GVR&S COLLEGE OF ENGINEERING AND TECHNOLOGY

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Ganginenipuram, Budampadu, Etukuru (P.O), Guntur (Dt) – 522017, A.P, India.
E-mail: gvrs_cet@yahoo.com, website: www.gvrs.ac.in

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

➤ 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.

Table: Conversion of Letter grades into corresponding marks

%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

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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

➢Frequency of data Collection

The data required for calculating attainments is to be gathered.Each course instructor maintains the data required 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 Data Base Management Systems.

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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:

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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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		
Course outcome - 1	y			y	y
Course outcome - 2		y		y	y
Course outcome - 3			y	y	y
Course outcome - 4					
Course outcome - 5					
Course outcome - 6					

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		
Course outcome - 1	3			1	3
Course outcome - 2		3		1	3
Course outcome - 3			3	1	3
Course outcome - 4					
Course outcome - 5					
Course outcome - 6					

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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	Subjective	Objective	Assignment	Attainment Level
Course outcome - 1	3.00	1.00	3.00	2.30
Course outcome - 2	3.00	1.00	3.00	2.30
Course outcome - 3	3.00	1.00	3.00	2.30
Course outcome - 4				
Course outcome - 5				
Course outcome - 6				

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				
Course outcome - 4	2.00	1.00	3.00	2.30
Course outcome - 5	2.00	1.00	3.00	2.30
Course outcome - 6	3.00	1.00	3.00	2.30

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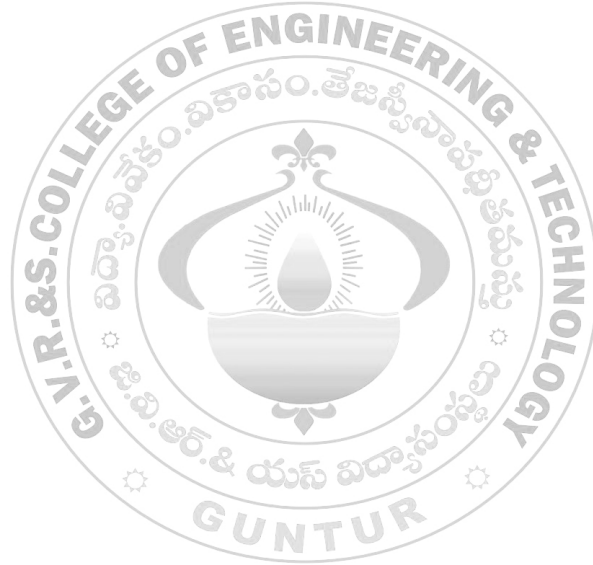*E-mail: gvrs_cet@yahoo.com, website: www.gvrs.ac.in*

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End of Course Evalution Form

Subject	:	DBMS
Section	:	CSE
Academic Year	:	2018-19
Faculty Name	:	Dr. G.Syam Prasad
Designation	:	Assistant Professor

COURSE OUTCOMES: (AT THE END OF THE COURSE THE STUDENT IS ABLE TO)		To a great extent (High)	To a moderate extent (Medium)	To some extent (Low)	Out of 3
		(3)	(2)	(1)	
C314.1	To find solutions to the complex problems using object oriented approach	37	4	0	2.9
C314.2	Represent classes, responsibilities and states using UML notation	36	4	1	2.85
C314.3	Understand Unified Modelling Language for object oriented modelling	35	5	1	2.83
C314.4	Analyze BASIC Behavioral Modeling diagrams in UML	35	6	0	2.85
C314.5	Design Advanced Behavioral Modeling diagrams in UML	36	4	1	2.85
C314.6	Assess the architectural modelling of UML	35	5	1	2.83
Overall Rating			Out of 3:		2.85

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Department:	COMPUTE SCIENCE AND ENGINEERING		
Course Outcome Attainment - Internal Assessments			
Name of the Faculty:	Dr. G.Syam Prasad	Academic Year:	2018-19
Branch & Section:	CSE	Exam:	
Course:	DBMS	Year/Semister:	III/I

Course Outcomes	1st Internal Exam	2nd Internal Exam	Internal Exam(Avg.)	University Exam	Overall Attainment
C314.1	2.30	-	2.30	1.00	1.39
C314.2	2.30	-	2.30	1.00	1.39
C314.3	2.30		2.30	1.00	1.39
C314.4		2.30	2.30	1.00	1.39
C314.5		2.30	2.30	1.00	1.39
C314.6		2.30	2.30	1.00	1.39
Average			2.30	1.00	1.39

