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CSE/IT/5287

13.11.18

***PROCEEDING/DELIBERATIONS
OF
BOARD OF STUDIES (BoS)
IN
COMPUTER SCIENCE & ENGINEERING
AND
INFORMATION TECHNOLOGY
(BoS Meeting Dated -6th October,2018)***

MINUTES OF THE MEETING OF BOS IN COMPUTER SCIENCE & ENGINEERING AND INFORMATION TECHNOLOGY

Date: 06/10/2018

Meeting of the Board of Studies in Computer Science & Engineering and Information Technology was held on 06/ 10 / 2018 in the department of CSE & IT, 02:00 PM Onwards. During the meeting following were present.

1.	Dr. Akhilesh Tiwari	Chairman
2.	Dr. R. K. Gupta	Member
3.	Dr. Manish Dixit	Member
4.	Ms. Khushboo Agarwal	Member
5.	Mr. Punit Kumar Johari	Member
6.	Dr. Sanjiv Sharma	Member
7.	Mr. Vikas Sejwar	Member
8.	Mr. Abhilash Sonkar	Member
9.	Ms. Jaimala Jha	Member
10.	Mr. Jamvant Singh Kumare	Member
11.	Mr. Rajeev Kumar Singh	Member
12.	Ms. Neha Bhardwaj	Member
13.	Mr. Mahesh Parmar	Member
14.	Mr. R. R. Singh Makwana	Member
15.	Mr. Amit Kumar Manjhvar	Member

In addition to above, faculty members engaged under TEQIP-III Project and contractual faculty were also present.

The following external members could not attend the meeting. However, some of them have given their suggestions in electronic mode.

1.	Dr. Goutam Sanyal, Professor, NIT Durgapur	External Member (Academics)
2.	Dr. Anand Shrivastava, Professor, IIIT Delhi	External Member (Academics)
3.	Mr. Amitabh Shrivastava, Senior Consultant, TCS Noida	External Member (Industry)
4.	Mr. Paritosh Jain, Director (Engineering), IHS Markit, Gurgaon.	External Member (Alumnus)
5.	Dr. (Mrs.) Vinda Tokekar, Professor, IET-DAVV, Indore	External Member (Academics)

As per the agenda of BoS meeting, following were discussed and recommended:

ITEM CSEIT-1:	<p>To frame the COs for all core courses from V Semester to VIII Semester to be offered under the <u>Flexible Curriculum</u> based on the present needs of stakeholders and society</p> <p>Course Outcomes (COs) for all the Departmental Core (DC) courses (related to V - VIII Semester, B.Tech CSE & IT), to be offered under Flexible Curriculum were discussed, finalized and recommended. The same is enclosed as Annexure-I.</p>
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(Handwritten signatures and notes)

06-10-18

	Academic Year 2018-19, nature of courses (in terms of complexity level) and previous attainment level of respective course have been considered. The same is enclosed as Annexure-VII.						
ITEM CSEIT-8:	To propose "Equivalence of Subjects" for all courses running in the various schemes Equivalence of courses have been discussed, analyzed & recommended. The same is enclosed as Annexure-VIII.						
ITEM CSEIT-9:	To review and submit complete syllabi and scheme separately for the three schemes which are running presently Scheme and syllabi related to batches 2014-18, 2015-19 & 2016-20 and 2017-21 & 2018-22 (up to IV Semester only) has been discussed, reviewed and compiled for submission. The same is enclosed as Annexure- IX.						
ITEM CSEIT-10:	Other matters: VALUE ADDED COURSES (VAC) During the meeting, Value Added Courses (VAC) designed by the department have been considered for review and discussion. Detail of these courses is as follows and contents are enclosed as Annexure- X. <table border="1" data-bbox="588 1086 1235 1243"> <thead> <tr> <th>S.No.</th> <th>Course Name</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>Android Based App Development</td> </tr> <tr> <td>2</td> <td>Programming with Python</td> </tr> </tbody> </table> INDUSTRY INTERFACE / MoUs/ COLLABORATIONS In order to strengthen the interface with industrial houses and organizations of national importance, it is discussed to make efforts for more collaboration, which will be beneficial for joint project / dissertation guidance at UG/ PG level, student internship & faculty training. During the discussion, progress of student projects which are running under the MoU and collaboration with Madhya Pradesh Police Reforms has been discussed.	S.No.	Course Name	1	Android Based App Development	2	Programming with Python
S.No.	Course Name						
1	Android Based App Development						
2	Programming with Python						

(Mr. Modigari Narendra)

(Mr. Ram Parvesh Das)

(Ms. Juhi Prathi)

(Ms. Shivangi Garg)

(Ms. Shweta Patel)

(Ms. Aishwarya)

(Ms. Pooja Agarwal)

(Mr. Arun Kumar)

(Mr. Santosh Shau)

(Mr. Ratibhan)

(Ms. Julie Kumari)

(Ms. Sneha Garg)

(Mrs. Sonu Lamba)

(Mr. Aditya Singh)

(Mr. Mir Shahnawaz Ahmad)

(Mr. Mohit Jain)

(Mr. Sheo Kumar)

(Ms. Namrata Agarwal)

(Mr. Dheeraj Gurjar)

(Ms. Kirti Gaur)

(Mr. Abhishek Dixit)

(Ms. Nishtha Parashar)

(Ms. Pallavi Gupta)

(Mr. Vishwas Srivastava)

(Mr. Amit Manjhar)

(Mr. R. R. Singh Makwana)

(Mr. Mahesh Parmar)

(Mr. Neha Bhardwaj)

(Mr. Rajeev Kumar Singh)

(Mr. Jankant Singh Kumare)

(Ms. Jannata Jha)

(Mr. Abhilash Sonkar)

(Mr. Vikas Sejwar)

(Dr. Sanjiv Sharma)

(Mr. Punit Kumar Johari)

(Ms. Khushboo Agarwal)

(Dr. Manish Dixit)

(Dr. R. K. Gupta)

(Dr. Akhilesh Tiwari)
Chairman- BOS

Dean Academics

Course Outcomes
of
Departmental Core (DC) Courses
B.Tech V Semester
(Computer Science & Engineering)
Under Flexible Curriculum

SOFTWARE ENGINEERING
150502 (DC-9)

COURSE OUTCOMES

After completion of this course, the students would be able to:

- CO1:** Explain the various fundamental concepts of software engineering.
 - CO2:** Develop the concepts related to software design & analysis.
 - CO3:** Compare the techniques for software project management & estimation.
 - CO4:** Choose the appropriate models for real life software project.
 - CO5:** Design the software using modern tools and technologies.
 - CO6:** Test the software through different approaches.
-

WA

THEORY OF COMPUTATION
150503 (DC-10)

COURSE OUTCOMES

After completion of this course, the students would be able to:

- CO1:** Explain the basic concepts of switching and finite automata theory & languages.
 - CO2:** Relate practical problems to languages, automata, computability and complexity.
 - CO3:** Construct abstract models of computing and check their power to recognize the languages.
 - CO4:** Analyse the grammar, its types, simplification and normal form.
 - CO5:** Interpret formal mathematical methods to prove properties of languages, grammars and automata.
 - CO6:** Develop an overview of applicability of automata theory, languages and computation to solve engineering problems.
-

WA

MICROPROCESSOR & INTERFACING
150504(DC-11)

COURSE OUTCOMES

After completion of this course, the students would be able to:

- CO1:** Compare the architecture and features of different 16-bit microprocessor interfacing chips & microcontrollers.
 - CO2:** Develop programming skills in assembly language of 8086 microprocessor and 8051 microcontroller.
 - CO3:** Illustrate the concept of interfacing with peripheral devices.
 - CO4:** Make use of different interrupts and addressing modes.
 - CO5:** Design an interfacing mechanism for I/O devices.
 - CO6:** Build a system based on 8086 microprocessor and 8051 microcontroller.
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WA

Course Outcomes
of
Departmental Core (DC) Courses
B.Tech VI Semester
(Computer Science & Engineering)
Under Flexible Curriculum

COMPILER DESIGN
150601 (DC-12)

COURSE OUTCOMES

After completion of this course, the students would be able to:

- CO1:** Recall the concepts of finite automata and context free grammar.
 - CO2:** Build the concept of working of compiler.
 - CO3:** Examine various parsing techniques and their comparison.
 - CO4:** Compare various code generation and code optimization techniques.
 - CO5:** Analyze different tools and techniques for designing a compiler.
 - CO6:** Design various phases of compiler.
-

Wt.

COMPUTER NETWORKS

150602 (DC-13)

COURSE OUTCOMES

After completion of this course, the students would be able to:

- CO1:** Explain the fundamental concepts of computer network.
 - CO2:** Illustrate the basic taxonomy & terminologies of computer network protocols.
 - CO3:** Develop a concept for understanding advanced computer networks.
 - CO4:** Build the skill of IP addressing and routing mechanism.
 - CO5:** Predict the performance of computer network in various situations.
 - CO6:** Construct the network environment for implementation of computer networking concept.
-

W.L.

Course Outcomes
of
Departmental Core (DC) Lab Courses
B.Tech V Semester
(Computer Science & Engineering)
Under Flexible Curriculum

SOFTWARE ENGINEERING (Lab)

150502 (DC-9)

COURSE OUTCOMES

After completion of this course, the students would be able to:

- CO1: Demonstrate the basic concept of UML.
 - CO2: Discuss the software development process using different tools.
 - CO3: Display the various ways for solving different common modelling problems using UML.
 - CO4: Use the knowledge of Software engineering and project management.
 - CO5: Identify the vocabulary, rules and idioms of the UML and learn how to model it effectively.
 - CO6: Design the software systems using software engineering concepts.
-

W4

THEORY OF COMPUTATION (Lab)
150503 (DC-10)

COURSE OUTCOMES

After completion of this course, the students would be able to:

- CO1:** Judge various computational models.
 - CO2:** Construct abstract models of computing.
 - CO3:** Justify the power of abstract models in computing to recognize the languages.
 - CO4:** Demonstrate analytical thinking and intuition for problem solving in the related areas.
 - CO5:** Discuss the limitations of computation in problem solving.
 - CO6:** Follow set of rules for syntax verification.
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MICROPROCESSOR & INTERFACING (Lab)

150504(DC-11)

COURSE OUTCOMES

After completion of this course, the students would be able to:

- CO1:** Differentiate the various types of instructions and addressing modes.
 - CO2:** Identify the Hex code/ Machine code of instructions in assembly language.
 - CO3:** Perform interfacing of various peripheral devices and memory with microprocessor.
 - CO4:** Demonstrate the arithmetic & Logical operation using instruction set of 8086/8051 microprocessor.
 - CO5:** Use of 8086/8051 for interfacing with I/O devices.
 - CO6:** Build the assembly language programs in 8086/8051 to solve real world problems.
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MS

Course Outcomes
of
Departmental Core (DC) Lab Courses
B.Tech VI Semester
(Computer Science & Engineering)
Under Flexible Curriculum

Department of Computer Science & Engineering and Information Technology

COMPILER DESIGN (Lab)
150601 (DC-12)

COURSE OUTCOMES

After completion of this course, the students would be able to:

- CO1: Discuss the knowledge of patterns, tokens & regular expressions in programming for problem solving.
 - CO2: Design and Implement various parsing techniques.
 - CO3: Operate different types of compiler tools.
 - CO4: Develop programs for implementing code optimization techniques.
 - CO5: Build symbol table and intermediate codes.
 - CO6: Demonstrate the functionalities of different phases of the compilation process.
-

NA

Course Outcomes
of
Departmental Core (DC) Courses
B.Tech V Semester
(Information Technology)
Under Flexible Curriculum

SOFTWARE ENGINEERING
160502 (DC-9)

COURSE OUTCOMES

After completion of this course, the students would be able to:

- CO1:** Explain the various fundamental concepts of software engineering.
 - CO2:** Develop the concepts related to software design & analysis.
 - CO3:** Compare the techniques for software project management & estimation.
 - CO4:** Choose the appropriate models for real life software project.
 - CO5:** Design the software using modern tools and technologies.
 - CO6:** Test the software through different approaches.
-

W.A.

THEORY OF COMPUTATION

160503 (DC-10)

COURSE OUTCOMES

After completion of this course, the students would be able to:

- CO1:** Explain the basic concepts of switching and finite automata theory & languages.
 - CO2:** Relate practical problems to languages, automata, computability and complexity.
 - CO3:** Construct abstract models of computing and check their power to recognize the languages.
 - CO4:** Analyse the grammar, its types, simplification and normal form.
 - CO5:** Interpret formal mathematical methods to prove properties of languages, grammars and automata.
 - CO6:** Develop an overview of how automata theory, languages and computation are applicable in engineering application.
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V. K. J.

MICROPROCESSOR & INTERFACING
160504(DC-11)

COURSE OUTCOMES

After completion of this course, the students would be able to:

- CO1:** Compare the architecture and feature of different 16-bit microprocessor interfacing chips & microcontrollers.
 - CO2:** Develop programming skills in assembly language of 8086 microprocessor and 8051 microcontroller.
 - CO3:** Demonstrate the concept of interfacing with peripheral devices.
 - CO4:** Make use of different interrupts and addressing modes.
 - CO5:** Design an interfacing for I/O devices.
 - CO6:** Build a system based on 8086 microprocessor and 8051 microcontroller.
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W4.

Course Outcomes
of
Departmental Core (DC) Courses
B.Tech VI Semester
(Information Technology)
Under Flexible Curriculum

COMPILER DESIGN
160601 (DC-12)

COURSE OUTCOMES

After completion of this course, the students would be able to:

- CO1:** Recall the concepts of finite automata and context free grammar.
 - CO2:** Build the concept of working of compiler.
 - CO3:** Examine various parsing techniques and their comparison.
 - CO4:** Compare various code generation and code optimization techniques.
 - CO5:** Analyze different tools and techniques for designing a compiler.
 - CO6:** Design various phases of compiler.
-

WA

COMPUTER NETWORKS

160602 (DC-13)

COURSE OUTCOMES

After completion of this course, the students would be able to:

- CO1:** Explain the fundamental concepts of computer network.
 - CO2:** Illustrate the basic taxonomy & terminologies of computer network protocols.
 - CO3:** Develop a concept for understanding advanced computer network.
 - CO4:** Build the skill of IP addressing and routing mechanism.
 - CO5:** Predict the performance of computer network in various situations.
 - CO6:** Construct the network environment for implementation of computer networking concept.
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WA

Course Outcomes
of
Departmental Core (DC) Lab Courses
B.Tech V Semester
(Information Technology)
Under Flexible Curriculum

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SOFTWARE ENGINEERING (Lab)

160502 (DC-9)

COURSE OUTCOMES

After completion of this course, the students would be able to:

- CO1:** Demonstrate the basic concept of UML.
 - CO2:** Discuss the software development process using different tools.
 - CO3:** Display the various ways for solving different common modelling problems using UML.
 - CO4:** Use the knowledge of Software engineering and project management.
 - CO5:** Identify the vocabulary, rules and idioms of the UML and learn how to model it effectively.
 - CO6:** Design the software systems using software engineering concepts.
-

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THEORY OF COMPUTATION (Lab)

160503 (DC-10)

COURSE OUTCOMES

After completion of this course, the students would be able to:

- CO1: Judge various computational models.
 - CO2: Construct abstract models of computing.
 - CO3: Justify the power of abstract models in computing to recognize the languages.
 - CO4: Demonstrate analytical thinking and intuition for problem solving in the related areas.
 - CO5: Discuss the limitations of computation in problem solving.
 - CO6: Follow set of rules for syntax verification.
-

WA

MICROPROCESSOR & INTERFACING (Lab)

160504(DC-11)

COURSE OUTCOMES

After completion of this course, the students would be able to:

- CO1:** Differentiate the various types of instructions and addressing modes.
 - CO2:** Identify the Hex code/ Machine code of instructions in assembly language.
 - CO3:** Perform interfacing of various peripheral devices and memory with microprocessor.
 - CO4:** Demonstrate the arithmetic & Logical operation using instruction set of 8086/8051 microprocessor.
 - CO5:** Use of 8086/8051 for interfacing with I/O devices.
 - CO6:** Build the assembly language programs in 8086/8051 to solve real world problems.
-

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COMPILER DESIGN (Lab)
160601 (DC-12)

