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1.1.2 Percentage of Programmes where syllabus revision was carried out during the last five years

Department of Information Technology

INDEX

* Chemical Engineering (CHE), Civil Engineering (CE), Computer Science and Engineering (CSE), Electrical & Electronics Engineering (EEE), Electronics & Communication Engineering (ECE), Mechanical Engineering (ME) & Information Technology (IT)

IT Curriculum under Academic Regulation 2016
Suggestions/Revisions Carried Out

during 7th, 8th and 9th Board of Studies

and Approved by Academic Council

07th BoS: 17.12.2016 (ACY: 2015 – 2016)

08th BoS: 01.07.2017 (ACY: 2017 – 2018)

09th BoS: 24.02.2018 (ACY: 2017 – 2018)

8th BoS (01-07-2017)
Feedback Received from Stakeholders

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Industry

1. Students should be made to do mini projects in every semester
2. To provide Internship
3. Electives on machine learning and hands-on training on machine learning tools shall be included

Academia

1. To include advanced concepts of computer architecture
2. To include practical classes for all required subjects

Others (Alumni, Students, Professional Bodies & Research Organizations

1. To include course on IoT
2. To have more experiments for Data Structures and OOP through JAVA

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DEPARTMENTS OF COMPUTER SCIENCE AND ENGINEERING & INFORMATION TECHNOLOGY

7th Board of Studies

17.12.2016 (Saturday)

Minutes of the Meeting

No	Points Discussed	Remarks
1.	MOOCs should be supplementary to class room Teaching	
2.	MOOCs can be included as supplementary in Third Semester and as a credit course in 6th Semester.	
3.	Include program solving abilities extensively	
4.	skype based meetings with industry personal should be initialed once in 3 months for advances in technology.	
5.	Program automation can be included	
6	Start open source software lab	

7.	Virtual sessions can be initialed for advanced technologies	
8.	curriculum 36+4 (Integrated courses) is comparatively high for (B.Tech) course completion	
9 10	Add Shaum Series Textbook for Data structures course Add MOOC Subjects in references	
11	Text book Raghuram Krishnan in Text book can be replaced with Navathe	
12	Text book from Mahapatia can be added in Discrete Structures and Graph Theory	
13	PPL can be placed in 4th semester CO in 3rd, OS in 4th Sem.	
14.	Mini projects in Data Structures problem statement should be changed.	
15.	In DBMS include ODBMS as 4th Unit.	

D. Rajya Lakshmi G.S.Sivanthu Dalli

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7th Board of Studies

17.12.2016 (Saturday)

Minutes of the Meeting

No	Points Discussed	Remarks
16.	Include max. 3 mini projects at the end of labs (3 members per Team)	
17.	CCEC & Employability skills can be included as single subject	
18.	Mini projects can be included as Case Studies	
19.	In Software Engineering Pressman should be first	
	prescribed textbook	

D. Rajya Lakshmi G.S. Sastry Delhi

20.	S/w Engineering Course Content : 1) Syllabus Content is too small	
	2. Modelling Methodologies 3. S/w myths 4. Life cycle models.	
20	As DLD is integrated course include Firmware	
21.	In SE add Agile based Experiments	
22.	In SE include Code generation using Automation tools.	
23	Change M.Tech specialization to Computer Science Engineering Specialization	
24.	Change Fundamentals of Cyber Security to Fundamentals of computer Science	
25.	Change Distributed System Security to Software System Security Include two separate Subjects Pattern Recognition, Machine learning	

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7th Board of Studies

17.12.2016 (Saturday)

Minutes of the Meeting

No	Points Discussed	Remarks
26.	OOPS through Java: Remove Balaguru Swamy Text book from references	
27.	In OOMS Lab : Remove Student record keeping system	
28.	In Data Structures Lab: Do not ask to write a program to implement an application using one-dimensional array, Replace with write an application to implement some thing using data structures	
29.	In SE, add introduction to automation, models (requirement and design), prototypes as self-learning concepts.	
30.	Replace Data communication systems with a new subject.	