Final CO Direct Attainment for the Subject	1.39
Final CO Indirect Attainment for the Subject	2.85
Final CO Attainment for the Subject	1.68

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Department: COMPUTER SCIENCE AND ENGINEERING **CO-PO Mapping & PO Attainment Direct Method**	

Name of the Faculty:	Dr. G.Syam Prasad	Academic Year:	2018-19
Branch & Section:	CSE	Exam:	
Course:	DBMS	Year/Semister:	III/I

COURSE OUTCOMES AND PROGRAM OUTCOMES MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO
C314.1	2	3	2	2	2	-	-	-	-	-	-	-	2	2
C314.2	2	3	2	2	2	-	-	-	-	-	-	-	2	2
C314.3	3	2	3	2	2	-	-	-	-	-	-	-	3	3
C314.4	2	3	2	2	2	-	-	-	-	-	-	-	2	2
C314.5	3	2	3	2	2	-	-	-	-	-	-	-	3	3
C314.6	2	3	2	2	2	-	-	-	-	-	-	-	2	2
COs Average	2	3	2	2	2	-	-	-	-	-	-	-	2	3
PO ATTAIN MENT	**1.12**	**1.68**	**1.12**	**1.12**	**1.12**	-	-	-	-	-	-	-	**1.12**	**1.68**

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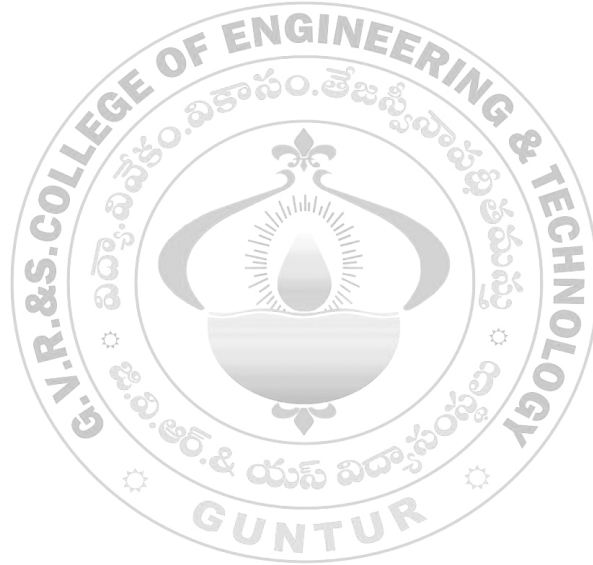
End of Course Evalution Form

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Subject	:	EDC LAB
Section	:	EEE
Academic Year	:	2018-19
Faculty Name	:	Ms.G. Neelima
Designation	:	Assistant Professor

COURSE OUTCOMES: (AT THE END OF THE COURSE THE STUDENT IS ABLE TO)		To a great extent (High)	To a moderate extent (Medium)	To some extent (Low)	Out of 3
		(3)	(2)	(1)	
1	Identification, Specifications, Testing of R, L, C Components (ColourCodes) Potentiometers, Coils, Gang Condensers, Relays, Bread Boards.	18	1	0	2.95
2	Identification, Specifications and Testing of active devices, Diodes, BJTs, JFETs, LEDs, LCDs, SCR, UJT.	16	2	1	2.79
3	Soldering Practice- Simple circuits using active and passive components.	17	2	0	2.89
4	Study and operation of Ammeters, Voltmeters, Transformers, Analog and Digital Multimeter, Function	15	4	2	2.62