COURSE OUTCOMES

After completion of this course, the students would be able to:

- CO1:** Discuss the knowledge of patterns, tokens & regular expressions in programming for problem solving.
 - CO2:** Design and Implement various parsing techniques.
 - CO3:** Operate different types of compiler tools.
 - CO4:** Develop programs for implementing code optimization techniques.
 - CO5:** Build symbol table and intermediate codes.
 - CO6:** Demonstrate the functionalities of different phases of the compilation process.
-

MA

List of Departmental Elective (DE) Courses

B.Tech

(Computer Science & Engineering)

Under Flexible Curriculum

B.Tech (Computer Science & Engineering):

Code Category	VII Semester						VIII Semester			
	DE-1		DE-2		DE-3		DE-4		DE-5	
	Subject Code	Subject Name	Subject Code	Subject Name	Subject Code	Subject Name	Subject Code	Subject Name	Subject Code	Subject Name
	150603 A	Network & Web Security	150604A	Ethical Hacking	150701 A	Digital Forensics	150702 A	Networking with TCP/IP	150801 A	Internet & Web Technology
	150603 B	Parallel Processing	150604 B	Distributed Systems	150701 B	Cloud Computing	150702 B	Artificial Intelligence	150801 B	Natural Language Processing
	150603 C	Image Processing	150604 C	Pattern Recognition	150701 C	Computer Vision	150702 C	Data Mining & Warehousing	150801 C	Block Chain Architecture Design

WA

List of Departmental Elective (DE) Courses

B.Tech

(Information Technology)

Under Flexible Curriculum

B.Tech (Information Technology):

Code Category	VII Semester						VIII Semester			
	DE-1		DE-2		DE-3		DE-4		DE-5	
	Subject Code	Subject Name	Subject Code	Subject Name	Subject Code	Subject Name	Subject Code	Subject Name	Subject Code	Subject Name
	160603 A	Network & Web Security	160604 A	Ethical Hacking	160701 A	Digital Forensics	160702 A	Networking with TCP/IP	160801A	Internet & Web Technology
	160603 B	Parallel Processing	160604 B	Distributed Systems	160701 B	Cloud Computing	160702 B	Artificial Intelligence	160801 B	Natural Language Processing
	160603 C	Agile Methodology	160604 C	Software Testing	160701 C	Software Project Management	160702 C	Data Mining & Warehousing	160801 C	Block Chain Architecture Design

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List of Open Category (OC) Courses
(Theory / Lab)
B.Tech
(Computer Science & Engineering)
Under Flexible Curriculum

Semester-Wise List of Open Category Courses

Branch: Computer Science & Engineering

Theory Courses

VI Semester				
S. NO.	Code Category	Subject Code	Subject Name	Course Prerequisite
1.	OC-1	150605 A	Principles of Programming Languages	<ul style="list-style-type: none"> • Basic understanding of data structures. • Basic knowledge of computer architecture.
		150605 B	Social Networking	<ul style="list-style-type: none"> • Basic knowledge of graph theory. • Basic knowledge of various networks and its components.
		150605 C	Mobile Computing	<ul style="list-style-type: none"> • Basics of communication. • Basic understanding of wireless infrastructure.

VII Semester				
S. NO.	Code Category	Subject Code	Subject Name	Course Prerequisite
1.	OC-2	150703 A	Soft Computing	<ul style="list-style-type: none"> • Basic knowledge of set theory, calculus and probability theory.
		150703 B	Data Analytics	<ul style="list-style-type: none"> • Awareness about data management tools.
		150703 C	Deep Learning	<ul style="list-style-type: none"> • Basic understanding of linear algebra, matrix vector operations and notations. • Basics of programming, with the understanding of data structures.
2.	OC-3	150704 A	IT Infrastructure & Management	<ul style="list-style-type: none"> • Basics of networking & related components.
		150704 B	Internet of Things (IoT)	<ul style="list-style-type: none"> • Basics of C Language. • Basic understanding of circuits, IC's and controllers.
		150704 C	Neural Networks	<ul style="list-style-type: none"> • Basic understanding of programming language constructs. • Basic understanding of mathematical operations such as dealing with the matrices and vectors.

WV

VIII Semester

S. NO.	Code Category	Subject Code	Subject Name	Course Prerequisite
1.	OC-4	150802 A	Machine Learning	<ul style="list-style-type: none"> • Understanding of programming and tools such as MATLAB. • Basic understanding of linear algebra, probability, statistics, calculus, graph theory, optimization.
		150802 B	Modern Cryptography	<ul style="list-style-type: none"> • Basic understanding of prior informal level knowledge of cryptography.
		150802 C	Data Science for Engineers	<ul style="list-style-type: none"> • Basic understanding of statistics such as distributions, regression & time series. • Basics of programming and data structures.
2.	OC-5	150803 A	Optimization Techniques	<ul style="list-style-type: none"> • Exposure to basic mathematical elements and programming.
		150803 B	Virtual Reality	<ul style="list-style-type: none"> • Basic understanding of concepts of 2D and 3D in graphics.
		150803 C	Cyber Law	<ul style="list-style-type: none"> • Basic understanding of information security concepts. • Basic understanding of security threats and vulnerabilities.

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Lab Courses

IV Semester				
S. NO.	Code Category	Subject Code	Subject Name	Course Prerequisite
1.	*DLC-3	150405	Programming Lab	<ul style="list-style-type: none">• Basic understanding of the object oriented programming concepts.

VII Semester				
S. NO.	Code Category	Subject Code	Subject Name	Course Prerequisite
1.	*DLC-7	150705	Departmental Lab (IoT Lab)	<ul style="list-style-type: none">• Basics of C Language.• Basic understanding of circuits, IC's and controllers.

Departmental Lab Courses will be made available as Open Lab Courses for other departments.

VA

List of Open Category (OC) Courses

(Theory / Lab)

B.Tech

(Information Technology)

Under Flexible Curriculum

Semester-Wise List of Open Category Courses

Branch: Information Technology

Theory Courses

VI Semester				
S. NO.	Code Category	Subject Code	Subject Name	Course Prerequisite
1.	OC-1	160605 A	Principles of Programming Languages	<ul style="list-style-type: none"> • Basic understanding of data structures. • Basic knowledge of computer architecture.
		160605 B	Social Networking	<ul style="list-style-type: none"> • Basic knowledge of graph theory. • Basic knowledge of various networks and its components.
		160605 C	Mobile Computing	<ul style="list-style-type: none"> • Basics of communication. • Basic understanding of wireless infrastructure.

VII Semester				
S. NO.	Code Category	Subject Code	Subject Name	Course Prerequisite
1.	OC-2	160703 A	Soft Computing	<ul style="list-style-type: none"> • Basic knowledge of set theory, calculus and probability theory.
		160703 B	Data Analytics	<ul style="list-style-type: none"> • Awareness about data management tools.
		160703 C	Deep Learning	<ul style="list-style-type: none"> • Basic understanding of linear algebra, matrix vector operations and notations. • Basics of programming, with the understanding of data structures.
2.	OC-3	160704 A	IT Infrastructure & Management	<ul style="list-style-type: none"> • Basics of networking & related components.
		160704 B	Internet of Things (IoT)	<ul style="list-style-type: none"> • Basics of C Language. • Basic understanding of circuits, IC's and controllers.
		160704 C	Neural Networks	<ul style="list-style-type: none"> • Basic understanding of programming language constructs. • Basic understanding of mathematical operations such as dealing with the matrices and vectors.

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VIII Semester

S. NO.	Code Category	Subject Code	Subject Name	Course Prerequisite
1.	OC-4	160802 A	Machine Learning	<ul style="list-style-type: none"> • Understanding of programming and tools such as MATLAB. • Basic understanding of linear algebra, probability, statistics, calculus, graph theory, optimization.
		160802 B	Modern Cryptography	<ul style="list-style-type: none"> • Basic understanding of prior informal level knowledge of cryptography.
		160802 C	Data Science for Engineers	<ul style="list-style-type: none"> • Basic understanding of statistics such as distributions, regression & time series. • Basics of programming and data structures.
2.	OC-5	160803 A	Optimization Techniques	<ul style="list-style-type: none"> • Exposure to basic mathematical elements and programming.
		160803 B	Virtual Reality	<ul style="list-style-type: none"> • Basic understanding of concepts of 2D and 3D in graphics.
		160803 C	Cyber Law	<ul style="list-style-type: none"> • Basic understanding of information security concepts. • Basic understanding of security threats and vulnerabilities.

WA

Lab Courses

IV Semester				
S. NO.	Code Category	Subject Code	Subject Name	Course Prerequisite
1.	#DLC-3	160405	Programming Lab	<ul style="list-style-type: none">• Basic understanding of the object oriented programming concepts.

VII Semester				
S. NO.	Code Category	Subject Code	Subject Name	Course Prerequisite
1.	#DLC-7	160705	Departmental Lab (IoT Lab)	<ul style="list-style-type: none">• Basics of C Language.• Basic understanding of circuits, IC's and controllers.

Departmental Lab Courses will be made available as Open Lab Courses for other departments.

NA

Question Papers Analysis
for
Academic Year 2017-18

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE
(Department of Computer Science Engineering & Information Technology)

End Sem Question Paper Analysis (Jan- June 2018)

S. No.	Course Code	Course Name	% of Theoretical & Numerical Questions	% of Choice	Difficulty Level of Question Paper	Low Order Thinking (LOT)	Higher Order Thinking (HOT)	CO Coverage	Remarks
1.	BCSL/BITL 203	Data Structure	60 & 40	50	Moderate	35	65	Adequate	-
2.	BCSL/ BITL-402	Design & Analysis of Algorithm	40 & 60	50	Moderate	40	60	Not mentioned	-
3.	BCSL/ BITL-403	Database Management System	70 & 30	50	Moderate	55	45	Not mentioned	-
4.	BCSL/BITL 404	Computer Network	75 & 25	50	Moderate	50	50	Inadequate	CO4 and CO5 not covered
5.	BCSL/BITL 405	Computer System & Organization	72 & 28	50	Moderate	60	40	Adequate	-
6.	BITL 601	Information Theory & Coding	70 & 30	50	low	70	30	Not mentioned	Analytical question should be added.
7.	BCSL 610	Cloud Computing	100 & 0	50	low	90	10	Not mentioned	Nature of paper is theory only.
8.	BCSL/BITL 602	Mobile Computing	90 & 10	50	Moderate	60	40	Adequate	.
9.	BCSL/BITL 603	Software Project Management	100 & 0	50	Moderate	75	25	Adequate	Entirely Theoretical. Numerical portion should be added.

WA

10.	BCSL/BITL 604	Compiler Design	70 & 30	50	Moderate	50	50	Adequate	Numerical question should be increased
11.	CSL/ITL 605	Network and Web Security	90 & 10	50	Moderate	90	10	Adequate	Logical questions should be included.
12.	CSL-801/ 8Y51	Advanced Operating System	80 & 20	50	Moderate	40	60	adequate	Numerical question should be increased
13.	CSL/ ITL-802/ 8Y52	Data Warehousing & Mining	80 & 20	50	Moderate	60	40	Adequate	Some numerical portion can be added
14.	CSL 803/ ITL 804/ 8553	Neural Network & Fuzzy System	70 & 30	50	high	40	60	Adequate	-
15.	CSL 804/ITL 801/ 8Y71	Cellular and Mobile Communication	80 & 20	50	low	80	20	Adequate	Most question start with what and explain keywords.
16.	100203	Basic Computer Engineering	80 & 20	50	Moderate	60	40	inadequate	Course outcomes were not mentioned

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MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE**(Department of Computer Science Engineering & Information Technology)****Mid Sem I Question Paper Analysis (Jan- June 2018)**

S. No.	Course Code	Course Name	% of Theoretical & Numerical Questions	% of Choice	Difficulty Level of Question Paper	Low Order Thinking (LOT)	Higher Order Thinking (HOT)	CO Coverage
1.	BCSL/BITL 203	Data Structure	60 & 40	20	Moderate	40	60	Adequate
2.	BCSL/ BITL-402	Design & Analysis of Algorithm	20 & 80	25	Moderate	50	50	Adequate
3.	BCSL/ BITL-403	Database Management System	80 & 20	20	Moderate	70	30	Adequate
4.	BCSL/BITL 404	Computer Network	60 & 40	20	Moderate	52	48	Adequate
5.	BCSL/BITL 405	Computer System & Organization	60 & 40	0	Moderate	40	60	Adequate
6.	BITL 601	Information Theory & Coding	50 & 50	25	High	35	65	Adequate
7.	BCSL 610	Cloud Computing	100 & 0	20	Low	90	10	Adequate
8.	BCSL/BITL 602	Mobile Computing	100 & 0	50	Moderate	50	50	Adequate
9.	BCSL/BITL 603	Software & Project	100 & 0	0	Moderate	25	75	Adequate

WA

		Management						
10.	BCSL/BITL 604	Compiler Design	40 & 60	0	Moderate	40	60	Adequate
11.	CSL/ITL 605	Network and Web Security	80 & 20	50	Low	50	50	Adequate
12.	CSL-801/ 8Y51	Advanced Operating System	40 & 60	40	Moderate	40	60	Adequate
13.	CSL/ ITL-802/ 8Y52	Data Warehousing & Mining	100 & 0	0	Moderate	65	35	Adequate
14.	CSL 803/ ITL 804/ 8553	Neural Network	70 & 30	0	Moderate	50	50	Adequate
15.	CSL 804/ ITL 801/ 8Y71	Cellular and Mobile Communication	90 & 10	0	Low	90	10	Adequate

14

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE
(Department of Computer Science Engineering & Information Technology)

Mid Sem II Question Paper Analysis (Jan- June 2018)

S. No.	Course Code	Course Name	% of Theoretical & Numerical Questions	% of Choice	Difficulty Level of Question Paper	Low Order Thinking (LOT)	Higher Order Thinking (HOT)	CO Coverage	Remarks
1.	BCSL/BITL 203	Data Structure	40 & 60	10	Moderate	40%	60%	Adequate	-
2.	BCSL/ BITL-402	Design & Analysis of Algorithm	70 & 30	10	Difficult	10%	90%	Adequate	-
3.	BCSL/ BITL-403	Database Management System	75 & 25	0	Moderate	40%	60%	Adequate	-
4.	BCSL/ BITL 404	Computer Network	30 & 70	0	Moderate	20%	80%	Adequate	-
5.	BCSL/ BITL 405	Computer System & Organization	70 & 30	30	Moderate	30%	70%	Adequate	-
6.	BITL 601	Information Theory & Coding	80 & 20	0	High	40%	60%	Inadequate	. C02, C03 & C06 not covered.
7.	BCSL 610	Cloud Computing	100 & 0	20	Easy	80%	20%	Adequate	-
8.	BCSL/BITL 602	Mobile Computing	100 & 0	50	Easy	75%	25%	Inadequate	C01, C02 & C03 not

MA

									covered
9.	BCSL/BITL 603	Software & Project Management	100 & 0	0	Moderate	80%	20%	Adequate	Entirely Theoretical
10.	BCSL/BITL 604	Compiler Design	100 & 0	0	Moderate	10%	90%	Adequate	-
11.	CSL/ITL 605	Network and Web Security	60 & 40	0	Moderate	40%	60%	Adequate	-
12.	CSL-801/ 8Y51	Advanced Operating System	90 & 10	30	Moderate	50%	50%	Adequate	Numerical Questions can be added.
13.	CSL/ ITL-802/ 8Y52	Data Warehousing & Mining	100 & 0	30	Moderate	50%	50%	Adequate	-
14.	CSL 803/ ITL 804/ 8553	Neural Network	60 & 40	20	Easy	70%	30%	Adequate	-
15.	CSL 804/ ITL 801/ 8Y71	Cellular and Mobile Communication	100 & 0	0	Easy	90%	10%	Adequate	-

VK

MADHAV INSTITUTE OF TECHNOLOGY & SCIENCE
 (Department of Computer Science Engineering & Information Technology)

End Sem Question Paper Analysis (July - Dec 2017)

