# BRILLIANT INSTITUTE OF ENGINEERING & TECHNOLOGY

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Abdullapur (V), Abdullapurmet (M), R.R. Dist – 501505, Telangana, India
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**2.6.2 Attainment of Program outcomes and course outcomes are evaluated by the institution.**

| S.NO | Subject | Page No. |
|------|---------|----------|
| 1 | Display Material of Vision, Mission, COs, POs and PEOs | 2 |
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College Code: QA

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### BRILLIANT INSTITUTE OF ENGINEERING & TECHNOLOGY

## DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

### Program specific outcomes (PSO's)

1. Development of Hardware/Software Co-designs:
   An ability to apply electronic design principles in the development of hardware/software prototypes and systems with progressive depth of complexity.

2. Development of Electronics Communication Systems:
   An ability to deploy conventional & next-gen. techniques/tools for analysis & design of Information and Communication systems.

3. Development of Signal Processing Applications:
   An ability to apply algorithmic knowledge of signal processing towards analysis, Recognition, and synthesis of multi-dimensional data.

**GPS Map Camera**

Rangareddy, Telangana, India
BRILLIANT INSTITUTE OF
ENGINEERING AND TECHNOLOGY
Telangana 501512, India
Lat 17.304811°
Long 78.704765°
20/09/21 10:38 AM GMT +05:30

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### DEPARTMENT OF ELECTRONICS AND COMMUNICATION ENGINEERING

### ELECTRONIC DEVICES AND CIRCUITS LABORATORY

B.Tech. I Year II Sem.

| L | T | P | C |
|---|---|---|---|
| 0 | 0 | 2 | 1 |

**Course Outcomes:** *Students will be able to:*

1. Acquire the knowledge of various semiconductor devices and their use in real life.
2. Design aspects of biasing and keep them in active region of the device for functional circuits
3. Acquire the knowledge about the role of special purpose devices and their applications.

| Course | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|
| CO1 | 1 | - | 2 | - | 3 | - | - | 3 | 3 | - | - | 1 |
| CO2 | 1 | - | 2 | - | 3 | - | - | 3 | 3 | - | - | 1 |
| CO3 | 1 | - | 2 | - | 3 | - | - | 3 | 3 | - | - | 1 |

### LIST OF EXPERIMENTS

1. PN Junction diode characteristics A) Forward bias B) Reverse bias.
2. Full Wave Rectifier with & without filters
3. Types of Clippers at different reference voltages
4. Types of Clampers at different reference voltages
5. The steady state output waveform of clampers for a square wave input
6. Input and output characteristics of BJT in CB Configuration
7. Input and output characteristics of BJT in CE Configuration
8. Input and output characteristics of BJT in CC Configuration
9. Input and output characteristics of MOS FET in CS Configuration
10. Input and output characteristics of MOS FET in CD Configuration
11. Switching characteristics of a transistor
12. Zener diode characteristics and Zener as voltage Regulator
13. SCR Characteristics.
14. UJT Characteristics and identify negative region
15. Photo diode characteristics
16. Solar cell characteristics
17. LED Characteristics

*Design a circuit to switch on and off LED using diode/BJT/FET as a switch.

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**GPS Map Camera**

Rangareddy, Telangana, India
Engineering Block, Brilliant Group Of Institutions, Telangana
501512, India
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20/01/25 11:49 AM GMT +05:30

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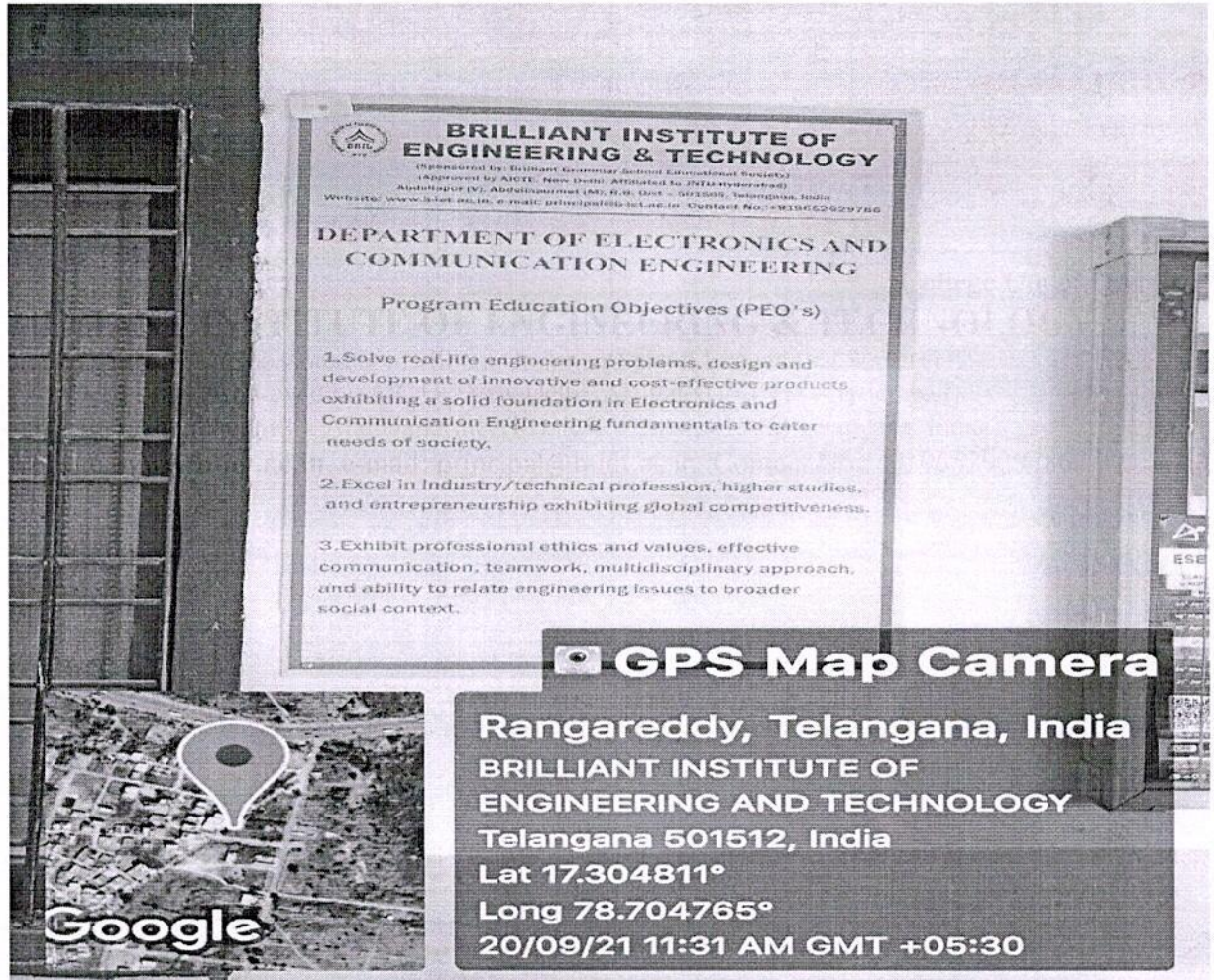Website: **www.b-iet.ac.in**, e-mail: principal@b-iet.ac.in  Contact No.:+919652929786

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### DEPARTMENT OF
### ELECTRONICS AND COMMUNICATION ENGINEERING

## ANALOG CIRCUITS LABORATORY

B.Tech. II Year I Sem.

