Department of Computer Science and Engineering,

SDMCET, Dharwad-580002.

Proceedings of BOS Meeting

Date: 11th March, 2017

CSE Dept., SDMCET

Tel 0836-2447465
Fax 0836-2464638

Dhavalagiri, Dharwad-580 002

www.sdmcet.ac.in
cse.sdmcet@gmail.com

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The resolution presented here are the base line on which the entire academic activities of this department is to be scripted.

Introduction

Scope and Objectives

The committee titled Board of Studies (**BOS**) is established under the guidelines issued by Academic Council (AC) and hence is an authorized academic body in deciding the curriculum of this this department. All activities must be in line with the resolution taken by this body and Department Undergraduate Committee (DUGC) must ensure the strict implementation of the decisions stated in this report.

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Committee Members

|| Om Shree Manjunthaya Namah ||

DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING, SDMCET, DHARWAD-2

Ph.No.:2447465 Extn:8126 [Competence, Commitment and Team work] www.sdmcet.ac.in/cse

Date: 11-03-2017

BOS 2017

Sl. No	Name and Address with Contact No.	Role and Designation	Signature with Date
1	**Dr. S.M.Joshi**, Professor and Head, Dept. of CSE, SDMCET, Dharwad. Mobile:9036079402 E.mail:joshree@gmail.com	Chairperson	
2	Dr. U.V. Wali, Professor, Dept. of CSE, KLECET, Belgaum. Mobile: 9972638499 E.mail: udaywali@rediffmail.com, uday.wali@gmail.com	Expert nominated by the honorable Vice Chancellor, VTU.	—
3	Dr. Ashok Kumar A. R Prof. Dept. of CSE. RVCE, Bangalore Mobile: 8497042779 Bangalore E.mail: ashok_biet@hotmail.com	Expert in the subject from outside the college nominated by the Academic Council.	11-03-17
4	Prof. Girish Aithal, Senior (1989) Alumni – Industry, Founder member, Consultant, Manipal Academy of Global Education Partner, 4th Edge, IT Solutions, Mangalore Mobile: 9740160986 E.mail: Gaithal@gmail.com	Expert in the subject from outside the college nominated by the Academic Council.	
5	Mr. Vinayak Pawar, Chief Technology Officer, Krishagni Solutions Pvt. Ltd., 202, Chinmay Apartment, Model Colony, Shivaji Nagar, Pune, Mobile: 9845054421 E.mail: vinayak.pawar@krishagni.com	Representative from Industry / Corporate Sector / Allied Area relating to placement nominated by the Academic Council.	—
6	Santosh Chimmalagi, Manager - Sales Strategy & Customer Analytics at STAR TV India,Bengaluru Mobile: 9740075155 E.mail: santosh.chimmalgi@gmail.com	Alumnus nominated by the Principal.	11/03/2017

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DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING, SDMCET, DHARWAD-2

Ph.No.:2447465 Extn:8126 [Competence, Commitment and Team work] www.sdmcet.ac.in/cse

Sl. No	Name and Address with Contact No.	Role and Designation	Signature with Date
7	Dr. U.P.Kulkarni, Professor, CSE Dept., SDMCET, Dharwad, Mobile: 9448915301 E.mail.:upkulkarni@yahoo.com	Internal member nominated by the Academic Council	
8	Prof. J.V.Vadavi, Associate Professor, CSE Dept., SDMCET, Dharwad, Mobile: 9448001249 E.mail.: jvvadavi@gmail.com	Internal member nominated by the Academic Council	
9	Dr. S. B.Kulkarni, Assistant Professor, CSE Dept., SDMCET, Dharwad, Mobile: 9880313022 E.mail.: sbkulkarni_in@yahoo.com	Internal member nominated by the Academic Council	
10	Prof. G. M. Shivanagowda, Assistant Professor, CSE Dept., SDMCET, Dharwad, Mobile: 9740109113 E.mail.:shivana.gowda@gmail.com	Internal member nominated by the Academic Council	
11	Mr. Anand Vaidya Faculty Member, Dept. of CSE SDMCET, Dharwad. Mobile:9036889732 Email:vaidya.anand@rediffmail.com	Internal Member	
12	Mr. R.N.Yadawad. Faculty Member, Dept. of CSE SDMCET, Dharwad. Mobile:9164685527 Email:rnyadawad@gmail.com	Internal Member	
13	Mr. Ranganath Yadawad Faculty Member, Dept. of CSE SDMCET, Dharwad. Mobile:9448049909 Email:rgyadawad@rediffmail.com	Member Secretary	—

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Agenda

Action Taken Report (From last BOS):

Sl. No	Description of the item to be added	Action taken
AR1	Proposal to introduce a course "**Unix Shell Programming**" (15UCSC304) for 3rd Semester	Implemented
AR2	Proposal to shift a course "**Operating Systems**" (15UCSC404) to 4th Semester from 5th Semester. (Change of structure from 3-0-2 to 4-0-0).	Implemented
AR3	Retaining the course "Microcontroller", instead of "Microprocessor".	Implemented
AR4	Proposal to Introduce electives "**Agile Programming**" and "**Mobile Application and Development**"	Offered, but not opted by students.
AR5	Multi-level mapping of course outcomes to program outcomes.	Implemented

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AR6	Result Analysis	Inferences have been drawn.
AR7	Placements	Department has taken initiative to give additional training to further augment the placements.
AR8	National Conference titled NCACSWBDA 2016 was held by the Depatment in the month of Oct 2016. 85 papers were recieved, 66 accepted, 65 presented. Subsequently published by International Journal of Software Engineering and Soft Computing.	-----

Reporting Items:

Sl. No	Description of the Reporting Item
R1	Implemented multi-level mapping of course outcomes to program outcomes as per new PEOs/POs and PSOs specified by OBE based education of National Board of Accreditation. **Ref: Annexure-1**
R2	Scheme of 2015 – 2019 Batch.
R3	Result Analysis and Attainment of Outcome. **Ref: Annexure-2**
R4	Placement Details. **Ref: Annexure-3**

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Decision Making Items: Additions.

Sl. No	Description of the item to be added	Justification	Resolution
DA1	New Scheme and Syllabus for the batch 2015-2019 and course details for 5th and 6th semester of this batch. **Ref: Annexure-4**	Routine revision and streamlining of the scheme based on learning from the beginning of the autonomy.	**Approved**
DA2	Introduction of UNIX Systems Programming in 4-0-0 structure of 4 credits for 5th semester. **Ref:Annexure-5**	Exposure to UNIX environment and industry demand.	**Approved**

Decision Making Items: Modifications.

Sl. No	Description of the item to be added	Justification	Resolution
DM1	Restructuring of System Software Laboratory for 5th Semester.	To incorporate the concepts related to Unix System Programming.	**Approved**
DM2	Restructuring all the **elective courses** of 6th to 8th semester, from **4-0-0** to **3-0-0** and changing the credits from **4** to **3**.	To incorporate more number of courses.	**Approved**
DM3	Shifting of **Industry Oriented Programming Practices** from 5th Semester to 6th Sem	Effective delivery of the course enabled by the completion of pre-requisite courses like software engineering, Database Management Systems, Object Oriented Programming in the	**Approved with some modifications to contents of the syllabus.** **Refer. Annexure 4.**

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		previous semesters	
DM4	Shifting of Internship / Practical Training from 6th Semester to 7th Semester.	Duration required for Internship is 2 months, which is difficult to get between 5th Semester and 6th Semester. Effective utilization of Summer Vacation.	**Approved**
DM5	Making of elective course "Internet of Things" (7th Semester – 11UCSE) as an open elective.	To give exposure to other branch students also.	**Approved**

Mr. R.G.Yadawad
Member Secretary, CSE Dept., SDMCET, Dharwad
April 11, 2017

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Department of Computer Science and Engineering,

SDMCET, Dharwad-580002.

Proceedings of BoS Meeting

Date: 09th June, 2018

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Date: 2023-02-07 15:47+05:30

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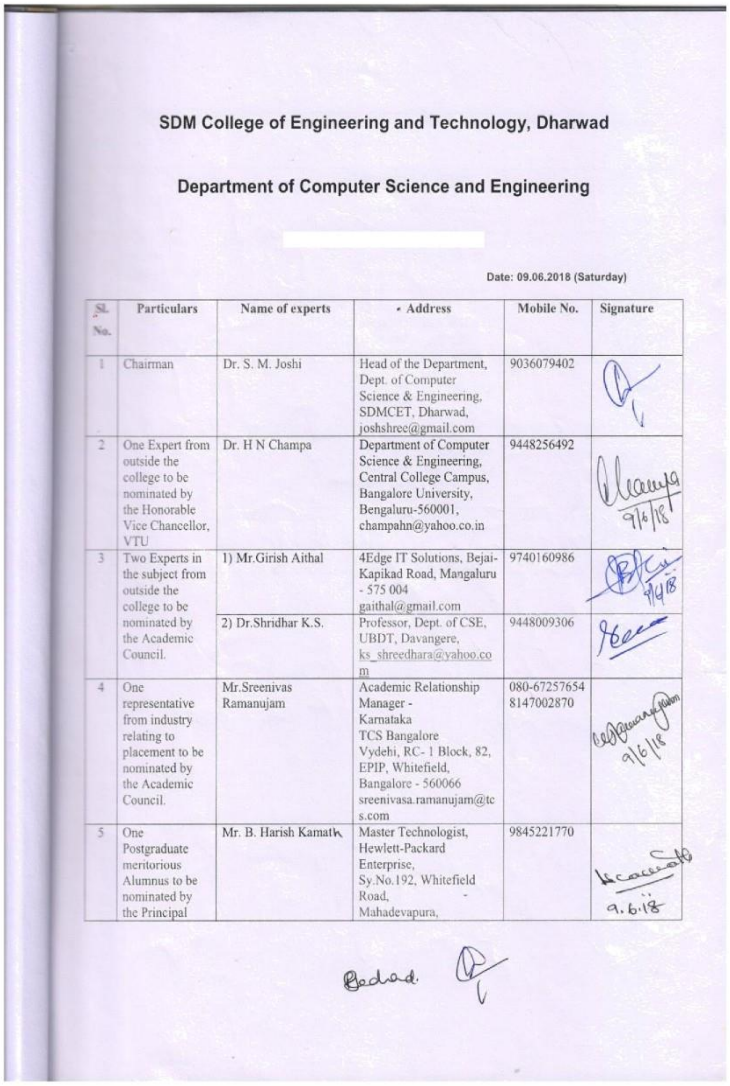
Committee Members

Board of Studies -"2018



SDM College of Engineering and Technology, Dharwad

Department of Computer Science and Engineering

Date: 09.06.2018 (Saturday)

Sl. No.	Particulars	Name of experts	Address	Mobile No.	Signature
1	Chairman	Dr. S. M. Joshi	Head of the Department, Dept. of Computer Science & Engineering, SDMCET, Dharwad, joshshree@gmail.com	9036079402	
2	One Expert from outside the college to be nominated by the Honorable Vice Chancellor, VTU	Dr. H N Champa	Department of Computer Science & Engineering, Central College Campus, Bangalore University, Bengaluru-560001, champahn@yahoo.co.in	9448256492	9/6/18
3	Two Experts in the subject from outside the college to be nominated by the Academic Council.	1) Mr.Girish Aithal	4Edge IT Solutions, Bejai-Kapikad Road, Mangaluru - 575 004 gaithal@gmail.com	9740160986	9/6/18
		2) Dr.Shridhar K.S.	Professor, Dept. of CSE, UBDT, Davangere, ks_shreedhara@yahoo.com	9448009306	
4	One representative from industry relating to placement to be nominated by the Academic Council.	Mr.Sreenivas Ramanujam	Academic Relationship Manager - Karnataka TCS Bangalore Vydehi, RC- 1 Block, 82, EPIP, Whitefield, Bangalore - 560066 sreenivasa.ramanujam@tcs.com	080-67257654 8147002870	9/6/18
5	One Postgraduate meritorious Alumnus to be nominated by the Principal	Mr. B. Harish Kamath	Master Technologist, Hewlett-Packard Enterprise, Sy.No.192, Whitefield Road, Mahadevapura,	9845221770	9.6.18