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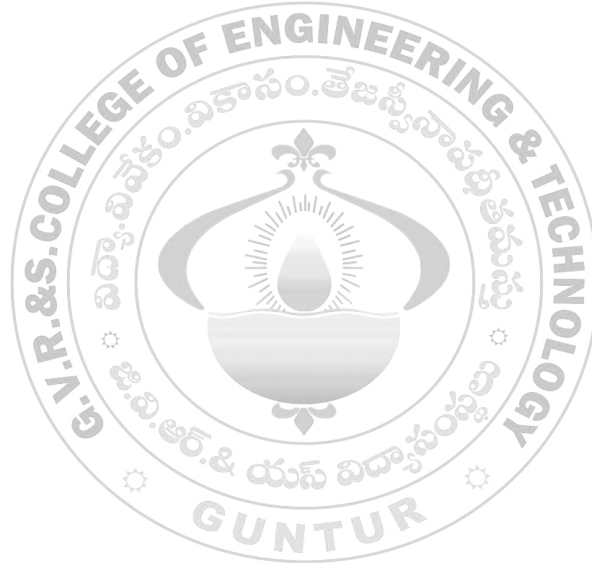GVR & S College of Engg. & Tech.
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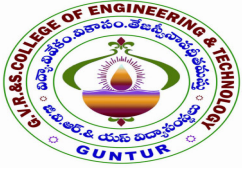*E-mail: gvrs_cet@yahoo.com, website: www.gvrs.ac.in*

	Generator, Regulated Power Supply and CRO.				
5	Identification, Specifications, Testing of R, L, C Components (ColourCodes)	18	1	0	2.95
Overall Rating		**Out of 3:**			**2.84**

Department:	**ELECTRICAL & ELECTRNICS ENGINEERING**
Course Outcome Attainment - Internal Assessments	
Name of the Faculty: Ms.G. Neelima	Academic Year: 2018-19
Branch &Section:EEE	Exam: EXTERNAL
Course:EDC	Year/Semister: II/II

Course Outcomes	**Internal Exam**	**University Exam**	**Overall Attainment**
Course outcome - 1	3.00	3.00	3
Course outcome - 2	3.00	3.00	3
Course outcome - 3	3.00	3.00	3
Course outcome - 4	3.00	3.00	3
Course outcome - 5	3.00	3.00	3
Average	3.00	3.00	3

Final CO Direct Attainment for the Subject	**3**
Final CO Indirect Attainment for the Subject	**2.84**
Final CO Attainment for the Subject	**2.97**

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Department:ELECTRICAL& ELECTRONICS ENGINEERING **CO-PO Mapping & PO Attainment Direct Method**	
Name of the Faculty:	Ms.G. Neelima	Academic Year:	2018-19
Branch & Section:	EEE	Exam:	EXTERNAL
Course:	EDC LAB	Year/Semester:	II/II

COURSE OUTCOMES AND PROGRAM OUTCOMES MAPPING

	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12	PSO1	PSO2
Course outcome - 1	2	2	2	-	2	-	-	-	-	1	-	-	2	1
Course outcome - 2	3	2	1	-	1	-	-	-	-	2	-	-	2	1
Course outcome - 3	2	1	1	-	2	-	-	-	-	1	-	-	1	1
Course outcome - 4	2	2	1	-	1	-	-	-	-	1	-	-	2	1
Course outcome - 5	2	2	1	-	1	-	-	-	-	1	-	-	1	1
COs Average	2.2	1.8	1.2	-	1.4	-	-	-	-	1.2	-	-	1.6	1
PO ATTAINMENT	**2.18**	**1.78**	**1.19**	-	**1.39**	-	-	-	-	**1.19**	-	-	**1.58**	**0.99**

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Program Level CO-PO Mapping

(A.Y. : 2018-2022)

SNO	COURSE CODE	CODE	NAME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
**BTECH I YEAR I SEM(A.Y.2018-2019)**																
\multicolumn{4}{l}{}	\multicolumn{13}{c}{PROGRAM OUTCOMES}												
1	C111	C111	English – I	3	3	3	2	2							3
2	C112	C112	Mathematics - I	3	3	3	2	2							2.8
3	C113	C113	Mathematics – II	3	3	2.8	2	2.6							3
4	C114	C114	Applied Physics	3	3		2.2	2.6			2.6	3	3		3
5	C115	C115	Computer Programming	2.8	2.8	2.6	1.8	1.6	1.6	1.6	2	2.6	1.4	1.4	3
6	C116	C116	Engineering Drawing	3	3	2	2.2	2.6	2		2.2	2	1.8		3
7	C117	C117	English - Communication Skills Lab - 1	3	3		2.2	2.6			2.6	3	3		3
8	C118	C118	Applied Physics Lab	3	3		2.2	2.6			2.6	3	3		3
9	C119	C119	Computer Programming Lab	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**																
\multicolumn{4}{l}{}	\multicolumn{13}{c}{PROGRAM OUTCOMES}												
SNO	COURSE CODE	CODE	NAME	PO1	PO2	PO3	PO4	PO5	PO6	PO7	PO8	PO9	PO10	PO11	PO12
10	C121	C121	English – II	3	3	c	1.6	2.4							2.8
11	C122	C122	Mathematics - III	2.8	2.6	2.6	1.6	1.6							2.6
12	C123	C123	Applied Chemistry	2.4	2.4	2.4	1.6	1.6							2.