L T P C
0 0 2 1

**Course Outcomes:** *Upon completing this course the students will be able to*
1. Design amplifiers with required Q point and analyse amplifier characteristics
2. Examine the effect multistage amplification on frequency response
3. Investigate feedback concept in amplifiers and oscillator

| Course | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
|--------|-----|-----|-----|-----|-----|-----|-----|-----|-----|------|------|------|
| CO1 | 1 | - | 2 | - | 3 | | | 3 | 3 | - | | 1 |
| CO2 | 1 | - | 2 | - | 3 | - | - | 3 | 3 | - | - | 1 |
| CO3 | 1 | - | 2 | - | 3 | - | - | 3 | 3 | - | - | 1 |

### LIST OF EXPERIMENTS

1. Perform an experiment to choose Q-point for a Transistor that operate in active region and observe the effect of external Load resistance on Q-point.
2. Design a Self bias Circuit and determine the Q-point of the Transistor and its Stability factor by both simulation and realization with hardware components.
3. Obtain the I/O Characteristics of CE, CB, CC amplifiers. Calculate h-parameters from the Characteristics.
4. Design and Simulate a Common Drain Amplifier with voltage divider bias and determine the Stability factor.
5. Obtain the Drain and Transfer characteristics of CD, CS amplifiers of JFET. Calculate gm, rd from the Characteristics.
6. By experiment prove that the voltage gain of Emitter Follower Circuit is one.
7. Design a Common Emitter Amplifier with a gain of 30db and Bandwidth of 10KHZ and plot the frequency response practically.
8. Design a two stage RC Coupled amplifier and prove that gain is increased and analyze the effects of coupling capacitance.
9. Practically prove that the Darlington pair has high input impedance.
10. Draw the high frequency response of common emitter transistor amplifier and calculate fα, fβ and gain bandwidth product.
11. Design a cascode amplifier for a given specifications
12. Design four topologies of feedback amplifiers and draw the frequency response of them with and without feedback.
13. Design an RC phase shift oscillator circuit and derive the gain condition for oscillations practically for given frequency.

Design a Colpitts oscillator circuit for the given frequency and draw the output waveform.

**GPS Map Camera**

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20/01/25 12:21 PM GMT +05:30

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## ATTAINMENT OF COURSE OUTCOMES

### Tools used for assessment:

Marks allocation by University: The division of marks given by university, and weight ages in arriving at the attainment of CO are given below. The CO assessment is carried out through CIE and SEE with the following proportions:

**Table: Weightages of Marks for CIE: SEE**

| Type of course | Internal Marks(CIE) | External Marks(SEE) | Total Marks | Net CO Attainment Level As per Weightages |
|---|---|---|---|---|
| Theory | 25 | 75 | 100 | 0.25*CIE Level+0.75*SEE Level |
| Laboratory | 25 | 75 | 100 | 0.25*CIE Level+0.75*SEE Level |
| Seminar | 100 | - | 100 | CIE Level |
| Industrial oriented Mini Project/Summer internship | 25 | 75 | 100 | 0.25*CIE Level+0.75*SEE Level |
| Project stage -I | 100 | - | 100 | CIE Level |
| Project stage -II | 25 | 75 | 100 | 0.25*CIE Level+0.75*SEE Level |
| Mandatory course | 100 | - | 100 | CIE Level |

Based on combined Marks(i.e. CIE+SEE) Obtained by Candidate, Letter grades are Awarded as shown below Corresponding Grade Points also shown in table

| % Of marks Secured in Subject/Course (Class intervals) | Letter Grade (UGC Guidelines) | Grade Points |
|---|---|---|
| Greater than are Equal to 90% | O(Outstanding) | 10 |
| 80 and Less than 90 | A+(Excellent) | 9 |
| 70 and less than 80% | A(Very Good) | 8 |
| 60 and Less than 70% | B+(Good) | 7 |
| 50and Less than 60% | B(Average) | 6 |
| 40 and less than 50% | C(Pass) | 5 |
| Below 40% | F(Fail) | 0 |
| Absent | Ab | 0 |

Table: Letter Grades With Respect to Academic Performance

**For attainment of course outcomes**

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➢ Final Letter grades obtained by each student in the course in the course are made available by university.

➢ These Letter grades must be converted to marks as show in below table.

| %of Marks Secured in a Subject | Letter Grade | Corresponging Marks |
|---|---|---|
| Greater than or equal to 90% | O | 1*Max SEE Marks |
| 80 and less than 90% | A+ | 0.89*Max SEE Marks |
| 70 and less than 80% | A | 0.79*Max SEE Marks |
| 60 and less than 70% | B+ | 0.69*Max SEE Marks |
| 50 and less than 60% | B | 0.59*Max SEE Marks |
| 40 and less than 50% | C | 0.49*Max SEE Marks |
| Below 40% | F | 0.39*Max SEE Marks |

Table: Conversion of Letter grades into corresponding marks

➢ Frequency of data Collection

The data required for calculating attainments is to be gathered.Each course instructor maintains the data reqired like internal Marks mid wise and External Marks of their respective course.The frequency of data collection for collection for each assessment tool is show in a table.

| Assessment Toll | Frequency |
|---|---|
| University | Once a semester |
| Mid Examination | Twice a semester |
| Assignments | Twice a semester |
| Internal/External Lab Examination | Once a semester |

Table: Data Frequency

**Attainment of CO's for Theory Courses:**

Attainment of theory courses calculated base on student performance I Continuous internal  Evaluation (CIE) and semester End Examination (SEE)

Overall CO attainment -0.25 CIE Level +0.75 SEE Level

These values of the CO levels for the course are then used for mapping the PO attainments, using the array of target PO values for the course. The procedure adapted for calculating the attainment of Course Outcomes for a Theory course is described with an example for the course Python program

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| \multicolumn{8}{c}{**Course Outcome Attainment - Internal Assessments**} |
|---|

| Name of the Faculty: | | \multicolumn{2}{l}{L.Praveen Kumar} | \multicolumn{2}{l}{Academic Year:} | \multicolumn{2}{l}{2023-24} |
|---|---|---|---|---|---|---|---|
| Branch & Section: | | \multicolumn{2}{l}{ECE} | \multicolumn{2}{l}{Exam:} | \multicolumn{2}{l}{MID - I} |
| Course: | | \multicolumn{2}{l}{LDICA} | \multicolumn{2}{l}{Year/Semister:} | \multicolumn{2}{l}{II/II} |
| **Sl.No** | **Roll Number** | \multicolumn{4}{c}{Question No.} | Objective | Assignment |
| | | 1 | 2 | 3 | 4 | | |
| **Maximum Marks** | | 5 | 5 | 5 | 5 | 10 | 5 |
| 1 | 20QA1A0401 | | 4 | 5 | | 8 | 5 |
| 2 | 20QA1A0402 | | 4 | 4 | | 10 | 5 |
| 3 | 20QA1A0403 | 2 | | 3 | | 4 | 5 |
| 4 | 20QA1A0404 | | 3 | | 2 | 2 | 5 |
| 5 | 20QA1A0405 | | 5 | | 4 | 5 | 5 |
| 6 | 20QA1A0406 | 2 | | | 3 | 2 | 5 |
| 7 | 20QA1A0407 | | 2 | | 3 | 2 | 5 |
| 8 | 20QA1A0408 | | 4 | | 4 | 5 | 5 |
| 9 | 20QA1A0409 | | | 4 | 4 | 6 | 5 |
| 10 | 20QA1A0410 | | 5 | | 5 | 9 | 5 |
| 11 | 20QA1A0411 | | 5 | 5 | | 7 | 5 |
| 12 | 20QA1A0412 | 5 | | | 4 | 6 | 5 |
| 13 | 20QA1A0413 | 5 | | 5 | | 10 | 5 |
| 14 | 20QA1A0414 | | 5 | | 5 | 5 | 5 |
| 15 | 20QA1A0415 | | 5 | | 4 | 6 | 5 |
| 16 | 20QA1A0416 | | | 5 | 5 | 10 | 5 |
| 17 | 20QA1A0417 | | 3 | 2 | | 2 | 5 |
| 18 | 20QA1A0418 | 5 | | 4 | | 6 | 5 |
| 19 | 20QA1A0419 | | 5 | 5 | | 10 | 5 |
| 20 | 20QA1A0420 | | | 5 | 5 | 5 | 5 |
| 21 | 20QA1A0421 | | 2 | | 2 | 3 | 5 |
| 22 | 20QA1A0422 | 5 | | 5 | | 10 | 5 |
| 23 | 20QA1A0423 | | 4 | | 2 | 1 | 5 |
| 24 | 20QA1A0424 | | | 5 | 4 | 8 | 5 |
| 25 | 20QA1A0425 | | 4 | | 4 | 6 | 5 |
| 26 | 20QA1A0426 | | | 5 | 5 | 10 | 5 |
| 27 | 20QA1A0427 | | 2 | 3 | | 2 | 5 |