Bedad

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Sl. No.	Particulars	Name of experts	Address	Mobile No.	Signature
			Bengaluru, Karnataka 560048 harish.kamath@hpe.com		
6	Five Faculty members at different levels covering different specializations to be nominated by the Academic Council.	1) Dr. U. P. Kulkarni	Professor, Dept. of CSE, SDMCET, Dharwad upkulkarni@yahoo.com	9448915301	Dr U.P.Kulkarni 09/06/2018
		2) Prof.J.C.Karur	Professor, Dept. of CSE, SDMCET, Dharwad jck1965@gmail.com	8971212216	9/6/2018
		3) Prof J. V. Vadavi	Associate Professor, Dept. of CSE, SDMCET, Dharwad jvvadavi@gmail.com	9448001249	9/6/18
		4) Prof. Anand Vaidya	Assistant Professor, Dept. of CSE, SDMCET, Dharwad vaidya.anand@rediffmail.com	9036889732	
		5) Prof. R.N.Yadawad	Assistant Professor, Dept. of CSE, SDMCET, Dharwad rnyadawad@gmail.com	9164685527	

Bedrad.

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Agenda

Action Taken Report (From last BOS)

Sl. No	Particulars	Action taken
AR1	Proposal to introduce a course UNIX Systems Programming in 4-0-0 structure of 4 credits for 5th semester. *Exposure to UNIX environment and industry demand.*	Implemented
AR2	Proposal to introduce a core course Industry Oriented Programming Practices in 1-0-2 structure of 2 credits for 6th semester. *Providing standard programming practices.*	Implemented
AR3	Restructuring of System Software Laboratory for 5th Semester. *To incorporate the concepts related to Unix System Programming.*	Implemented
AR4	Restructuring of all the elective courses of 6th semester, from 4-0-0 to 3-0-0 and changing the credits from 4 to 3. *To be in line with VTU guidelines.*	Implemented
AR5	Multi-level mapping of course outcomes to program outcomes.	Implemented
AR6	Result Analysis	Inferences have been drawn.
AR7	Placements: Highest Package - 10.0 lakhs **(Intel)** Lowest Package: 2.5 lakhs **(Mphasis)** Average: 6.87 lakhs Total number of offers: 102	Department has taken several initiatives to give additional training to further augment the placements.
AR8	Internship – Total 27 students	1. Intel – 10 students 2. Informatica – 6 3. INSZoom – 1 4. MindCraft – 9

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		5. TECHSYSTEM – 1
AR9	Independent Study Details	Certifications by the students: 1. NPTEL – 18 2. CourseEra – 32 3. Udemy – 23 4. Others – 28

SCHEME 2015 – 19

III Semester

Course Code	Course Title	Teaching	
		L-T-P (Hrs/Week)	Credits
15UMAC300	Engineering Mathematics – III	4-0-0	4
15UCSC300	Digital Electronics	4-0-0	4
15UCSC301	Discrete Structures in Computer Science	4-0-0	4
15UCSC302	Data Structures	4-0-0	4
15UCSC303	Computer Organization	4-0-0	4
15UCSL304	Unix shell programming	0-2-2	2
15UCSL305	Digital Electronics laboratory	*0-0-3*	*1.5*
15UCSL306	Data Structures Laboratory	0-0-3	1.5
Total			**25**

Semester

Course Code	Course Title	Teaching	
		L-T-P (Hrs/Week)	Credits
15UMAC400	Engineering Mathematics – IV	4-0-0	4
15UCSC400	Microcontroller	4-0-0	4
15UCSC401	Finite Automata and Formal Languages	4-0-0	4
15UCSC402	Object Oriented Programming	4-0-0	4
15UCSC403	Analysis and Design of Algorithms	3-0-2	4
15UCSC404	Operating System	4-0-0	4
15UCSL405	Object Oriented Programming	0-0-3	1.5
15UCSL406	Microprocessor Laboratory	0-0-3	1.5
Total			**27**

V Semester

Course Code	Course Title	Teaching	
		L-T-P (Hrs/Week)	Credits
15UCSC500	Data Communication	4-0-0	4
15UCSC501	Compiler Design	4-0-0	4
15UCSC502	Data Base Management Systems	4-0-0	4
15UCSC503	Software Engineering	4-0-0	4
15UCSC504	Unix System Programming	4-0-0	4
15UCSL505	System Software Laboratory	0-0-3	1.5
15UCSL506	DBMS Laboratory	0-0-3	1.5
Total		**20-0-6**	**23**

VI Semester

Course Code	Course Title	Teaching	
		L-T-P (Hrs/Week)	Credits
15UCSC600	Computer Networks	4-0-0	4
15UCSC601	Advanced Object Oriented Programming	4-0-0	4
15UCSC602	Object Oriented System Modelling and Design	4-0-0	4
15UCSL603	Industry Oriented Programming Practices	1-0-2	2
15UCSL604	Network Programming Laboratory	0-0-3	1.5
15UCSL605	Object Oriented Programming *Laboratory*	0-0-3	1.5
15UCSL606	Mini Project	*0-0-8*	*4*
11UCSEXXX	Elective 1	3-0-0	3
11UCSEXXX	Elective 2	3-0-0	3
Total		**19-0-16**	**27**

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Inventory of Electives

Sl. No.	Course Title
1	System Modeling and Simulation
2	Digital Image Processing
3	Advanced Data Structures and Algorithms
4	Artificial Intelligence
5	Pattern Recognition
6	Principles of Programming Languages
7	Web Technologies
8	Mobile Application and Development

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VII Semester

Course Code	Course Title	Teaching	
		L-T-P (Hrs/Week)	Credits
15UCSC700	Engineering Management and Entrepreneurship	4-0-0	4
15UCSC701	Advanced Computer Architecture	4-0-0	4
15UCSL703	Major Project – Phase 1	0-0-8	4
15UCSC702	Computer Graphics	3-0-2	4
	Elective	3-0-0	3
	Elective	3-0-0	3
	Elective	3-0-0	3
Total		**34**	**27**

Inventory of Electives

Sl. No	Course Code	Course Title
1	15UCSE705	Software Testing
2	15UCSE706	Ad-hoc Networks
3	15UCSE707	Operation Research
4	15UCSE708	Internet of Things
5	15UCSE709	Multi-Core Architecture & Programming
6	15UCSE710	Embedded Systems

VIII Semester

Course Code	Course Title	Teaching	
		L-T-P (Hrs/Week)	Credits
15UCSC800	Distributed Systems	4-0-0	4
15UCSC801	Independent Study	0-0-4	2
15UCSL802	Major Project – Phase 2	0-0-20	10
	Elective	3-0-0	3
	Elective	3-0-0	3
	Elective	3-0-0	3
Total		**36**	**25**

Inventory of Electives

Sl. No	Course Code	Course Title
1	15UCSE803	Data Warehousing and Mining
2	15UCSE804	Cryptography and Network Security
3	15UCSE805	Cloud Computing
4	15UCSE806	Mobile Computing
5	15UCSE807	Network Management
6	15UCSE808	Ontology and Semantic Web
7	15UCSE809	Big Data Analytics

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Comparison of 2015 – 2019 and 2018 – 2022 Schemes:

Year	Semesters	2015-2019	2018-2022
I	01	22	21
	02	24	19
II	03	25	24
	04	27	24
III	05	23	25
	06	27	23
IV	07	27	21
	08	25	18
Total Credits		200	175

Comparison of 2015 – 2019 and 2018 – 2022 Schemes:

Particulars	Credits	
	2015-2019 Scheme	2018-2022 Scheme
Core Courses	84	83
Elective Courses	24	15
Open Electives	06	09
Laboratories	12	14
Mini Project	4	2
Major Project	14	10
Seminar / Independent	2	1
Internship / Practical	2	3

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SCHEME 2018 – 22 Batch: 1st Year Chemistry Cycle

Course Code	Course Title	Teaching	
		L-T-P (Hrs/Week)	Credits
18UMAC100	Engineering Mathematics-I	3 - 1 - 0	4
18UCYC100	Engineering Chemistry	3 - 1 - 0	4
18UECC100	Basic Electronics	3 - 0 - 0	3
18UCSC100	Problem Solving & Programming in C	4 - 0 - 0	4
18UMG100	Engineering Graphics	2 - 0 - 2	3
18UCYL100	Engineering Chemistry Lab	0 - 0 - 2	1
18UCSL100	Problem Solving & Programming in C Lab	0 - 0 - 2	1
18UHUC101	Functional English	2 - 0 -0	1
18UHUA102	Environmental Science	2 - 0 - 0	Audit

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Resolutions:

Decision Making Items: Additions.

Sl. No	Description of the item to be added	Justification	Resolution
A1	*Internship / Practical Training* of 2 credits for 7th semester.	Exposure to Industry Environment.	Approved
A2	*Distributed Systems* as a core course of 4 credits for 8th semester.	Fundamental subject.	Approved
A3	*New Scheme* for I year.	As per VTU guidelines	Approved

Decision Making Items: Modifications.

Sl. No	Description of the item to be added	Justification	Resolution
M1	Restructuring of Artificial Intelligence course for 6th Semester.	Syllabus has been reframed for 39 hours.	Approved
M2	Restructuring of all the **elective courses** of 7th and 8th semesters, from **4-0-0** to 3-**0-0** and changing the credits from **4** to **3**.	To be inline with VTU Guidelines.	Approved

Dr.S.M.Joshi.
(HOD CSE)

June 09, 2018

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Date: 2023-02-07 15:48+05:30

SDM College of Engineering and Technology, Dharwad – 580002

Department of Computer Science and Engineering

BoS Proceedings 2019

27-05-2019

1. The Chairman, Dr. S.B.Kulkarni., welcomed Dr. S. B. Vanakudare, Principal, Dr. R.L. Chakrasali, (Dean Academics), all the faculty members and BoS (Internal and External) members to the meeting.
2. Prof. R.N.Yadawad. discussed about the action plan, report of the previous BoS.
3. The following are the approved things in the Board of Students – 2019 meeting w.r.t. B.E. 2018 Scheme (175 credits):
    i. As a part of Independent Study, students must give their presentations in the presence of their batch mates. It is suggested to keep a repository of videos in the department.
    ii. Tutorial 3-2-0 model: PG students, in addition to the course teachers, may be used for the conduction of tutorials.
    iii. Micro controller 8051: The ARM processor is to be taught in place of Microcontroller 8051 in the fourth semester.
    iv. Finite Automata and Formal Languages: It is suggested to make use of text book authored by Eline Richi, in addition to the existing text books.
    v. For Introductory Project (IV Semester), and Minor Project – 1 (5^{th} Semester) specified in the course outline, team size is 10 – 12. It is suggested to have a team size of 4- 5 students only.
    vi. The syllabus for Object Oriented Programming of 4^{th} Semester is to be modified.
    vii. Every 6 to 8 hours is to be considered as one module as in the VTU syllabus. This will force the students to read all the modules. This is subject to approval of Academic Council of SDMCET, Dharwad.
    viii. Analysis and Design of Algorithms: This subject is to be linked with Introductory Project (4^{th} Semester) as this subject is not having end semester lab examinations.
    ix. The title of Computer Networks – 1 is to be reverted to Data Communications. The title of Computer Networks – 2 is to be reverted to Computer Networks.
    x. The title of Compiler Design is to be modified as Compiler Design and System Software.