S. No.	Course Code	Course Name	% of Theoretical & Numerical Questions	% of Choice				Remarks
					Difficulty Level of Question Paper	Low Order Thinking (LOT)	Higher Order Thinking (HOT)	
1.	100203	Basic Computer Engineering	80 & 20	50	Moderate	70	30	-
2.	BITL302, BCSL302	Digital Electronics	80 & 20	50	Moderate	50	50	Lengthy and difficult
3.	BITL303	Object Oriented Programming and Methodology	90 & 10	50	Low	70	30	Programming Problems should be added more.
4.	BITL304	Computer Graphics	70 & 30	50	Moderate	70	30	-
5.	BITL305, BCSL305	Operating System	60 & 40	50	Moderate	80	20	-
6.	BITL501, BCSL501	Principles of Management & Economics	100 theoretical	50	Low	80	20	Theoretical in nature
7.	BITL502, BCSL502	Networking with TCP/IP	70 & 30	50	Moderate	70	30	-
8.	BITL503, BCSL503	Software Engineering	80 & 20	50	Low	80	20	-

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9.	BITL504, BCSL504	Microprocessor & Interfacing	90 & 10	50	High	60	40	-
10.	BITL505, BCSL505	Theory of Computation	40&60	50	Moderate	20	80	-
11.	CSL 701, ITL701	Artificial Intelligence and Expert Systems	80&20	50	High	50	50	Lengthy paper
12.	CSL 702, ITL702	Compiler Design & Translator	70&30	50	Moderate	60	40	-
13.	CSL 703, ITL703	Parallel Processing	85 & 15	50	Moderate	60	40	Theoretical content is more in paper
14.	CSL 704, ITL704	Networking with TCP/IP	80 & 20	50	Moderate	55	45	-
15.	CSL 705, ITL705	Internet Technology & web Designing	100	50	Low	80	20	Entirely theoretical

VA

COs and Attainments
for All Courses
Academic Year 2014-15 to 2017-18
(Computer Science & Engineering)

CO Attainment of Batch - 2014 (CSE)

Sem	S. No.	Subject Code	Subject Name	Direct Attainment	Indirect Attainment	Total Attainment	Target	Gap	Action Taken
1	1	CSL111(T)	Engineering Physics	68.8	71.20	69.28	60	9.28	-
1	2	CSL112(T)	Energy, Environment, Ecology & Society	62.64	55.20	61.15	60	1.152	-
1	3	CSL113(T)	Basic Computer Engineering	66.4	74.00	67.92	60	7.92	-
1	4	CSL114(T)	Basic Mechanical Engineering	60.28	44.80	57.18	60	-2.816	Arranged Remedial Classes
1	5	CSL115(T)	Basic Civil Engg. & Engg. Mechanics	64.28	60.00	63.42	60	3.424	-
1	6	CSL111(P)	Workshop Practice	84.96	100.00	87.97	60	27.968	-
1	7	CSL113(P)	Basic Computer Engineering Lab	77.6	100.00	82.08	60	22.08	-
1	8	CSL114(P)	Basic Mechanical Engineering Lab	79.28	97.60	82.94	60	22.944	-
1	9	CSP115(P)	Basic Civil Engg. & Engg. Mechanics Lab	79.92	100.00	83.94	60	23.936	-
1	10	CSP116(P)	Language Lab. & Seminar	61.28	61.60	61.34	60	1.344	-
2	11	CSL101(T)	Engineering Chemistry	53.4	32.00	49.12	60	-10.88	Arranged Remedial Classes
2	12	CSL102(T)	Engineering Mathematics - I	61.08	57.60	60.38	60	0.384	-
2	13	CSL103(T)	Communication Skills	68.96	90.80	73.33	60	13.328	-
2	14	CSL104(T)	Basic Electrical & Electronics Engineering	66.4	71.60	67.44	60	7.44	-
2	15	CSL105(T)	Engineering Graphics	57.2	45.20	54.80	60	-5.2	Arranged Remedial Classes
2	16	CSL101(P)	Engineering Chemistry Lab	85.2	98.40	87.84	60	27.84	-
2	17	CSL103(P)	Communication Skills Lab	64.96	81.60	68.29	60	8.288	-
2	18	CSL104(P)	Basic Electrical & Electronics Engineering Lab	82.24	100.00	85.79	60	25.792	-
2	19	CSL105(P)	Engineering Graphics Lab	80.88	100.00	84.70	60	24.704	-
2	20	CSP106(P)	Workshop Practice	72.96	96.80	77.73	60	17.728	-
3	21	CSL301	Mathematics II	62.8	56.40	61.52	60	1.52	-
3	22	CSL302	Electronics	64.28	68.00	65.02	60	5.024	-
3	23	CSL303	Network Analysis and Synthesis	69.76	76.00	71.01	60	11.008	-
3	24	CSL304	Computer System organization	71.36	79.20	72.93	60	12.928	-
3	25	CSL305	OOPS Methodology	64.88	67.20	65.34	60	5.344	-
3	26	CSL302(P)	Electronics Lab	84.08	100.00	87.26	60	27.264	-
3	27	CSL303(P)	Network Analysis and Synthesis Lab	75.12	92.00	78.50	60	18.496	-
3	28	CSL305(P)	OOPS Methodology Lab	73.2	89.60	76.48	60	16.48	-
3	29	CSP306(P)	Computer Programming III	72	92.80	76.16	60	16.16	-
3	30	CSS307	Self Study	83.04	100.00	86.43	60	26.432	-
3	31	CSS308	Seminar/Group Discussion	73.04	100.00	78.43	60	18.432	-

4	32	CSL401(T)	Mathematics-III	69	75.20	70.24	60	10.24	-
4	33	CSL402(T)	Operating System	76.16	96.40	80.21	60	20.208	-
4	34	CSL403(T)	Digital Circuits and Systems	65.24	68.40	65.87	60	5.872	-
4	35	CSL404(T)	Analog and Digital Communication	59.52	48.80	57.38	60	-2.624	Arranged Remedial Classes
4	36	CSL405(T)	Data Structures	71.6	89.60	75.20	60	15.2	-
4	37	CSL403(P)	Digital Circuits and Systems Lab	84.72	99.20	87.62	60	27.616	-
4	38	CSL404(P)	Analog and Digital Communication Lab	80.64	99.20	84.35	60	24.352	-
4	39	CSL405(P)	Data Structures Lab	77.36	85.60	79.01	60	19.008	-
4	40	CSP406(P)	Computer Programming-IV	75.84	96.80	80.03	60	20.032	-
4	41	CSS407(P)	Self Study	79.84	100.00	83.87	60	23.872	-
4	42	CSS408(P)	Seminar/Group Discussion	76.56	100.00	81.25	60	21.248	-
5	43	CSL 501	Discrete Structures	76.88	83.60	78.22	60	18.224	-
5	44	CSL 502	Database Management Systems	71.96	88.00	75.17	60	15.168	-
5	45	CSL 503	Microprocessor and Interfacing	61.12	55.20	59.94	60	-0.064	Arranged Remedial Classes
5	46	CSL 504	Theory of Computation	64.64	59.20	63.55	60	3.552	-
5	47	CSL 505	Principles of Management and Managerial Economics	66.76	74.00	68.21	60	8.208	-
5	48	CSL 502(P)	Database Management Systems Lab	77.92	100.00	82.34	60	22.336	-
5	49	CSL 503(P)	Microprocessor and Interfacing Lab	73.04	88.80	76.19	60	16.192	-
5	50	CSL 504(P)	Theory of Computation Lab	75.2	94.40	79.04	60	19.04	-
5	51	CSP 506(P)	Computer Programming - V (H/W lab)	66.88	88.80	71.26	60	11.264	-
5	52	CSS 507	Self Study	78.32	100.00	82.66	60	22.656	-
5	53	CSS 508	Seminar/Group Discussion	84.64	100.00	87.71	60	27.712	-
6	54	CSL 601	Analysis & Design of Algorithms	70.88	88.00	74.30	60	14.304	-
6	55	CSL 602	Computer Graphics & Multimedia	75	91.60	78.32	60	18.32	-
6	56	CSL 603	Data Communication	58.92	54.00	57.94	60	-2.064	Arranged Remedial Classes
6	57	CSL 604	Software Engineering	64.48	66.00	64.78	60	4.784	-
6	58	CSL 605	Network & Web Security	67.28	73.20	68.46	60	8.464	-
6	59	CSD 606(P)	Minor Project	75.84	87.20	78.11	60	18.112	-
6	60	CSL 601(P)	Analysis & Design of Algorithms Lab	80	97.60	83.52	60	23.52	-
6	61	CSL 602(P)	Computer Graphics & Multimedia Lab	83.2	100.00	86.56	60	26.56	-
6	62	CSL 603(P)	Data Communication Lab	75.04	97.60	79.55	60	19.552	-
6	63	CSS 607	Self Study	82.24	100.00	85.79	60	25.792	-
6	64	CSS 608	Seminar/Group Discussion	82.56	100.00	86.05	60	26.048	-
			CO1	57.00	95.00	64.60	60	4.6	

7	65	CSL-701: Artific Intelligence an Expert System	CO2	55.00	95.00	63.00	60	3	Arranged Remedial Classes
			CO3	63.00	80.00	66.40	60	6.4	
			CO4	36.00	65.00	41.80	60	-18.2	
			CO5	37.00	55.00	40.60	60	-19.4	
			CO6	57.00	50.00	55.60	60	-4.4	
			CO1	66.00	65.00	65.80	60	5.8	
7	66	CSL-701: Artificial Intelligence and Expert Systems(Lab)	CO2	74.00	75.00	74.20	60	14.2	
			CO3	67.00	70.00	67.60	60	7.6	
			CO4	78.00	52.00	72.80	60	12.8	
			CO5	69.00	64.00	68.00	60	8	
			CO6	73.00	44.00	67.20	60	7.2	
			CO1	70.00	90.00	74.00	60	14	
7	67	CSL702: Compiler Design & Translator	CO2	71.00	80.00	72.80	60	12.8	Arranged Remedial Classes
			CO3	64.00	85.00	68.20	60	8.2	
			CO4	58.00	41.30	54.66	60	-5.34	
			CO5	57.00	39.13	53.43	60	-6.57	
			CO6	74.00	30.43	65.29	60	5.29	
			CO1	50.00	47.69	49.54	60	-10.46	
7	68	CSL702: Compiler Design & Translator (lab)	CO2	49.00	47.69	48.74	60	-11.26	Arranged Remedial Classes
			CO3	42.00	44.62	42.52	60	-17.48	
			CO4	58.00	44.12	55.22	60	-4.78	
			CO5	52.00	47.06	51.01	60	-8.99	
			CO6	41.00	48.53	42.51	60	-17.49	
			CO1	57.00	39.13	53.43	60	-6.57	
7	69	CSL703: Parallel Processing	CO2	74.00	30.43	65.29	60	5.29	Arranged Remedial Classes
			CO3	69.00	64.00	68.00	60	8	
			CO4	73.00	44.00	67.20	60	7.2	
			CO5	82.00	60.00	77.60	60	17.6	
			CO6	63.00	80.00	66.40	60	6.4	
			CO1	87.00	84.00	86.40	60	26.4	
7	70	CSL704: Networking with TCP/IP	CO2	77.00	52.00	72.00	60	12	
			CO3	69.00	56.00	66.40	60	6.4	
			CO4	73.00	44.00	67.20	60	7.2	
			CO5	82.00	60.00	77.60	60	17.6	
			CO6	88.00	52.00	80.80	60	20.8	
			CO1	87.00	84.00	86.40	60	26.4	

7	71	CSL-705: Internet Technology & web Designing (Elective-I)	CO1	82.00	100.00	85.60	60	25.6	
			CO2	76.00	85.00	77.80	60	17.8	
			CO3	78.00	70.00	76.40	60	16.4	
			CO4	71.00	70.00	70.80	60	10.8	
			CO5	62.00	85.00	66.60	60	6.6	
			CO6	69.00	60.00	67.20	60	7.2	
8	72	CSL 801: Advance Operating Systems	CO1	69.00	54.41	66.08	60	6.08	Arranged Remedial Classes
			CO2	59.00	44.12	56.02	60	-3.98	
			CO3	58.00	44.12	55.22	60	-4.78	
			CO4	52.00	47.06	51.01	60	-8.99	
			CO5	41.00	48.53	42.51	60	-17.49	
			CO6	38.00	57.35	41.87	60	-18.13	
8	73	CSL 802: Data Warehouse and Data Mining	CO1	55.00	34.38	50.88	60	-9.12	Arranged Remedial Classes
			CO2	62.00	42.19	58.04	60	-1.96	
			CO3	41.00	43.75	41.55	60	-18.45	
			CO4	92.00	50.00	83.60	60	23.6	
			CO5	94.00	43.75	83.95	60	23.95	
			CO6	51.00	45.31	49.86	60	-10.14	
8	74	CSL 802: Data Warehouse and Data Mining (Lab)	CO1	58.00	44.12	55.22	60	-4.78	Arranged Remedial Classes
			CO2	52.00	47.06	51.01	60	-8.99	
			CO3	41.00	48.53	42.51	60	-17.49	
			CO4	76.00	85.00	77.80	60	17.8	
			CO5	78.00	70.00	76.40	60	16.4	
			CO6	71.00	70.00	70.80	60	10.8	
8	75	CSL 803: Neural Networks & Fuzzy Systems	CO1	85.00	52.31	78.46	60	18.46	Arranged Remedial Classes
			CO2	78.00	47.69	71.94	60	11.94	
			CO3	50.00	47.69	49.54	60	-10.46	
			CO4	49.00	47.69	48.74	60	-11.26	
			CO5	42.00	44.62	42.52	60	-17.48	
			CO6	69.00	43.08	63.82	60	3.82	
8	76	CSL 803: Neural Networks & Fuzzy Systems (Lab)	CO1	54.00	52.00	53.60	60	-6.4	Arranged Remedial Classes
			CO2	68.00	76.00	69.60	60	9.6	
			CO3	49.00	36.00	46.40	60	-13.6	
			CO4	67.00	56.00	64.80	60	4.8	
			CO5	69.00	52.00	65.60	60	5.6	

8	77	CSL 804: Cellular and Mobile communication (Elective-II)	C06	66.00	36.00	60.00	60	0	Arranged Remedial Classes
			C01	51.00	46.74	50.15	60	-9.85	
			C02	58.00	41.30	54.66	60	-5.34	
			C03	57.00	39.13	53.43	60	-6.57	
			C04	74.00	30.43	65.29	60	5.29	
			C05	45.00	33.70	42.74	60	-17.26	
			C06	42.00	42.39	42.08	60	-17.92	
8	78	CSD 805: Major Project	C01	71.00	70.00	70.80	60	10.8	
			C02	74.00	75.00	74.20	60	14.2	
			C03	78.00	70.00	76.40	60	16.4	
			C04	71.00	70.00	70.80	60	10.8	
			C05	75.00	68.00	73.60	60	13.6	
			C06	83.00	75.00	81.40	60	21.4	

V4

CO Attainment of Batch - 2015 (CSE)

