29880086,8978380692,Fax: 040-24455003
E-mail: principal@mist.ac.in
principal.mahaveer@gmail.com,
Website: www.mist.ac.in,

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Approved by AICTE, Affiliated to JNTUH,Hyd.



Counseling Code: **MHVR**, University Code: **E3**

EMPLOYERS FEEDBACK

Dear Employer,

Greetings.

We greatly acknowledge you, for showing continuous interest in recruiting our graduates in your esteemed organization. Hoping that our graduates are performing up to your expected level. To enhance the performance of future graduates, we have been conducting stakeholder survey yearly. As you are one of our esteemed stakeholders, we request you to spend your valuable time in the process.

Your opinions and suggestions will help us for the continuous improvement of the quality of our academic programs, and we appreciate your time in filling out this survey.

Name of the Employee : Shirisha Eeshwaraju
Designation : Software Testing engineer
Branch of Engineering/PG : ECE

Rating Scale : 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1. Not Satisfactory						
S.No	How satisfied are you with the employee/s (Our student/s) work performance and the academic system in these areas.	5	4	3	2	1
1.	Extent of the Curriculum fulfillment in attaining the Industrial Needs.		✓			
2.	Extent of the Curriculum in supporting the Usage of the Modern Tools.		✓			
3.	Extent of the Curriculum enhancement in the Managerial and Financial handling capabilities.		✓			
4.	Extent of the Curriculum support for the creative and practical solutions to work place Challenges.	✓				
5.	Curriculum effectiveness in building leadership qualities and team spirit.	✓				
6.	Extent to which Curriculum supports in enhancing communication skills	✓				
7.	Extent of the Curriculum support in the fulfillment of R & D activities of the Industry.	✓				
8.	Curriculum effectiveness to work in Multi-Disciplinary Teams.	✓				
9.	Extent to which Curriculum has good balance between theory and application to bridge the Industry-Academia gap.	✓				
10.	Curriculum effectiveness in offering ample range of optional /electives /value-added courses		✓			

On a scale of 1 to 10, how do you rate your overall satisfaction with our alumni and the curriculum?							
1	2	3	4	5	6	7	10

Head, Electronics & Comm. Engg. Dept.
Mahaveer Institute of Science & Technology
Bandlaguda Hyd. abad - 500 005

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Bandlaguda, Hyd-500 005.


Suggestions for the program/s improvement, if any.
Good
Contact information for future correspondence. Email ID: chandru.g@tcs.com Phone: 7569502682


Name: Garigala Chandru Designation: Lead.HealthCare

Company/Organization: TATA CONSULTANCY SERVICES-TCS

Date: 22-4-2022

Signature: chandu

Head, Electronics 
Mahaveer Institute of Science & Technology
Bandlaguda, Hyderabad - 500 005


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Bandlaguda, Hyd-500 005.

Vysapuri, Bandlaguda Post, Keshavnagar,
Hyderabad-500 005, Telangana, INDIA
Tel: 040-29880086, 8978380692, Fax: 040-24455003
E-mail: principal@misl.ac.in
principal.mahaveer@gmail.com
Website: www.misl.ac.in

MAHAVEER
INSTITUTE OF SCIENCE & TECHNOLOGY
Approved by AICTE, Affiliated to JNTU Hyderabad

Counseling Code: MHVR, University Code: E3

EMPLOYERS FEEDBACK

Dear Employer,

Greetings.

We greatly acknowledge you, for showing continuous interest in recruiting our graduates in your esteemed organization. Hoping that our graduates are performing up to your expected level. To ensure the performance of future graduates, we have been conducting stakeholder survey yearly. As you are one of our esteemed stakeholders, we request you to spend your valuable time in the process.

Your opinions and suggestions will help us for the continuous improvement of the quality of our academic programs, and we appreciate your time in filling out this survey.