D. Rajya Lakshmi G.S. Sastry

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8th Board of Studies

01.07.2017 (Saturday)

Minutes of the Meeting

No	Points Discussed	Remarks
1.	Board chairman Dr AV Ramana HoD-CSE welcomed all the members of BoS	
2.	Board Chairman briefed on the agenda for 8th BoS	
3.	ATR on 7th BoS is presented by board chairman	
4.	Board chairman presented a detailed report on feedback received from various stakeholders	
5.	Suggestion given to shift CD to 6th semester and CN to 5th Semester	
6.	IBM Watson to be included as part of AI if possible	

01.07.17 01.07.17 G.S. 01/07/17

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8th Board of Studies

01.07.2017 (Saturday)

Minutes of the Meeting

No	Points Discussed	Remarks
7.	Microsoft collaboration can be utilized ~~to~~ in	
8.	IoT can be made as Integrated Course ; to be in 6th or 7th Semesters	
9.	Open electives to have courses on IoT and on Analytics.	
10.	~~Electives IV : HCI~~ Soft computing Lab shall be removed as it doesnot have theory correspondingly	
11.	CNS to be moved to 8th semesters and so that IoT can be accomodated in 6th semester	
12	CN + CN Lab to kept in 5th Semester	

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8th Board of Studies

01.07.2017 (Saturday)

Minutes of the Meeting

No	Points Discussed	Remarks
13.	Too much of importance on Java programming. AJP, AJP Lab, WT, WT Lab can be clubbed	
14	Mobile computing to be kept as core course	
15	OOSE is to be renamed as Design Patterns (Elective I)	
16	IoT Lab Syllabus to be framed with IBM Bluemix / Predix from GE	to be done
17	In Elective II list, Qualitative Data Analysis is included in place of Mobile computing	to be done
18	Suggestions are given to have Technical Writing as part of CC activity	

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8th Board of Studies

01.07.2017 (Saturday)

Minutes of the Meeting

No	Points Discussed	Remarks
19.	Modifications in WT Syllabus : AJAX to be combined with Javascript ; PHP to be removed	
20.	Syllabus of OOAD (integrated course) Semantic data modelling topic is to be included.	approved
21.	Syllabus of CD :	"
22.	Syllabus of DAA. – include knapsack problem in unit III ; Graph theory concepts to be included in unit I	
23.	Syllabus of PPL	"
24	Syllabus of CN – ~~Syllab~~ Topics on session layer and application layer to be included	

Board

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8th Board of Studies

01.07.2017 (Saturday)

Minutes of the Meeting

No	Points Discussed	Remarks
25	DM - 1) OLTP, OLAP in unit I to be included	
26.	CN Lab - experiment on n/w performance measurement (service level) is to be included	
27.	Cloud computing can be made as a mandatory course for CSE	
28.	Syllabus of MC - Unit 4 content is to be given practical demos; ~~Blackberry~~ IOS Architecture to be included BB, Windows - can be as self study	
	Mobile apps can be added; application layer topics to be included in unit IV	
29.	Members Suggested to add more courses on Data Sciences in IT Curriculum; Cloud Computing Syllabus needs to be revised.	

G.S.

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8th Board of Studies

01.07.2017 (Saturday)

Minutes of the Meeting

No	Points Discussed	Remarks
30	Syllabus of RTOS	approved
31.	Syllabus of SOA — Include topics - Advantages of SOA ; Self study topic needs to be revised in unit I ; Syllabus of SOA needs revision for unit 3 & 4	Mr. Srikanth will ~~Sh~~ contribute for syllabus revision
32.	Syllabus of CI — Unit I, II — NN ; III - Fuzzy IV - GA and Bioinspired algorithms	Changes will be incorporated.
33.	Syllabus of IRS (Elective II : IT) — ~~t~~opics like fine tuning mechanism ; image retrieval to be included	
34	Syllabus of DAI, II — Contents of Python can be included [R, Mango, Python — tools in part I ; Analytics - part II]	
35	Discussion of MTech (CSE - Cyber Security) — Discussion on Course Structure and Curriculum	

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DEPARTMENTS OF COMPUTER SCIENCE AND ENGINEERING & INFORMATION TECHNOLOGY

8th Board of Studies

01.07.2017 (Saturday)