xi. Computer Organization title needs to be changed as Computer Organization and Architecture.

xii. Data Structures: The title of the course is to be changed as Data Structures and Applications.

xiii. Digital Electronics: One chapter on Analog Electronics has to be included after comparing with the first year Basic Electronics course.

xiv. Software Testing should not be made as core course. In place of that, the course Artificial Intelligence and Machine Learning is to be introduced as core course for 7^{th} Semester. The Software Testing course is to be looked for elective.

xv. Software Engineering and OOMD courses may be redesigned to remove some of the duplicate contents.

xvi. The elective course Data Warehousing and Mining is to be made as part of 6^{th} Semester Elective list, instead of 8^{th} Semester Elective list.

xvii. The open elective courses offered by the department are to be taken by other branch students and vice versa.

xviii. The topics related to Cyber Law are to be included in the Management, Entrepreneurship, and IPR course of 5^{th} Semester.

xix. Distributed Systems will continue as core course. If possible, it can be renamed as Distributed Systems and Big Data Analytics. It should include three components – Basic Distributed Algorithms, Case Studies, and Programming aspects.

xx. The courses Introduction to Unix Operating Systems and Industry Oriented Programming Practices were discussed in detail and approved.

xxi. Mr. Harish Kamat expressed his views through mail, and same was discussed.

SDM COLLEGE OF ENGINEERING & TECHNOLOGY, DHARWAD
DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING
Board of Studies (UG & PG) Committee Members for the period April 2018 to April 2020

Sl. No.	Particulars	Name of experts	Address	Mobile No.	Signature
1	Chairman	Dr. S. B.Kulkarni	Head of the Department, Dept. of Computer Science & Engineering, SDMCET, Dharwad, sbkulkarni_in@yahoo.com	9880313022	
2	One Expert from outside the college to be nominated by the Honorable Vice Chancellor, VTU	Dr. H N Champa	Department of Computer Science & Engineering, Central College Campus, Bangalore University, Bengaluru-560001, champahn@yahoo.co.in	9448256492	
3	Two Experts in the subject from outside the college to be nominated by the Academic Council.	1) Mr.Girish Aithal	4Edge IT Solutions, Bejai-Kapikad Road, Mangaluru - 575004 gaithal@gmail.com	9740160986	
		2) Dr.Shridhar K.S.	Professor, Dept. of CSE, UBDT, Davangere, ks_shreedhara@yahoo.com	9448009306	
4	One representative from industry / Corporate sector / allied area relating to placement to be nominated by the Academic Council.	1) Mr.Sreenivas Ramanujam	Academic Relationship Manager - Karnataka TCS Bangalore Vydehi, RC- 1 Block, 82, EPIP, Whitefield, Bangalore - 560066 sreenivasa.ramanujam@tcs.com	080-67257654	
5	Five Faculty members at different levels covering different specializations to be nominated by the Academic Council.	1) Dr. U. P. Kulkarni	Professor, Dept. of CSE, SDMCET, Dharwad upkulkarni@yahoo.com	9448915301	
		2) Prof.J.C.Karur	Professor, Dept. of CSE, SDMCET, Dharwad jck1965@gmail.com	8971212216	11/5/19
		3) Prof J. V. Vadavi	Associate Professor, Dept. of CSE, SDMCET, Dharwad jvvadavi@gmail.com	9448001249	11/5/19
		4) Prof Anand Vaidya	Assistant Professor, Dept. of CSE, SDMCET, Dharwad	9036889732	

			vaidya.anand@rediffmail.com		
		5) Prof. R.N.Yadawad	Assistant Professor, Dept. of CSE, SDMCET, Dharwad rnyadawad@gmail.com	9164685527	
	Special Invitee	6) Dr. S. M. Joshi	Professor, Dept. of CSE, SDMCET, Dharwad joshshree@yahoo.com	9036079402	
6	One Postgraduate meritorious Alumnus to be nominated by the Principal	1) Mr. Harish Kamat	HPE Printers, Bangalore harish.kamath@hpe.com	9845221770	

HOD CSE
Department of Computer Science & Engineering
S.D.M. College of Engineering & Technology
Dharwad - 580 002

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Board of Studies – Proceedings

Computer Science and Engineering

UG and PG PROGRAMME

Effective from: 1st August 2020

BoS Meetings held on 11th July 2020

Online- CISCO WebEx tool

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Department of Computer Science and Engineering Email:
cse.sdmcet@gmail.com

SDMCollege of Engineering and Technology, Dhavalagiri, Dharwad-580002 KarnatakaState

Ph: 0836-2447465/ 2448327 Fax: 0836-2464638 Email:cse.sdmcet@gmail.comprincipal@sdmcet.ac.in

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About the Department

The department of Computer Science and Engineering is established in the **year 1985**. Currently one **UG** Programme with the **intake of 120**and one **PG** Program with intake of **18** are running in Autonomous mode recognized by Visvesvaraya Technological University and UGC.

The department has a research center, recognized by Visvesvaraya Technological University, Belgaum.

The department has adopted **OBE based Educational Philosophy**since 2010 & transforming itself to drive practice based learning as its new learning model / initiatives for students, so that they are globally acceptable as a **competent professionals**with **human values**. To achieve this it has established its mission as stated below.

1. To have **contextually relevant** Curricula.
2. To promote **effective Teaching Learning Practices** supported by Modern Educational Tools and Techniques.
3. To **enhance Research Culture**.
4. To involve the **Industrial Expertise for connecting Classroom**contents to real-life situations.
5. To inculcate **Ethics and soft-skills**leading to overall personality development.

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Agenda

1. **Revalidation** of Vision/Mission/PEOs/POs and PSOs; if required.
2. **Reporting items** in terms of :
    a) Performance in the **examinations**.
    b) **Placement** report.
    c) **NBA** accreditation results.
    d) Other noteworthy **Contributions**.
    e) **Implementation** details of **last BoS** resolutions.
3. **Unit wise** reorganization of syllabus.
4. **Introduction** of Performance Ensuring Measures- **PEM** in the syllabus.
5. **Connecting Industry**(Alumni) to the class room through webinars in each course.
6. **Course outcomes** and their **mappings** to POs and PSOs.
7. UG- Development of **course contents of 5th and 6th semester** under 175 credits.
8. UG- **10 % variations** in existing syllabus; if required, in other semesters of 175 credits and 7th and 8th semesters of 200 credits.
9. PG- Development of **course contents of 1st and 2nd semester** and **only scheme of 3rd and 4th semesters**.
10. Any other relevant matters.

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Vision and Mission

Vision and Mission of the Institution (V4.0)

VISION:

To develop competent professionals with human values.

MISSION:

1. **To have contextually relevant Curricula.**
2. **To promote effective Teaching Learning Practices supported by Modern Educational Tools and Techniques.**
3. **To enhance Research Culture.**
4. **To involve the Industrial Expertise for connecting Classroom contents to real-life situations.**
5. **To inculcate Ethics and soft-skills leading to overall personality development.**

Vision and Mission of the Department (V4.0)

1-10-2017

VISION (V4.0):

To develop competent professionals in the field of Computer Science and Engineering with human values.

MISSION (V4.0):

1. To have **contextually relevant curricula**in line with industry trends and body of knowledge stated by **IEEE/ACM**.
2. To promote **OBE based effective Teaching Learning Practices** supported by modern educational tools and techniques.
3. To enhance **research culture**.
4. To involve the **industrial expertise**for connecting classroom contents to real-life situations.
5. To inculcate **ethics and soft-skills**leading to overall personality development.

QUALITY POLICY (V4.0)

In line with the Institutional VISION (Competence, Commitment and Team work), and understanding education as the manifestation of the perfection already in man, the Department of Computer Science and Engineering at SDM College of Engineering & Technology, Dharwad, has redefined its quality policy as under:

Impartingquality education by which:

1. ***Character* is formed.**
2. **Strength of the *mind* is increased.**
3. **The *intellect* is expanded, and by which one can *stand on* one's own feet.**

So that our students are:

- ✓ **Acceptable as good citizens and adaptable lifelong learners.**
- ✓ **Acceptable globally in the industries and Premier Institutions of Higher studies and Research.**

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Department of CSE, SDMCET, Dharwad.

Re-written on 18th Nov 2011, on the occasion of Inauguration of new space created for the department.

PEOs (V 4.0)

Reference:

1. **Page No. 18, Accreditation Manual for UG Engineering Programmes, (TIER-I), January, 2013.**
2. **Page No. 14-23, Ver. June 2009 NBA Accreditation of UG Engineering Program.**
3. **Continuation of Version 3.1**

Programme Educational Objectives (PEOs) – Programme educational objectives are broadstatements that **describe the career and professional accomplishments that the programme is preparing graduates to achieve.**
Programme Outcomes (POs) – Programme Outcomes are narrower statements thatdescribe **what students are expected to know and be able to do upon their graduation**. These relateto the skills, knowledge, and behavior that students acquire in their matriculation through theprogramme.

Sl. No.	Programme Educational Objectives
Organizational Core Values through Vision: **Competence, Commitment, Equity, Team work and Trust.**	
I	***To build*** technical **competence**by providing necessary background and foundation in Computer Science and Engineering domain, so that students are acceptable globally to industries, premier institutions of higher studies and research.
II	***To create*** awareness of technological trends and tools to provide an experience of developing computing systems through development phases like: inception, elaboration, construction and transition, with higher quality and standards.
III	***To prepare*** students to be **committed** citizenwith social and professional concern.
IV	***To prepare*** studentsto be independent lifelong learner.
V	***To prepare*** students to demonstrate leadership qualities and managerial skills, thus contributing their knowledge globally at various levels of responsibilities in heterogeneous **team**s.

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POs and PSOs

APPROVED PROGRAMME OUTCOMES (POs) and Programme Specific Outcomes (PSOs)-V 4.0

V 4.0

Version 2016, Effective from 1-1-2016

As per NBA Documents published on www.nbaind.org for Tier-I Institutions.

Outcomes are the skills and knowledge which the students have at the time of graduation. This will indicate what student **can do** from subject-wise knowledge acquired during the programme.