Sem	S. No.	Subject Code	Subject Name	Direct Attainment	Indirect Attainment	Total Attainment	Target	Gap	Action Taken
1	1	BCSL101(T)	Mathematics I	70.01	69.60	69.93	60	9.925333	-
1	2	BCSL102(T)	Chemistry	73.43	63.60	71.47	60	11.46667	-
1	3	BCSL103(T)	English	61.96	38.40	57.25	60	-2.752	Arranged Remedial Classes
1	4	BCSL104(T)	Basic computer engineering	70.05	52.40	66.52	60	6.517333	-
1	5	BCSL105(T)	Basic computer programming	74.62	60.80	71.86	60	11.856	-
1	6	BCSL102(P)	Chemistry Lab	90.12	40.00	80.10	60	20.096	-
1	7	BCSL103(P)	English Lab	74.40	40.00	67.52	60	7.52	-
1	8	BCSL104(P)	Basic computer engineering Lab	70.32	100.00	76.26	60	16.256	-
1	9	BCSL105(P)	Basic computer programming Lab	63.84	40.00	59.07	60	-0.928	Arranged Remedial Classes
1	10	BCSS106(P)	Environmental Science	83.00	100.00	86.40	60	26.4	-
1	11	BCSS107(P)	Introduction to computer science and engineering	78.60	100.00	82.88	60	22.88	-
1	12	BCSS108(P)	communication	72.48	100.00	77.98	60	17.984	-
2	13	BCSL201	Mathematics-II	68.99	64.00	67.99	60	7.989333	-
2	14	BCSL202	Physics	77.39	80.40	77.99	60	17.99467	-
2	15	BCSL203	Data Structure	78.85	89.20	80.92	60	20.91733	-
2	16	BCSL204	Engineering Graphics	69.23	68.00	68.98	60	8.981333	-
2	17	BCSL205	Concept of Engineering Design	63.56	42.80	59.41	60	-0.592	Arranged Remedial Classes
2	18	BCSL202(P)	Physics Lab	79.44	40.00	71.55	60	11.552	-
2	19	BCSL203(P)	Data Structure Lab	75.84	40.00	68.67	60	8.672	-
2	20	BCSL204(P)	Engineering Graphics Lab	82.48	100.00	85.98	60	25.984	-
2	21	BCSS206	Object Oriented Prgramming	79.64	100.00	83.71	60	23.712	-
2	22	BCSS207	Language Lab	75.00	100.00	80.00	60	20	-
2	23	BCSS208	Rural Outreach	92.05	100.00	93.64	60	33.64267	-
3	24	BCSL301(T)	Mathematics III	67.80	84.40	71.12	60	11.12	-
3	25	BCSL302(T)	Digital Electronics	69.44	88.40	73.23	60	13.232	-
3	26	BCSL303(T)	Object Oriented Programming and	75.20	100.00	80.16	60	20.16	-
3	27	BCSL304(T)	Computer Graphics	71.76	87.60	74.93	60	14.928	-
3	28	BCSL305(T)	Operating System	63.20	68.40	64.24	60	4.24	-
3	29	BCSL302(P)	Digital Electronics Lab	72.16	92.80	76.29	60	16.288	-
3	30	BCSL303(P)	Object Oriented Programming and Methodology Lab	77.84	88.80	80.03	60	20.032	-
3	31	BCSL304(P)	Computer Graphics Lab	82.80	100.00	86.24	60	26.24	-
3	32	BCSP306(P)	Hardware Lab	82.80	100.00	86.24	60	26.24	-

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3	33	BCSS307(P)	Seminar/ GD	79.04	100.00	83.23	60	23.232	-
3	34	BCSS308(P)	Integrated Ethics and Attitude	58.16	100.00	66.53	60	6.528	-
4	35	BCSL401(T)	Discrete Structures	74.20	84.00	76.16	60	16.16	-
4	36	BCSL402(T)	Design and analysis of Algorithms	64.24	68.40	65.07	60	5.072	-
4	37	BCSL403(T)	Database Management System	66.00	70.80	66.96	60	6.96	-
4	38	BCSL404(T)	Computer Networks	65.32	74.00	67.06	60	7.056	-
4	39	BCSL405(T)	Computer System Organization	71.80	76.40	72.72	60	12.72	-
4	40	BCSL402(P)	Design and analysis of Algorithms Lab	77.04	96.00	80.83	60	20.832	-
4	41	BCSL403(P)	Database Management System Lab	77.36	100.00	81.89	60	21.888	-
4	42	BCSL404(P)	Computer Networks Lab	79.92	100.00	83.94	60	23.936	-
4	43	BCSP406(P)	Unix/Linux Lab	74.48	100.00	79.58	60	19.584	-
4	44	BCSS407(P)	Idea Generation	79.28	100.00	83.42	60	23.424	-
4	45	BCSS408(P)	Communication Skills	62.00	100.00	69.60	60	9.6	-
5	46	BCSL501: Principles of Management & Economics	CO1	65.00	80.00	68.00	60	8	Arranged Remedial Classes
			CO2	48.00	82.00	54.80	60	-5.2	
			CO3	51.00	87.00	58.20	60	-1.8	
			CO4	62.00	81.00	65.80	60	5.8	
			CO5	59.00	75.00	62.20	60	2.2	
			CO6	0.00	0.00	0.00	60	-60	
5	47	BCSL502: Theory of Computation	CO1	74.00	100.00	79.20	60	19.2	Arranged Remedial Classes
			CO2	81.00	95.00	83.80	60	23.8	
			CO3	68.00	95.00	73.40	60	13.4	
			CO4	54.00	90.00	61.20	60	1.2	
			CO5	48.00	90.00	56.40	60	-3.6	
			CO6	41.00	80.00	48.80	60	-11.2	
5	48	BCSL502: Theory of Computation(lab)	CO1	87.00	84.00	86.40	60	26.4	
			CO2	77.00	52.00	72.00	60	12	
			CO3	69.00	56.00	66.40	60	6.4	
			CO4	75.00	64.00	72.80	60	12.8	
			CO5	83.00	52.00	76.80	60	16.8	
			CO6	84.00	56.00	78.40	60	18.4	
5	49	BCSL503: Software Engineering	CO1	50.00	95.00	59.00	60	-1	Arranged Remedial Classes
			CO2	56.00	100.00	64.80	60	4.8	
			CO3	38.00	100.00	50.40	60	-9.6	
			CO4	28.00	95.00	41.40	60	-18.6	
			CO5	35.00	100.00	48.00	60	-12	

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5	50	BCSL503: Software Engineering (Lab)	CO1	81.00	95.00	83.80	60	23.8	Arranged Remedial Classes
			CO2	68.00	95.00	73.40	60	13.4	
			CO3	54.00	90.00	61.20	60	1.2	
			CO4	66.00	53.73	63.55	60	3.546	
			CO5	64.00	46.27	60.45	60	0.454	
			CO6	61.00	50.00	58.80	60	-1.2	
5	51	BCSL504: Microprocessor & Interfacing	CO1	83.00	95.00	85.40	60	25.4	Arranged Remedial Classes
			CO2	71.00	100.00	76.80	60	16.8	
			CO3	59.00	95.00	66.20	60	6.2	
			CO4	38.00	95.00	49.40	60	-10.6	
			CO5	68.00	90.00	72.40	60	12.4	
			CO6	55.00	90.00	62.00	60	2	
5	52	BCSL504: Microprocessor & Interfacing (lab)	CO1	59.00	56.00	58.40	60	-1.6	Arranged Remedial Classes
			CO2	67.00	88.00	71.20	60	11.2	
			CO3	78.00	48.00	72.00	60	12	
			CO4	62.00	88.00	67.20	60	7.2	
			CO5	59.00	72.00	61.60	60	1.6	
			CO6	68.00	40.00	62.40	60	2.4	
5	53	CSL505: Networking with TCP/IP	CO1	62.00	80.00	65.60	60	5.6	
			CO2	71.00	80.00	72.80	60	12.8	
			CO3	66.00	65.00	65.80	60	5.8	
			CO4	74.00	75.00	74.20	60	14.2	
			CO5	67.00	70.00	67.60	60	7.6	
			CO6	66.00	65.00	65.80	60	5.8	
5	54	BCSP 506: Java Programming (Lab)	CO1	66.00	65.00	65.80	60	5.8	Arranged Remedial Classes
			CO2	74.00	75.00	74.20	60	14.2	
			CO3	67.00	100.00	73.60	60	13.6	
			CO4	79.00	95.00	82.20	60	22.2	
			CO5	40.00	80.00	48.00	60	-12	
			CO6	60.00	70.00	62.00	60	2	
6	55	Software Project Management (BCSL 602)	CO1	79.00	66.67	76.53	60	16.53	Arranged Remedial Classes
			CO2	58.00	48.15	56.03	60	-3.97	
			CO3	46.00	55.56	47.91	60	-12.09	
			CO4	43.00	59.26	46.25	60	-13.75	
			CO5	59.00	44.44	56.09	60	-3.91	
			CO6	41.00	40.00	40.00	60	-1.00	

6	56	Mobile Computing (BCSL601)	CO1	65.00	59.26	63.85	60	3.85	Arranged Remedial Classes
			CO2	68.00	53.70	65.14	60	5.14	
			CO3	67.00	51.85	63.97	60	3.97	
			CO4	52.00	46.30	50.86	60	-9.14	
			CO5	51.00	50.00	50.80	60	-9.2	
			CO6	55.00	59.26	55.85	60	-4.15	
6	57	Software Project Management (BCSL 602)	CO1	79.00	66.67	76.53	60	16.53	Arranged Remedial Classes
			CO2	58.00	48.15	56.03	60	-3.97	
			CO3	46.00	55.56	47.91	60	-12.09	
			CO4	43.00	59.26	46.25	60	-13.75	
			CO5	59.00	44.44	56.09	60	-3.91	
			CO6	41.00	40.74	40.95	60	-19.05	
6	58	BCSL 602:Software Project Management	CO1	78.00	52.00	72.80	60	12.8	Arranged Remedial Classes
			CO2	69.00	64.00	68.00	60	8	
			CO3	73.00	44.00	67.20	60	7.2	
			CO4	58.00	41.30	54.66	60	-5.34	
			CO5	57.00	39.13	53.43	60	-6.57	
			CO6	74.00	30.43	65.29	60	5.29	
6	59	BCSL 603:Compiler Design	CO1	56.00	60.98	57.00	60	-3	Arranged Remedial Classes
			CO2	47.00	56.10	48.82	60	-11.18	
			CO3	92.00	50.00	83.60	60	23.6	
			CO4	65.00	53.66	62.73	60	2.73	
			CO5	42.00	50.00	43.60	60	-16.4	
			CO6	46.00	50.00	46.80	60	-13.2	
6	60	BCSL 603:Compiler Design(lab)	CO1	67.00	56.00	64.80	60	4.8	Arranged Remedial Classes
			CO2	78.00	52.00	72.80	60	12.8	
			CO3	69.00	64.00	68.00	60	8	
			CO4	73.00	44.00	67.20	60	7.2	
			CO5	82.00	60.00	77.60	60	17.6	
			CO6	88.00	52.00	80.80	60	20.8	
6	61	BCSL 604:Network & Web Security	CO1	68.00	67.68	67.94	60	7.94	Arranged Remedial Classes
			CO2	43.00	54.55	45.31	60	-14.69	
			CO3	54.00	50.51	53.30	60	-6.7	
			CO4	41.00	53.54	43.51	60	-16.49	
			CO5	52.00	54.55	52.51	60	-7.49	
			CO6	52.00	48.48	51.28	60	-3.72	

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6	62	BCSL 604: Network & Web Security (Lab)	CO1	69.00	64.00	68.00	60	8	Arranged Remedial Classes
			CO2	73.00	44.00	67.20	60	7.2	
			CO3	58.00	41.30	54.66	60	-5.34	
			CO4	71.00	70.00	70.80	60	10.8	
			CO5	85.00	52.31	78.46	60	18.46	
			CO6	78.00	47.69	71.94	60	11.94	
6	63	BCSL 605 Parallel Processing	CO1	54.00	80.00	59.20	60	-0.8	Arranged Remedial Classes
			CO2	83.00	75.00	81.40	60	21.4	
			CO3	39.00	60.00	43.20	60	-16.8	
			CO4	40.00	85.00	49.00	60	-11	
			CO5	39.00	55.00	42.20	60	-17.8	
			CO6	43.00	55.00	45.40	60	-14.6	
6	64	BCSP 606: Minor Project	CO1	79.00	95.00	82.20	60	22.2	Arranged Remedial Classes
			CO2	79.00	66.67	76.53	60	16.53	
			CO3	67.00	56.00	64.80	60	4.8	
			CO4	78.00	52.00	72.80	60	12.8	
			CO5	69.00	64.00	68.00	60	8	
			CO6	56.00	60.98	57.00	60	-3	

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Sem	S. No.	Subject Code	Subject Name	Direct Attainment	Indirect Attainment	Total Attainment	Target	Gap	Action Taken
1	1	BCSL101(T)	Mathematics I	81.82	94.40	84.34	60	24.336	-
1	2	BCSL102(T)	Chemistry	84.45	93.20	86.20	60	26.197	-
1	3	BCSL103(T)	English	62.02	53.60	60.34	60	0.336	-
1	4	BCSL104(T)	Basic Computer Engineering	68.97	60.40	67.25	60	7.2533	-
1	5	BCSL105(T)	Basic Computer Programming	77.21	80.00	77.77	60	17.771	-
1	6	BCSL102(P)	Chemistry Lab	87.04	100.00	89.63	60	29.632	-
1	7	BCSL103(P)	English Lab	76.64	90.40	79.39	60	19.392	-
1	8	BCSL104(P)	Basic Computer Engineering Lab	60.00	100.00	68.00	60	8	-
1	9	BCSL105(P)	Basic Computer Programming Lab	74.04	87.20	76.67	60	16.672	-
1	10	BCSS106(P)	Environmental Sciences	89.00	100.00	91.20	60	31.2	-
1	11	BCSS107(P)	Introduction to Computer Science and Engineering	88.56	100.00	90.85	60	30.848	-
1	12	BCSS108(P)	Communication	71.12	100.00	76.90	60	16.896	-
2	13	BCSL201(T)	Mathematics II	58.44	39.60	54.67	60	-5.328	Arranged Remedial Classes
2	14	BCSL202(T)	Physics	73.01	63.60	71.13	60	11.131	-
2	15	BCSL203(T)	Data Structure	88.59	98.40	90.55	60	30.549	-
2	16	BCSL204(T)	Engineering Graphics	69.17	69.20	69.18	60	9.1787	-
2	17	BCSL205(T)	Concepts in Engineering Design	76.25	85.20	78.04	60	18.037	-
2	18	BCSL202(P)	Physics Lab	81.48	100.00	85.18	60	25.184	-
2	19	BCSL203(P)	Data Structure Lab	81.12	100.00	84.90	60	24.896	-
2	20	BCSL204(P)	Engineering Graphics Lab	84.80	100.00	87.84	60	27.84	-
2	21	BCSS206(P)	Object Oriented Programming	82.12	100.00	85.70	60	25.696	-
2	22	BCSS207(P)	Language Lab	56.80	34.40	52.32	60	-7.68	Arranged Remedial Classes
2	23	BCSS208(P)	Rural Outreach	57.33	40.00	53.87	60	-6.133	Arranged Remedial Classes
3	24	BCSL301: Mathematics III	CO1	54.00	0.00	43.20	60	-16.8	Arranged Remedial Classes
			CO2	61.00	71.00	63.00	60	3	
			CO3	51.00	76.00	56.00	60	-4	
			CO4	41.00	75.00	47.80	60	-12.2	
			CO5	23.00	80.00	34.40	60	-25.6	
			CO6	23.00	60.00	30.40	60	-29.6	
3	25	-302: Digital electronics	CO1	45.00	100.00	56.00	60	-4	Arranged Remedial Classes
			CO2	74.00	100.00	79.20	60	19.2	
			CO3	48.00	95.00	57.40	60	-2.6	
			CO4	67.00	90.00	71.60	60	11.6	

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3	26	BCSL-302: Digital Electronics(lab)	CO1	63.00	44.00	59.20	60	-0.8	Arranged Remedial Classes
			CO2	72.00	48.00	67.20	60	7.2	
			CO3	65.00	40.00	60.00	60	0	
			CO4	66.00	52.00	63.20	60	3.2	
			CO5	70.00	36.00	63.20	60	3.2	
			CO6	74.00	48.00	68.80	60	8.8	
3	27	BCSL-303: OOPs and methodology	CO1	87.00	85.00	86.60	60	26.6	Arranged Remedial Classes
			CO2	79.00	80.00	79.20	60	19.2	
			CO3	77.00	60.00	73.60	60	13.6	
			CO4	67.00	55.00	64.60	60	4.6	
			CO5	60.00	50.00	58.00	60	-2	
			CO6	63.00	60.00	62.40	60	2.4	
3	28	BCSL-303: OOPs and methodology(lab)	CO1	69.00	72.00	69.60	60	9.6	
			CO2	75.00	92.00	78.40	60	18.4	
			CO3	79.00	64.00	76.00	60	16	
			CO4	68.00	88.00	72.00	60	12	
			CO5	67.00	72.00	68.00	60	8	
			CO6	72.00	64.00	70.40	60	10.4	
3	29	BCSL-304: Computer Graphics	CO1	80.00	95.00	83.00	60	23	
			CO2	74.00	90.00	77.20	60	17.2	
			CO3	70.00	90.00	74.00	60	14	
			CO4	71.00	80.00	72.80	60	12.8	
			CO5	64.00	85.00	68.20	60	8.2	
			CO6	68.00	85.00	71.40	60	11.4	
3	30	BCSL-304: Computer Graphics (Lab)	CO1	54.00	80.00	59.20	60	-0.8	Arranged Remedial Classes
			CO2	83.00	75.00	81.40	60	21.4	
			CO3	39.00	60.00	43.20	60	-16.8	
			CO4	62.00	88.00	67.20	60	7.2	
			CO5	59.00	72.00	61.60	60	1.6	
			CO6	68.00	40.00	62.40	60	2.4	
3	31	BCSL-305: Operating System	CO1	58.00	95.00	65.40	60	5.4	Arranged Remedial Classes
			CO2	40.00	90.00	50.00	60	-10	
			CO3	37.00	90.00	47.60	60	-12.4	
			CO4	38.00	65.00	43.40	60	-16.6	
			CO5	48.00	75.00	53.40	60	-6.6	
			CO6	68.00	85.00	71.40	60	11.4	