Minutes of the Meeting

No	Points Discussed	Remarks
36	Authentication topics are to be kept as a course in Semester I	
37	MTech curriculum – Course Titles need to be changed and list of courses need to be revisited	
38.	IT curriculum & Syllabus: Syllabus CC Lab - needs complete revision	
39.	Syllabus CC – i) topics on SOA are to be removed ii) value of CC to be kept at the end of introduction part	
	iii) Syllabus shall be revised.	
40.	Discussion on PSO statements: Formulated PSO statements are good and can be approved	

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Department of Computer Science & Engineering & Information Technology

9th BOS - MINUTES OF MEET

Dated: 24-02-2018

Person in Chair: Dr A Venkata Ramana, HoD CSE, GMRIT

Co-Chair: Dr P Kanchanamala, HoD IT, GMRIT

Venue: Gallery Hall, Block-1

Point in **Time(s):** 10:00AM to 05:00 PM

S.No	Points Discussed	Remarks
1	Board Chairman Dr A V Ramana, CSE HOD had welcomed all the BOS Members and Faculty of CSE & IT	
2	Board Chairman presented a PPT for the 9th BOS Members	
3	ATR on 8th BOS Meeting is presented by BOS Chairman	
4	Board Chairman presented a detailed report on feedback received from various Stake Holders	
5	AICTE Model Curriculum & Variance Analysis with AR 2016	
6	Database related subjects required	
7.	Distributed Databases should be Mandatory @ 3rd yr.	will be introduced as Elective in VI sem

S. Pallamsetty
Dr Pallam Setty
AU / Vizag

G.S. Srikanth
Mr. Srikanth

Ravichandra
Mr. Ravichandra

24/2/18
Dr Rajeswararao

(8)	Big data Analysis should be optional.	
(9)	Scripting language courses are Missing. (not Java)	
(10)	Industry driven course like retail Marketing.	
	The above courses should be domain related instead of technical courses.	
	Industry defined (or) refined classes atleast for 3 to 4 hours.	
(11)	Distributed Databases to be added as a part of RDBMS	will be added as
	Introduction of NoSQL which includes MongoDB.	separate course X
	NOSQL & RDBMS in 2nd Year (3rd (or) 4th sem).	
	Big Data Analysis with Visualization (Title change)	In BDA, first 2
	How to store and work on Unstructured large Data	units can be on
	using R Programming.	distributed databases.
	Python should be given as a Hands on before BDA.	offered as Moocs course
(12)	E-commerce: Should be combined with	
	Mobile computing, which could be as M. Commerce.	
	Swap 2 and 3/4 Units. (Rename the Units)	
	Incorporate the concepts of Advantages & disadvantages of EC	
	Vulnerability, Challenges of EC to be added.	

S. Pallaveedu G.S. Sri Lakshmi Richards 21/12/18

	Wallets part & Commerce part to be saggregated.	
	* Components of E-commerce to be added.	
	Payment Models, Concentrate less.	
	* Ecomerce for Multimedia Applications → Real Applications	
	Needed to chage, Add Wallet based Transactions	Syllabus will
	Payment challenges in Ecomerce. PAYPAL, PAYTM as a Casestudy and explain Architecture	be modified
	* Risk Analysis chage as Payment challeges in EC.	accordingly.
	NTTPI based UPI based Method. to be added.	
	with banking and its sectors and Projects.	
	Unit 1, Unit 3 as 2, Unit 4 as 3, Unit 4 should	
	be a combination of m-comerce & challeges,	
	For Unit 5, E-comerce chage as Real time applications	
(13)	HCI ; Add UPNP & API Application to be added.	incorporated (IT)
	Developing through HCI to be added. (Not Compulsory)	
(14)	AI ; Not happy. logics to be added.	will be made
	AI, Applications, Propositional logic	as core subject
	Expert System & Rule based system.	in 5th semester

Remove Robo Architecture

S. Pallavi [signature] G.S. [signature] [signature] [signature] 24/2/18

	Information System · Robots & Expert System.	
(15)	SPM: Experimental Verification & Validation with	will be given
	a s/w Project as a Tool.	by External members
	* Tools to be added, Validations of Project to be taught.	
	atleast 1 Unit to be given for Agile.	
	SPM subject is to be completely redefined	
(16)	% of latest technologies in the syllabus.	
	from Old syllabus to New Syllabus.	
	*How you are going to convert Certified to Qualified Engg	
	needs BOS* — GOLDEN WORDS by Dr. P.S.	
	Vision towards 2030 & 2040 to be made in syllabus.	
(17)	Distributed systems:	
	* Add definition of load balancing in Unit-1	will be incorporated (IT)
(18)	Middleware Technologies:	
	→ Remove Unit-1; Service Oriented Architecture	incorporated (IT)
	Restable services & W services, MQueue Fusion Architecture	changes
	to be added in Unit 1; Books references to be changed.	