Name of the Employee : Gubbam Mani Rupa
Designation : Project Engineer
Branch of Engineering/PG : computer science engineering

Rating Scale : 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1. Not Satisfactory						
S.No	How satisfied are you with the employee/s (Our student/s) work performance and the academic system in these areas.	5	4	3	2	1
1.	Extent of the Curriculum fulfillment in attaining the Industrial Needs.	✓				
2.	Extent of the Curriculum in supporting the Usage of the Modern Tools.		✓			
3.	Extent of the Curriculum enhancement in the Managerial and Financial handling capabilities.		✓			
4.	Extent of the Curriculum support for the creative and practical solutions to work place Challenges.	✓				
5.	Curriculum effectiveness in building leadership qualities and team spirit.	✓				
6.	Extent to which Curriculum supports in enhancing communication skills		✓			
7.	Extent of the Curriculum support in the fulfillment of R & D activities of the Industry.	✓				
8.	Curriculum effectiveness to work in Multi-Disciplinary Teams.	✓				
9.	Extent to which Curriculum has good balance between theory and application to bridge the Industry-Academia gap.	✓				
10.	Curriculum effectiveness in offering ample range of optional /electives /value-added courses	✓				

On a scale of 1 to 10, how do you rate your overall satisfaction with our alumni and the curriculum?									
1	2	3	4	5	6	7	8	9	10
							✓		✓

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Suggestions for the program's improvement, if any.

Contact information for future correspondence.

Email ID: gustammanirupak@gmail.com


Phone: 9133809715

Name: Arshad De Designation: Delivery Excellence Leader

Company Organization: wipro Limited

Date: 20/04/22

Signature: G. Mani Rupak


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EMPLOYERS FEEDBACK

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Your opinions and suggestions will help us for the continuous improvement of the quality of our academic programs, and we appreciate your time in filling out this survey.

Name of the Employee : G. Shreya
Designation : Software Engineer
Branch of Engineering/PG : Computer Science

Rating Scale : 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1. Not Satisfactory						
S.No	How satisfied are you with the employee/s (Our student/s) work performance and the academic system in these areas.	5	4	3	2	1
1.	Extent of the Curriculum fulfillment in attaining the Industrial Needs.	✓	✓			
2.	Extent of the Curriculum in supporting the Usage of the Modern Tools.	✓				
3.	Extent of the Curriculum enhancement in the Managerial and Financial handling capabilities.	✓				
4.	Extent of the Curriculum support for the creative and practical solutions to work place Challenges.		✓			
5.	Curriculum effectiveness in building leadership qualities and team spirit.	✓				
6.	Extent to which Curriculum supports in enhancing communication skills	✓				
7.	Extent of the Curriculum support in the fulfillment of R & D activities of the Industry.	✓				
8.	Curriculum effectiveness to work in Multi-Disciplinary Teams.		✓			
9.	Extent to which Curriculum has good balance between theory and application to bridge the Industry-Academia gap.	✓				
10.	Curriculum effectiveness in offering ample range of optional /electives /value-added courses		✓			

On a scale of 1 to 10, how do you rate your overall satisfaction with our alumni and the curriculum?									
1	2	3	4	5	6	7	✓ 8	9	10

[Signature]
F
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Suggestions for the program's improvement, if any.

1. Organizing more cultural Events
2. Conducting Sessions on Team Building.

Contact information for future correspondence.

Email ID: Shreyaganeshcharyo1@gmail.com / ganecharyashreya@accenture.com

Phone: 8247862281

Name: Sridhar Goud Designation: Asst. Manager

Company/Organization: Accenture private Solutions

Date: 18/04/22

Signature: [Signature]

[Signature]

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Counseling Code: **MHVR**, University Code: **E3**

ALUMNI FEEDBACK

Dear Alumni,
 Greetings,

We are happy that you have spent your valuable years pursuing higher education in this Institution. To enhance the performance of the future graduates, We are conducting feedback survey. We shall be thankful if you can spare some of your valuable time to fill up this alumni feedback form and give us your valuable suggestions. Your opinions and suggestions will help us continuously improve the quality of our academic programs, and we appreciate your time in filling out this survey.

Name of the Alumni:	B. Kishore	Email:	kishore.bodakuntla97@gmail.com
H.T.No:	14E31A0306.	Contact No:	9441984553
Branch:	mechanical	Year of Passing:	2018.