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3	32	BCSP- 306:Hardwar Lab	CO3	66.00	36.00	60.00	60	0	Arranged Remedial Classes
			CO4	51.00	46.74	50.15	60	-9.85	
			CO5	58.00	41.30	54.66	60	-5.34	
			CO6	57.00	39.13	53.43	60	-6.57	
4	33	BCSL 401 :Discrete Structure	CO1	79.00	64.00	76.00	60	16	Arranged Remedial Classes
			CO2	83.00	75.00	81.40	60	21.4	
			CO3	44.00	60.00	47.20	60	-12.8	
			CO4	34.00	84.00	44.00	60	-16	
			CO5	40.00	76.00	47.20	60	-12.8	
			CO6	5.00	90.00	22.00	60	-38	
4	34	BCSL 402:Design & Analysis of Algorithms	CO1	74.00	54.05	70.01	60	10.01	Arranged Remedial Classes
			CO2	84.00	44.59	76.12	60	16.12	
			CO3	72.00	50.00	67.60	60	7.6	
			CO4	47.00	52.70	48.14	60	-11.86	
			CO5	45.00	47.30	45.46	60	-14.54	
			CO6	45.00	47.30	45.46	60	-14.54	
4	35	Database Management System(BCSL 403)	CO1	49.00	51.43	49.49	60	-10.51	Arranged Remedial Classes
			CO2	98.00	47.14	87.83	60	27.83	
			CO3	79.00	48.57	72.91	60	12.91	
			CO4	52.00	44.29	50.46	60	-9.54	
			CO5	61.00	50.00	58.80	60	-1.2	
			CO6	41.00	55.71	43.94	60	-16.06	
4	36	Database Management System(BCSL 403)(lab)	CO1	69.00	84.00	72.00	60	12	Arranged Remedial Classes
			CO2	75.00	72.00	74.40	60	14.4	
			CO3	63.00	80.00	66.40	60	6.4	
			CO4	73.00	60.00	70.40	60	10.4	
			CO5	83.00	68.00	80.00	60	20	
			CO6	89.00	56.00	82.40	60	22.4	
4	37	BCSL 404: Computer Networks	CO1	55.00	50.00	54.00	60	-6	Arranged Remedial Classes
			CO2	94.00	50.00	85.20	60	25.2	
			CO3	56.00	50.00	54.80	60	-5.2	
			CO4	46.00	50.00	46.80	60	-13.2	
			CO5	49.00	42.50	47.70	60	-12.3	
			CO6	42.00	50.00	43.60	60	-16.4	
		uter (Lab)	CO1	67.00	90.00	71.60	60	11.6	Arranged Remedial Classes
			CO2	61.00	80.00	64.80	60	4.8	

		40	40	BCSL 405: Computer System Organization	CO5	68.00	95.00	73.40	60	13.4	Arranged Remedial Classes	
					CO6	54.00	90.00	61.20	60	1.2		
4	39				CO1	86.00	55.22	79.84	60	19.844		
					CO2	74.00	56.72	70.54	60	10.544		
					CO3	50.00	46.27	49.25	60	-10.75		
					CO4	66.00	53.73	63.55	60	3.546		
					CO5	64.00	46.27	60.45	60	0.454		
					CO6	61.00	50.00	58.80	60	-1.2		
4	40			BCSP-406:Unix & Linux Lab	CO1	66.00	65.00	65.80	60	5.8		
					CO2	74.00	75.00	74.20	60	14.2		
					CO3	67.00	70.00	67.60	60	7.6		
					CO4	54.00	90.00	61.20	60	1.2		
					CO5	66.00	53.73	63.55	60	3.546		
					CO6	64.00	46.27	60.45	60	0.454		

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Subject Name &	Course Outcomes	Direct	Indirect	Total	Target	Gap	Action Taken
Engineering Chemistry (100101)	CO1	52	45	50.6	60	-9.4	Arranged Remedial Classes
	CO2	54	50	53.2	60	-6.8	
	CO3	55	37	51.4	60	-8.6	
	CO4	55	33	50.6	60	-9.4	
	CO5	55	41	52.2	60	-7.8	
	CO6	55	45	53	60	-7	
Engineering Mathematics - I (100102)	CO1	60	70	62	60	2	Arranged Remedial Classes
	CO2	41	65	45.8	60	-14.2	
	CO3	70	73	70.6	60	10.6	
	CO4	29	69	37	60	-23	
	CO5	39	70	45.2	60	-14.8	
	CO6	60	73	62.6	60	2.6	
Technical English (100203)	CO1	45	42.25	44.45	60	-15.55	Arranged Remedial Classes
	CO2	47	53.52	48.3	60	-11.7	
	CO3	50	56.35	51.27	60	-8.73	
	CO4	40	52.11	42.42	60	-17.58	
	CO5	48	52.11	48.82	60	-11.18	
	CO6	23	43.66	27.13	60	-32.87	
Basic Electrical & Electronics Engineering (100204)	CO1	58.2	68.03	60.17	60	0.17	Arranged Remedial Classes
	CO2	62.3	64.28	62.7	60	2.7	
	CO3	63.4	58.24	62.37	60	2.37	
	CO4	64.8	67.71	65.38	60	5.38	
	CO5	63.6	58.75	62.63	60	2.63	
	CO6	52.2	53.86	52.53	60	-7.47	
Engineering Graphics (100105)	CO1	81	72.72	79.344	60	19.344	
	CO2	81	70.53	78.906	60	18.906	
	CO3	70	61.15	68.23	60	8.23	
	CO4	82	70.53	79.706	60	19.706	
	CO5	82	69.14	79.428	60	19.428	
	CO6	76	62.53	73.306	60	13.306	
Engineering Physics (100201)	CO1	70	58	67.6	60	7.6	Arranged Remedial Classes
	CO2	78	56	73.6	60	13.6	
	CO3	45	55	47	60	-13	
	CO4	21	59	28.6	60	-31.4	
	CO5	15	54	22.8	60	-37.2	
	CO6	0	51	10.2	60	-49.8	

EEES(100202)	CO1	59.9	65.51	59.82	60	-0.18	Arranged Remedial Classes
	CO2	62.4	54.28	60.78	60	0.78	
	CO3	65.1	60.66	64.21	60	4.21	
	CO4	59.9	60.29	59.98	60	-0.02	
	CO5	68.2	53.6	65.28	60	5.28	
	CO6	65.8	60.13	64.67	60	4.67	
Basic Computer Engineering-100203	CO1	59	85	64.2	60	4.2	Arranged Remedial Classes
	CO2	52	80	57.6	60	-2.4	
	CO3	55	60	56	60	-4	
	CO4	33	90	44.4	60	-15.6	
	CO5	34	90	45.2	60	-14.8	
	CO6	44	60	47.2	60	-12.8	
Basic Computer Engineering-100203(Lab)	CO1	63	44	59.2	60	-0.8	Arranged Remedial Classes
	CO2	72	48	67.2	60	7.2	
	CO3	65	40	60	60	0	
	CO4	66	52	63.2	60	3.2	
	CO5	70	36	63.2	60	3.2	
	CO6	74	48	68.8	60	8.8	
Basic Mechanical Engineering(100204)	CO1	75.75	69.6	74.52	60	14.52	-
	CO2	76.76	67.64	74.936	60	14.936	
	CO3	61.61	65.23	62.334	60	2.334	
	CO4	67.67	66.66	67.468	60	7.468	
	CO5	76.76	73.53	76.114	60	16.114	
	CO6	64.64	65.19	64.75	60	4.75	
Basic Civil Engineering & Mechanics (100205)	CO1	59.8	88.5	65.5	60	5.5	-
	CO2	60.2	86.4	65.4	60	5.4	
	CO3	63.4	88.2	68.4	60	8.4	
	CO4	61.2	81.4	65.2	60	5.2	
	CO5	60.5	79.5	64.3	60	4.3	
	CO6	55.7	77.4	60	60	0	
Basic Civil Engineering (Lab) Mechanics (100205)	CO1	56.9	84.8	62.5	60	2.5	Arranged Remedial Classes
	CO2	57.9	82.5	62.8	60	2.8	
	CO3	58.3	81.1	62.9	60	2.9	
	CO4	58.4	77.8	62.3	60	2.3	
	CO5	54.6	76.4	59	60	-1	

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COs and Attainments
for All Courses
Academic Year 2014-15 to 2017-18
(Information Technology)

CO Attainment of Batch - 2014 (IT)

Semester	S. No.	Subject Code	Subject Name	Direct Attainment	Indirect Attainment	Total Attainment	Target	Gap	Action Taken
1	1	ITL101(T)	Engineering Chemistry	51.36	29.20	46.93	60	-13.07	Arranged Remedial Classes
1	2	ITL102(T)	Engineering Mathematics I	62.24	54.40	60.67	60	0.67	
1	3	ITL103(T)	Communication Skills	79.04	88.80	80.99	60	20.99	
1	4	ITL104(T)	Basic Electrical and Electronics Engineering	69.96	76.40	71.25	60	11.25	-
1	5	ITL105(T)	Engineering Graphics	57.64	44.80	55.07	60	-4.93	Arranged Remedial Classes
1	6	ITL101(P)	Engineering Chemistry Lab	85.52	100.00	88.42	60	28.42	-
1	7	ITL103(P)	Communication Skills Lab	62.4	60.00	61.92	60	1.92	-
1	8	ITL104(P)	Basic Electrical and Electronics Engineering Lab	80.4	99.20	84.16	60	24.16	-
1	9	ITL105(P)	Engineering Graphics Lab	70.88	88.00	74.30	60	14.30	-
1	10	ITP106(P)	Workshop Practice	80.96	100.00	84.77	60	24.77	-
2	11	ITL111(T)	Engineering Physics	81.72	97.20	84.82	60	24.82	-
2	12	ITL112(T)	Energy Environment and Society	73.84	97.20	78.51	60	18.51	-
2	13	ITL113(T)	Basic Computer Engineering	66.2	80.80	69.12	60	9.12	-
2	14	ITL114(T)	Basic Mechanical Engineering	63.96	55.20	62.21	60	2.21	-
2	15	ITL115(T)	Basic Civil Engineering and Engineering Mechanics	69.08	74.80	70.22	60	10.22	-
2	16	ITL111(P)	Engineering Physics Lab	86	100.00	88.80	60	28.80	-
2	17	ITL113(P)	Basic Computer Engineering Lab	66.4	88.80	70.88	60	10.88	-
2	18	ITL114(P)	Basic Mechanical Engineering Lab	84.24	100.00	87.39	60	27.39	-
2	19	ITL115(P)	Basic Civil Engineering and Engineering Mechanics Lab	72.56	100.00	78.05	60	18.05	-
2	20	ITP116(P)	Language Lab and Seminar	64.4	76.80	66.88	60	6.88	-
3	21	ITL301(T)	Mathematics II	55.6	38.80	52.24	60	-7.76	Arranged Remedial Classes
3	22	ITL302(T)	Electronics	64.04	70.40	65.31	60	5.31	
3	23	ITL303(T)	Measurement and Instrumentation	67.88	78.80	70.06	60	10.06	-
3	24	ITL304(T)	Computer System Organization	71.28	68.77	70.78	60	10.78	-
3	25	ITL305(T)	OOPS Methodology	66.56	78.00	68.85	60	8.85	-

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3	26	ITL302(P)	Electronics Lab	81.6	100.00	85.28	60	25.28	-
3	27	ITL303(P)	Measurement and Instrumentation Lab	84.88	97.60	87.42	60	27.42	-
3	28	ITL305(P)	OOPS Methodology Lab	83.04	100.00	86.43	60	26.43	-
3	29	ITP306(P)	Computer Programming III	72.08	88.80	75.42	60	15.42	-
3	30	ITS307(P)	Self Study	74.08	100.00	79.26	60	19.26	-
3	31	ITS308(P)	Seminar/GD	75.2	100.00	80.16	60	20.16	-
4	32	ITL401(T)	Mtthematics III	71.24	80.80	73.15	60	13.15	-
4	33	ITL402(T)	Operating System	73.72	86.40	76.26	60	16.26	-
4	34	ITL403(T)	Digital Circuits and Systems	73.72	81.60	75.30	60	15.30	-
4	35	ITL404(T)	Analog and Digital Commnication	59.6	47.60	57.20	60	-2.80	Arranged Remedial Classes
4	36	ITL405(T)	Data Structures	77.44	94.00	80.75	60	20.75	-
4	37	ITL403(P)	Digital Circuits and Systems Lab	78.08	100.00	82.46	60	22.46	-
4	38	ITL404(P)	Analog and Digital Commnication Lab	74.96	100.00	79.97	60	19.97	-
4	39	ITL405(P)	Data Structures Lab	74.24	84.00	76.19	60	16.19	-
4	40	ITP406(P)	Computer Programming IV	80.16	97.60	83.65	60	23.65	-
4	41	ITS407(P)	Self Study	84.72	100.00	87.78	60	27.78	-
4	42	ITS408(P)	Seminar/GD	67.12	100.00	73.70	60	13.70	-
5	43	ITL 501	Discrete Structures	73.84	84.40	75.95	60	15.95	-
5	44	ITL 502	Database Management System	75.88	97.20	80.14	60	20.14	-
5	45	ITL 503	Microprocessor and Interfacing	69.24	79.20	71.23	60	11.23	-
5	46	ITL 504	Theory of Computation	75.72	88.80	78.34	60	18.34	-
5	47	ITL 505	Principles of Management and managerial Economics	68.24	81.60	70.91	60	10.91	-
5	48	ITL 502(P)	Database Management System Lab	82.8	99.20	86.08	60	26.08	-
5	49	ITL 503(P)	Microprocessor and Interfacing Lab	79.76	100.00	83.81	60	23.81	-
5	50	ITL 504(P)	Theory of Computation Lab	83.36	100.00	86.69	60	26.69	-
5	51	ITP 506(P)	Computer Programming V	75.76	99.20	80.45	60	20.45	-
5	52	ITS 507	Self Study	66.08	100.00	72.86	60	12.86	-
5	53	ITS 508	Seminar/GD	64.32	100.00	71.46	60	11.46	-
6	54	ITL 601	Information Theory and Coding	72.04	82.40	74.11	60	14.11	-
6	55	ITL 602	Computer Graphics and Multimedia	83.68	96.80	86.30	60	26.30	-
6	56	ITL 603	Data Communication	66.16	73.60	67.65	60	7.65	-
6	57	ITL 604	Software Engineering	67.76	69.20	68.05	60	8.05	-
6	58	ITL 605	Network and Web Security	70.72	84.40	73.46	60	13.46	-