[illegible] [illegible] [illegible] [illegible] 24/12/18

(19)	Social N/w Analysis: Unit-I Introduction to be chaged.	incorporated (IT)
	Start with Emergence of Social Web.	
	Add, Do's & Dont's on being of Social N/w.	
	Later, Add data grabbing.	
	(Unit 2 is good.) ✓	
	Unit 4 should be Unit 2.	
	Unit 3 content to be reduced; U4 new name.	
	Till Core Methods remove in Unit 3.	
	Till Methods of Community (Third line) to be removed	
(20)	CNS:	incorporated
	→ Add Passive Attacks, Active, IDS, IPS, IRS	
	→ Incorporate SNART also. (in Unit 4)	
	Anamolies Detection & Mis behavior.	
	Misbehavior responses for different Anamlies.	
(21)	BDA Lab : 7 Hadoop + 3 Tabular (also).	incorporated (CSE)
	Consise and only make 10 Expts only	

S. Pallavi [signature] G.S. [signature] [signature] [signature] 24/4/18

	Add some in Augmented expeniatr (if possible)	
(22)	MAD Lab: use expeinetalim on Window and Android	incorporated (CSE)
	Add programe in Windows also. (divide equally)	
	Add Real Time expeeiat like 1) Alleedare Montoy System	
	2) App for Confuence hall booking.	
	3) App for making Gate pass system.	
	4) Apps to be usefull for the kind of GMRIT.	
	8Th SEM.	
(23)	Cloud Computing: suggested (as) Cloud Infrastructure. After Introduction, Evaluating Cloud,	Shifted to list of electives
	Virtualization — Desktop Virtual — server Virtu—	
	load balancing concept. (Cto be added for sure)	
	Remove SOA from chapter)	— modifications (IT)
~~(24)~~	~~Edited~~ Unit-4: Remove Topic Types of Cloud.	will be
	Dont mention any co-operate in the syllabus. ****	incorporated
	Dont ever give Technology Developers names.	
	Disaster Recovery as Information Recovery System	
	Mention the subtopics and added to be clear.	

S. Pallavi G.S Tirupathi 24/2/18

(24)	Professional Ethics.	
	Latest version of text book should be given first.	will be done
	Ethics in AI to be replaced with a generic word.	by HoD/IT
	* Remove HIB workers, Remove the different workers.	
	* Remove Need for nontraditional workers.	
	* Remove contigent worker	
	Add corperator ombudsmen (Mandate).	
	Add piggy Backing, sharing of passwords.	
	→ Ethics of free lancers. (to be added) in place	
	→ of Nontraditional workers if needed	
	Add plagairism, how not to copy coding from other	
	References, Citations to be made in format of reference.	
	"NO SPECEFIC COMPANIES / COUNTRIES / ORGANIZATION	
	SHOULD NOT BE IN THE SYLLABI DESIGN"	
	— change in Professional Ethics by latest syllabus	
	given by IT Dept — Mr. M. Satish —	

S. [signature] G.S. [signature] [signature] [signature] 24/4/18

(25)	Ethics - II : (by Satish) Remove 2nd half on Unit - 4 (The Impact of IT on productivity and Quality of life). Sexual Predators generic name to be given. ↳ (Fraudsters) / Frauds. (IT Professional E)	
(26)	Digital Image processing → Unit - 4: Compression - Uses, types of compression, Image Retrie System, Image Content R.s to be added (*) CBIR to be added. (*) Image Enhancement Algorithms. if possible try to add the subconcepts also. How to measure the Quality of Image: PSNR	to be done with ECE
(27)	Computer forensics: Unit : Investors X ——— Investigators ✓ Add a small topic of linguistic ~~Legal~~ forensics in Unit 4	Approved
(28)	Machine learning: Unit IV: Advantage and added feature of SOM	Approved
(29)	Multimedia Database:	Approved