Rating Scale: 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1-Not Satisfactory

S. No.	Parameters	Grade
1	The extent to which syllabus and curriculum augment the technical skill set and communication skills.	5
2	The extent to which syllabus and curriculum meet the current job requirements	5
3	The extent to which syllabus and curriculum augments for higher education	4
4	The extent to which syllabus and curriculum enhances problem solving skills and modern tools used for real time engineering	4
5	The extent to which syllabus and curriculum augment managerial skills and finance handling capability	5
6	Curriculum fulfillment in attaining real time industry requirement	5
7	Curriculum effectiveness in improving planning and organizational skills.	4
8	Curriculum effectiveness in building leadership qualities and team spirit	5
9	Curriculum support in enhancing communication skills	4
10	The extent to which the syllabus meets the expected learning values, life skills, human values with societal responsibilities	5
Average Grading:		5

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Counseling Code: **MHVR**, University Code: **E3**

Present Position:

Company/University/Entrepreneur	Designation/Degree/License	Address
Steel Infra Solutions Pvt Ltd	Engineer.	Steel Infra Solutions Pvt Ltd Bhilai, CH.

Suggestions if Any:

Bhola B
Signature of the Alumni
Bhola B

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CounselingCode **MHVR**,UniversityCode: **E3**

ALUMNI FEEDBACK

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 Greetings,

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Name of the Alumni:	B. RAMA	Email:	hukyasamlal@gmail.com
H.T.No:	16E35A0302	Contact No:	6305445270
Branch:	MECHANICAL	Year of Passing:	2019

Rating Scale: 5-Excellent, 4-VeryGood, 3-Good, 2-Satisfactory, 1.Not Satisfactory

S. No.	Parameters	Grade
1	The extent to which syllabus and curriculum augment the technical skill set and communication skills.	5
2	The extent to which syllabus and curriculum meet the current job requirements	4
3	The extent to which syllabus and curriculum augments for higher education	5
4	The extent to which syllabus and curriculum enhances problem solving skills and modern tools used for real time engineering	4
5	The extent to which syllabus and curriculum augment managerial skills and finance handing capability	5
6	Curriculum fulfillment in attaining real time industry requirement	4
7	Curriculum effectiveness in improving planning and organizational skills.	5
8	Curriculum effectiveness in building leadership qualities and team spirit	4
9	Curriculum support in enhancing communication skills	5
10	The extent to which the syllabus meets the expected learning values, life skills, human values with societal responsibilities	4

Average Grading:

5

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Counseling Code: **MHVR**, University Code: **E3**

Present Position:

Company/University/Entrepreneur	Designation/Degree/License	Address

Suggestions if Any: need to improve subjects, Related auto
motion and Rapid Prototyping manufacturing

B. C. Ravi
Signature of the Alumni

B. C. Ravi
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Bandlaguda, Hyd-500 005.

Vysapuri, Bandlaguda Post:Keshavngrl,
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Course/na Code MHVR, University Code: E3

EMPLOYERS FEEDBACK

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Your opinions and suggestions will help us for the continuous improvement of the quality of our academic programs, and we appreciate your time in filling out this survey.

Name of the Employee : R. Vayupethra
Designation : Associate Design Engineer
Branch of Engineering/PG : Mechanical

Rating Scale : 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1. Not Satisfactory						
S.No	How satisfied are you with the employee/s (Our student/s) work performance and the academic system in these areas.	5	4	3	2	1
1.	Extent of the Curriculum fulfillment in attaining the Industrial Needs.	✓				
2.	Extent of the Curriculum in supporting the Usage of the Modern Tools.	✓				
3.	Extent of the Curriculum enhancement in the Managerial and Financial handling capabilities.	✓				
4.	Extent of the Curriculum support for the creative and practical solutions to work place Challenges.	✓				
5.	Curriculum effectiveness in building leadership qualities and team spirit.	✓				
6.	Extent to which Curriculum supports in enhancing communication skills	✓				
7.	Extent of the Curriculum support in the fulfillment of R & D activities of the Industry.	✓				
8.	Curriculum effectiveness to work in Multi-Disciplinary Teams.	✓				
9.	Extent to which Curriculum has good balance between theory and application to bridge the Industry-Academia gap.	✓				
10.	Curriculum effectiveness in offering ample range of optional /electives /value-added courses	✓				