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6	59	ITD 606	Minor Project	76.64	95.20	80.35	60	20.35	-
6	60	ITL 602	Computer Graphics and Multimedia Lab	80.80	100.00	84.64	60	24.64	-
6	61	ITL 603	Data Communication Lab	76.56	96.80	80.61	60	20.61	-
6	62	ITL 604	Software Engineering	81.92	100.00	85.54	60	25.54	-
6	63	ITS 607	Self Study	72.64	100.00	78.11	60	18.11	-
6	64	ITS 608	Seminar/GD	82.16	100.00	85.73	60	25.73	-
7	65	ITL-701: Artificial Intelligence and Expert Systems	CO1	57.00	95.00	64.60	60	4.60	Arranged Remedial Classes
			CO2	55.00	95.00	63.00	60	3.00	
			CO3	63.00	80.00	66.40	60	6.40	
			CO4	36.00	65.00	41.80	60	-18.20	
			CO5	37.00	55.00	40.60	60	-19.40	
			CO6	57.00	50.00	55.60	60	-4.40	
7	66	ITL-701: Artificial Intelligence and Expert Systems(Lab)	CO1	66.00	65.00	65.80	60	5.80	-
			CO2	74.00	75.00	74.20	60	14.20	
			CO3	67.00	70.00	67.60	60	7.60	
			CO4	78.00	52.00	72.80	60	12.80	
			CO5	69.00	64.00	68.00	60	8.00	
			CO6	73.00	44.00	67.20	60	7.20	
7	67	ITL702: Compiler Design & Translator	CO1	70.00	90.00	74.00	60	14.00	Arranged Remedial Classes
			CO2	71.00	80.00	72.80	60	12.80	
			CO3	64.00	85.00	68.20	60	8.20	
			CO4	58.00	41.30	54.66	60	-5.34	
			CO5	57.00	39.13	53.43	60	-6.57	
			CO6	74.00	30.43	65.29	60	5.29	
7	68	ITL702: Compiler Design & Translator (lab)	CO1	50.00	47.69	49.54	60	-10.46	Arranged Remedial Classes
			CO2	49.00	47.69	48.74	60	-11.26	
			CO3	42.00	44.62	42.52	60	-17.48	
			CO4	58.00	44.12	55.22	60	-4.78	
			CO5	52.00	47.06	51.01	60	-8.99	
			CO6	41.00	48.53	42.51	60	-17.49	
7	69	03: Parallel processing	CO1	57.00	39.13	53.43	60	-6.57	Arranged Remedial Classes
			CO2	74.00	30.43	65.29	60	5.29	
			CO3	69.00	64.00	68.00	60	8.00	
			CO4	73.00	44.00	67.20	60	7.20	

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ITL71 Pr								
			CO5	82.00	60.00	77.60	60	17.60
			CO6	63.00	80.00	66.40	60	6.40
7	70	ITL704: Networking with TCP/IP	CO1	87.00	84.00	86.40	60	26.40
			CO2	77.00	52.00	72.00	60	12.00
			CO3	69.00	56.00	66.40	60	6.40
			CO4	73.00	44.00	67.20	60	7.20
			CO5	82.00	60.00	77.60	60	17.60
			CO6	88.00	52.00	80.80	60	20.80
7	71	ITL704:Networkin g with TCP/IP(lab)	CO1	68.00	60.00	66.40	60	6.40
			CO2	89.00	44.00	80.00	60	20.00
			CO3	92.00	64.00	86.40	60	26.40
			CO4	75.00	68.00	73.60	60	13.60
			CO5	76.00	56.00	72.00	60	12.00
			CO6	78.00	60.00	74.40	60	14.40
7	72	ITL-705: Internet Technology & web Designing (Elective-I)	CO1	82.00	100.00	85.60	60	25.60
			CO2	76.00	85.00	77.80	60	17.80
			CO3	78.00	70.00	76.40	60	16.40
			CO4	71.00	70.00	70.80	60	10.80
			CO5	62.00	85.00	66.60	60	6.60
			CO6	69.00	60.00	67.20	60	7.20
8	73	ITL 801: Cellular and Mobile communication (Elective-II)	CO1	51.00	46.74	50.15	60	-9.85
			CO2	58.00	41.30	54.66	60	-5.34
			CO3	57.00	39.13	53.43	60	-6.57
			CO4	74.00	30.43	65.29	60	5.29
			CO5	45.00	33.70	42.74	60	-17.26
			CO6	42.00	42.39	42.08	60	-17.92
8	74	ITL 801: Cellular and Mobile communication (Elective-II) (lab)	CO1	67.00	72.00	68.00	60	8.00
			CO2	87.00	52.00	80.00	60	20.00
			CO3	69.00	60.00	67.20	60	7.20
			CO4	92.00	56.00	84.80	60	24.80
			CO5	75.00	64.00	72.80	60	12.80
			CO6	78.00	68.00	76.00	60	16.00
8	75	2: Data use and Mining	CO1	55.00	34.38	50.88	60	-9.12
			CO2	62.00	42.19	58.04	60	-1.96
			CO3	41.00	43.75	41.55	60	-18.45

Provided provision for
Extra Classes

Arranged Remedial

		ITL 80: Warehouse Data	CO4	92.00	50.00	83.60	60	23.60	Classes	
			CO5	94.00	43.75	83.95	60	23.95		
			CO6	51.00	45.31	49.86	60	-10.14		
8	76	ITL 802: Data Warehouse and Data Mining (Lab)	CO1	58.00	44.12	55.22	60	-4.78	Arranged Remedial Classes	
			CO2	52.00	47.06	51.01	60	-8.99		
			CO3	41.00	48.53	42.51	60	-17.49		
			CO4	76.00	85.00	77.80	60	17.80		
			CO5	78.00	70.00	76.40	60	16.40		
			CO6	71.00	58.00	68.40	60	8.40		
8	77	ITL 803: Fiber Optics and Optical Communication	CO1	67.00	80.00	69.60	60	9.60	Arranged Remedial Classes	
			CO2	68.00	85.00	71.40	60	11.40		
			CO3	56.00	76.00	60.00	60	0.00		
			CO4	52.00	77.00	57.00	60	-3.00		
			CO5	59.00	70.00	61.20	60	1.20		
			CO6	69.00	57.00	66.60	60	6.60		
8	78	ITL 803: Fiber Optics and Optical Communication (Lab)	CO1	58.00	75.00	61.40	60	1.40	Arranged Remedial Classes	
			CO2	62.00	70.00	63.60	60	3.60		
			CO3	72.00	67.00	71.00	60	11.00		
			CO4	54.00	57.00	54.60	60	-5.40		
			CO5	67.00	64.00	66.40	60	6.40		
			CO6	69.00	43.08	63.82	60	3.82		
8	79	ITL 804: Neural Networks & Fuzzy Systems	CO1	85.00	52.31	78.46	60	18.46	Arranged Remedial Classes	
			CO2	78.00	47.69	71.94	60	11.94		
			CO3	50.00	47.69	49.54	60	-10.46		
			CO4	49.00	47.69	48.74	60	-11.26		
			CO5	42.00	44.62	42.52	60	-17.48		
			CO6	69.00	43.08	63.82	60	3.82		
8	80	ITD 805: Major Project	CO1	71.00	70.00	70.80	60	10.80		
			CO2	74.00	75.00	74.20	60	14.20		
			CO3	78.00	70.00	76.40	60	16.40		
			CO4	71.00	70.00	70.80	60	10.80		
			CO5	75.00	68.00	73.60	60	13.60		
			CO6	83.00	75.00	81.40	60	21.40		

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CO Attainment of Batch - 2015 (IT)

Semester	S. No.	Subject Code	Subject Name	Direct Attainment	Indirect Attainment	Total Attainment	Target	Gap	Action Taken
1	1	BITL101(T)	Mathematics I	73.76	66.40	72.29	60	12.29	-
1	2	BITL102(T)	Chemistry	71.29	55.20	68.07	60	8.07	-
1	3	BITL103(T)	English	63.25	38.40	58.28	60	-1.72	Arranged Remedial Classes
1	4	BITL104(T)	Basic computer engineering	66.37	49.60	63.02	60	3.02	-
1	5	BITL105(T)	Basic computer programming	70.78	55.20	67.66	60	7.66	-
1	6	BITL102(P)	Chemistry Lab	81.36	93.60	83.81	60	23.81	-
1	7	BITL103(P)	English Lab	72.52	85.60	75.14	60	15.14	-
1	8	BITL104(P)	Basic computer engineering Lab	77.92	100.00	82.34	60	22.34	-
1	9	BITL105(P)	Basic computer programming Lab	71.24	79.20	72.83	60	12.83	-
1	10	BITS106(P)	Environmental Science	73.84	80.00	75.07	60	15.07	-
1	11	BITS107(P)	Introduction to computer science and engineering	77.04	100.00	81.63	60	21.63	-
1	12	BITS108(P)	communication	67.68	88.00	71.74	60	11.74	-
2	13	BITL201(T)	Mathematics-II	64.95	55.20	63.00	60	3.00	-
2	14	BITL202(T)	Physics	67.88	58.00	65.90	60	5.90	-
2	15	BITL203(T)	Data Structure	70.92	65.60	69.86	60	9.86	-
2	16	BITL204(T)	Engineering Graphics	71.69	68.80	71.11	60	11.11	-
2	17	BITL205(T)	Concept of Engineering Design	65.16	48.40	61.81	60	1.81	-
2	18	BITL202(P)	Physics Lab	81.40	100.00	85.12	60	25.12	-
2	19	BITL203(P)	Data Structure Lab	80.00	93.60	82.72	60	22.72	-
2	20	BITL204(P)	Engineering Graphics Lab	89.36	100.00	91.49	60	31.49	-
2	21	BITS206(P)	Object Oriented Prgramming	83.16	100.00	86.53	60	26.53	-
2	22	BITS207(P)	Language Lab	71.84	98.00	77.07	60	17.07	-
2	23	BITS208(P)	Rural Outreach	73.01	92.00	76.81	60	16.81	-
3	24	BITL301(T)	Mathematics III	69.52	74.80	70.58	60	10.58	-
3	25	BITL302(T)	Digital Electronics	74.64	96.00	78.91	60	18.91	-
3	26	BITL303(T)	Object Oriented Programming and Methodology	71.44	83.20	73.79	60	13.79	-
3	27	BITL304(T)	Computer Graphics	72.52	94.40	76.90	60	16.90	-
3	28	BITL305(T)	Operating System	55.32	34.00	51.06	60	-8.94	Arranged

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3	29	BITL302(P)	Digital Electronics Lab	79.20	99.20	83.20	60	23.20	-
3	30	BITL303(P)	Object Oriented Programming and Methodology Lab	79.84	92.80	82.43	60	22.43	-
3	31	BITL304(P)	Computer Graphics Lab	80.24	100.00	84.19	60	24.19	-
3	32	BITP306(P)	Hardware Lab	75.52	99.20	80.26	60	20.26	-
3	33	BITS307(P)	Seminar/ GD	79.36	100.00	83.49	60	23.49	-
3	34	BITS308(P)	Integrated Ethics and Attitude	72.64	96.00	77.31	60	17.31	-
4	35	BITL401(T)	Discreate Structures	70.12	79.60	72.02	60	12.02	-
4	36	BITL402(T)	Design and analysis of Algorithms	67.56	75.20	69.09	60	9.09	-
4	37	BITL403(T)	Database Management System	68.12	80.00	70.50	60	10.50	-
4	38	BITL404(T)	Computer Networks	64.48	67.20	65.02	60	5.02	-
4	39	BITL405(T)	Computer System Organization	71.72	87.60	74.90	60	14.90	-
4	40	BITL402(P)	Design and analysis of Algorithms Lab	70.16	91.20	74.37	60	14.37	-
4	41	BITL403(P)	Database Management System Lab	79.04	100.00	83.23	60	23.23	-
4	42	BITL404(P)	Computer Networks Lab	78.40	100.00	82.72	60	22.72	-
4	43	BITP406(P)	Unix/Linux Lab	72.32	90.40	75.94	60	15.94	-
4	44	BITS407(P)	Idea Generation	72.00	100.00	77.60	60	17.60	-
4	45	BITS408(P)	Communication Skills	64.24	100.00	71.39	60	11.39	-
5	46	BITL501: Principles of Management & Economics	CO1	65.00	75.00	67.00	60	7.00	Arranged Remedial Classes
			CO2	48.00	40.00	46.40	60	-13.60	
			CO3	51.00	42.00	49.20	60	-10.80	
			CO4	62.00	55.00	60.60	60	0.60	
			CO5	59.00	65.00	60.20	60	0.20	
			CO6	0.00		0.00	60	-60.00	
5	47	ITL505: Networking with TCP/IP	CO1	62.00	80.00	65.60	60	5.60	-
			CO2	71.00	80.00	72.80	60	12.80	
			CO3	66.00	65.00	65.80	60	5.80	
			CO4	74.00	75.00	74.20	60	14.20	
			CO5	67.00	70.00	67.60	60	7.60	
			CO6	66.00	65.00	65.80	60	5.80	
5	48	BITL502: Theory of Computation	CO1	74.00	100.00	79.20	60	19.20	Arranged Remedial Classes
			CO2	81.00	95.00	83.80	60	23.80	
			CO3	68.00	95.00	73.40	60	13.40	
			CO4	54.00	90.00	61.20	60	1.20	
			CO5	48.00	90.00	56.40	60	-3.60	
			CO6	41.00	80.00	48.80	60	-11.20	

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5	49	BITL502: Theo of Computation(la	CO2	77.00	52.00	72.00	60	12.00	
			CO3	69.00	56.00	66.40	60	6.40	
			CO4	75.00	64.00	72.80	60	12.80	
			CO5	83.00	52.00	76.80	60	16.80	
			CO6	84.00	56.00	78.40	60	18.40	
			CO1	50.00	95.00	59.00	60	-1.00	
5	50	BITL503: Software Engineering	CO2	56.00	100.00	64.80	60	4.80	Arranged Remedial Classes
			CO3	38.00	100.00	50.40	60	-9.60	
			CO4	28.00	95.00	41.40	60	-18.60	
			CO5	35.00	100.00	48.00	60	-12.00	
			CO6	74.00	85.00	76.20	60	16.20	
			CO1	81.00	95.00	83.80	60	23.80	
5	51	BITL503: Software Engineering (Lab)	CO2	68.00	95.00	73.40	60	13.40	
			CO3	54.00	90.00	61.20	60	1.20	
			CO4	66.00	53.73	63.55	60	3.55	
			CO5	64.00	46.27	60.45	60	0.45	
			CO6	61.00	50.00	58.80	60	-1.20	
			CO1	83.00	95.00	85.40	60	25.40	
5	52	BITL504: Microprocessor & Interfacing	CO2	71.00	100.00	76.80	60	16.80	Arranged Remedial Classes
			CO3	59.00	95.00	66.20	60	6.20	
			CO4	38.00	95.00	49.40	60	-10.60	
			CO5	68.00	90.00	72.40	60	12.40	
			CO6	55.00	90.00	62.00	60	2.00	
			CO1	59.00	56.00	58.40	60	-1.60	
5	53	BITL504: Microprocessor & Interfacing(lab)	CO2	67.00	88.00	71.20	60	11.20	Arranged Remedial Classes
			CO3	78.00	48.00	72.00	60	12.00	
			CO4	62.00	88.00	67.20	60	7.20	
			CO5	59.00	72.00	61.60	60	1.60	
			CO6	68.00	40.00	62.40	60	2.40	
			CO1	66.00	65.00	65.80	60	5.80	
5	54	BCSP 506: Java Programming (Lab)	CO2	74.00	75.00	74.20	60	14.20	Arranged Remedial Classes
			CO3	67.00	100.00	73.60	60	13.60	
			CO4	79.00	95.00	82.20	60	22.20	
			CO5	40.00	80.00	48.00	60	-12.00	
			CO6	60.00	70.00	62.00	60	2.00	
			CO1	63.00	75.00	65.40	60	5.40	