Page
10

| S.No | Roll No | | | | | | |
|---|---|---|---|---|---|---|---|
| 28 | 20QA1A0428 | 3 | | 4 | | 7 | 5 |
| 29 | 20QA1A0429 | 4 | | 5 | | 8 | 5 |
| 30 | 20QA1A0430 | 5 | | 4 | | 5 | 5 |
| 31 | 20QA1A0431 | | 3 | | 3 | 6 | 5 |
| 32 | 20QA1A0432 | | 2 | 3 | | 2 | 5 |
| 33 | 20QA1A0433 | 5 | | | 5 | 6 | 5 |
| 34 | 20QA1A0434 | | 2 | | 3 | 2 | 5 |
| 35 | 20QA1A0435 | 5 | | 5 | | 10 | 5 |
| 36 | 20QA1A0436 | | 3 | 2 | | 2 | 5 |
| 37 | 20QA1A0437 | | | 5 | 4 | 6 | 5 |
| 38 | 20QA1A0438 | 4 | 5 | | | 7 | 5 |
| 39 | 20QA1A0439 | | 2 | 3 | | 2 | 5 |
| 40 | 20QA1A0440 | | 5 | | 5 | 9 | 5 |
| 41 | 20QA1A0441 | | | 3 | 4 | 10 | 5 |
| 42 | 20QA1A0442 | | 5 | 5 | | 5 | 5 |
| 43 | 20QA1A0443 | | | 5 | 5 | 7 | 5 |
| 44 | 20QA1A0444 | 5 | | 4 | | 7 | 5 |
| 45 | 20QA1A0445 | | | 5 | 5 | 10 | 5 |
| 46 | 20QA1A0446 | | 3 | | 5 | 10 | 5 |
| 47 | 21QA5A0401 | | 2 | 3 | | 2 | 5 |
| 48 | 21QA5A0402 | | 4 | 5 | | 5 | 5 |
| 49 | 21QA5A0403 | | | 2 | 2 | 3 | 5 |
| 50 | 21QA5A0404 | | 3 | 3 | | 4 | 5 |
| 51 | 21QA5A0405 | | | 5 | 5 | 10 | 5 |
| 52 | 21QA5A0406 | | 5 | | 3 | 4 | 5 |
| 53 | 21QA5A0407 | | | 2 | 3 | 2 | 5 |
| 54 | 21QA5A0408 | 3 | | | 2 | 2 | 5 |
| 55 | 21QA5A0409 | | 4 | | 4 | 6 | 5 |
| 56 | 21QA5A0410 | | | 2 | 3 | 2 | 5 |
| 57 | 21QA5A0411 | | | 2 | 2 | 3 | 5 |
| 58 | 21QA5A0412 | | 3 | 1 | | 3 | 5 |
| 59 | 21QA5A0413 | | 2 | 3 | | 2 | 5 |
| 60 | 21QA5A0414 | | 4 | | 1 | 2 | 5 |
| 61 | 21QA5A0415 | | | 2 | 2 | 3 | 5 |
| 62 | 21QA5A0416 | | 2 | 2 | | 3 | 5 |
| 63 | 21QA5A0417 | | | 2 | 3 | 6 | 5 |

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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 64 | 21QA5A0418 | | | 4 | 5 | 7 | 5 |
| 65 | 21QA5A0419 | | | 2 | 2 | 3 | 5 |
| 66 | 21QA5A0420 | 5 | | | 4 | 4 | 5 |
| 67 | 21QA5A0421 | | 1 | | 4 | 4 | 5 |
| 68 | 21QA5A0422 | | 2 | | 5 | 7 | 5 |
| 69 | 21QA5A0423 | | 3 | | 4 | 6 | 5 |
| 70 | 21QA5A0424 | 3 | 3 | | | 7 | 5 |
| 71 | 21QA5A0425 | | 2 | 3 | | 2 | 5 |
| 72 | 21QA5A0426 | | 1 | | 2 | 4 | 5 |
| 73 | 21QA5A0427 | 3 | | | 1 | 3 | 5 |
| 74 | 21QA5A0428 | | 3 | | 5 | 7 | 5 |
| No. of students attempted | | 24 | 41 | 42 | 41 | 74 | 74 |
| Max Marks Question wise | | 5 | 5 | 5 | 5 | 10 | 5 |
| Threshold 50% | | 2.5 | 2.5 | 2.5 | 2.5 | 5 | 2.5 |
| No. of Students above threshold | | 20 | 24 | 35 | 32 | 43 | 74 |
| % of Students>Target Score | | 83.34 | 58.54 | 83.34 | 78.05 | 58.11 | 100 |
| Attainment Level | | 3 | 2 | 3 | 3 | 2 | 3 |

| Attainment Level | 1: | 40% students score more than threshold |
|---|---|---|
| Attainment Level | 2: | 50% students score more than threshold |
| Attainment Level | 3: | 60% students score more than threshold |

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| Course Outcome Mapping with each Question | | | | | | |
|---|---|---|---|---|---|---|
| **CO's** | **Question No** | | | | **Objective** | **Assignment** |
| | **1** | **2** | **3** | **4** | | |
| Course outcome - 1 | y | | | | y | y |
| Course outcome - 2 | | y | y | | y | y |
| Course outcome - 3 | | | | y | y | y |
| Course outcome - 4 | | | | | | |
| Course outcome - 5 | | | | | | |

| Course Outcome Attainment based on Exam Questions in terms of percentage of total students when mapped to each question | | | | | | |
|---|---|---|---|---|---|---|
| **CO's** | **Question No** | | | | **Objective** | **Assignment** |
| | **1** | **2** | **3** | **4** | | |
| Course outcome - 1 | 3 | | | | 2 | 3 |
| Course outcome - 2 | | 2 | 3 | | 2 | 3 |
| Course outcome - 3 | | | | 3 | 2 | 3 |
| Course outcome - 4 | | | | | | |
| Course outcome - 5 | | | | | | |

| Course Outcome Attainment based on Exam Questions in terms of percentage of total students when mapped to each question | | | | |
|---|---|---|---|---|
| **CO's** | **Subjective** | **Objective** | **Assignment** | **Attainment Level** |
| Course outcome - 1 | 3.00 | 2.00 | 3.00 | 2.67 |
| Course outcome - 2 | 2.50 | 2.00 | 3.00 | 2.50 |
| Course outcome - 3 | 3.00 | 2.00 | 3.00 | 2.67 |
| Course outcome - 4 | - | - | - | - |
| Course outcome - 5 | - | - | -- | - |