Statement G.S.S.T to Evaluate 24/12/18

	Unit-4 (1) to be like Unit-1 (2)	
	2 and 3 to be ordered Accordingly.	
(30)	Wireless Adhoc N/W's:	incorporated (CSE)
	→ Subdefine the sub concepts of WAN's in Introduction in Unit-1	
	→ Add QoS Models in Unit-3	
	→ Unit-4: Why ANODR came into existence.	
(31)	Retain the 13 & 14. PO's (as it is in CSE)	
	If you want, you can add more PSO's as needed.	
	13, 14. (Program specific) 13th & 14th are good.	

S. Pallaunari G.S. Giri [signature] [signature] 24/2/18

	Application Security : IT.	
	Enlarge all the sub Topics as needed	

Prepared By :

Dr R Priya Vaijayanthi & Dr V Prasad.

HOD CSE

HOD IT

24/2/18

Department of Information Technology

[Minimum Credits to be earned: 174 (for regular students)/132(for lateral entry students)]

No	Course Code	Course	POs& PSOs	Periods			
				L	T	P	C
First Semester							
1	16HSX01	English Communication Skills I	10	3	1	-	3
2	16MAX01	Engineering Mathematics I	1,2	3	1	-	3
3	16PYX01	Engineering Physics	1,2	3	1	-	3
4	16MEX01	Engineering Mechanics	1,2,3	3	1	-	3
5	16CSX01	Problem Solving using C	1,2,3	3	1	-	3
6	16PYX02	Engineering Physics Lab	4	-	-	3	2
7	16CSX02	Problem solving using C Lab	2,3,4	-	-	3	2
8	16MEX02	Engineering Drawing	4,9,10	-	-	3	2
			Total	15	5	9	21
Second Semester							
1	16HSX03	English Communication Skills II	10	3	1	-	3
2	16MAX02	Engineering Mathematics II	1,2	3	1	-	3
3	16CYX01	Engineering Chemistry	1,2	3	1	-	3
4	16EEX01	Basic Electrical Engineering	1,3	3	1	-	3
5	16CHX01	Environmental Studies	1,3,6,7	3	1	-	3
6	16HSX02	English Communication Skills Lab	10	-	-	3	2
7	16CYX02	Engineering Chemistry Lab	4	-	-	3	2
8	16MEX03	Engineering Workshop	1,2,10,12	-	-	3	2
			Total	15	5	9	21
Third Semester							
No	**Course Code**	**Course**	**POs& PSOs**	**Periods**			
				L	**T**	**P**	**C**
1	16EC021	Data Communication systems	2, 3	3	1	-	3
2	16CS304	Database Management Systems	1,2, 3, PSO1	3	1	-	3
3	16CS305	Digital Logic Design	1, 2, 3,4,9	3	-	2	4
4	16CS306	Discrete Structures & Graph Theory	1, 2, 3	3	1	-	3
5	16IT305	Data Structures	1, 2, 3,PSO1	3	1	-	3
6	16IT306	Object Oriented Programming through Java	1,2, 3, 5, PSO2	3	1	-	3
7	16CS309	Database Management Systems Lab	2,3,4,5	-	-	3	2
8	16IT308	Data Structures Lab	2,3,4	-	-	3	2
9	16IT309	Java Lab	2,3,4,5	-	-	3	2
10	16HSX05	CC&EC Activities I		-	-	3	-
11	16ESX01	Employability Skills I		-	2	-	-
			Total	18	7	14	25
Fourth Semester							
1	16MA405	Probability and Statistics	1,2	3	1	-	3
2	16CS404	Software Engineering	1,2, 3, 4,5	3	-	2	4
3	16CS406	Web Technologies	1,3, 5,6,PSO2	3	1	-	3
4	16IT404	Computer Networks	1,2,PSO1	3	1	-	3
5	16IT405	Computer organization	1,2	3	1	-	3
6	16IT406	Operating Systems	1,2,3	3	1	-	3
7	16CS408	Linux Programming Lab.	1,4, PSO2	-	-	3	2
8	16CS409	Web Technologies Lab	3,4,5, PSO2	-	-	3	2
9	16IT409	Computer Network Lab	4, 5, PSO1	-	-	3	2
10	16HSX05	CC & EC Activities I		-	-	3	1
11	16ESX02	Employability Skills II		-	2	-	1
			Total	18	7	14	27