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

	finance	and leader in a team, to manage projects and in multidisciplinary environments.
PO-12	**Life-long learning**	Recognize the need for, and have the preparation and ability to engage in independent and life-long learning in the broadest context of technological change.
PROGRAM SPECIFIC OUTCOMES (PSOs) defined by the programme. **Baseline- Rational Unified Process (RUP)**		
PO-13	**System Inception and Elaboration**	**Conceptualize** the software and/or hardware systems, system components and process/procedures through requirement analysis, modeling /design of the system using various **architectural / design patterns**, standard notations, procedures and algorithms.
PO-14	**System Construction**	**Implement** the systems, procedures and processes using the state of the art technologies, standards, tools and **programming paradigms**.
PO-15	**System Testing and Deployment**	**Verify and validate** the systems, procedures and processes using various **testing and verification techniques and tools**.
PO-16	**Structure and Behavior**	**Manage** the **quality through various product development strategies under revision, transition and operation** through maintainability, flexibility, testability, portability, reusability, interoperability, correctness, reliability, efficiency, integrity and usability to **adapt the system to the changing structure and behavior of the systems /environments**

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BoS Members

Sl. No.	Particulars	Name of the members	Category
1	Chairman	Dr.U.P.Kulkarni.	**Professor & Head**, Dept. of CSE, **SDMCET,Dharwad**upkulkarni@yahoo.com 9448915301
2	**VTU nominee**	Dr. R B V. Subramaanyam.	**Professor**, Dept of CSE, **NIT, Warangal** rbvs66@gmail.com 9491346969
3	**Subject Experts**	1) Dr.Shridhar.K.S.	**Principal,** Dept. of CSE, **UBDT**, **Davangere**, ks_shreedhara@yahoo.com 9448009306
		1) Dr.Rajashekar.K.	**Assistant Professor** Dept of CSE **IIT, Dharwad** Dharwad - 580011. rajshekar.k@iitdh.ac.in 8802515953
4	**Industry / Corporate sector representative**	Mr. Sreenivas Ramanujam.	**Academic Relationship Manager** - Karnataka **TCS Bangalore** Vydehi, RC- 1 Block, 82, EPIP, Whitefield, Bangalore - 560066 sreenivasa.ramanujam@tcs.com 080-67257654, 8147002870
5	**Alumnus**	Mr. Vijay.Upadhyay.	**Technologist**, **Torry Harris Integration Solutions**, #71, Sona Towers, Millers Road, Bangalore – 560052 vijayru@gmail.com 7259400112
6	Internal Members **(UG)**	1) Dr.S.M.Joshi.	**Professor** joshshree@gmail.com 9036079402
		2) Prof.J.V.Vadavi.	**Associate Professor** jvvadavi@gmail.com 9448001249
		3) Prof.R.G.Yadawad	**Assistant Professor** rgyadawad@gmail.com 9448049909

		4) Prof. Indira.R.Umarji.	**Assistant Professor** indira.umarji@gmail.com 9945348887
		5) Dr.R.N.Yadawad. **(Member Secretary)**	**Assistant Professor** rnyadawad@gmail.com 9164685527
7	Internal Members **(PG)**	1) Dr.S.M.Joshi.	**Professor** joshshree@gmail.com 9036079402
		2) Dr.Raghavendra.G.S.	**Associate Professor** gsr.sdmcet@gmail.com 7204577887
		3) Dr.Vidyagowri.B.H.	**Assistant Professor** vidya_gouri@yahoo.com 9448776104
		4) Dr.Shivanagowda G.M.	**Assistant Professor** shivana.gowda@gmail.com 9740109113
		5) Dr.J.C.Karur. (**Member Secretary**)	**Professor** jck1965@gmail.com 8971212216
8	Special Invitee	Domain specific expert(s) will be invited on need basis	

Note:

A. Meeting conducted in online mode and following members remained absent for the meeting.

1.
2.

B. Dr. S. Biradar, faculty, Department of ISE, SDMCET, Dharwad has participated as domain experts

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DUGC , DPGC, IQAC and BoE Members

Department Under-graduate Committee (DUGC)& Academic Appeal Board (AAB)[till 30th June 2020]

Dr. U.P.Kulkarni - Chairman & Head of Department.

1. **Prof. R. N. Yadawad - Member Secretary.**
2. **Prof. J.V.Vadavi - Member.**
3. **Prof. R.G. Yadawad - Member.**
4. **Prof. A.D.Vaidya - Member.**
5. **Prof. I.R.Umarji - Member.**
6. **Prof. S.M.Joshi - Special Invitee**

Following are the special invitees called on case basis.

1. **Prof. J.C.Karur.**
2. **Prof. N.G.Kakhandki.**
3. **Prof. V.B.Hemadri.**
4. **Prof. G.M.Shivanagouda.**

Department Post-graduate Committee (DPGC)& Academic Appeal Board (AAB)[till 30th Oct 2020]

Members:

Dr. U.P.Kulkarni - Chairman & Head, Department of CSE.

1. **Dr.J.C.Karur - Member.**
2. **Dr. S.M.Joshi - Member.**
3. **Dr. Shivanagoud G.M - Member.**
4. **Dr. Vidyagouri Hemadri - Member.**
5. **Prof. Sandhya S.V - Member Secretary**

IQAC– Members- UG [till 30th June 2020]

Members:

Dr. U.P.Kulkarni - Chairman & Head of Department.

1. **Dr. S.M.Joshi - Coordinator. (QP review & Conduction BoE)**
2. **Prof. A.D. Vaidya - Member (Class Committee &Course File verification)**
3. **Prof. R.G.Yadawad - Member (Class Committee)**

Dr. Vidyagouri Hemadri and Prof. Govind Neglur are the special invitees.

IQAC– Members- PG [till 30-10-2020]

Members:

	Dr. U.P.Kulkarni	**- Chairman & Head, Department of CSE.**
1.	**Dr. Vidyagouri Hemadri**	**- Member**
2.	**Prof. VidyaUttur**	**- Member**

BoE– Members- UG [till 30th June 2020]

Members:

	Dr. U.P.Kulkarni	**- Chairman & Head, Department of CSE.**
1.	Dr. S.M.Joshi	-Member Secretary
2.	Prof. J.V.Vadavi	-Member
3.	Dr. Vidyagouri Hemadri	-Member
4.	Prof. IndiarUmarji	-Member
5.	Prof. Govind Neglur	-Member
6.	Dr. S.F.Rodd, GIT Belgaum.	-Member External
7.	Prof. Prasanna Bammingatti- KLEIT, Hubli	-Member

BoE– Members- PG [till 30-10-2020]

Members:

	Dr. U.P.Kulkarni	**- Chairman & Head, Department of CSE.**
1.	Prof. Nita K.	-Member Secretary
2.	Dr. S.M.Joshi	-Member
3.	Dr. Raghavendra G.S	-Member
4.	Dr. Vilas Naik, BEC Bagalkot	-Member
5.	Dr.RajendraHeggadi, IIIT Hubli	-Member

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Reporting Items.

Performance in the Examination.

BATCH	% of passing							
	1st Sem	2nd Sem	3rd Sem	4th Sem	5th Sem	6th Sem	7th Sem	8th Sem
2012-13 to 2015-16	54	52	56	67	67	78	90	96
2013-14 to 2016-17	61	73	48	38	62	73	82	92
2014-15 to 2017-18	51	57	56	67	71	91	84	91
2015-16 to 2018-19	53	59	64	56	71	83	88	99
2016-17 to 2019-20	63	62	59	58	79	82	79.70	
2017-18 to 2020-21	65	47	71	82	81.88			
2018-19 to 2021-22	66	67	85.83					
2019-20 to 2022-23	61							

Placement Report.

Year	No. of Companies Visited	Highest Package (LPA)	Lowest Package (LPA)	No. students Placed.	No. of Offers	Total no of students	% Placement
2015-16	47	14	2	90	117	104	86.53 %
2016-17	49	14	1.8	62	79	112	55.35 %
2017-18	50	9.62	1.8	76	113	115	66.08 %
2018-19	56	10.24	1.75	104	142	109	95.41 %
2019-20	**32**	**11.44**	**2.2**	**82**	**138**	**122**	**67.21 %**

List of Companies Visited to SDMCET: Academic year: 2019-20

1. INSZoom
2. Allegion

3. Informatica
4. ITC INFOTECH INDIA LTD.
5. DELL
6. Radisys
7. CoreEL
8. Deloitte
9. KPIT

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10. Accenture
11. TCS
12. Texas Instruments'
13. Global Edge
14. Mindtree
15. Quest Global
16. TEK Systems
17. Oracle GSD
18. Mercedes Benz
19. Cadence
20. Deevia Software
21. Pin Click
22. Hexaware Technologies
23. Sony
24. Oracle GSD
25. ANZY Careers
26. Tayana Software Solutions
27. Shriram General Insurance Co. Ltd
28. Continental Automotive
29. Infosys Ltd
30. Juniper Networks
31. Saankhya Labs Pvt Ltd

NBA accreditation.

Date of Visit: 7th to 9th June-2020.Application ID: 3316-08/12/2018
Period of Validity of accreditation: Academic year 2020-21to 2022-23 i.e up to 30-06- 2023.

General Observation:

a. Department has started in 1985 with the initial intake of 30. The intake was increased to 120 in 2005. Department also runs a PG program in CSE with an intake of 18.
b. Vision, mission statements and PEOs have been developed, published. However little involvement of stake holders is observed in the preparation of these.
c. The enrolment ratio is good. About 40% of faculty members are PhD holders.
d. **Faculty involvement in NBA process is good.**
e. Regular activities of the department are as per the designed academic calendar.
f. **Cooperation among the faculty observed**.

Strength:

a. **Vision, Mission have been designed and published.**
b. **Overall ambiance of the department is very good.**
c. **Class rooms and Labs are equipped with LCD projectors.**
d. **SFR, Faculty cadre ratio and Faculty retention is very good.**
e. **Labs are well equipped and maintenance is good.**
f. **The student enrolment is very good.**
g. **Young and dynamic faculty.**

Curriculum Design Guidelines.

Department wishes to focus on the following areas for improvementthrough curriculum reforms and Improved TLPs.

1. Awareness of **OBE** among various stakeholders.
2. **Involvement** of various **stake holders** in defining CO, PEOs, PSOs.
3. Setting **attainment levels** set for COs and POs.
4. **Industry** Institute interaction.
5. PhD- **Research**.
6. **Faculty interaction** with outside world.
7. Academic **audit**.
8. Professional society **student chapter** in the department.
9. **Involvement of industry** in curriculum design and **partial delivery** of regular courses.
10. Students' **feedback** on Institute industry interaction.
11. Student's **publications**.
12. Participation of the students in various **events outside** the state.
13. Publication of **technical magazine**.
14. **Awards** won by the students.
15. Continuous improvement in **placement and higher studies**.

Other noteworthy contributions.

1. Improved certification courses.
2. Improved **Internship** in the industry.
3. **Copyright** publication by students group.
4. Start of **product development** by students group.

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Implementation details of the last BoS meeting resolutions.

All resolutions have been implemented.

Sl. No	Resolution in previous BoS meeting dated 11th May 2019	Implementation status
1	Independent study- Students must give presentation in front of their batch mates and it is suggested to keep the videos of their presentation in the department repository.	**Process established.** Lockdown situations made us to be liberal in process established.
2	PG students may be used to conduct tutorial for UG students in addition to course teacher.	**Informally done.** Formal process to be established with approval of AC.
3	Arm processor is to be taught in place of microcontroller in 4th semester.	**Implemented.**
4	Text book revision in FAFL course. Book: Elaine A.Rich, Automata, Computability, and Complexity, Pearson Publication	**Implemented.**
5	For introductory project @ 4th semester level, the team size is to be 4 to 5 instead of 10 to 12.	**Implemented.**
6	Contents of object oriented programming are to be relooked.	**Implemented.**
7	Module wise syllabus is to be considered. Every 6 to 8 hours of contents may be considered as a module.	**Implemented.**
8	Analysis and Design of Alogorithms is to be linked with Introductory projects at 4t sem.	**In process.** Since introductory project focus on ideation phase, enabling students to look for Engineering problems in the society and visualize a solution.
9	Title of Computer Network-1 is to be reverted to Data Communication.	**Implemented.**
10	Title of Compiler Design course to be modified as Compiler Design and System Software.	**Implemented.**
11	Computer Organization course title to be changes as Computer Organization and Architecture.	**Implemented.**
12	Title of the Data Structure course to bechanged as Data Structure and Applications.	**Implemented.**
13	One chapter on analog circuits to be introduced in	**In process.**

	Digital Electronics Course.	
14	AI and Machine learning to be introduced as core subject in place of Software Testing.	**Implemented.**
15	Software Engineering and OOMD may be redesigned to remove duplicate contents.	**Implemented.** Introductory coverage and detailed coverage is balanced in pedagogy.
16	Data warehousing and mining to be put in 6th Sem	**In process.**

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	elective list instead of 7th sem.	
17	Open electives courses offered by the department are to be taken by other branch students and vice versa.	**Implemented.**
18	Topics related to cyber laws to be introduced in management course.	**Implemented.**
19	Distributed System wil continue as core course. If possible it may renamed as Distributed System and Big Data Analytics.	**Implemented.** The course distributed System will continue as core with focusing on distributed algorithms, Case studies and Algorithms aspects.
20	Courses Introduction to Unix Operating System and Industry Oriented Programming Practices were approved.	-

Covid-19 : Lockdown Period activities.