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# BRILLIANT INSTITUTE OF ENGINEERING & TECHNOLOGY

College Code: QA

## Course Outcome Attainment - Internal Assessments

| Name of the Faculty: | L.Praveen Kumar | Academic Year: | 2023-24 |
|---|---|---|---|
| Branch & Section: | ECE | Exam: | MID - II |
| Course: | LDICA | Year/Semister: | II/II |

| SL.No | Roll Number | Question No. 1 | 2 | 3 | 4 | Objective | Assignment |
|---|---|---|---|---|---|---|---|
| **Maximum Marks** | | 5 | 5 | 5 | 5 | 10 | 5 |
| 1 | 20QA1A0401 | 5 | 5 | | | 7 | 5 |
| 2 | 20QA1A0402 | 5 | 5 | | | 8 | 5 |
| 3 | 20QA1A0403 | 3 | 2 | | | 4 | 5 |
| 4 | 20QA1A0404 | | 2 | 2 | | 3 | 5 |
| 5 | 20QA1A0405 | | 4 | 4 | | 6 | 5 |
| 6 | 20QA1A0406 | | 2 | 2 | | 3 | 5 |
| 7 | 20QA1A0407 | 2 | 2 | | | 3 | 5 |
| 8 | 20QA1A0408 | 4 | | 4 | | 5 | 5 |
| 9 | 20QA1A0409 | 5 | | 5 | | 4 | 5 |
| 10 | 20QA1A0410 | 5 | | 5 | | 6 | 5 |
| 11 | 20QA1A0411 | 4 | 4 | | | 6 | 5 |
| 12 | 20QA1A0412 | 5 | | 5 | | 5 | 5 |
| 13 | 20QA1A0413 | 5 | | 5 | | 10 | 5 |
| 14 | 20QA1A0414 | | 4 | 5 | | 6 | 5 |
| 15 | 20QA1A0415 | | 4 | 4 | | 7 | 5 |
| 16 | 20QA1A0416 | 5 | 5 | | | 10 | 5 |
| 17 | 20QA1A0417 | 3 | 3 | | | 2 | 5 |
| 18 | 20QA1A0418 | 3 | 3 | | | 9 | 5 |
| 19 | 20QA1A0419 | | 5 | 5 | | 10 | 5 |
| 20 | 20QA1A0420 | 4 | 4 | | | 7 | 5 |
| 21 | 20QA1A0421 | 2 | 2 | | | 3 | 5 |
| 22 | 20QA1A0422 | 5 | 5 | | | 10 | 5 |
| 23 | 20QA1A0423 | 1 | 2 | | | 4 | 5 |
| 24 | 20QA1A0424 | 5 | 5 | | | 7 | 5 |
| 25 | 20QA1A0425 | 5 | 4 | | | 5 | 5 |
| 26 | 20QA1A0426 | 5 | | 5 | | 10 | 5 |
| 27 | 20QA1A0427 | 2 | | 2 | | 3 | 5 |
| 28 | 20QA1A0428 | 3 | 4 | | | 7 | 5 |
| 29 | 20QA1A0429 | 5 | | 5 | | 7 | 5 |

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| | | | | | | | |
|---|---|---|---|---|---|---|---|
| 30 | 20QA1A0430 | 4 | | 3 | | 7 | 5 |
| 31 | 20QA1A0431 | 4 | | 2 | | 6 | 5 |
| 32 | 20QA1A0432 | | 3 | 2 | | 2 | 5 |
| 33 | 20QA1A0433 | | 5 | 4 | | 7 | 5 |
| 34 | 20QA1A0434 | | 2 | | 2 | 3 | 5 |
| 35 | 20QA1A0435 | | 5 | 5 | | 10 | 5 |
| 36 | 20QA1A0436 | | 2 | | 2 | 3 | 5 |
| 37 | 20QA1A0437 | | 3 | 4 | | 8 | 5 |
| 38 | 20QA1A0438 | | 4 | | 4 | 8 | 5 |
| 39 | 20QA1A0439 | | 2 | | 2 | 3 | 5 |
| 40 | 20QA1A0440 | 5 | | 4 | | 10 | 5 |
| 41 | 20QA1A0441 | 5 | | 5 | | 7 | 5 |
| 42 | 20QA1A0442 | | 4 | 5 | | 6 | 5 |
| 43 | 20QA1A0443 | | 5 | 5 | | 7 | 5 |
| 44 | 20QA1A0444 | | | 4 | 5 | 7 | 5 |
| 45 | 20QA1A0445 | 5 | | | 5 | 10 | 5 |
| 46 | 20QA1A0446 | | 5 | 4 | | 9 | 5 |
| 47 | 21QA5A0401 | | | 2 | 2 | 3 | 5 |
| 48 | 21QA5A0402 | | | 4 | 5 | 5 | 5 |
| 49 | 21QA5A0403 | | 2 | | 2 | 3 | 5 |
| 50 | 21QA5A0404 | 4 | 4 | | | 5 | 5 |
| 51 | 21QA5A0405 | | 5 | 5 | | 10 | 5 |
| 52 | 21QA5A0406 | | | 4 | 4 | 4 | 5 |
| 53 | 21QA5A0407 | 4 | | 4 | | 6 | 5 |
| 54 | 21QA5A0408 | 4 | | | 4 | 6 | 5 |
| 55 | 21QA5A0409 | 5 | | 5 | | 7 | 5 |
| 56 | 21QA5A0410 | | 5 | | 5 | 8 | 5 |
| 57 | 21QA5A0411 | | | 2 | 2 | 3 | 5 |
| 58 | 21QA5A0412 | | 5 | | 5 | 10 | 5 |
| 59 | 21QA5A0413 | | | 4 | 4 | 8 | 5 |
| 60 | 21QA5A0414 | | 5 | 5 | | 10 | 5 |
| 61 | 21QA5A0415 | | 4 | 4 | | 8 | 5 |
| 62 | 21QA5A0416 | | | 4 | 5 | 8 | 5 |
| 63 | 21QA5A0417 | | | 5 | 5 | 9 | 5 |
| 64 | 21QA5A0418 | | 5 | | 5 | 10 | 5 |
| 65 | 21QA5A0419 | | | 2 | 2 | 3 | 5 |

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| 66 | 21QA5A0420 | | 2 | 2 | | 3 | 5 |
|----|-----------|---|---|---|---|---|---|
| 67 | 21QA5A0421 | | | 4 | 4 | 7 | 5 |
| 68 | 21QA5A0422 | | 3 | 3 | | 5 | 5 |
| 69 | 21QA5A0423 | 4 | 5 | | | 8 | 5 |
| 70 | 21QA5A0424 | | 4 | 4 | | 4 | 5 |
| 71 | 21QA5A0425 | 4 | | | 4 | 4 | 5 |
| 72 | 21QA5A0426 | | 5 | | 4 | 7 | 5 |
| 73 | 21QA5A0427 | | 4 | 5 | | 5 | 5 |
| 74 | 21QA5A0428 | 4 | 5 | | | | 5 |
| No. of students attempted | | 29 | 42 | 48 | 29 | 74 | 74 |
| Max Marks Question wise | | 5 | 5 | 5 | 5 | 10 | 5 |
| Threshold 50% | | 2.5 | 2.5 | 2.5 | 2.5 | 5 | 2.5 |
| No. of Students above thresold | | 26 | 35 | 35 | 20 | 52 | 74 |
| % of Students>Target Score | | 89.66 | 83.34 | 72.92 | 68.97 | 70.28 | 100 |
| Attainment Level | | 3 | 3 | 3 | 3 | 3 | 3 |

| Attainment Level | 1: | 40% students score more than threshold |
|---|---|---|
| Attainment Level | 2: | 50% students score more than threshold |
| Attainment Level | 3: | 60% students score more than threshold |

| Course Outcome Mapping with each Question | | | | | | |
|---|---|---|---|---|---|---|
| CO's | Question No | | | | Objective | Assignment |
| | 1 | 2 | 3 | 4 | | |
| Course outcome - 1 | | | | | | |
| Course outcome - 2 | | | | | | |
| Course outcome - 3 | y | | | | y | y |
| Course outcome - 4 | | y | y | | y | y |
| Course outcome - 5 | | | | y | y | y |