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6	55	Cloud Computi (BITL610)	CO2	45.00	70.00	50.00	60	-10.00	Arranged Remedial Classes
			CO3	47.00	57.00	49.00	60	-11.00	
			CO4	34.00	56.00	38.40	60	-21.60	
			CO5	52.00	86.00	58.80	60	-1.20	
			CO6	30.00	67.00	37.40	60	-22.60	
			CO1	65.00	59.26	63.85	60	3.85	
6	56	Mobile Computing (BITL602)	CO2	68.00	53.70	65.14	60	5.14	Arranged Remedial Classes
			CO3	67.00	51.85	63.97	60	3.97	
			CO4	52.00	46.30	50.86	60	-9.14	
			CO5	51.00	50.00	50.80	60	-9.20	
			CO6	55.00	59.26	55.85	60	-4.15	
			CO1	79.00	66.67	76.53	60	16.53	
6	57	Software Project Management (BITL 603)	CO2	58.00	48.15	56.03	60	-3.97	Arranged Remedial Classes
			CO3	46.00	55.56	47.91	60	-12.09	
			CO4	43.00	59.26	46.25	60	-13.75	
			CO5	59.00	44.44	56.09	60	-3.91	
			CO6	41.00	40.74	40.95	60	-19.05	
			CO1	78.00	52.00	72.80	60	12.80	
6	58	BITL 603:Software Project Management(lab)	CO2	69.00	64.00	68.00	60	8.00	Arranged Remedial Classes
			CO3	73.00	44.00	67.20	60	7.20	
			CO4	58.00	41.30	54.66	60	-5.34	
			CO5	57.00	39.13	53.43	60	-6.57	
			CO6	74.00	30.43	65.29	60	5.29	
			CO1	56.00	60.98	57.00	60	-3.00	
6	59	BITL 604:Compiler Design	CO2	47.00	56.10	48.82	60	-11.18	Arranged Remedial Classes
			CO3	92.00	50.00	83.60	60	23.60	
			CO4	65.00	53.66	62.73	60	2.73	
			CO5	42.00	50.00	43.60	60	-16.40	
			CO6	46.00	50.00	46.80	60	-13.20	
			CO1	67.00	56.00	64.80	60	4.80	
6	60	BITL 604:Compiler Design(lab)	CO2	78.00	52.00	72.80	60	12.80	
			CO3	69.00	64.00	68.00	60	8.00	
			CO4	73.00	44.00	67.20	60	7.20	
			CO5	82.00	60.00	77.60	60	17.60	
			CO6	88.00	52.00	80.80	60	20.80	
			CO1	68.00	67.68	67.68	60	0.00	

6	61	BITL 605:Network Web Security	C02	43.00	54.55	45.31	60	-14.69	Arranged Remedial Classes
			C03	54.00	50.51	53.30	60	-6.70	
			C04	41.00	53.54	43.51	60	-16.49	
			C05	52.00	54.55	52.51	60	-7.49	
			C06	52.00	48.48	51.30	60	-8.70	
			C01	69.00	64.00	68.00	60	8.00	
6	62	BITL 605: Network & Web Security (Lab)	C02	73.00	44.00	67.20	60	7.20	Arranged Remedial Classes
			C03	58.00	41.30	54.66	60	-5.34	
			C04	71.00	70.00	70.80	60	10.80	
			C05	85.00	52.31	78.46	60	18.46	
			C06	78.00	47.69	71.94	60	11.94	
			C01	79.00	95.00	82.20	60	22.20	
6	63	BITP 606: Minor Project	C02	79.00	66.67	76.53	60	16.53	Arranged Remedial Classes
			C03	67.00	56.00	64.80	60	4.80	
			C04	78.00	52.00	72.80	60	12.80	
			C05	69.00	64.00	68.00	60	8.00	
			C06	56.00	60.98	57.00	60	-3.00	
			C01	79.00	95.00	82.20	60	22.20	

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Semester	S. No.	Subject Code	Subject Name	Direct Attainment	Indirect Attainment	Total Attainment	Target	Gap	Action Taken
1	1	BITL101(T)	Mathematics I	70.25	52.40	66.68	60	6.68	-
1	2	BITL102(T)	Chemistry	70.02	59.20	67.86	60	7.86	-
1	3	BITL103(T)	English	63.09	50.40	60.55	60	0.55	-
1	4	BITL104(T)	Basic Computer Engineering	67.23	53.60	64.51	60	4.51	-
1	5	BITL105(T)	Basic Computer Programming	69.41	64.80	68.49	60	8.49	-
1	6	BITL102(P)	Chemistry Lab	77.24	93.60	80.51	60	20.51	-
1	7	BITL103(P)	English Lab	64.16	68.80	65.09	60	5.09	-
1	8	BITL104(P)	Basic Computer Engineering Lab	64.64	76.00	66.91	60	6.91	-
1	9	BITL105(P)	Basic Computer Programming Lab	79.00	97.60	82.72	60	22.72	-
1	10	BITS106(P)	Environmental Sciences	83.04	100.00	86.43	60	26.43	-
1	11	BITS107(P)	Introduction to Computer Science and Engineering	89.28	100.00	91.42	60	31.42	-
1	12	BITS108(P)	Communication	74.12	100.00	79.30	60	19.30	-
2	13	BITL201(T)	Mathematics II	55.96	32.80	51.33	60	-8.67	Arranged Remedial Classes
2	14	BITL202(T)	Physics	70.41	58.00	67.93	60	7.93	-
2	15	BITL203(T)	Data Structure	79.69	90.80	81.91	60	21.91	-
2	16	BITL204(T)	Engineering Graphics	66.93	60.40	65.63	60	5.63	-
2	17	BITL205(T)	Concepts in Engineering Design	78.66	80.40	79.01	60	19.01	-
2	18	BITL202(P)	Physics Lab	79.84	100.00	83.87	60	23.87	-
2	19	BITL203(P)	Data Structure Lab	80.36	99.20	84.13	60	24.13	-
2	20	BITL204(P)	Engineering Graphics Lab	69.52	68.00	69.22	60	9.22	-
2	21	BITS206(P)	Object Oriented Programming	83.96	100.00	87.17	60	27.17	-
2	22	BITS207(P)	Language Lab	65.84	72.00	67.07	60	7.07	-
2	23	BITS208(P)	Rural Outreach	63.89	72.00	65.51	60	5.51	-
3	24	BITL301: Mathematics III	CO1	54.00	45.00	52.20	60	-7.80	Arranged Remedial Classes
			CO2	61.00	71.00	63.00	60	3.00	
			CO3	51.00	76.00	56.00	60	-4.00	
			CO4	41.00	75.00	47.80	60	-12.20	
			CO5	23.00	80.00	34.40	60	-25.60	
			CO6	23.00	60.00	30.40	60	-29.60	
2	25	2: Digitalronics	CO1	45.00	100.00	56.00	60	-4.00	
			CO2	74.00	100.00	79.20	60	19.20	
			CO3	48.00	95.00	57.40	60	-3.60	

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			BITL-301: Electronics	61.00	80.00	64.80	60	4.80	
			CO5	61.00	80.00	64.80	60	4.80	
			CO6	51.00	90.00	58.80	60	-1.20	
3	26	BITL-302: Digital Electronics(lab)	CO1	63.00	44.00	59.20	60	-0.80	
			CO2	72.00	48.00	67.20	60	7.20	
			CO3	65.00	40.00	60.00	60	0.00	
			CO4	66.00	52.00	63.20	60	3.20	
			CO5	70.00	36.00	63.20	60	3.20	
			CO6	74.00	48.00	68.80	60	8.80	
3	27	BITL-303: OOPs and methodology	CO1	87.00	85.00	86.60	60	26.60	Arranged Remedial Classes
			CO2	79.00	80.00	79.20	60	19.20	
			CO3	77.00	60.00	73.60	60	13.60	
			CO4	67.00	55.00	64.60	60	4.60	
			CO5	60.00	50.00	58.00	60	-2.00	
			CO6	63.00	60.00	62.40	60	2.40	
3	28	BITL-303: OOPs and methodology(lab)	CO1	69.00	72.00	69.60	60	9.60	
			CO2	75.00	92.00	78.40	60	18.40	
			CO3	79.00	64.00	76.00	60	16.00	
			CO4	68.00	88.00	72.00	60	12.00	
			CO5	67.00	72.00	68.00	60	8.00	
			CO6	72.00	64.00	70.40	60	10.40	
3	29	BITL-304: Computer Graphics	CO1	80.00	95.00	83.00	60	23.00	
			CO2	74.00	90.00	77.20	60	17.20	
			CO3	70.00	90.00	74.00	60	14.00	
			CO4	71.00	80.00	72.80	60	12.80	
			CO5	64.00	85.00	68.20	60	8.20	
			CO6	68.00	85.00	71.40	60	11.40	
3	30	BITL-304: Computer Graphics (Lab)	CO1	54.00	80.00	59.20	60	-0.80	Arranged Remedial Classes
			CO2	83.00	75.00	81.40	60	21.40	
			CO3	39.00	60.00	43.20	60	-16.80	
			CO4	62.00	88.00	67.20	60	7.20	
			CO5	59.00	72.00	61.60	60	1.60	
			CO6	68.00	40.00	62.40	60	2.40	
3	31	BITL-304: Operating System	CO1	41.00	95.00	51.80	60	-8.20	Arranged Remedial Classes
			CO2	58.00	95.00	65.40	60	5.40	
			CO3	40.00	90.00	50.00	60	-10.00	
			CO4	37.00	90.00	47.60	60	-12.40	

3	32	BCSP- 306:Hardware Lab	C06	48.00	75.00	53.40	60	-6.60	Arranged Remedial Classes
			C01	67.00	56.00	64.80	60	4.80	
			C02	69.00	52.00	65.60	60	5.60	
			C03	66.00	36.00	60.00	60	0.00	
			C04	51.00	46.74	50.15	60	-9.85	
			C05	58.00	41.30	54.66	60	-5.34	
			C06	57.00	39.13	53.43	60	-6.57	
4	33	BCSL 401 :Discrete Structure	C01	79.00	64.00	76.00	60	16.00	Arranged Remedial Classes
			C02	83.00	75.00	81.40	60	21.40	
			C03	44.00	60.00	47.20	60	-12.80	
			C04	34.00	84.00	44.00	60	-16.00	
			C05	40.00	76.00	47.20	60	-12.80	
			C06	5.00	90.00	22.00	60	-38.00	
4	34	BITL 402:Design & Analysis of Algorithms	C01	74.00	54.05	70.01	60	10.01	Arranged Remedial Classes
			C02	84.00	44.59	76.12	60	16.12	
			C03	72.00	50.00	67.60	60	7.60	
			C04	47.00	52.70	48.14	60	-11.86	
			C05	45.00	47.30	45.46	60	-14.54	
			C06	45.00	47.30	45.46	60	-14.54	
4	35	BITL 402: Design & Analysis of Algorithms (LAB)	C01	68.00	80.00	70.40	60	10.40	
			C02	75.00	64.00	72.80	60	12.80	
			C03	79.00	68.00	76.80	60	16.80	
			C04	82.00	48.00	75.20	60	15.20	
			C05	88.00	68.00	84.00	60	24.00	
			C06	79.00	72.00	77.60	60	17.60	
4	36	Database Management System(BITL 403)	C01	49.00	51.43	49.49	60	-10.51	Arranged Remedial Classes
			C02	98.00	47.14	87.83	60	27.83	
			C03	79.00	48.57	72.91	60	12.91	
			C04	52.00	44.29	50.46	60	-9.54	
			C05	61.00	50.00	58.80	60	-1.20	
			C06	41.00	55.71	43.94	60	-16.06	
4	37	Database Management System(BITL 403)(lab)	C01	69.00	84.00	72.00	60	12.00	
			C02	75.00	72.00	74.40	60	14.40	
			C03	63.00	80.00	66.40	60	6.40	
			C04	73.00	60.00	70.40	60	10.40	
			C05	83.00	68.00	80.00	60	20.00	

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4	38	BITL 404: Computer Networks	CO1	55.00	50.00	54.00	60	-6.00	Arranged Remedial Classes
			CO2	94.00	50.00	85.20	60	25.20	
			CO3	56.00	50.00	54.80	60	-5.20	
			CO4	46.00	50.00	46.80	60	-13.20	
			CO5	49.00	42.50	47.70	60	-12.30	
			CO6	42.00	50.00	43.60	60	-16.40	
4	39	BITL 404:Computer Networks (Lab)	CO1	67.00	90.00	71.60	60	11.60	Arranged Remedial Classes
			CO2	61.00	80.00	64.80	60	4.80	
			CO3	52.00	44.29	50.46	60	-9.54	
			CO4	61.00	50.00	58.80	60	-1.20	
			CO5	68.00	95.00	73.40	60	13.40	
			CO6	54.00	90.00	61.20	60	1.20	
4	40	BITL 405: Computer System Organization	CO1	86.00	55.22	79.84	60	19.84	Arranged Remedial Classes
			CO2	74.00	56.72	70.54	60	10.54	
			CO3	50.00	46.27	49.25	60	-10.75	
			CO4	66.00	53.73	63.55	60	3.55	
			CO5	64.00	46.27	60.45	60	0.45	
			CO6	61.00	50.00	58.80	60	-1.20	
4	41	BCSP-406:Unix & Linux Lab	CO1	66.00	65.00	65.80	60	5.80	
			CO2	74.00	75.00	74.20	60	14.20	
			CO3	67.00	70.00	67.60	60	7.60	
			CO4	54.00	90.00	61.20	60	1.20	
			CO5	66.00	53.73	63.55	60	3.55	
			CO6	64.00	46.27	60.45	60	0.45	

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Semester	S. No.	Subject Name & Code	Course Outcomes	Direct Attainment	Indirect Attainment	Total Attainment	Target	Gap	Action Taken
1	1	Engineering Chemistry (100101)	CO1	52.00	45.00	50.60	60	-9.40	Arranged Remedial Classes
			CO2	54.00	50.00	53.20	60	-6.80	
			CO3	55.00	37.00	51.40	60	-8.60	
			CO4	55.00	33.00	50.60	60	-9.40	
			CO5	55.00	41.00	52.20	60	-7.80	
			CO6	55.00	45.00	53.00	60	-7.00	
1	2	Engineering Mathematics -I (100102)	CO1	60.00	70.00	62.00	60	2.00	Arranged Remedial Classes
			CO2	41.00	65.00	45.80	60	-14.20	
			CO3	70.00	73.00	70.60	60	10.60	
			CO4	29.00	69.00	37.00	60	-23.00	
			CO5	39.00	70.00	45.20	60	-14.80	
			CO6	60.00	73.00	62.60	60	2.60	
1	3	Technical English (100203)	CO1	38.00	42.25	38.85	60	-21.15	Arranged Remedial Classes
			CO2	45.00	53.52	46.70	60	-13.30	
			CO3	59.00	56.35	58.47	60	-1.53	
			CO4	56.00	52.11	55.22	60	-4.78	
			CO5	49.00	52.11	49.62	60	-10.38	
			CO6	31.00	43.66	33.53	60	-26.47	
1	4	Basic Electrical & Electronics Engineering (100204)	CO1	58.20	68.03	60.17	60	0.17	Arranged Remedial Classes
			CO2	62.30	64.28	62.70	60	2.70	
			CO3	63.40	58.24	62.37	60	2.37	
			CO4	64.80	67.71	65.38	60	5.38	
			CO5	63.60	58.75	62.63	60	2.63	
			CO6	52.20	53.86	52.53	60	-7.47	
1	5	Engineering Graphics (100105)	CO1	81.00	72.72	79.34	60	19.34	
			CO2	81.00	70.53	78.91	60	18.91	
			CO3	70.00	61.15	68.23	60	8.23	
			CO4	82.00	70.53	79.71	60	19.71	
			CO5	82.00	69.14	79.43	60	19.43	
			CO6	76.00	62.53	73.31	60	13.31	
1	6	Engineering (100201)	CO1	70.00	58.00	67.60	60	7.60	Arranged Remedial
			CO2	78.00	56.00	73.60	60	13.60	
			CO3	45.00	55.00	47.00	60	-13.00	

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			CO6	51.00	40.00	80.00	60.00	20.00
2	7	EEES(100202)	CO1	58.90	63.51	59.82	60	-49.80
			CO2	62.40	54.28	60.78	60	-0.18
			CO3	65.10	60.66	64.21	60	0.78
			CO4	59.90	60.29	59.98	60	4.21
			CO5	68.20	53.60	65.28	60	-0.02
			CO6	65.80	60.13	64.67	60	5.28
			CO6	65.80	60.13	64.67	60	4.67
2	8	Basic Computer Engineering-100203	CO1	59.00	85.00	64.20	60	4.20
			CO2	52.00	80.00	57.60	60	-2.40
			CO3	55.00	60.00	56.00	60	-4.00
			CO4	33.00	90.00	44.40	60	-15.60
			CO5	34.00	90.00	45.20	60	-14.80
			CO6	44.00	60.00	47.20	60	-12.80
2	9	Basic Computer Engineering-100203(Lab)	CO1	63.00	44.00	59.20	60	-0.80
			CO2	72.00	48.00	67.20	60	7.20
			CO3	65.00	40.00	60.00	60	0.00
			CO4	66.00	52.00	63.20	60	3.20
			CO5	70.00	36.00	63.20	60	3.20
			CO6	74.00	48.00	68.80	60	8.80
2	10	Basic Mechanical Engineering(100204)	CO1	75.75	69.60	74.52	60	14.52
			CO2	76.76	67.64	74.94	60	14.94
			CO3	61.61	65.23	62.33	60	2.33
			CO4	67.67	66.66	67.47	60	7.47
			CO5	76.76	73.53	76.11	60	16.11
			CO6	64.64	65.19	64.75	60	4.75
2	11	Basic Civil Engineering & Mechanics (100205)	CO1	59.80	88.50	65.54	60	5.54
			CO2	60.20	86.40	65.44	60	5.44
			CO3	63.40	88.20	68.36	60	8.36
			CO4	61.20	81.40	65.24	60	5.24
			CO5	60.50	79.50	64.30	60	4.30
			CO6	55.70	77.40	60.04	60	0.04
2	12	Basic Civil Engineering (Lab) Mechanics (100205)	CO1	56.90	84.80	62.48	60	2.48
			CO2	57.90	82.50	62.82	60	2.82
			CO3	58.30	81.10	62.86	60	2.86
			CO4	58.40	77.80	62.28	60	2.28
			CO5	54.60	76.40	60.00	60	0.00

Arranged Remedial Classes

Arranged Remedial Classes

Arranged Remedial Classes

*Gaps in CO Attainment Levels
for
Academic Year 2017-18
and
Proposed Corrective Measures for Improvement*

Approved by

Principal

Gaps in CO attainment:

1. Inappropriate CO mapping with questions in question papers.
2. Sample (of students) is different in direct and indirect methods for CO attainment.
3. Random sample (of students) may result in the degradation of CO attainment level.
4. More appropriate method is required for calculating direct CO attainment of Lab courses.
5. CO feedback from students using MOODLE- for indirect CO attainment is not sufficient.