1. Regular class committee meetings with CRs through WebEx / Zoom.
2. Regular meetings with all faculty members.
3. Online interactive classes through WebEx / Zoom.
4. Sharing of videos through class groups and college website.
5. Sharing power point slides through class groups / Google class.
6. Conducting classes through Google classes.
7. Written open book assignments (1 and 2) and its evaluation through Google classes and other modes.
8. Project and seminars/Independent study evaluation through WebEx tool.

Status: Syllabus coverage before covid - ~40 %
during lock down period - ~40-60%
Through Sl. No. 1 to 7 listed above.
Reachability: Through interactive class - 60-70% Through sharing of videos/materials - 100%

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Proceeding of the Meeting.

Dr. U P Kulkarni, Chairman of Board of Studies (BoS), welcomed all members of BoS and all faculty members. In this welcome address, Chairman mentioned about the main features of curriculum for both UG and PG and related aspects and are as below:

- Writing of Course Outcomes in accordance with three levels of mastery defined by **IEEE/ACM** and **Bloom's taxonomy.**
- **Mapping COs to POs** with appropriate level and required supporting evidence.
- Inclusion of **Performance Ensuring Measures (PEM)** as per **NASSCOM** defined structure to ensure **common minimum experiential learning** to comply with course outcomes defined for a course.
- Curriculum **guidelines**, NBA observations and noteworthy contributions by the students.

Sl. No	Agenda/ Observations	Resolutions/ Suggestions
01	**Revalidation** of Vision/Mission/PEOs/POs and PSOs	Vision and Mission statements are relevant and are **in-line with Institutional** vision and mission. PEOs are defined as per procedures laid down by **NBA-2009 manual**. POs 1 to 12 are **standard** and are **common** across the Institution defined by NBA. PSOs are defined based on **Rational Unified Process** and are relevant to be called as Program Specific Outcomes/ Graduate Attributes. Hence all are relevant and hence **approved**.

02	Reporting Items: a) Performance in the **examinations**. b) **Placement** report. c) **NBA** accreditation results. d) Other noteworthy **Contributions**. **e)** **Implementation** details of **last BoS** resolutions	Appropriate TLP may be designed to improve performance at 1st year level. Placement related domain specific training for students are to be planned. Student's projects leading to publication need improvements and are to be planned. BoS expressed satisfaction over implementation of all suggestions given in their previous meeting.
03	**Unit wise** reorganization of syllabus	Structural reform at Institute level is initiated in the college and hence BoS **approves** this reform.
04	**Introduction** of Performance Ensuring Measures-**PEM** in the syllabus	This is introduced as per NASSCOM recommendation to ensure common minimum learning standards through practice based learning and hence **approved**.
05	**Connecting Industry**(Alumni) to the class room through webinars in each course	Industry / alumni connectivity to the class room through webinar for every course is a good practice. This will give exposure to industry trends and hence **approved**.
06	**Course outcomes** and their **mappings** to POs and PSOs	Course outcomes are defined as per Blooms taxonomy and also as per the directions given in IEEE/ACM Body of Knowledge and hence **approved**. COs to POs mapping need deeper understanding while designing course plan/ course assignments. This has been taken care in PEM and hence **approved**.

UG- Observations and Resolutions /Suggestions

1	Mr. Sreenivas Ramanujam from TCS Bangalore suggested to include Industry experts along with proposed alumni participation as a part of webinars attached with every course. The floor **agreed and approved** this suggestion and also **suggested** to conduct quiz based on the expert

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	talk after one week of the session.
2	The floor **agreed and approved** the changes in the titles of courses as Data Communication and Computer Networks instead of Computer Networks I and Computer Network -II.
3	Mr. Vijay Upadhya from Torry Harris Integration Solutions Bangalore suggested for including Student Presentations for every subject as part of the PEM. The floor **agreed and approved** this suggestion.
4	Prof. RBV Subramaanyam from NIT Warangal highlighted the non-availability of File organization concepts during the discussion of Database Management Systems course contents. However, it was brought to the notice to the floor by Dr.U.P.Kulkarni that it is included in other courses. The floor **agreed and approved the inclusion** of activity based on file organization in PEM of DBMS theory and / or in the DBMS laboratory
5	Mr. Vijay Upadhya from Torry Harris Integration Solutions Bangalore suggested for including NoSQL, Graph Databases as part of DBMS course. However, Prof. RBV Subramaanyam from NIT Warangal insisted for covering these concepts through self-study mode / project based learning by the students. The floor **agreed and approved the inclusion** of activity in PEM of DBMS theory and / or in the DBMS laboratory as self-learning drive connected with CTA.
6	Prof. RBV Subramaanyam from NIT Warangal suggested the following things: **a)** Inclusion of JDBC-ODBC concepts in Java. **b)** In the course Data Mining, the Unit 2 (Association Analysis) and Unit 3 (Classification) are to be dealt in the order: First Classification, then Association Analyis. **c)** Offering Embedded Systems as an Open Elective by the CSE department. The floor **agreed and approved** this suggestion. It was also noted that JDBC-ODBC concepts are covered in Advanced Object Oriented Programming (Java).
PG Observations and Resolutions/Suggestions.	
1	Mr. Sreenivas Ramanujam from TCS Bangalore has informed that his group will **facilitate connecting industry experts** towards teaching of the courses Software Defined Networks and Image Processing and Computer Vision.
2	Mr. Sreenivas Ramanujam from TCS Bangalore has suggested reserving the last two semesters exclusively for Internship and Project Work for the students as being followed in premier institutes. The floor **agreed** to forward this information to the office of the Dean (Academics) program to call for the decision as the common scheme is followed for all the PG courses at the Institute level.
3	Mr. Vijay Upadhyay from Torry Harris Integration Solutions Bangalore has appreciated the adoption of Performance Ensuring Measures (PEMs) followed for the courses in the department.
4	Mr.Vijay Upadhaya has accepted our invitation to initiate the industry oriented problem formulation for the students in connection with project work.
The Chairman BoS, Dr. U P Kulkarni also requested the external members to provide any additional comments, if any, through the form shared in the email sent to all the BoS members, and those comments will also be considered after relevant email discussions with all the BoS members.	

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Annexure.

Call for the meeting.

BoS meeting dated 11-7-2020

From: CSE SDMCET (cse.sdmcet.bos@gmail.com)

To: sdmcet_cse_bos_2020_2022@googlegroups.com

Cc: sdmcet_cse_faculty@googlegroups.com; principal@sdmcet.ac.in; deanap.sdmcet@gmail.com; deanadmn.sdmcet@gmail.com; dvpatil61@gmail.com

Date: Friday, July 10, 2020, 7:18 AM GMT+5:30

Respected members
of BoS- 2020-22
Department of CSE, SDMCET, Dharwad.

I welcome all new members of **BoS-2020-22** for the first BoS meeting of this group. The meeting is scheduled to formulate the syllabus of UG & PG in line with the directions given by the office of the dean Academic Programme and previous BoS discussions and resolution.

The details of the meeting are as below:

Date : 11-7-2020.
Time : 10am onwards
Venue: online
Mode: Online- Platform- WebEx tool. - Links have been already sent to all.
Programs: UG and PG
Scope:

1. **PEOs, POs and PSOs.-** A glance for revalidation if required.
2. **Course Outcomes-** quality of expected critical thinking levels.
3. **COs to POs mapping.**
4. **Performance Ensuring Measures- PEM** as per NASSCOM standards
5. **UG- 5th and 6th semesters** and minor changes(to the extent of 10%) for other sem if required.
6. **PG- 1st to 4th semester contents.**

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Syllabus Copy availability: in College website at
https://sdmcet.ac.in/cs-engineering/

Presenters:

Dr. U.P.Kulkarni, Head, Department of CSE.
UG- Dr. Ramchandra Yadwad- Member Secretary.
PG- Dr. J.C.Karur, PG Coordinator and Prof. Sandhya S.

Meeting Links: - a separate file is attached with this email
All webEx meetings are of 50 minutes. 10 Minutes break for transition from one meeting to another meeting.

Online meeting links.

SDM College of Engineering and Technology, Dharwad – 580002
Department of Computer Science and Engineering

Board of Studies (BoS) meeting – 2020

Date: **11.07.2020** Time: **10 am onwards**

Tool: **Cisco WebEx meeting tool**

Sl.No	Time	Meeting ID	Password	Meeting link
1	10:00 am	1661218931	csedept	https://meetingsapac29.webex.com/meetingsapac29/j.php?MTID=m40db75f90d8dc1a28691e4a1934ed875
2	11:00 am	1665277370	csedept	https://meetingsapac29.webex.com/meetingsapac29/j.php?MTID=m27d001398a42489dfcd3e3c0ab424f5d
3	12:05 pm	1667290846	csedept	https://meetingsapac29.webex.com/meetingsapac29/j.php?MTID=mbdfd6e2625b60ea87024eceb2e443634
4	2:40 pm	1661967529	csedept	https://meetingsapac29.webex.com/meetingsapac29/j.php?MTID=m4d287994f45253a1f9a40ab0921d4e22
5	3:40 pm	1662196111	csedept	https://meetingsapac29.webex.com/meetingsapac29/j.php?MTID=ma83fede03de9cb302f2926ed3e86e337

(Dr.U.P.Kulkarni.)