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| Course Outcome Attainment based on Exam Questions in terms of percentage of total students when mapped to each question | | | | | | |
|---|---|---|---|---|---|---|
| **CO's** | **Question No** | | | | **Objective** | **Assignment** |
| | **1** | **2** | **3** | **4** | | |
| Course outcome - 1 | | | | | | |
| Course outcome - 2 | | | | | | |
| Course outcome - 3 | 3 | | | | 3 | 3 |
| Course outcome - 4 | | 3 | 3 | | 3 | 3 |
| Course outcome - 5 | | | | 3 | 3 | 3 |

| Course Outcome Attainment based on Exam Questions in terms of percentage of total students when mapped to each question | | | | |
|---|---|---|---|---|
| **CO's** | **Subjective** | **Objective** | **Assignment** | **Attainment Level** |
| Course outcome - 1 | - | - | - | - |
| Course outcome - 2 | - | - | - | - |
| Course outcome - 3 | 3.00 | 3.00 | 3.00 | 3.00 |
| Course outcome - 4 | 3.00 | 3.00 | 3.00 | 3.00 |
| Course outcome - 5 | 3.00 | 3.00 | 3.00 | 3.00 |

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| Course Outcome Attainment External Examination | | | | |
|---|---|---|---|---|
| Name of the Faculty: | | L.Praveen Kumar | Academic Year: | 2023-24 |
| Branch & Section: | | ECE | Exam: | EXTERNAL |
| Course: | | LDICA | Year/Semister: | II/II |
| **S.NO.** | **HALLTICKET NO** | **TOTAL(Max. Score:75)** | | |
| 1 | 20QA1A0401 | 74 | | |
| 2 | 20QA1A0402 | 72 | | |
| 3 | 20QA1A0403 | 69 | | |
| 4 | 20QA1A0405 | 69 | | |
| 5 | 20QA1A0406 | 65 | | |
| 6 | 20QA1A0407 | 66 | | |
| 7 | 20QA1A0408 | 63 | | |
| 8 | 20QA1A0409 | 65 | | |
| 9 | 20QA1A0410 | 70 | | |
| 10 | 20QA1A0411 | 69 | | |
| 11 | 20QA1A0412 | 64 | | |
| 12 | 20QA1A0413 | 74 | | |
| 13 | 20QA1A0414 | 68 | | |
| 14 | 20QA1A0415 | 69 | | |
| 15 | 20QA1A0416 | 75 | | |
| 16 | 20QA1A0417 | 69 | | |
| 17 | 20QA1A0418 | 69 | | |
| 18 | 20QA1A0419 | 74 | | |
| 19 | 20QA1A0420 | 68 | | |
| 20 | 20QA1A0421 | 66 | | |
| 21 | 20QA1A0422 | 74 | | |
| 22 | 20QA1A0423 | 63 | | |
| 23 | 20QA1A0424 | 71 | | |
| 24 | 20QA1A0425 | 70 | | |
| 25 | 20QA1A0426 | 71 | | |
| 26 | 20QA1A0427 | 63 | | |
| 27 | 20QA1A0428 | 63 | | |
| 28 | 20QA1A0429 | 73 | | |
| 29 | 20QA1A0430 | 68 | | |
| 30 | 20QA1A0431 | 66 | | |
| 31 | 20QA1A0432 | 64 | | |

| | | |
|---|---|---|
| 32 | 200A1A0433 | 68 |
| 33 | 200A1A0434 | 68 |
| 34 | 200A1A0435 | 71 |
| 35 | 200A1A0436 | -1 |
| 36 | 200A1A0437 | 65 |
| 37 | 200A1A0438 | 72 |
| 38 | 200A1A0440 | 71 |
| 39 | 200A1A0441 | 68 |
| 40 | 200A1A0442 | 69 |
| 41 | 200A1A0443 | 71 |
| 42 | 200A1A0444 | 71 |
| 43 | 200A1A0445 | 70 |
| 44 | 200A1A0446 | 66 |
| 45 | 21Q5A0402 | 65 |
| 46 | 21Q5A0403 | -1 |
| 47 | 21Q5A0404 | 68 |
| 48 | 21Q5A0405 | 75 |
| 49 | 21Q5A0406 | 62 |
| 50 | 21Q5A0407 | 67 |
| 51 | 21Q5A0408 | 67 |
| 52 | 21Q5A0409 | 71 |
| 53 | 21Q5A0410 | 69 |
| 54 | 21Q5A0411 | -1 |
| 55 | 21Q5A0412 | 70 |
| 56 | 21Q5A0413 | 70 |
| 57 | 21Q5A0414 | 71 |
| 58 | 21Q5A0415 | 69 |
| 59 | 21Q5A0416 | 69 |
| 60 | 21Q5A0417 | 71 |
| 61 | 21Q5A0418 | 74 |
| 62 | 21Q5A0419 | -1 |
| 63 | 21Q5A0420 | 60 |
| 64 | 21Q5A0421 | 69 |
| 65 | 21Q5A0422 | 65 |
| 66 | 21Q5A0423 | 66 |
| 67 | 21Q5A0424 | 69 |

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| 68 | 21QA5A0425 | 66 |
|----|------------|----|
| 69 | 21QA5A0426 | 64 |
| 70 | 21QA5A0427 | 63 |
| 71 | 21QA5A0428 | 67 |

| | |
|---|---|
| No. of students who attempted the subject | 71 |
| Max. Marks | 75 |
| Thresold 40% | 30 |
| No. of students who scored more than the target score | 67 |
| Percentage of students who scored more than target score | 94.37 |
| **Overall External Attainment level** | **3** |
| **Attainment Level        1:** | **40% students score more than threshold** |
| **Attainment Level        2:** | **50% students score more than threshold** |
| **Attainment Level        3:** | **60% students score more than threshold** |

Similarly CO attainment is calculated for all theory courses for corresponding academic years respectively

CO attainment level for courses other than Theory:

a) Laboratory:

Continuous Internal Evaluation:

The internal evaluation is based on session wise performance of experiment and viva voce, Observation, record and internal examination. The final internal marks are considered for CIE, and CO level for CIE attainment is decided upon the percentage of students who score more than 55% of the maximum internal marks, i.c., 13.75 out of 25 is used to decide the CO attainment level and is uniform for all CO's.

Semester End University Examination Evaluation (SEE): SEE Lab exam is evaluated for 75 marks. In SEE of the lab, % of students who score over 40% of the maximum marks, i.e. 30 out of 75 marks, is used to decide the CO attainment level and is uniform for all CO's.

b) Seminar:

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For seminars, the assessment is based only on internal evaluation. The marks obtained in seminar is used to decide the % of students who scored more than 55% of maximum marks, and this % is used for determining corresponding CO attainment level. This Attainment level is construed as uniform for all COs of the course.

c) Industry Oriented Mini Project: For Industry Oriented Mini Project, the assessment is based only on External evaluation. The marks obtained in Industry Oriented Mini Project is used to decide the % of students who scored more than 40% of maximum marks, and this % is used for determining corresponding CO attainment level. This Attainment level is construed as uniform for all COs of the course.

d) Project: Continuous Internal Evaluation:

The internal marks for project (25) are the total of marks allotted in Project review, final presentation, and by project guide. The final internal marks are considered for CIE, and CO level for CIE attainment is decided upon the percentage of students who score more than 55% of the maximum internal marks, i.e., 13.75 out of 25 is used to decide the CO attainment level and is uniform for all Cos

**Semester End University Examination Evaluation (SEE):**

The external evaluation is by award of Grade (Excellent/Very Good/Satisfactory /Poor). These grades are considered for SEE, and CO level for SEE attainment is decided upon the percentage of students who got Excellent/Very Good/Good to the number of students appeared is used to decide the CO attainment level and is uniform for all COs. The average value of the CO levels for the course are then used for mapping the PO attainments, using the array of target PO values for the course.

**Attainment of Program Outcomes and Program Specific Outcomes:**

Direct assessment of POS and PSOS for a course is obtained by mapping the respective CO value of Course Outcome attainment with the mapping of the target or expected POS and PSOs for the particular course.

The procedure adapted for calculating the attainment of Course Outcomes for a Theory course is described with an example for the course Python Programming the CO values arrived from CIE and SEE for the course Python Programming (CS751PC) for

**Indirect Assessment Tools:**

The PO/PSOs are attained indirectly by taking different surveys. These surves are also having equal weightages

For overall PO/PSO attainment.