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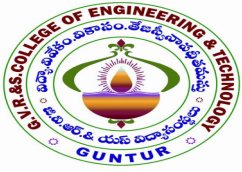*(Approved by AICTE, Affiliated to JNTUK, Govt.of.A.P, India.)*
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S.No	Code	Code	Course Name												Avg
															4
13	C124	C124	Object Oriented Programming through C++	2.8	2.8	2	2	2.6	2		2	2	2		2.8
14	C125	C125	Environmental Studies	2.8	2.6	2.6	2.2	1.6	2.2	1.8	2.2	2.4	1.6	1.4	3
15	C126	C126	Engineering Mechanics	2.8	2.8	2.4	1.6	1.6							2.6
16	C127	C127	Applied ChemistryLab	2.6	2.6	2.6	1.8	2.4							2.6
17	C128	C128	English - Communication Skills Lab – 2	2.8	2.8	2.2	2.2	2.6	2		2	2	2		2.8
18	C129	C129	Object Oriented Programming Lab	2.4	2.4	2.4	1.6	1.6							2.4
			BTECH II YEAR I SEM(AY.2019-2020)												
19	C211	C211	Statistics with R Programming	2.8	2.8	2.8	2.2	2	2.4	2.4		2	2	2.2	3
20	C212	C212	Mathematical Foundations of Computer Science	2.4	3	2.6			1.4	1.2			1.6		1.6
21	C213	C213	Digital Logic Design	2.8	2.7	2.6		2		2.4			2.4		2.6
22	C214	C214	Python Programming	3	3	2.4	2.2	2.2	2	2		1	1.6		2
23	C215	C215	Data Structures through C++	3	2	2.5	2								
24	C216	C216	Computer Graphics	1.8	2	2.2	1.8	2				2	2	1.6	1.8
25	C217	C217	Data Structures through	2.4	2.4	1.3	1.8	2				1.8	2	2.4	1.6

S.No	Code	Code	Subject												
			C++Lab												7
26	C218	C218	Python Programming Lab	3	3	2.4	2.2	2.2	2	2		1	1.6		2

BTECH II YEAR I SEM(AY.2019-2020)															
27	C221	C221	Software Engineering	3	2.2	2.4	2.2	2	2	2		2.2	2		
28	C222	C222	Java Programming	2.4	2.2	2	2.4	2	2.2			2.4	2.8		2
29	C223	C223	Advanced Data Structures	2.2	2.2	2.2	2.4	1.8	2.2	1.8		2.6	2		2
30	C224	C224	Computer Organization	2.4	2.2	2	2	2				2			2
31	C225	C225	Formal Languages and Automata Theory	1	1	2	1	2	2	2	3	3	2	1	2
32	C226	C226	Principles of Programming Languages	2.8	2	2.8									2.6
33	C227	C227	Advanced Data Structures Lab	2.2	2.2	2.2	2.3	2.33					1.8		
34	C228	C228	Java Programming Lab	2	2	3	2					2	2.2		

BTECH III YEAR I SEM(AY.2020-2021)															
35	C311	C311	Compiler Design	2.6	2.4	2.2	2.4	2.6				2.4	2.6		2.2
36	C312	C312	Unix Programming	2.6	2.8	2.6						2.4	2.4	2.2	2.6
37	C313	C313	Object Oriented Analysis and Design using UML	2.6	2.6	2.4	2.6	2.5	1.8		2.5	2.6		2.6	2.5
38	C314	C314	Database Management	1.0	1.0	2.0	1.0	2.0	2.0	2.0	3.0	3.0	2.0	1.0	2.