Proposed Corrective measures:

1. Course Outcomes (COs) should be based on generalized aspects of the course contents.
2. Sample of students must be same for direct and indirect methods of CO attainment.
3. Efforts should be made to improve the performance of weaker students, which in turn may improve the attainment level.
4. Other methods (such as Peer Learning/ Group Tasks / Report Writing etc.) for indirect assessment should also be included.

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***COs Attainment Targets
for All Courses
Running in Academic Year 2018-19.
(Computer Science & Engineering)***

**Course Attainment Target Values for Year 2018-19
B.E. / B.Tech (Computer Science & Engineering)**

Subject Code	Subject Name	Target Value
100203	Basic Computer Engineering	70
100203	Basic Computer Engineering Lab	70
150301	Digital Electronics	60
150302	Data Structure	62
150303	Computer Graphics	65
150304	OOPS Methodology	60
150305	Hardware Lab	68
150302	Data Structure Lab	65
150303	Computer Graphics Lab	65
150304	OOPS Methodology Lab	66
150306	Self Study (Swayam/NPTEL/MOOC)	70
150401	Design & Analysis of Algorithm	65
150402	Database Management Systems	63
160403	Operating System	60
160404	Computer System Organization	60
100004	Cyber Security	62
160405	Programming Lab	68
150401	Design & Analysis of Algorithm Lab	65
150402	Database Management Systems Lab	65
BCSL502	Elective-I	60
BCSL503	Software Engineering	68
BCSL504	Microprocessor and Interfacing	60
BCSL505	Theory of Computation	60
BCSL506	JAVA Lab	66
BCSL504	Microprocessor and Interfacing Lab	66
BCSL505	Theory of Computation Lab	70
BCSS507	Self Study	70
BCSS508	Seminar/Group Discussion	70
BCSL601	Elective-II	60
BCSL602	Mobile Computing	60
BCSL603	Software Project Management	65
BCSL604	Compiler Design	65
BCSL 605	Network & Web Security	60
BCSP606	Minor Project	70
BCSS 607	Self Study	70
BCSL603	Software Project Management Lab	68
BCSL604	Compiler Design Lab	67

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BCSL605	Network & Web Security Lab	60
BCSS608	Seminar/Group Discussion	70
BCSL701	Artificial Intelligence and expert systems	60
BCSL702	Distributed System (Elective-III)	62
BCSL703	Digital Forensic (Elective-IV)	60
BCSL704	Adhoc Network	64
BCSL705	E-Commerce	62
BCSL701	Artificial Intelligence and expert systems (Lab)	60
BCSL702	Distributed System (Elective-III) (Lab)	60
BCSD707	Major Project-I	70
BCSS708	Seminar/Group Discussion	70
BCSL801	Image Processing	60
BCSL802	Data Warehouse and Data Mining	65
BCSL803	Neural Networks & Fuzzy Systems	62
BCSL804	Internet of Things and Applications (Elective-V)	60
BCSL802	Data Warehouse and Data Mining (Lab)	65
BCSL803	Neural Networks & Fuzzy Systems (Lab)	62

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***COs Attainment Targets
for All Courses
Running in Academic Year 2018-19.
(Information Technology)***

**Course Attainment Target Values for Year 2018-19
B.E. / B.Tech (Information Technology)**

Subject Code	Subject Name	Target Value
100203	Basic Computer Engineering	70
100203	Basic Computer Engineering Lab	65
150301	Digital Electronics	60
150302	Data Structure	62
150303	Computer Graphics & Multimedia	62
150304	OOPS Methodology	60
150305	Hardware Lab	68
150302	Data Structure Lab	65
150303	Computer Graphics & Multimedia Lab	65
150304	OOPS Methodology Lab	66
150306	Self Study (Swayam/NPTEL/MOOC)	70
150401	Design & Analysis of Algorithm	65
150402	Database Management Systems	63
160403	Operating System	60
160404	Computer System Organization	60
100004	Cyber Security	62
160405	Programming Lab	62
150401	Design & Analysis of Algorithm Lab	65
150402	Database Management Systems Lab	65
BITL502	Elective-I	60
BITL503	Software Engineering	68
BITL504	Microprocessor and Interfacing	60
BITL505	Theory of Computation	60
BITL506	JAVA Lab	66
BITL504	Microprocessor and Interfacing Lab	66
BITL505	Theory of Computation Lab	65
BITSS07	Self Study	70
BITSS08	Seminar/Group Discussion	70
BITL601	Elective-II	60
BITL602	Mobile Computing	60
BITL603	Software Project Management	65
BITL604	Compiler Design	65
BITL 605	Network & Web Security	60
BITP606	Minor Project	70
BITS607	Self Study	70
BITL603	Software Project Management Lab	68
BITL604	Compiler Design Lab	67

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BITL605	Network & Web Security Lab	60
BITS608	Seminar/Group Discussion	70
BITL701	Artificial Intelligence and expert systems	60
BITL702	Distributed System (Elective-III)	62
BITL703	IT Infrastructure Management (Elective-IV)	60
BITL704	Adhoc Network	64
BITL705	E-Commerce	62
BITL701	Artificial Intelligence and expert systems (Lab)	60
BITL702	Distributed System (Elective-III) (Lab)	60
BITD707	Major Project-I	70
BITS708	Seminar/Group Discussion	70
BITL801	Image Processing	60
BITL802	Data Warehouse and Data Mining	65
BITL803	Neural Networks & Fuzzy Systems	62
BITL804	Internet of Things and Applications (Elective-V)	60
BITL802	Data Warehouse and Data Mining (Lab)	65
BITL803	Neural Networks & Fuzzy Systems (Lab)	62

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*Equivalence of Subjects
for All Courses
Running in Various Schemes (UG/PG)*

Equivalence of Subjects for all Courses running in various schemes (UG/PG)

Semester: VIII and Year: IV

S.No.	Code(s)	Subject	Branches in which Subject is applicable
1.	CSL801/8Y51	Advance Operating Systems	CSE
2.	CSL802/ITL 802/8Y52	Data Warehouse and Data Mining	CSE/IT
3.	CSL803/ITL 804/ 8553	Neural Networks & Fuzzy Systems	CSE/IT
4.	CSL804/ITL 801/8Y71	Cellular and Mobile Communication	CSE/IT

Semester: VII and Year: IV

S.No.	Code(s)	Subject	Branches in which Subject is applicable
1.	BCSL701/ BITL701/ CSL701/ ITL701/7Y51	Artificial Intelligence & Expert Systems	CSE/IT
2.	BCSL702/ BITL702	Distributed Systems	CSE/IT
3.	BCSL704/ BITL704	Adhoc Network	CSE/IT
4.	BCSL705/ BITL705	E-Commerce	CSE/IT
5.	CSL702/ ITL702/7Y52	Compiler Design & Translator	CSE/IT
6.	CSL703/ ITL703/7Y53	Parallel Processing	CSE/IT
7.	CSL704/ ITL704/7Y71	Networking with TCP/IP	CSE/IT
8.	CSL705/ ITL705/7Y72	Internet Technology & web Designing	CSE/IT

Semester: VI and Year: III

S.No.	Code(s)	Subject	Branches in which Subject is applicable
1.	BCSL602/ BITL602	Mobile Computing	CSE/IT
2.	BCSL603/BITL603	Software Project Management	CSE/IT
3.	BCSL604/ BITL604	Compiler Design	CSE/IT

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Equivalence of Subjects for all Courses running in various schemes (UG/PG)

4.	BCSL605/BITL605/CSL605/ ITL605/6Y55	Network & Web Security	CSE/IT
5.	BITL 609 /ITL601/6771	Information Theory & Coding(Elective –II)	IT
6.	CSL601/6551	Analysis & Design of Algorithms	CSE
7.	CSL602/ ITL602/6Y52	Computer Graphics & Multimedia	CSE/IT
8.	CSL603/ ITL603/6Y53	Data Communication	CSE/IT
9.	CSL604/ ITL604/6Y54	Software Engineering	CSE/IT

Semester: V and Year: III

S.No.	Code(s)	Subject	Branches in which Subject is applicable
1.	BCSL502/BITL502	Networking with TCP/IP (Elective – I)	CSE/IT
2.	BCSL503/BITL503	Software Engineering	CSE/IT
3.	BCSL504/BITL504/CSL503/ITL503/5Y54/5Y41	Microprocessor & Interfacing	CSE/IT
4.	BCSL505/BITL505/CSL504/ITL504/5Y53	Theory of Computation	CSE/IT
5.	CSL502/ITL502/5Y51	Database Management System	CSE/IT

Semester: IV and Year: II

S.No.	Code(s)	Subject	Branches in which Subject is applicable
1.	BCSL402/BITL402	Design & Analysis of Algorithms	CSE/IT
2.	BCSL 403/BITL 403	Database Management System	CSE/IT
3.	BCSL404/BITL 404	Computer Networks	CSE/IT
4.	BCSL405/BITL405	Computer System Organization	CSE/IT
5.	CSL402/ITL402/4Y52	Operating System	CSE/IT
6.	CSL 404/ITL 404/4Y71	Analog and Digital Communication	CSE/IT
7.	CSL 405/ ITL 405/ 4Y51	Data Structures	CSE/IT

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Equivalence of Subjects for all Courses running in various schemes (UG/PG)

Semester: III and Year: II

S.No.	Code(s)	Subject	Branches in which Subject is applicable
1.	150301/160301/BCSL302/BITL302	Digital Electronics	CSE/IT
2.	150302/160302	Data Structures	CSE/IT
3.	150304/160304/BCSL303/BITL303/ CSL305/ITL305/3Y51	Object Oriented Programming and Methodology (OOps Methodology)	CSE/IT
4.	150303/BCSL304/BITL304	Computer Graphics	CSE/IT
5.	BCSL305/BITL305	Operating System	CSE/IT
6.	CSL 304/ITL 304/3Y52	Computer System Organization	CSE/IT

Semester: II and Year: I

S.No.	Code(s)	Subject	Branches in which Subject is applicable
1.	BCSL 203/BITL 203	Data Structures	CSE/IT

Semester: I/II and Year: I

S.No.	Code(s)	Subject	Branches in which Subject is applicable
1.	100203(Equivalent Codes: EEL/ELL/ITL/CHL/BTL/CEL/MEL/CSL- 113/2X73)	Basic Computer Engineering	ALL
2.	BCSL 104/BITL 104(For Student admitted in year 2015 & 2016) CBCS Pattern	Basic Computer Engineering	CSE/ IT
3.	BCSL/BCEL/BMEL/BITL/BBTL/BAUL/BEEL/B ELL/BETL/BCHL-105(For Student admitted in year 2015 & 2016) CBCS Pattern	Basic Computer Programming	ALL

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Equivalence of Subjects for all Courses running in various schemes (UG/PG)

Semester: III and Year: II

S.No.	Code(s)	Subject	Branches in which Subject is applicable
1.	620301/630301/MCSL-931/MCSE-301/MITL-931/MIT-301	Image Processing & Retrieval Techniques	CSE/IT
2.	620302/MCSL-932/MCSE-302	Network Security	CSE
3.	630302/MITL-932/ MIT-302	Information Security & Systems	IT
4.	640301/ MCYL-931	Biometric Systems & Biometric Image Processing	Cyber
5.	640302/MCYL-932	Cyber Crime Investigations & Digital Forensics	Cyber

Semester: II and Year: I

S.No.	Code(s)	Subject	Branches in which Subject is applicable
1.	MCSL-921/620201/MCSE-201	Advance Database Management	CSE
2.	MCSL-922/ MCSE-202/MITL-922/MIT-202/620202/MCYL 925/640205/630202	Soft Computing	CSE/IT/Cyber
3.	MCSL-923/ MCSE-203/MITL-923/630203/MIT-203/620203	Advanced Algorithms and Design	CSE/IT
4.	MCSL- 924/ MCSE-204/620204/MCYL 924/640204/MTCS-204/630204/MITL 924/MIT204	Advanced Topics in Data Mining & Warehousing	CSE/IT/Cyber
5.	MCSL-925/ MCSE-205/620205/MITL - 925/630205/MIT-205	Adhoc & Sensor Based Networks	CSE/IT
6.	MITL-921/630201/MIT-201	Web Technology and E-Commerce	IT
7.	MCYL 921/ 640201	Database Security and Privacy	Cyber

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Equivalence of Subjects for all Courses running in various schemes (UG/PG)

8.	MCYL-922/ 640202	E-Commerce Security	Cyber
9.	MCYL 923/640203	Cloud Computing and Security	Cyber

Semester: I and Year: I

S.No.	Code(s)	Subject	Branches in which Subject is applicable
1.	630102/MCSL-912/620102/MCSE -102/MITL-912/MIT-102	Distributed System	CSE/IT
2.	620103/MCSL-913/MCSE-103	Advanced Computer Architecture	CSE
3.	620104/630104/MCSL-914/MCSE -104/MITL-914/MIT-104	Advanced Computer Networks	CSE/IT
4.	620105/630105/MCSL -915/MITL-915/MCSE-105/MIT- 105	Mobile Computing & M-Commerce	CSE/IT
5.	640102//MCYL-912	Operating System & Security	Cyber
6.	640103/MCYL-913	Cryptography and Network Security	Cyber
7.	640104/MTCS914/MCYL-914/640104/MTCS-104	Cyber Law and Emerging Jurisprudence	Cyber
8.	640105/MCYL-915	Wireless Communication and Mobile Computing	Cyber
9.	630103/MITL-913/MIT-103	Advance Computer Graphics	IT

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Contents
for
Value Added Courses (VAC)

List and Content of Value Added Courses Offered by the Department

1.	Programming with Python	Introduction, Relationship between computers and programs, Python setup and first program of python, Basic principles of computers, Python interpreter, Control Structures: loops and decision, Iterations, Expressions, list, Dictionaries, Operators (unary, arithmetic, etc.) Data types, variables, Assignment statements, Strings and string operations, Built-in Functions, Designing and Debugging, Modules, Classes, And Objects, Numpy Module, Networkx Module.
2.	Android Based App Development	Installing Java, Java Program Development, Conditional and looping constructs, Introduction of Arrays, Class Fundamentals, Object & Object reference , Access Control, Modifiers, Method Overloading, Abstract Class & Interfaces Defining Methods, Types of Inheritance in Java, Organizing Classes and Interfaces in Packages, Introduction to Android: Types and History, Creating Android Project Hello World App, Installing Android SDK and Android studio, Android applications structure, Android Manifest, Resources, Views, Debugging, Android Activities, Activity Life Cycle, Android Layouts, Fragments Adapters, Intents and Broadcast Receivers Intents, Services, Intent Service.

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