HOD CSE

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Date: 2023-02-07 15:51+05:30

BoS Members

Sl. No.	Particulars	Name of the members	Category
1	Chairman	Dr.U.P.Kulkarni. 11/07/2020	Professor & Head, Dept. of CSE, SDMCET,Dharwadupkulkarni@yahoo.com 9448915301
2	VTU nominee	Dr. R B V. Subramaanyam. -Sd-	Professor, Dept of CSE, NIT, Warangal rbvs66@gmail.com 9491346969
3	Subject Experts	1) Dr.Shridhar.K.S. -Sd-	Principal, Dept. of CSE, UBDT, Davangere, ks_shreedhara@yahoo.com 9448009306
		1) Dr.Rajashekar.K. -Sd-	Assistant Professor Dept of CSE IIT, Dharwad Dharwad - 580011. rajshekar.k@iitdh.ac.in 8802515953
4	Industry / Corporate sector representative	Mr. Sreenivas Ramanujam. - Sd -	Academic Relationship Manager - Karnataka TCS Bangalore Vydehi, RC- 1 Block, 82, EPIP, Whitefield, Bangalore - 560066 sreenivasa.ramanujam@tcs.com 080-67257654, 8147002870
5	Alumnus	Mr. Vijay.Upadhyay. -Sd-	Technologist, Torry Harris Integration Solutions, #71, Sona Towers, Millers Road, Bangalore – 560052 vijayru@gmail.com 7259400112
6	Internal Members (UG)	1) Dr.S.M.Joshi. 11/7/20	Professor joshshree@gmail.com 9036079402
		2) Prof.J.V.Vadavi. 11/7/2020	Associate Professor jvvadavi@gmail.com 9448001249

		3) Prof.R.G.Yadawad	**Assistant Professor** rgyadawad@gmail.com 9448049909
		4) Prof. Indira.R.Umarji.	**Assistant Professor** indira.umarji@gmail.com 9945348887
		5) Dr.R.N.Yadawad. **(Member Secretary)**	**Assistant Professor** rnyadawad@gmail.com 9164685527
7	Internal Members **(PG)**	1) Dr.S.M.Joshi.	**Professor** joshshree@gmail.com 9036079402
		2) Dr.Raghavendra.G.S.	**Associate Professor** gsr.sdmcet@gmail.com 7204577887
		3) Dr.Vidyagowri.B.H.	**Assistant Professor** vidya_gouri@yahoo.com 9448776104
		4) Dr.Shivanagowda G.M.	**Assistant Professor** shivana.gowda@gmail.com 9740109113
		5) Dr.J.C.Karur. **(Member Secretary)**	**Professor** jck1965@gmail.com 8971212216
8	Special Invitee	Domain specific expert(s) will be invited on need basis	

Note:

A. Meeting conducted in online mode and following members remained absent for the meeting.

-Nil-

B. Dr. S. Biradar, faculty, Department of ISE, SDMCET, Dharwad has participated as domain experts

11/7/2020

SDM COLLEGE OF ENGINEERING & TECHNOLOGY, DHARWAD

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Date: 29-06-2021

UG - BOS - Minutes of meeting

The Undergraduate program Board of Studies (BoS) meeting was conducted in **online mode** on **19-06-2021** and **20-06-2021**.

Resolutions:

1. The external and internal members of BoS, faculty members of CSE department approved the course contents of VII & VIII semesters of B.E. (CSE).

Suggestions:

The following are the discussions / suggestions given in the meeting for the syllabus presented to the External / Internal BoS members and the faculty members of CSE:

- **Dr. RBV Subramaanyam** (**NIT, Warangal**) elaborated on the finer points of **National Eduction Policy (NEP) – 2020**. Further, the issues and challenges in the NEP implementations were also discussed.

- **Dr. Shreedhara.K.S.** (**UBDT, Davangere**) mentioned that the syllabus of a course should have ***Textbooks*** mentioned separately along with ***Reference books***. In the absence of Textbooks, it will become inconvenient for the proper reference for the external examiners while setting the Question paper.

- **Mr. Vijay Upadhyay** (**Torry Harris Integration Solutions, Bengaluru**) insisted on the inclusion of appropriate Laboratory tools in the laboratory courses.

- **Dr. Rajshekar K**. (**IIT, Dharwad**) mentioned to look into the syllabus of Advanced Computer Architecture because there is a Unit with the heading 'Software for Parallel Programming', but contents are more of hardware.

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- **Dr. Shreedhara.K.S.** suggested to add laboratory component in the syllabus of Advanced Computer Architecture (ACA). For instance, Architecture based simulators for performance measurements.

- **Mr. Sreenivas Ramanujam** (**Tata Consultancy Services, Bengaluru**) and **Dr. Shreedhara.K.S.** expressed the concern of relevance of enhancing internship take-aways. Further, they suggested taking measures in the curriculum to check the students' learning on industry culture.

- **Mr. Sreenivas Ramanujam** also suggested for organizing 'think-tank meet' at the department level for showcasing the internship learnings to the peers.

- **Mr. Vijay Upadhyay** recommended including 'Automation testing' in Software Testing.

- **Dr. Shreedhara.K.S.** and **Mr. Vijay Upadhyay** expressed to include / exchange new electives like Blockchain, Cryptocurrency, etc. in the department elective pools.

- The elective 'Mobile Application Development' may be replaced with 'Blockchain technologies'.

- All the external BoS members suggested for floating electives chosen from M. Tech. so that the subject groups can be formed to enhance the level of learning.

- **Mr. Shreedhara** suggested adding one unit in Data Science course - 'Mathematics in Data Science'.

- **Mr. Vijay Upadhyay** commented that there are overlapping topics in two different courses – Data Science and Machine learning, which may be rectified; some of the topics of Data science also appear in Machine learning and vice-versa.

- Also, the members mentioned that there is a need for demonstrative assignments in Distributed systems, especially on HDFS.

The suggestions may be incorporated with the approvals of the concerned authority at the institution based on the feasibility.

(Dr. U.P.Kulkarni)

HOD – CSE

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SDM COLLEGE OF ENGINEERING & TECHNOLOGY, DHARWAD

DEPARTMENT OF COMPUTER SCIENCE & ENGINEERING

Date: 29-06-2021

PG-BOS - Minutes of meeting

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Date: 2023-02-07 15:51+05:30

The Postgraduate program Board of Studies (BoS) meeting was conducted in **online mode** on **20-06-2021**.

Resolutions:

1. The external and internal members of BoS, faculty members of CSE department approved the course contents of III & IV semesters of M Tech. (CSE).

Suggestions:

1. Durations for internship is less, minimum of 12 weeks
2. All electives must be grouped into a single list, student can take any elective in any semester.
3. More practical exposure to the students
4. Encourage the students to take in house project and open-source project
5. Along with Reference book include Text-Book which will help external examiner to set the question papers

The suggestions may be incorporated with the concerned authority at the institution based on the feasibility.

(Dr. U.P.Kulkarni) HOD-CSE

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2021 Scheme

I/II semester B. E. (Common to all Branches)
Physics cycle

Course Code	*Course Category	Course Title	Teaching		Examination				
			L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
					Max. Marks	**Max. Marks	Duration in Hrs.	Max. Marks	Duration In Hrs.
21UMAC100	BS	Engineering Mathematics-I	2 - 2 - 0	3	50	100	3	-	-
21UPHC100	BS	Engineering Physics	3 - 0 - 0	3	50	100	3	-	-
21UEEC100	ES	Basic Electrical Engineering	3 - 0 - 0	3	50	100	3	-	-
21UCVC100	ES	Elements of Civil Engineering and Mechanics	3 - 0 - 0	3	50	100	3	-	-
21UMEC100	ES	Elements of Mechanical Engineering	2 - 0 - 0	2	50	50	2	-	-
21UHUC100	HU	Functional English	1 - 2 - 0	2	50	50	2	-	-
21UPHL100	BS	Engineering Physics Lab	0 - 0 - 2	1	50	-	-	50	2
21UESL100	ES	Basic Engineering Skills Lab	0 - 0 - 2	1	50	-	-	50	2
21UAEE1XX	AE	Ability Enhancement Course	2- 0- 0	2	50	50	2	-	-
Total			16 – 4 - 4	20	450	550		100	

Chemistry cycle

Course Code	Course Category	Course Title	Teaching		Examination				
			L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
					Max. Marks	Max. Marks	Duration in Hrs.	Max. Marks	Duration In Hrs.
21UMAC100	BS	Engineering Mathematics – I	2-2-0	3	50	100	3	-	-
21UCYC100	BS	Engineering Chemistry	3-0-0	3	50	100	3	-	-
21UECC100	ES	Basic Electronics	3-0-0	3	50	100	3	-	-
21UCSC100	ES	Problem Solving & Programming in C	3-0-0	3	50	100	3	-	-
21UMGC100	ES	Engineering Graphics	2-0-0	2	50	50	2	-	-
21UCYL100	BS	Engineering Chemistry Lab	0-0-2	1	50	-	-	50	2
21UCSL100	ES	Computer Programming Lab	0-0-2	1	50	-	-	50	2
21UAEE1XX	AE	Ability Enhancement Course	2-0-0	2	50	50	2	-	-
21UHUC101	HU	Society, Environment and Engineering	2 -0-0	2	50	50	2	-	-
Total			17 - 2 -4	20	450	550		100	

Elective Course:

Course Code	Course Title	Credits
21UAEE100	**Biology for Engineers**	2
21UAEE201	**Numerical Techniques for Engineers**	2
21UAEE200	**Cyber Law**	2

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III Semester

Course Code	Course Category	Course Title	Teaching		Examination				
			L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
					Max. Marks	*Max. Marks	Duration in Hrs.	Max. Marks	Duration In Hrs.
21UCSM300	BS	Engg.Mathematics-III	**3-0-0**	3	50	100	3	-	-
21UCSC300	PC	Digital Electronics	**3-0-0**	3	50	100	3	-	-
21UCSC301	PC	Data Structures and Applications	**3-0-0**	3	50	100	3	-	-
21UCSC302	PC	Computer Organization and Architecture	**3-0-0**	3	50	100	3	-	-
21UCSC303	PC	Operating Systems	**3-0-0**	3	50	100	3	-	-
21UAEE324	AE	Unix Administration and Programming	**2-0-0**	2	50	50	2	-	-
21UHUC300	HU	Universal Human Values - I	**2-0-0**	2	50	50	2	-	-
21UCSL304	PC	Digital Electronics Laboratory	**0-0-3**	1.5	50	-	-	50	3
21UCSL305	PC	Data Structures and Applications Laboratory	**0-0-3**	1.5	50	-	-	50	3
21UHUC301	HU	Kannada	**2-0-0**	1	50	50	2	-	-
21UMBA301	BS	Mathematics	**3-0-0**	Audit	50	-	-	-	-
Total			**24-0-6**	**23**	**550**	**650**	**-**	**100**	**-**

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IV Semester

Course Code	Course Category	Course Title	Teaching		Examination				
			L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
					Max. Marks	*Max. Marks	Duration in Hrs.	Max. Marks	Duration In Hrs.
21UCSM400	BS	Engineering Mathematics-IV	**3-0-0**	3	50	100	3	-	-
21UCSC400	PC	Programming Computer Peripherals and Interfacing	**3-0-0**	3	50	100	3	-	-
21UCSC401	PC	Object Oriented Programming	**3-0-0**	3	50	100	3	-	-
21UCSC402	PC	Analysis and Design of Algorithms	**3-0-0**	3	50	100	3	-	-
21UCSC403	PC	Software Engineering	**3-0-0**	3	50	100	3	-	-
21UHUA400	HU	The Constitution of India and Professional Ethics.	**2-0-0**	Audit	50	-	-	-	-
21UHUC402	HU	Universal Human Values – II	**2-0-0**	2	50	50	2	-	-
21UCSL405	PC	Object Oriented Programming Lab	**0-0-3**	1.5	50	-	-	50	3
21UCSL406	PC	Programming Computer Peripherals and Interfacing Lab	**0- 0-3**	1.5	50	-	-	50	3
21UCSL407	PC	Introductory Project	**0–0-2**	1	50	-	-	-	-
21UMBA401	BS	Mathematics	**3-0-0**	Audit	50	-	-	-	-
Total			**22-0-8**	**21**	**550**	**550**		**100**	