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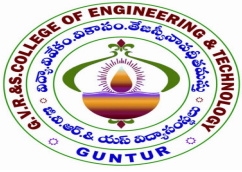*(Approved by AICTE, Affiliated to JNTUK, Govt.of.A.P, India.)*
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No	Code	Code	Course Name	1	2	3	4	5	6	7	8	9	10	11	12
			Systems												0
39	C315	C315	Operating Systems	2.5	2.3	2.3	2.3	2.3				2.0	2.0	2.5	2.3
40	C316	C316	Unified Modeling Lab	2.6	2.2	2.8	2.4	2.6				2.4	2.6		2.2
41	C317	C317	Operating System & Linux Programming Lab	2.8	2.4	2.8	2.2	2.0				2.6	2.6	2.2	2.0
42	C318	C318	Database Management System 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												
43	C321	C321	Computer Networks	3	3	3	3	3				2	2.4	2.4	2.6
44	C322	C322	Data Warehousing and Mining	2.4	2.4	2.2		2.8				2.2	2.2		
45	C323	C323	Design and Analysis of Algorithms	2.4	2	2	2	2	2			1			2
46	C324	C324	Software Testing Methodologies	2.6	2	2	2					2.4			2.2
47	C325	C325	Embbeded Systems	2.6	2.2	2	2	2							
48	C326	C326	Network Programming Lab	2.2	2	2	2	2							
49	C327	C327	Software Testing Lab	2.6	2.2	2.4	2.6					2.4			2.4
50	C328	C328	Data Warehousing and Mining Lab	3	3										
			BTECH IV YEAR I SEM(2021-2022)												
51	C411	C411	Cryptography and	1.5	2.2	2.06	2.06				1.5				2.2

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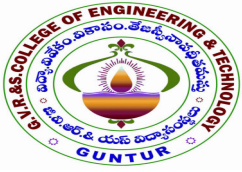*(Approved by AICTE, Affiliated to JNTUK, Govt.of.A.P, India.)*
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No	Code	Code	Course Name	1	2	3	4	5	6	7	8	9	10	11	12
			Network Security												5
52	C412	C412	Software Architecture & Design Patterns	1.5	1.3	1.4	1.4	1.3	1.1				1.5	1.5	1.3
53	C413	C413	Web Technologies	2.1	2.1	2..1	1.95	2.1					2.25	1.95	1.8
54	C414	C414	Managerial Economics and Financial Analysis	1.5	1.5	1.5	1.5						1.3	1.5	
55	C415	C415	Mobile Computing	2	2	3	2.6	3							
56	C416	C416	Cloud Computing	2.4	2	2.2	2.25	2.6	2	2	2	2.6		2	3
57	C417	C417	Software Architecture & Design Patterns Lab	2	2.2	2.4	2.2	2.2							
58	C418	C418	Web Technologies Lab	2.3	2	3		2	2				2	3	2
			BTECH IV YEAR II SEM												
59	C421	C421	Distributed Systems	1	1	2	1	2	2	2	3	3	2	1	2
60	C422	C422	Management Science	2.5	2.2	3	2.3	2	1						
61	C423	C423	Machine Learning	2.25	2.2	2.25		2.1		1.95		1.05		1.95	2.1
62	C424	C424	Artificial Neural Networks	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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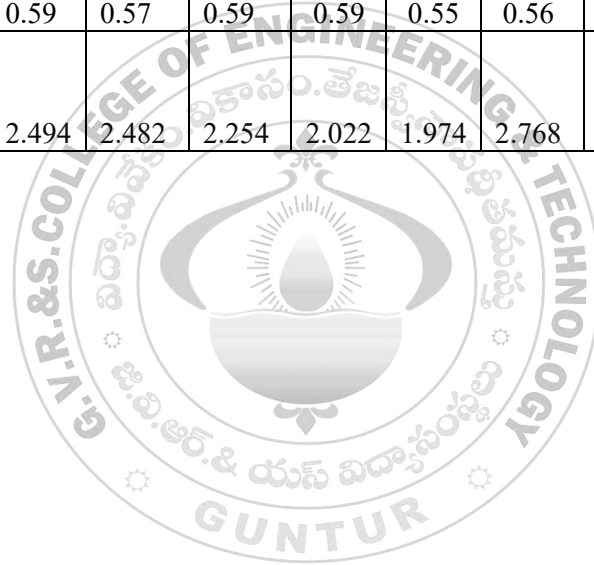
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PO ATTAINMENT LEVEL (2018-2022)