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1. Program Exit Survey
2. Alumni Survey
3. Employer Feedback Survey

**Frequency of Data Collection:**

Table: Data Frequency

| S.No | Assement Tool | Frequency of data collection |
|------|---------------|------------------------------|
| 1. | Program Exit Survey | Once a year |
| 2. | Alumni Survey | Once a year |
| 3. | Employer Feedback Survey | Once a year |

**Indirect Assessment Tools:**

Alumni Survey: A feedback is collected on POS & PSOS from alumni students. It contributes towards the weight age of PO and PSO attainment. This survey is conducted by Alumni coordinator with the passed out students. Alumni coordinator collects both Alumni feedback forms filled by passed out student.

Employer Feedback Survey: A feedback is collected on Vision & Mission, PEOs, and POs & PSOS It is an indirect assessment tool which contributes towards theweightage of PO and PSOS. It is conducted after one year of service completed by the graduates from joining those respective organizations.

Program Exit Survey: The Program graduate exit survey is collected at the end of the program. The objective of the survey is to know the level of confidence of each POs &PSOS that a graduate possess by the end of the program.

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---

**ALUMNI SURVEY FORMAT**
(Indirect Assessment)

Thanking you for taking time to respond to this survey for ECE Alumni. Your ideas and opinions are very important to our programs and our efforts to continuously improve these programs. You may use available blank space at the end of our comments.

| | |
|---|---|
| Name of the Alumni: | G. Vasantha |
| Year of graduation: | 2024 |
| Branch: | ECE |
| Present address: | H.No:3-9-549/1, Shramhill colony, LB Nagar, 500070 |
| e-mail-ID: | vasandhau24@gmail.com |
| Present Occupation(Please send appointment letter copy to the HOD at the earliest) | Programmer in UTS |

| S.No | Please answer the following questions | Evaluate the following | | |
|---|---|---|---|---|
| | | Excellent | Good | Satisfactory |
| | | 3 | 2 | 1 |
| 1 | How effectively the engineering knowledge is helpful in your real life? | ✓ | | |
| 2 | How far did you apply mathematical formulas and algorithmic principles to design and implement computer based system? | ✓ | | |
| 3 | How far your studies helped you to meet the specific needs of society | | ✓ | |
| 4 | How far you are able to apply studies in research oriented way to investigate complex problems | ✓ | | |
| 5 | Did you acquire your knowledge to meet modern engineering tools and current technologies | ✓ | | |
| 6 | How far you are able to serve the society with your computer based knowledge? | | ✓ | |
| 7 | How far your engineering skills did help you to sustain in global environment for carrier achievement? | | ✓ | |

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| | | | | |
|---|---|---|---|---|
| 8 | Did your studies inculcate the professional ethics for a successful carrier? | ✓ | | |
| 9 | How effectively your activities in the college helped you to work in diverse teams as an individual/leader? | | ✓ | |
| 10 | How far your efforts on academic projects helped you to meet real time presentations/documentations and enhance your over all communication skills | ✓ | | |
| 11 | How far you have knowledge on engineering and management principles which helped you to manage the projects as leader/team? | ✓ | | |
| 12 | How far are you ready to recognize and prepare for technological changes to sustain in real world? | | ✓ | |
| 13 | Have you applied the advanced principles learned from academics for software developments? | | ✓ | |
| 14 | Are you able to identify the technological developments which helps further in your carrier? | ✓ | | |

**Suggestions/Comments:**
Requested to provide more number of
Industrial visits

1. Your feedback is tremendously useful to improve BRIL learning environment
2. Thank you for taking time to answer our questions. Your feedback is tremendously valuable to us

Date: 20-12-20          Signature: Vasantha

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**Program Level CO-PO Mapping**

(A.Y. : 2023-2024)

### BTECH I YEAR I SEM(A.Y.2017-2018)

| SNO | COURSE CODE | CODE | NAME | PROGRAM OUTCOMES | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
| 1 | MA101BS | C101 | Mathematics-I | 3 | 3 | 3 | 2 | 2 | | | | | | | 3 |
| 2 | CH102BS | C102 | Engineering Chemisty | 3 | 3 | 3 | 2 | 2 | | | | | | | 2.8 |
| 3 | PH103BS | C103 | Engineering Physics-I | 3 | 3 | 2.8 | 2 | 2.6 | | | | | | | 3 |
| 4 | EN104HS | C104 | Professional Communication in English | 3 | 3 | | 2.2 | 2.6 | | | 2.6 | 3 | 3 | | 3 |
| 5 | ME105ES | C105 | Engineering Mechanics | 2.8 | 2.8 | 2.6 | 1.8 | 1.6 | 1.6 | 1.6 | 2 | 2.6 | 1.4 | 1.4 | 3 |
| 6 | EE106ES | C106 | Basic Elcctrical nad Elcectronics Engineering | 3 | 3 | 2 | 2.2 | 2.6 | 2 | | 2.2 | 2 | 1.8 | | 3 |
| 7 | EN107HS | C107 | English Language Communication Skills Lab | 3 | 3 | | 2.2 | 2.6 | | | 2.6 | 3 | 3 | | 3 |
| 8 | ME108ES | C108 | Engineering Workshop | 2.8 | 2.8 | | 1.8 | 1.6 | 1.6 | 1.6 | 2 | 2.6 | 1.4 | 1.4 | 3 |

### BTECH I YEAR II SEM

| SNO | COURSE CODE | CODE | NAME | PROGRAM OUTCOMES | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | | | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
| 9 | PH201BS | C110 | Engineering Physics-II | 3 | 3 | c | 1.6 | 2.4 | | | | | | | 2.8 |
| 10 | MA202BS | C121 | Mathematics-II | 2.8 | 2.6 | 2.6 | 1.6 | 1.6 | | | | | | | 2.6 |
| 11 | MA203BS | C131 | Mathematics-III | 2.4 | 2.4 | 2.4 | 1.6 | 1.6 | | | | | | | 2.4 |
| 12 | CS204ES | C141 | Computer Programming in C | 2.8 | 2.8 | 2 | 2 | 2.6 | 2 | | 2 | 2 | 2 | | 2.8 |
| 13 | ME205ES | C151 | Enginnering Graphics | 2.8 | 2.6 | 2.6 | 2.2 | 1.6 | 2.2 | 1.8 | 2.2 | 2.4 | 1.6 | 1.4 | 3 |

| S.No | Code | C.No | Course Name | | | | | | | | | | | | | Avg |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 14 | CH206BS | C161 | Engieerning Cheistry Lab | 2.8 | 2.8 | 2.4 | 1.6 | 1.6 | | | | | | | | 2.6 |
| 15 | PH207BS | C171 | Engineering Physics Lab | 2.6 | 2.6 | 2.6 | 1.8 | 2.4 | | | | | | | | 2.6 |
| 16 | CS208ES | C181 | Computer Programming in C Lab | 2.8 | 2.8 | 2.2 | 2.2 | 2.6 | 2 | | | 2 | 2 | 2 | | 2.8 |
| | | | **BTECH II YEAR I SEM(AY.2023-2024)** | | | | | | | | | | | | | |
| 17 | MA301BS | C211 | Mathematics – IV | 2.4 | 2.4 | 2.4 | 1.6 | 1.6 | | | | | | | | 2.4 |
| 18 | CS302ES | C212 | Data Structures through C++ | 2.8 | 2.8 | 2.8 | 2.2 | 2 | 2.4 | 2.4 | | 2 | 2 | 2.2 | | 3 |
| 19 | CS303ES | C213 | Mathematical Foundations of Computer Science | 2.4 | 3 | 2.6 | | | 1.4 | 1.2 | | | 1.6 | | | 1.6 |
| 20 | CS304ES | C214 | Digital Logic Design | 2.8 | 2.7 | 2.6 | | 2 | | 2.4 | | | 2.4 | | | 2.6 |
| 21 | CS305ES | C215 | Object Oriented Programming through Java | 3 | 3 | 2.4 | 2.2 | 2.2 | 2 | 2 | | 1 | 1.6 | | | 2 |
| 22 | CS306ES | C216 | Data Structures through C++ Lab | 3 | 2 | 2.5 | 2 | | | | | | | | | |
| 23 | CS307ES | C217 | IT Workshop | 1.8 | 2 | 2.2 | 1.8 | 2 | | | | 2 | 2 | 1.6 | | 1.8 |
| 24 | CS308ES | C218 | Object Oriented Programming through Java Lab | 2.4 | 2.4 | 1.3 | 1.8 | 2 | | | | 1.8 | 2 | 2.4 | | 1.67 |
| | | | **BTECH II YEAR II SEM** | | | | | | | | | | | | | |
| 25 | CS401BS | C221 | Computer Organization | 3 | 2.2 | 2.4 | 2.2 | 2 | 2 | 2 | | 2.2 | 2 | | | |
| 26 | CS402ES | C222 | Database Management Systems | 2.4 | 2.2 | 2 | 2.4 | 2 | 2.2 | | | 2.4 | 2.8 | | | 2 |
| 27 | CS403ES | C223 | Operating Systems | 2.2 | 2.2 | 2.2 | 2.4 | 1.8 | 2.2 | 1.8 | | 2.6 | 2 | | | 2 |
| 28 | CS404ES | C224 | Formal Languages and Automata Theory | 2.4 | 2.2 | 2 | 2 | 2 | | | | 2 | | | | 2 |