On a scale of 1 to 10, how do you rate your overall satisfaction with our alumni and the curriculum?									
1	2	3	4	5	6	7	8	9 ✓	10

Suggestions for the program/s improvement, if any.
A Need to improve Subjects for Industrial Requirements
Contact information for future correspondence. Email ID: <u>rvayuputhra@gmail.com</u> Phone: <u>9801940252</u>

Name: R. Vayuputhra Designation: Associate Design Engineer
Company/Organization: Tech Mahindra Limited
Date: 19/04/2022 Signature: R. Vayuputhra


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Name of the Employee : Kishore B
Designation : Engineer
Branch of Engineering/PG : Mechanical

Rating Scale : 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1. Not Satisfactory						
S.No	How satisfied are you with the employee/s (Our student/s) work performance and the academic system in these areas.	5	4	3	2	1
1.	Extent of the Curriculum fulfillment in attaining the Industrial Needs.	✓				
2.	Extent of the Curriculum in supporting the Usage of the Modern Tools.		✓			
3.	Extent of the Curriculum enhancement in the Managerial and Financial handling capabilities.	✓				
4.	Extent of the Curriculum support for the creative and practical solutions to work place Challenges.	✓				
5.	Curriculum effectiveness in building leadership qualities and team spirit.	✓				
6.	Extent to which Curriculum supports in enhancing communication skills	✓				
7.	Extent of the Curriculum support in the fulfillment of R & D activities of the Industry.		✓			
8.	Curriculum effectiveness to work in Multi-Disciplinary Teams.		✓			
9.	Extent to which Curriculum has good balance between theory and application to bridge the Industry-Academia gap.		✓			
10.	Curriculum effectiveness in offering ample range of optional /electives /value-added courses		✓			

On a scale of 1 to 10, how do you rate your overall satisfaction with our alumni and the curriculum?									
1	2	3	4	5	6	7	8	9	10
						✓			

Suggestions for the program's improvement, if any.

1. Conducting more practical events on core oriented subjects.
2. Interactive sessions on relationship management.
3. communication/team building sessions.

Contact information for future correspondence.

Email ID: kdeepak.reddy@siscol.in


Phone: 9030817500

Name: K Deepak Reddy Designation: Asst. Manager

Company/Organization: Steel Infra Solutions Pvt Ltd (SISCOL)

Date: 12/04/2022

Signature: 


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Name of the Alumni:	ALUMNI FEED BACK	Email:	shirisha2514@gmail.com
H.T.No:	17E31A0421	Contact No:	7731983260
Branch:	ECE	Year of Passing:	2021

Rating Scale: 5-Excellent, 4-Very Good, 3-Good, 2-Satisfactory, 1-Not Satisfactory

S. No.	Parameters	Grade
1	The extent to which syllabus and curriculum augment the technical skill set and communication skills.	4
2	The extent to which syllabus and curriculum meet the current job requirements	3
3	The extent to which syllabus and curriculum augments for higher education	3
4	The extent to which syllabus and curriculum enhances problem solving skills and modern tools used for real time engineering	4
5	The extent to which syllabus and curriculum augment managerial skills and finance handling capability	3
6	Curriculum fulfillment in attaining real time industry requirement	3
7	Curriculum effectiveness in improving planning and organizational skills.	4
8	Curriculum effectiveness in building leadership qualities and team spirit	5
9	Curriculum support in enhancing communication skills	3
10	The extent to which the syllabus meets the expected learning values, life skills, human values with societal responsibilities	5
Average Grading:		4

Head, Electronics
 Mahaveer Institute of Science & Technology,
 Bandlaguda, Hyderabad - 500 005

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CounselingCode:MHVR,UniversityCode:E3

Present Position:

Company/University/Entrepreneur	Designation/Degree/License	Address
TCS	Software testing engineer	Ad/balla unit-I SEZ, Hyderabad, Telangana

Suggestions if Any:

I am glad to provide Alumni feedback .My overall experience about the college is good and college is having an amazing infrastructure and college has provided me with a number of opportunities to grow and explore my skills.

shirisha
Signature of the Alumni

Head, Electronics & Comm. Engg. Dept.
Mahaveer Institute of Science & Technology
Bandlaguda, Hyderabad-500 005

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