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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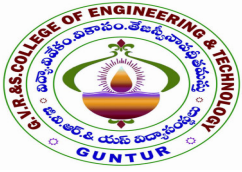*(Approved by AICTE, Affiliated to JNTUK, Govt.of.A.P, India.)*
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S.No	CODE	Name	PSO		
			PSO1	PSO2	PS03
B.TECH I YEAR					
1	C111	English – I	1.6	2	-
2	C112	Mathematics - I	2	2	-
3	C113	Mathematics – II	2	2	-
4	C114	Applied Physics	1.6	1.6	1.6
5	C115	Computer Programming	1.6	1.6	1.2
6	C116	Engineering Drawing	1.6	1.6	1.6
7	C117	English - Communication Skills Lab - 1	1.6	1.6	1.6
8	C118	Applied Physics Lab	1.6	1.6	-
9	C119	Computer Programming Lab	1.6	1.6	-
10	C121	English – II	1.6	2	1.4
11	C122	Mathematics - III	1.6	1.6	1.6
12	C123	Applied Chemistry	1.6	1.6	3
13	C124	Object Oriented Programming through C++	2	1.8	2.2
14	C125	Environmental Studies	2	2.4	1.6
15	C126	Engineering Mechanics	2	2	
16	C127	Applied Chemistry Lab	1.6	2	1.4
17	C128	English - Communication Skills Lab – 2	1.8	1.8	3
18	C129	Object Oriented Programming Lab	2	1.8	2.2
B.TECH II YEAR					
19	C211	Statistics with R Programming	1.6	1.6	1.6
20	C212	Mathematical Foundations of Computer Science	2.2	2.6	3
21	C213	Digital Logic Design	1.8	1.8	-
22	C214	Python Programming	2.2	2.4	2.8
23	C215	Data Structures through C++	2.85	2.4	3
24	C216	Computer Graphics	1.8		2
25	C217	Data Structures through C++Lab	2.6	2.4	2.6
26	C218	Python Programming Lab	2.2	2.4	2.6
27	C221	Software Engineering	2.8	2.6	2
28	C222	Java Programming	2.2	2.8	2.2
29	C223	Advanced Data Structures	2.6	2.6	2.4
30	C224	Computer Organization	2.8	2.5	
31	C225	Formal Languages and Automata Theory	2	3	3
32	C226	Principles of Programming Languages	2.4	2	2.2
33	C227	Advanced Data Structures Lab	2.4	2.6	2
34	C228	Java Programming Lab	2.2	2.4	2.6

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		B.TECH III YEAR	2.8	2.4	3.0
35	C311	Compiler Design	2.6	2.4	2.6
36	C312	Unix Programming	2.6	3	2.6
37	C313	Object Oriented Analysis and Design using UML	2	3	3
38	C314	Database Management Systems	2.5	2	2.8
39	C315	Operating Systems	2.2	2.2	2.8
40	C316	Unified Modeling Lab	2.6	2.2	2.8
41	C317	Operating System & Linux Programming Lab	2.6	2.2	2.0
42	C318	Database Management System Lab	2.6	3	2.6
43	C321	Computer Networks	2.8	2.4	2.2
44	C322	Data Warehousing and Mining	3	2.2	2.4
45	C323	Design and Analysis of Algorithms	2.2	2	2
46	C324	Software Testing Methodologies	2	2.2	2
47	C325	Embbeded Systems	2.6	2.4	3
48	C326	Network Programming Lab	2.8	2.4	2.2
49	C327	Software Testing Lab	3	2.4	2.8
50	C328	Data Warehousing and Mining Lab	3	-	-
		B.TECH IVYEAR			
51s	C411	Cryptography and Network Security	2.1	2.25	2.25
52	C412	Software Architecture & Design Patterns	1.3	1.5	1.5
53	C413	Web Technologies	1.65	1.95	2.25
54	C414	Managerial Economics and Financial Analysis	1.5	1.4	1.3
55	C415	Mobile Computing	3	3	3
56	C416	Cloud Computing	2.4	2.2	2
57	C417	Software Architecture& Design Patterns Lab	2.2	2	2
58	C418	Web Technologies Lab	2.3	2.2	2.5
59	C421	Distributed Systems	2.5	2.5	2.5
60	C422	Management Science	2	3	3
61	C423	Machine Learning	2	2.6	2.25
62	C424	Artificial Neural Networks	2.1	2.1	
	AVERAGE		**1.8**	**2.8**	**2.4**

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PSO ATTAINMENT LEVEL(2018-2019)			
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

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