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Website: **www.b-iet.ac.in**, e-mail: principal@b-iet.ac.in  Contact No.:+919652929786

| # | Code | Course No | Course | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11 | 12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 29 | SM405MS | C225 | Business Economics and Financial Analysis | 1 | 1 | 2 | 1 | 2 | 2 | 2 | 3 | 3 | 2 | 1 | 2 |
| 30 | CS406ES | C226 | Computer Organization Lab | 2.8 | 2 | 2.8 | | | | | | | | | 2.6 |
| 31 | CS407ES | C227 | Database Management Systems Lab | 2.2 | 2.2 | 2.2 | 2.3 | 2.33 | | | | | | 1.8 | |
| 32 | CS408ES | C228 | Operating Systems Lab | 2 | 2 | 3 | 2 | | | | | | 2 | 2.2 | |
| | | | **BTECH III YEAR I SEM(AY.2023-2024)** | | | | | | | | | | | | |
| 33 | CS501PC | C321 | Design and Analysis of Algorithms | 2.6 | 2.4 | 2.2 | 2.4 | 2.6 | | | | 2.4 | 2.6 | | 2.2 |
| 34 | CS502PC | C322 | Data Communication and Computer Networks | 2.6 | 2.8 | 2.6 | | | | | | 2.4 | 2.4 | 2.2 | 2.6 |
| 35 | CS503PC | C323 | Software Engineering | 2.6 | 2.6 | 2.4 | 2.6 | 2.5 | 1.8 | | 2.5 | 2.6 | | 2.6 | 2.5 |
| 36 | SM504MS | C324 | Fundamentals of Management | 1.0 | 1.0 | 2.0 | 1.0 | 2.0 | 2.0 | 2.0 | 3.0 | 3.0 | 2.0 | 1.0 | 2.0 |
| 37 | ME512OE | C325 | Computer Graphics | 2.5 | 2.3 | 2.3 | 2.3 | 2.3 | | | | 2.0 | 2.0 | 2.5 | 2.3 |
| 38 | CS505PC | C326 | Design and Analysis of Algorithms Lab | 2.6 | 2.2 | 2.8 | 2.4 | 2.6 | | | | 2.4 | 2.6 | | 2.2 |
| 39 | CS506PC | C327 | Computer Networks Lab | 2.8 | 2.4 | 2.8 | 2.2 | 2.0 | | | | 2.6 | 2.6 | 2.2 | 2.0 |
| 40 | CS507PC | C328 | Software Engineering Lab | 2.6 | 2.6 | 2.4 | 2.6 | 2.5 | 1.8 | | 2.5 | 2.6 | | 2.6 | 2.5 |
| | | | **BTECH III YEAR II SEM** | | | | | | | | | | | | |
| 41 | CS601PC | C422 | Compiler Design | 3 | 3 | 3 | 3 | 3 | | | | 2 | 2.4 | 2.4 | 2.6 |
| 42 | CS602PC | C423 | Web Technologies | 2.4 | 2.4 | 2.2 | | 2.8 | | | | 2.2 | 2.2 | | |
| 43 | CS603PC | C424 | Cryptography and Network Security | 2.4 | 2 | 2 | 2 | 2 | 2 | | | 1 | | | 2 |
| 44 | ME622OE | C425 | Fundamentals of Robotics | 2.6 | 2 | 2 | 2 | | | | | 2.4 | | | 2.2 |

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| S.No | Subject Code | Course Code | Course Name | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 45 | CS612PE | C426 | Design Patterns | 2.6 | 2.2 | 2 | 2 | 2 | | | | | | | | | | |
| 46 | CS604PC | C427 | Cryptography and Network Security Lab | 2.2 | 2 | 2 | 2 | 2 | | | | | | | | | | 2 |
| 47 | CS605PC | C428 | Web Technologies Lab | 2.6 | 2.2 | 2.4 | 2.6 | | | | | | | 2.4 | | | | 2.4 |
| 48 | EN606HS | C429 | Advanced English Communication Skills Lab | 3 | 3 | | | | | | | | | | | | | |
| **BTECH IV YEAR I SEM(2023-2024)** | | | | | | | | | | | | | | | | | | |
| 49 | CS701PC | C521 | Data Mining | 1.5 | 2.2 | 2.06 | 2.06 | | | | | 1.5 | 0 | | | | | 2.25 |
| 50 | CS702PC | C522 | Principles of Programming Languages | 1.5 | 1.3 | 1.4 | 1.4 | 1.3 | 1.1 | | | | | | | 1.5 | 1.5 | 1.3 |
| 51 | CS721PE | C523 | Python Programming | 2.1 | 2.1 | 2..1 | 1.95 | 2.1 | | | | | | | | 2.25 | 1.95 | 1.8 |
| 52 | CS732PE | C524 | Distributed Systems | 1.5 | 1.5 | 1.5 | 1.5 | | | | | | | | | 1.3 | 1.5 | |
| 53 | CS742PE | C525 | Cloud Computing | 2 | 2 | 3 | 2.6 | 3 | | | | | | | | | | |
| 54 | CS703PC | C526 | Data Mining Lab | 2.4 | 2 | 2.2 | 2.25 | 2.6 | 2 | 2 | 2 | 2.6 | | | | 2 | 3 | |
| 55 | CS751PC | C527 | Python Programming Lab | 2 | 2.2 | 2.4 | 2.2 | 2.2 | | | | | | | | | | |
| 56 | CS705PC | C528 | Industry Oriented Mini Project | 2.3 | 2 | 3 | | 2 | 2 | | | | | | | 2 | 3 | 2 |
| 57 | CS706PC | C529 | Seminar | 2 | 2 | | 2.3 | 2 | | | | | | | | | 2 | |

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| | | | BTECH IV YEAR II SEM | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 58 | EE833OE | C631 | Organizational Behaviors | 1 | 1 | 2 | 1 | 2 | 2 | 2 | 3 | 3 | 2 | 1 | 2 |
| 59 | CS852PE | C632 | Real-Time Systems | 2.5 | 2.2 | 3 | 2.3 | 2 | 1 | | | | | | |
| 60 | CS862PE | C633 | Web Services and Service Oriented Architecture | 2.25 | 2.2 | 2.25 | | 2.1 | | 1.95 | | 1.05 | | 1.95 | 2.1 |
| 61 | CS801PC | C634 | Major Project | 2.3 | 2 | 3 | | 2 | 2 | | | 2 | 3 | 2 | |
| | | Average | | 2.42 | 2.32 | 2.38 | 2.39 | 2.08 | 1.79 | 1.78 | 2.76 | 2.58 | 1.78 | 2.19 | 2.79 |