2018 Scheme

I semester B. E. (Common to all Branches)
Physics cycle

Course Code	Course Category	Course Title	Teaching		Examination				
			L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
					Max. Marks	*Max. Marks	Duration in Hrs.	Max. Marks	Duration In Hrs.
18UMAC100	BS	Engineering Mathematics-I	3 - 2 - 0	4	50	100	3	-	-
18UPHC100	BS	Engineering Physics	3 - 2 - 0	4	50	100	3	-	-
18UEEC100	ES	Basic Electrical Engineering	3 - 0 - 0	3	50	100	3	-	-
18UCVC100	ES	Engineering Mechanics	3 - 0 - 0	3	50	100	3	-	-
18UMEC100	ES	Elements of Mechanical Engineering	2 - 0 - 0	2	50	50	2	-	-
18UPHL100	BS	Engineering Physics Lab	0 - 0 - 2	1	50	--	--	50	3
18UESL100	ES	Basic Engineering Skills Lab	0 - 0 - 2	1	50	--	--	50	3
18UHUC100	HU	Kannada	2- 0 -0	1	50	50	2		
18UHUA100	HU	Constitution of India & Professional Ethics	2- 0 - 0	Audit	100	--	--	--	--
Total			**18 - 4 - 4**	**19**	**500**	**500**		**100**	

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Chemistry cycle

Course Code	Course Category	Course Title	Teaching		Examination				
			L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
					Max. Marks	*Max. Marks	Duration in Hrs.	Max. Marks	Duration In Hrs.
18UMAC100	BS	Engineering Mathematics-I	3 - 2 - 0	4	50	100	3	--	--
18UCYC100	BS	Engineering Chemistry	3 - 2 - 0	4	50	100	3	--	--
18UECC100	ES	Basic Electronics	3 - 0 - 0	3	50	100	3	--	--
18UCSC100	ES	Problem Solving & Programming in C	3 - 2 - 0	4	50	100	3	--	--
18UMGC100	ES	Engineering Graphics	2 - 0 - 2	3	50	100	3	--	--
18UCYL100	BS	Engineering Chemistry Lab	0 - 0 - 2	1	50	--	--	50	3
18UCSL100	ES	Problem Solving & Programming in C Lab	0 - 0 - 2	1	50	--	--	50	3
18UHUC101	HU	Functional English	2 - 0 -0	1	50	50	2	--	--
18UHUA102	HU	Environmental Science	2 - 0 - 0	Audit	100	--	--	--	--
Total			**18 - 6 - 6**	**21**	**500**	**550**		**100**	

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III Semester

Course Code	Course Category	Course Title	Teaching		Examination				
			L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
					Max. Marks	*Max. Marks	Duration in Hrs.	Max. Marks	Duration In Hrs.
18UMAC300	BS	Engg. Mathematics-III	**3-0-0**	3	50	100	3	-	-
18UCSC300	PC	Digital Electronics	**4-0-0**	4	50	100	3	-	-
18UCSC301	PC	Discrete Structures in Computer Science	**3-2-0**	4	50	100	3	-	-
18UCSC302	PC	Data Structures and Applications	**4-0-0**	4	50	100	3	-	-
18UCSC303	PC	Computer Organization and Architecture	**3-0-0**	3	50	100	3	--	--
18UCSC304	PC	Introduction to Unix Operating Systems	**2-0-2**	3	50	100	3	--	--
18UCSL305	PC	Digital Electronics Laboratory	**0-0-3**	1.5	50	--	--	50	3
18UCSL306	PC	Data Structures and Applications Laboratory	**0-0-3**	1.5	50	--	--	50	3
Total			**19-2-8**	**24**	**400**	**600**	**-**	**100**	**-**

IV Semester

Course Code	Course Category	Course Title	Teaching		Examination				
			L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
					Max. Marks	*Max. Marks	Duration in Hrs.	Max. Marks	Duration In Hrs.
18UMAC400	BS	Engineering Mathematics-IV	**3-0-0**	3	50	100	3	-	-
18UCSC400	PC	ARM Processor	**3-0-0**	3	50	100	3	-	-
18UCSC401	PC	Finite Automata and Formal Languages	**3-0-0**	3	50	100	3	-	-
18UCSC402	PC	Object Oriented Programming	**4-0-0**	4	50	100	3	-	-
18UCSC403	PC	Analysis and Design of Algorithms	**3-0-2**	4	50	100	3	-	-
18UCSC404	PC	Operating Systems	**4-0-0**	4	50	100	3	-	-
18UCSL405	PC	Object Oriented Programming Lab	**0-0-3**	1.5	50	--	-	50	3
18UCSL406	PC	ARM Processor Lab	**0- 0-3**	1.5	50	--	-	50	3
18UCSL407	PC	Introductory Project	**0–0-2**	1	50	--	--	--	--
Total			**20-0-10**	**25**	**450**	**600**		**100**	

V Semester

Course Code	Course Category	Course Title	Teaching		Examination				
			L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
					Max. Marks	*Max. Marks	Duration in Hrs.	Max. Marks	Duration In Hrs.
18UHUC500	HU	Management, Entrepreneurship and IPR	**4-0-0**	4	50	100	3	-	-
18UCSC500	PC	Data Communication	**4-0-0**	4	50	100	3	-	-
18UCSC501	PC	Database Management Systems	**4-0-0**	4	50	100	3	-	-
18UCSC502	PC	Compiler Design and System Software	**3-0-0**	3	50	100	3	-	-
18UCSC503	PC	Software Engineering	**3-0-0**	3	50	100	3	--	--
18UCSL504	PC	Database Management Systems Lab	**0-0-3**	1.5	50	--	--	50	3
18UCSL505	PC	Compiler Design and System Software Lab	**0- 0 -3**	1.5	50	--	--	50	3
18UCSL506	PC	Minor Project-1	**0-0 – 2**	1	50	--	--	--	--
18UHUL507	HU	Soft skills/Aptitude	**0-0 – 2**	1	50	--	--	--	--
Elective Courses (One elective is to be chosen by the students)									
18UCSE508	PE	**Advanced Object Oriented Programming**	**3-0-0**	3	50	100	3	-	-
18UCSE509	PE	**System Simulation and Modeling**	**3-0-0**	3	50	100	3	-	-
18UCSE510	PE	**Advanced Graph Theory**	**3-0-0**	3	50	100	3	-	-
Total			**21-0-10**	**26**	**500**	**600**		**100**	

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VI Semester

Course Code	Course Category	Course Title	Teaching		Examination				
			L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
					Max. Marks	*Max. Marks	Duration in Hrs.	Max. Marks	Duration In Hrs.
18UCSC600	PC	Computer Networks	**4-0-0**	4	50	100	3	-	-
18UCSC601	PC	Object Oriented System Modeling and Design	**4-0-0**	4	50	100	3	-	-
18UCSL602	PC	Computer Networks Lab	**0-0-3**	1.5	50	-	-	50	3
18UCSL603	PC	Industry Oriented Programming Practices Lab	**0-0-3**	1.5	50	-	-	50	3
18UCSL604	PC	Minor Project-2	**0-0-4**	2	50	-	-	50	3
18UHUL605	HU	Soft skills/Aptitude	**0-0-2**	1	50	-	-	-	-
Elective Courses (Two Program Electives and One Open Elective are to be chosen by the students)									
18UCSE606	PE	**Unix Systems Programming**	**3-0-0**	3	50	100	3	-	-
18UCSO607	OE	**Digital Image Processing**	**3-0-0**	3	50	100	3	-	-
18UCSE608	PE	**Principles of Programming**	**3-0-0**	3	50	100	3	-	-
18UCSE609	PE	**Data Mining**	**3-0-0**	3	50	100	3	-	-
18UCSE610	PE	**Advanced Data Structures and Algorithms**	**3-0-0**	3	50	100	3	-	-
18UCSE611	PE	**Pattern Recognition**	**3-0-0**	3	50	100	3	-	-
18UCSO612	OE	**Embedded Systems**	**3-0-0**	3	50	100	3	-	-
Total			**17 - 0 -12**	**23**	**450**	**500**		**150**	

VII Semester

Course Code	Course Category	Course Title	Teaching		Examination				
			L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
					Max. Marks	*Max. Marks	Duration (Hrs)	Max. Marks	Duration (Hrs)
18UCSC700	PC	Artificial Intelligence and Machine Learning	**4-0-0**	4	50	100	3	-	-
18UCSC701	PC	Advanced Computer Architecture	**4-0-0**	4	50	100	3	-	-
18UCSL702	PC	Artificial Intelligence and Machine Learning Lab	**0-0-2**	1	50	--	--	50	3
18UCSL703	PC	Major Project Phase-1	**0- 0 -4**	2	50	--	--	50	3
18UCSL704	PC	Internship	**4weeks**	2	50	--	--	50	3
Elective Courses (Two electives, one Program Elective and one Open Elective, are to be chosen by the students)									
18UCSE705	PE	**Computer Graphics**	**3-0-0**	3	50	100	3	-	-
18UCSE706	PE	**Software Testing**	**3-0-0**	3	50	100	3	-	-
18UCSO707	OE	**Web Technology**	**3-0-0**	3	50	100	3	-	-
18UCSE708	PE	**Ad-hoc Networks**	**3-0-0**	3	50	100	3	-	-
18UCSE709	PE	**Operations Research**	**3-0-0**	3	50	100	3	-	-
18UCSE710	PE	**Multicore Architecture and Programming**	**3-0-0**	3	50	100	3	-	-
18UCSE711	OE	**Internet of Things**	**2-0-2**	3	50	100	3	-	-
Total			**14 - 0 - 6**	**19**	**350**	**400**	**-**	**150**	**-**

VIII Semester

Course Code	Course Category	Course Title	Teaching		Examination				
			L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
					Max. Marks	*Max. Marks	Duration (Hrs)	Max. Marks	Duration (Hrs)
18UCSC800	PC	Distributed Systems and Applications	**4 - 0 - 0**	4	50	100	3	-	-
18UCSL801	PC	Independent study	**0 - 0 - 2**	1	50	-	-	-	-
18UCSL802	PC	Major Project Phase – 2	**0 -0 - 14**	7	50	-	-	50	3
Elective Courses (Two electives, one Program Elective and one Open Elective, are to be chosen by the students)									
18UCSE803	PE	**Cryptography and Network Security**	**3 - 0 - 0**	3	50	100	3	-	-
18UCSO804	OE	**Cloud Computing**	**3 - 0 - 0**	3	50	100	3	-	-
18UCSE805	PE	**Network Management**	**3 - 0 - 0**	3	50	100	3	-	-
18UCSE806	PE	**Mobile Applications Development**	**3 -0 - 0**	3	50	100	3	-	-
18UCSE807	PE	**Ontology and Semantic Web**	**3 - 0 - 0**	3	50	100	3	-	-
18UCSE808	PE	**Data Science**	**3 - 0 - 0**	3	50	100	3	-	-
18UCSE809	PE	**Blockchain Technology**	**3 – 0 – 0**	3	50	100	3	-	-
Total			**10 – 0 – 16**	**18**	**250**	**300**	**--**	**50**	**--**

2015 Scheme

I Semester B.E.

