



LAKIREDDY BALIREDDY COLLEGE OF ENGINEERING (AUTONOMOUS)
L.B.Reddy Nagar, Mylavaram -521 230, Krishna Dist., A.P.
DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

Attainment of Course outcomes, Program Outcomes and Program Specific Outcomes

| | | | | | |
|------------------------------------|---|--|----------------------|---|----------------------------------|
| Faculty Name | : | Dr. G L N Murthy Mr. M K Linga Murthy | Designation | : | Professor Sr. Asst. Professor |
| Course Name | : | Signals & Systems | Academic Year | : | 2021-22 |
| Course Code | : | 20EC04 | Semester | : | III |
| Program & Admitted Year | : | B.Tech – 2020 Batch | Section | : | A , B & C |

COURSE OUTCOMES:

After the completion of the course, the student should be able to,

| | | |
|-----------------|---|---|
| 20EC04.1 | : | Summarize the basic concepts of signals , systems and their properties |
| 20EC04.2 | : | Examine the operations on signals and approximate using orthogonal functions. |
| 20EC04.3 | : | Apply the concept of impulse response to analyze the linear timeinvariant systems |
| 20EC04.4 | : | Analyze continuous time periodic and aperiodic signals using Fourier series, Fourier transform and Laplace transforms. |

1. Attainment of Course Outcomes through Mid Examinations, Assignments and Online Quiz Examinations:

| Course Name with code : SS – 20EC04 | | | | | | | | |
|-------------------------------------|-----|----------------------|-------------|---------------------------------|--------------|--------------|--------------|--|
| CIE Attainment | | | | Question-CO Articulation Matrix | | | | |
| | | % Students Attempted | %Attainment | CO1 | CO2 | CO3 | CO4 | |
| MID-I | Q1a | 68 | 44 | 1 | | | | |
| | Q1b | 62 | 65 | 1 | | | | |
| | Q1c | 29 | 71 | 1 | | | | |
| | Q1d | 26 | 44 | | 1 | | | |
| | Q2a | 55 | 71 | | 1 | | | |
| | Q2b | 47 | 44 | | | | 1 | |
| | Q2c | 42 | 77 | | 1 | | | |
| | Q2d | 36 | 64 | | | | 1 | |
| | Q3a | 71 | 62 | | 1 | | | |
| | Q3b | 69 | 70 | 1 | | | | |
| | Q3c | 13 | 25 | | | | 1 | |
| | Q3d | 9 | 30 | | | | 1 | |
| MID-II | Q1a | 65 | 77 | 1 | | | | |
| | Q1b | 61 | 70 | | | 1 | | |
| | Q1c | 45 | 81 | | | 1 | | |
| | Q1d | 47 | 80 | | | 1 | | |
| | Q2a | 62 | 62 | | 1 | | | |
| | Q2b | 66 | 78 | | | | 1 | |
| | Q2c | 37 | 75 | | 1 | | | |
| | Q2D | 46 | 85 | | | | 1 | |
| | Q3a | 44 | 72 | 1 | | | | |
| | Q3b | 40 | 87 | 1 | | | | |
| | Q3c | 72 | 89 | 1 | | | | |
| | Q3d | 72 | 74 | | | | 1 | |
| MID Attainment | | | | 71.92 | 65.31 | 76.93 | 57.03 | |

| | | | | | | | | |
|------------------------------|----|--|----|--------------|--------------|--------------|--------------|--|
| Assignment | A1 | | 74 | 97.00 | 97.00 | | 97.00 | |
| | A2 | | 98 | 98.00 | 98.00 | 98.00 | 98.00 | |
| Assignment Attainment | | | | 97.50 | 97.50 | 98.00 | 97.50 | |
| Quiz | Q1 | | 77 | 77.00 | 77.00 | | 77.00 | |
| | Q2 | | 59 | 59.00 | 59.00 | 59.00 | 59.00 | |
| Quiz Attainment | | | | 68.00 | 68.00 | 59.00 | 68.00 | |