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## PO ATTAINMENT LEVEL (2023-2024)

| COURSE | PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| Direct Attainment (Average) | 2.42 | 2.32 | 2.38 | 2.39 | 2.08 | 1.79 | 1.78 | 2.76 | 2.58 | 1.78 | 2.19 | 2.79 |
| Direct Attainment (80%Average) | 1.936 | 1.856 | 1.904 | 1.912 | 1.664 | 1.432 | 1.424 | 2.208 | 2.064 | 1.424 | 1.752 | 2.232 |
| Indirect Attainment | 2.92 | 2.89 | 2.95 | 2.89 | 2.96 | 2.95 | 2.75 | 2.81 | 2.85 | 2.77 | 2.86 | 2.91 |
| Indirect Attainment (20%) | 0.58 | 0.57 | 0.59 | 0.57 | 0.59 | 0.59 | 0.55 | 0.56 | 0.57 | 0.55 | 0.57 | 0.58 |
| Overall PO attainment (80+20) | 2.516 | 2.426 | 2.494 | 2.482 | 2.254 | 2.022 | 1.974 | 2.768 | 2.634 | 1.974 | 2.322 | 2.812 |

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| S.No | CODE | Name | PSO1 | PSO2 | PS03 |
|------|------|------|------|------|------|
| | | | **PSO** | | |
| | | **B.TECH I YEAR** | | | |
| 1 | C101 | Mathematics-I | 1.6 | 2 | - |
| 2 | C102 | Engineering Chemisty | 2 | 2 | - |
| 3 | C103 | Engineering Physics-I | 2 | 2 | - |
| 4 | C104 | Professional Communication in English | 1.6 | 1.6 | 1.6 |
| 5 | C105 | Engineering Mechanics | 1.6 | 1.6 | 1.2 |
| 6 | C106 | Basic Electrical nad Elcectronics Engineering | 1.6 | 1.6 | 1.6 |
| 7 | C107 | English Language Communication Skills Lab | 1.6 | 1.6 | 1.6 |
| 8 | C108 | Engineering Workshop | 1.6 | 1.6 | - |
| 9 | C110 | Engineering Physics-II | 1.6 | 1.6 | - |
| 10 | C121 | Mathematics-II | 1.6 | 2 | 1.4 |
| 11 | C131 | Mathematics-III | 1.6 | 1.6 | 1.6 |
| 12 | C141 | Computer Programming in C | 1.6 | 1.6 | 3 |
| 13 | C151 | Enginneering Graphics | 2 | 1.8 | 2.2 |
| 14 | C161 | Engieerning Cheistry Lab | 2 | 2.4 | 1.6 |
| 15 | C171 | Engineering Physics Lab | 2 | 2 | |
| 16 | C181 | Computer Programming in C Lab | 1.8 | 1.8 | 3 |
| | | **B.TECH II YEAR** | | | |
| 17 | C211 | Mathematics – IV | 1.6 | 1.6 | 1.6 |
| 18 | C212 | Data Structures through C++ | 2.2 | 2.6 | 3 |
| 19 | C213 | Mathematical Foundations of Computer Science | 1.8 | 1.8 | - |
| 20 | C214 | Digital Logic Design | 2.2 | 2.4 | 2.8 |

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| 21 | C215 | Object Oriented Programming through Java | 2.85 | 2.4 | 3 |
|----|------|------|------|------|------|
| 22 | C216 | Data Structures through C++ Lab | 1.8 | | 2 |
| 23 | C217 | IT Workshop | 2.6 | 2.4 | 2.6 |
| 24 | C218 | Object Oriented Programming through Java Lab | 2.2 | 2.4 | 2.6 |
| 26 | C221 | Computer Organization | 2.8 | 2.6 | 2 |
| 27 | C222 | Database Management Systems | 2.2 | 2.8 | 2.2 |
| 28 | C223 | Operating Systems | 2.6 | 2.6 | 2.4 |
| 29 | C224 | Formal Languages and Automata Theory | 2.8 | 2.5 | |
| 30 | C225 | Business Economics and Financial Analysis | 2 | 3 | 3 |
| 31 | C226 | Computer Organization Lab | 2.4 | 2 | 2.2 |
| 32 | C227 | Database Management Systems Lab | 2.4 | 2.6 | 2 |
| 33 | C228 | Operating Systems Lab | 2.2 | 2.4 | 2.6 |
| | | **B.TECH III YEAR** | 2.8 | 2.4 | 3.0 |
| 35 | C321 | Design and Analysis of Algorithms | 2.6 | 2.4 | 2.6 |
| 36 | C322 | Data Communication and Computer Networks | 2.6 | 3 | 2.6 |
| 37 | C323 | Software Engineering | 2 | 3 | 3 |
| 38 | C324 | Fundamentals of Management | 2.5 | 2 | 2.8 |
| 39 | C325 | Computer Graphics | 2.2 | 2.2 | 2.8 |
| 40 | C326 | Design and Analysis of Algorithms Lab | 2.6 | 2.2 | 2.8 |
| 41 | C327 | Computer Networks Lab | 2.6 | 2.2 | 2.0 |
| 42 | C328 | Software Engineering Lab | 2.6 | 3 | 2.6 |
| 44 | C422 | Compiler Design | 2.8 | 2.4 | 2.2 |
| 45 | C423 | Web Technologies | 3 | 2.2 | 2.4 |
| 46 | C424 | Cryptography and Network Security | 2.2 | 2 | 2 |
| 47 | C425 | Fundamentals of Robotics | 2 | 2.2 | 2 |

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| 48 | C426 | Design Patterns | 2.6 | 2.4 | 3 |
|----|------|-----------------|-----|-----|---|
| 49 | C427 | Cryptography and Network Security Lab | 2.8 | 2.4 | 2.2 |
| 50 | C428 | Web Technologies Lab | 3 | 2.4 | 2.8 |
| 51 | C429 | Advanced English Communication Skills Lab | 3 | - | - |
| | | **B.TECH IVYEAR** | | | |
| 52 | C521 | Data Mining | 2.1 | 2.25 | 2.25 |
| 53 | C522 | Principles of Programming Languages | 1.3 | 1.5 | 1.5 |
| 54 | C523 | Python Programming | 1.65 | 1.95 | 2.25 |
| 55 | C524 | Distributed Systems | 1.5 | 1.4 | 1.3 |
| 56 | C525 | Cloud Computing | 3 | 3 | 3 |
| 57 | C526 | Data Mining Lab | 2.4 | 2.2 | 2 |
| 58 | C527 | Python Programming Lab | 2.2 | 2 | 2 |
| 59 | C528 | Industry Oriented Mini Project | 2.3 | 2.2 | 2.5 |
| 60 | C529 | Seminar | 2.5 | 2.5 | 2.5 |
| 61 | C631 | Organizational Behaviours | 2 | 3 | 3 |
| 62 | C632 | Real-Time Systems | 2 | 2.6 | 2.25 |
| 63 | C633 | Web Services and Service Oriented Architecture | 2.1 | 2.1 | |
| 64 | C634 | Major Project | 2 | 2 | - |
| | | **AVERAGE** | **1.8** | **2.8** | **2.4** |

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| PSO ATTAINMENT LEVEL(2023-2024) | | | |
|---|---|---|---|
| **COURSE** | **PSO1** | **PS02** | **PS03** |
| **Direct Attainment (Average)** | 1.8 | 2.8 | 2.4 |
| **Direct attainment (80% of Avg)** | 1.4 | 2.2 | 1.9 |
| **Indirect Attainment** | 2.92 | 2.93 | 2.91 |
| **Indirect Attainment (20%)** | 0.5 | 0.5 | 0.5 |
| **Overall PO Attainment (80+20)** | 1.9 | 2.7 | 2.4 |