Physics cycle

Course Code	Course Title	Teaching		Examination				
		L-T-P-S (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical(SEE)	
				Max. Marks	*Max. Marks	Duration in Hrs.	Max. Marks	Duration In Hrs.
15UMAC100	Engineering Mathematics-I	4 - 0 - 0 - 0	4	50	100	3	-	-
15UEEC100	Basic Electrical Engineering	4 - 0 - 0 - 0	4	50	100	3	-	-
15UPHC100	Engineering Physics	4 - 0 - 0 - 0	3	50	100	3	-	-
15UPHL100	Engineering Physics Lab	0 - 0 - 2 - 0	3	50	100	3	-	-
15UMEC100	Elements of Mechanical Engineering	3 - 0 - 0 - 2	2	50	100	--	-	-
15UMEL100	Workshop Practice	0 - 0 - 2 - 0	1	50	--	--	50	3
15UCVC100	Engineering Mechanics	4 - 0 - 0 - 4	1	50	--	--	50	3
15UHUA101	Kannada	2 - 0 - 0 - 0	1	100	-	2		
15UHUA102	Constitution of India & Professional Ethics	2 - 0 - 0 - 0	Audit	100	--	--	--	--
Total		**23 - 0 -4-6**	**22**	**550**	**500**		**100**	

Chemistry cycle

Course Code	Course Title	Teaching		Examination				
		L-T-P-S (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
				Max. Marks	*Max. Marks	Duration in Hrs.	Max. Marks	Duration In Hrs.
15UMAC100	Engineering Mathematics-I	4 - 0 - 0 - 0	4	50	100	3	-	-
15UECC100	Basic Electronics	4 - 0 - 0 - 0	4	50	100	3	-	-
15UCYC100	Engineering Chemistry	4 - 0 - 0 - 0	4	50	100	3	-	-
15UCYL100	Engineering Chemistry Lab	0 - 0 - 2 - 0	1	50	100	3	-	-
15UCSC100	Problem Solving & Programming in C	4 - 0 - 0 - 0	4	50	--	-	50	3
15UCSL100	Problem Solving & Programming in C Lab	0 - 0 - 2 - 0	1	50	--	--	50	3
15UMEC101	Computer Aided Engineering Drawing	2 - 0 - 2 - 4	4	50	--	--	50	3
15UHUC100	Functional English	2 - 0 -0-0	2	50	100	2	--	--
15UHUA103	Environmental Science	2 - 0 - 0 - 0	Audit	100	--	--	--	--
Total		**22 - 0 - 6-4**	**24**	**500**	**500**		**150**	

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II Semester B.E.

Physics cycle

Course Code	Course Title	Teaching		Examination				
				CIE	Theory (SEE)		Practical(SEE)	
		L-T-P-S (Hrs/Week)	Credits	Max. Marks	*Max. Marks	Duration in Hrs.	Max. Marks	Duration In Hrs.
15UMAC200	Engineering Mathematics-II	4 - 0 - 0 - 0	4	50	100	3	-	-
15UEEC200	Basic Electrical Engineering	4 - 0 - 0 - 0	4	50	100	3	-	-
15UPHC200	Engineering Physics	4 - 0 - 0 - 0	3	50	100	3	-	-
15UPHL200	Engineering Physics Lab	0 - 0 - 2 - 0	3	50	100	3	-	-
15UMEC200	Elements of Mechanical Engineering	3 - 0 - 0 - 2	2	50	100	--	-	-
15UMEL200	Workshop Practice	0 - 0 - 2 - 0	1	50	--	--	50	3
15UCVC200	Engineering Mechanics	4 - 0 - 0 - 4	1	50	--	--	50	3
15UHUA201	Kannada	2 - 0 - 0 - 0	1	100	-	2		
15UHUA202	Constitution of India & Professional Ethics	2 - 0 - 0 - 0	Audit	100	--	--	--	--
Total		**23 - 0 -4-6**	**22**	**550**	**500**		**100**	

Chemistry cycle

Course Code	Course Title	Teaching		Examination				
				CIE	Theory (SEE)		Practical (SEE)	
		L-T-P-S (Hrs/Week)	Credits	Max. Marks	*Max. Marks	Duration in Hrs.	Max. Marks	Duration In Hrs.
15UMAC200	Engineering Mathematics-II	4 - 0 - 0 - 0	4	50	100	3	-	-
15UECC200	Basic Electronics	4 - 0 - 0 - 0	4	50	100	3	-	-
15UCYC200	Engineering Chemistry	4 - 0 - 0 - 0	4	50	100	3	-	-
15UCYL200	Engineering Chemistry Lab	0 - 0 - 2 - 0	1	50	100	3	-	-
15UCSC200	Problem Solving & Programming in C	4 - 0 - 0 - 0	4	50	--	-	50	3
15UCSL200	Problem Solving & Programming in C Lab	0 - 0 - 2 - 0	1	50	--	--	50	3
15UMEC201	Computer Aided Engineering Drawing	2 - 0 - 2 - 4	4	50	--	--	50	3
15UHUC200	Functional English	2 - 0 -0-0	2	50	100	2	--	--
15UHUA203	Environmental Science	2 - 0 - 0 - 0	Audit	100	--	--	--	--
Total		**22 - 0 - 6-4**	**24**	**500**	**500**		**150**	

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III Semester

Course Code	Course Title	Teaching		Examination				
		L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
				Max. Marks	*Max. Marks	Duration in Hrs.	Max. Marks	Duration In Hrs.
15UMAC300	Engg.Mathematics-III	**4-0-0**	4	50	100	3	-	-
15UCSC300	Digital Electronics	**4-0-0**	4	50	100	3	-	-
15UCSC301	Discrete Structures in Computer Science	**4-0-0**	4	50	100	3	-	-
15UCSC302	Data Structures	**4-0-0**	4	50	100	3	-	-
15UCSC303	Computer Organization	**4-0-0**	4	50	100	3	-	-
15UCSL304	Unix Shell Programming	**0-2-2**	2	50	-	-	50	3
15UCSL305	Digital Electronics Laboratory	**0-0-3**	1.5	50	-	-	50	3
15UCSL306	Data Structures Laboratory	**0-0-3**	1.5	50	-	-	50	3
Total		**20-2-8**	**25**	**400**	**500**	**-**	**100**	**-**

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IV Semester

Course Code	Course Title	Teaching		Examination				
		L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
				Max. Marks	*Max. Marks	Duration in Hrs.	Max. Marks	Duration In Hrs.
15UMAC400	Engineering Mathematics-IV	**4-0-0**	4	50	100	3	-	-
15UCSC400	Microcontroller	**4-0-0**	4	50	100	3	-	-
15UCSC401	Finite Automata and Formal Languages	**4-0-0**	4	50	100	3	-	-
15UCSC402	Object Oriented Programming	**4-0-0**	4	50	100	3	-	-
15UCSC403	Analysis and Design of Algorithms	**3-0-2**	4	50	100	3	-	-
15UCSC404	Operating Systems	**4-0-0**	4	50	100	3	-	-
15UCSL405	Object Oriented Programming Lab	**0-0-3**	1.5	50	--	-	50	3
15UCSL406	Microcontroller Lab	**0- 0-3**	1.5	50	--	-	50	3
Total		**23-0-8**	**27**	**400**	**600**		**100**	

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V Semester

Course Code	Course Title	Teaching		Examination				
				CIE	Theory (SEE)		Practical (SEE)	
		L-T-P (Hrs/Week)	Credits	Max. Marks	*Max. Marks	Duration in Hrs.	Max. Marks	Duration In Hrs.
15UCSC500	Data Communication	4-0-0	4	50	100	3	-	-
15UCSC501	Compiler Design	4-0-0	4	50	100	3	-	-
15UCSC502	Database Management Systems	4-0-0	4	50	100	3	-	-
15UCSC503	Software Engineering	4-0-0	4	50	100	3	--	--
15UCSC504	**Unix System Programming**	4-0-0	4	50	--	--	50	3
15UCSL505	System Software Lab	0-0-3	1.5	50	--	--	50	3
15UCSL506	DBMS Laboratory	0-0-3	1.5	50	--	--	--	--
Total		**20-0-6**	**23**	**350**	**500**	**-**	**100**	**-**

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VI Semester

Course Code	Course Title	Teaching		Examination				
		L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
				Max. Marks	*Max. Marks	Duration in Hrs.	Max. Marks	Duration In Hrs.
15UCSC600	Computer Networks	**4-0-0**	4	50	100	3	-	-
15UCSC601	Advanced Object Oriented Programming	**4-0-0**	4	50	100	3	-	-
15UCSC602	Object Oriented System Modeling and Design	**4-0-0**	4	50	100	3	-	-
15UCSL603	Industry Oriented Programming Practices	**1-0-2**	2	50	-	-	50	3
18UCSL604	Network Programming Lab	**0-0-3**	1.5	50	-	-	50	3
15UCSL605	Advanced Object Oriented Programming Lab	**0-0-3**	1.5	50	-	-	50	3
15UCSL606	Mini Project	**0-0-8**	4	50	-	-	50	3
15UCSE605	**System Modeling and Simulation**	**3-0-0**	3	50	100	3	-	-
15UCSE606	**Digital Image Processing**	**3-0-0**	3	50	100	3	-	-
15UCSE607	**Advanced Data Structures and Algorithms**	**3-0-0**	3	50	100	3	-	-
15UCSE608	**Artificial Intelligence**	**3-0-0**	3	50	100	3	-	-
15UCSE609	**Pattern Recognition**	**3-0-0**	3	50	100	3	-	-
15UCSE610	**Principles of Programming Languages**	**3-0-0**	3	50	100	3	-	-
15UCSE611	**Web Technologies**	**3-0-0**	3	50	100	3	-	-
15UCSE612	**Mobile Application Development**	**3-0-0**	3	50	100	3	-	-
Total		**19 - 0 -16**	**27**	**450**	**500**	**-**	**200**	

VII Semester

Course Code	Course Title	Teaching		Examination				
		L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
				Max. Marks	*Max. Marks	Duration in Hrs.	Max. Marks	Duration In Hrs.
15UCSC700	Engineering Management, Entrepreneurship, & IPR.	4-0-0	4	50	100	3	-	-
15UCSC701	Advanced Computer Architecture	4-0-0	4	50	100	3	-	-
15UCSC702	Computer Graphics	3-0-2	4	50	100	3	-	-
15UCSL703	Major Project Phase-1	0- 0 -8	4	50	-	-	50	3
15UCSE705	**Software Testing**	3-0-0	3	50	100	3	-	-
15UCSE706	**Ad-hoc Networks**	3-0-0	3	50	100	3	-	-
15UCSE707	**Operations Research**	3-0-0	3	50	100	3	-	-
15UCSE708	**Internet of Things**	3-0-0	3	50	100	3	-	-
15UCSE709	**Multicore Architecture and Programming**	3-0-0	3	50	100	3	-	-
15UCSE710	**Embedded Systems**	3-0-0	3	50	100	3	-	-
Total		**20 - 0 - 10**	**25**	**350**	**600**	**-**	**50**	**-**

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VIII Semester

Course Code	Course Title	Teaching		Examination				
		L-T-P (Hrs/Week)	Credits	CIE	Theory (SEE)		Practical (SEE)	
				Max. Marks	*Max. Marks	Duration in Hrs.	Max. Marks	Duration In Hrs.
15UCSC800	Distributed Systems	**4 - 0 - 0**	4	50	100	3	-	-
15UCSC801	Independent study	**0 - 0 - 4**	2	50	-	-	-	-
15UCSL802	Major Project Phase-2	**0-0 -20**	10	50	-	-	50	3
15UCSE803	**Data Warehousing and Mining**	**3-0-0**	3	50	100	3	-	-
15UCSE804	**Cryptography and Network Security**	**4-0-0**	4	50	100	3	-	-
15UCSE805	**Cloud Computing**	**4-0-0**	4	50	100	3	-	-
15UCSE806	**Mobile Computing**	**3-0-0**	3	50	100	3	-	-
15UCSE807	**Network Management**	**4-0-0**	4	50	100	3	-	-
15UCSE808	**Ontology and Semantic Web**	**3-0-0**	3	50	100	3	-	-
15UCSE809	**Big Data Analytics**	**4-0-0**	4	50	100	3	-	-
Total		**15– 0 – 24**	**27**	**300**	**400**	**--**	**50**	**--**

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