2. Attainment of Course Outcomes through Semester End Examinations (SEE):

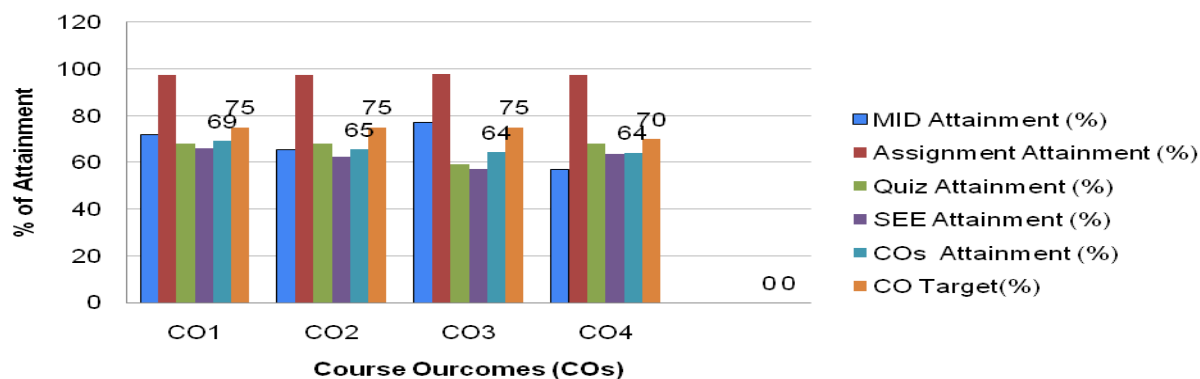
| Course Name with code : SS -20EC04 | | | | | | | |
|---|-----------------------------|--------------------|--|--------------|--------------|--------------|--|
| SEE Attainment | | | Question-CO Articulation Matrix | | | | |
| | % Students Attempted | %Attainment | CO1 | CO2 | CO3 | CO4 | |
| Q1a | 84 | 80 | 1 | | | | |
| Q1b | 84 | 72 | 1 | | | | |
| Q2a | 38 | 57 | 1 | | | | |
| Q2b | 34 | 66 | 1 | | | | |
| Q3a | 78 | 60 | | 1 | | | |
| Q3b | 86 | 73 | | 1 | | | |
| Q4a | 24 | 44 | | 1 | | | |
| Q4b | 26 | 65 | | | | 1 | |
| Q5a | 78 | 66 | | 1 | | | |
| Q5b | 77 | 77 | 1 | | | | |
| Q6a | 34 | 60 | | | | 1 | |
| Q6b | 35 | 46 | 1 | | | | |
| Q7a | 80 | 58 | | | 1 | | |
| Q7b | 81 | 65 | 1 | | | | |
| Q8a | 29 | 65 | 1 | | | | |
| Q8b | 25 | 57 | | | 1 | | |
| Q9a | 64 | 48 | | | | 1 | |
| Q9b | 63 | 70 | | 1 | | | |
| Q10a | 52 | 69 | | | | 1 | |
| Q10b | 51 | 77 | | | | 1 | |
| SEE Attainment | | | 65.94 | 62.46 | 57.18 | 63.68 | |

Note: The final attainments of COs are determined according to the given weightage.

Weightage for COs: 60% of Semester End Examinations + 25% of Mid Examinations +10% of Online Quiz Examination + 5% of Assignments

| Final CO Attainment Values - Course Name with code : SS – 20EC04 | | | | |
|---|------------|------------|------------|------------|
| Assessment tool / COs | CO1 | CO2 | CO3 | CO4 |
| MID Exam Attainment (%) | 72 | 65 | 77 | 57 |
| Assignment Attainment (%) | 98 | 98 | 98 | 98 |
| Quiz Attainment (%) | 68 | 68 | 59 | 68 |
| SEE Attainment (%) | 66 | 62 | 57 | 64 |
| Final COs Attainment (%) | 69 | 65 | 64 | 64 |
| Target (%) | 75 | 75 | 75 | 70 |

R20 Reg. CO Attainment_SS(20EC04) Sem III _ A.Y: 2021-22



Note: Calculation of PO-PSO attainment:

| CO's / PO's | Course Name with code : SS – 20EC04 | | | | | | | | | | | | | | |
|----------------------------|-------------------------------------|-------|------|-------|---|---|---|---|---|----|----|-------|-------|------|-------|
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 | PSO1 | PSO2 | PSO3 |
| CO1 | 2 | 1 | 1 | - | - | - | - | - | - | - | - | - | - | - | 1 |
| CO2 | 2 | 1 | 1 | - | - | - | - | - | - | - | - | - | 1 | - | 2 |
| CO3 | 3 | 1 | 1 | 1 | - | - | - | - | - | - | - | 1 | - | - | 2 |
| CO4 | 3 | 2 | 1 | 1 | - | - | - | - | - | - | - | 2 | 2 | - | 3 |
| Final Attainment Value (%) | 65.49 | 65.47 | 65.8 | 64.25 | | | | | | | | 64.22 | 64.59 | | 65.17 |

Comments:

The following are the observations made during the attainment.

- 1.It was observed that none of the COs has reached their targets. The reason behind this is the lower values of attainment for all the COs in the semester end examinations as well as CO2 and CO4 in the internal examinations.
- 2.Attainments of Questions 2 a and 6 b that are concerned with properties of signals as well as sampling theorem, were relatively low resulting a fall in the final attainment value of CO1. The concepts of sampling are to be deliberated more effectively by means of innovative pedagogical techniques. Further, more emphasis is to be laid on estimation of energy and power of signals.
- 3.For CO2, attainment is moderate for all the mapped questions with 44 % for question 4a that is based on orthogonality. Being an apply level CO, more problems are to be practiced on these concepts.
- 4.It was felt that, the pattern of the question paper was not uniform in the sense that, CO3 is given less weightage. Care must be taken in the coming days to balance the paper with all COs almost equally covered. System related concepts are to be discussed more during the class room sessions.
- 5.For CO4, attainment is moderate for all the mapped questions with 48 % for question 9a that is related to region of convergence. Being an analyze level CO, more practice is to be done by the students through either assignments or during problem solving in the classroom sessions.
- 6.The attainment values for CO4 are poor in Mid -I examinations with questions 2b,3c and 3d getting lower attainments. It was observed that all these corresponds to analysis level and more problems on transforms at the analysis level are to be done.

| Course Instructor | Course Coordinator | Module Coordinator | HOD |
|--|--------------------|--------------------|-----------------|
| Dr. G L N Murthy Mr. M K Linga Murthy | Dr. G L N Murthy | Dr. G L N Murthy | Dr. Y Amar Babu |