Commented [C1]: 7th BoS (17.12.2016) – (1) Suggested to include the text book by Navathe (2) To include topics related to ORDBMS in the Unit 4 - Done

Commented [C2]: BoS 10: removed combinatorics concept

Commented [C3]: 7th BoS (17.12.2016) – Suggested to include text book published by Schaum SeriesDone

Commented [C4]: BoS 10: linked lists introduced before stacks and queues, taken 3rd text book from schaum series

Commented [C5]: Suggested to include Miniprojects in all semesters. Already all laboratory courses are included with mini project in the form of augmented experiments and internships are also provided.

Commented [C6]: 7th BoS (17.12.2016) – Suggested to include text book authored by Pressman. Also suggested to include topics on Modeling Methods, Life Cycle Models, Code Generation – Done

Commented [C7]: 8th BoS (01.07.2017 – 1.Suggested to include topic on AJAX to be combined with JavaScript 2.Suggested to remove PHP - Done

Commented [C8]: 8th BoS (01.07.2017 – 1.Suggested to include topic on AJAX to be combined with JavaScript 2.Suggested to remove PHP - Done

Commented [C9]: BoS 10: application layer more detailed

No	Course Code	Course	POs& PSOs	Periods L	T	P	C
Fifth Semester							
1	16CS505	Design and Analysis of Algorithms	2,3	3	1	-	3
2	16CS604	Mobile Computing	1,2,3,5	3	1	-	3
3	16IT503	Automata and Compiler Design	1,2,3	3	1	-	3
4	16IT504	Cloud Computing	2,6,7,8	3	1	-	3
5	16IT505	Object Oriented Analysis and Design	2,3, 4,5	3	-	2	4
6		Elective I/CC		3	1	-	3
7	16IT507	Cloud Computing Lab	4,5,PSO1,PSO2	-	-	3	2
9	16IT508/ 16IT509	Term Paper/ Mini Project	2,4,8,10,12/ 2,3,4,5,8,9,10,11	-	-	3	2
10	16HSX06	CC & EC Activity II		-	-	3	-
11	16ESX03	Employability Skills III		-	2	-	-
			Total	18	7	11	23
Sixth Semester							
1	16HSX04	Engineering Economics & Project Management	11	3	1	-	3
2	16CS602	Data Mining	2,3,4,5	3	-	2	4
3	16CS603	Internet of Things	1,2,3,4,5,6	3	1	-	3
4	16IT604	Artificial Intelligence	1,2,3	3	1	-	3
5		Elective II/CC		3	1	-	3
6		Elective III (Open Elective)		3	1	-	3
7	16CS607	IOT Lab	4, 9	-	-	3	2
8	16IT508/ 16IT509	Term Paper/ Mini Project	2,4,8,10,12/ 2,3,4,5,8,9,10,11	-	-	3	2
9		Audit Course		-	-	-	-
10	16HSX06	CC & EC Activity II		-	-	3	1
11	16ESX04	Employability Skills IV		-	2	-	1
			Total	18	7	11	25
Seventh Semester							
No	**Course Code**	**Course**	**POs& PSOs**	**Periods L**	**T**	**P**	**C**
1	16IT701	Big Data Analytics	2,5,6	3	1	-	3
2		Elective IV/CC		3	1	-	3
3		Elective V/CC		3	1	-	3
4	16CS705	Mobile application Development lab	2,3, 8	-	-	3	2
5	16IT705	Big Data Analytics Lab	3,4,5	-	-	3	2
6	16IT706	Full Semester Internship[1]	1,2,5,8,9,10,11,12	-	-	-	16
			Total	9	3	6	13/16
Eighth Semester							
1	16CS802	Machine Learning	2,5	3	1	-	3
2	16IT802	Professional Ethics	6,8	3	1	-	3
3		Elective VI/CC		3	1	-	3
4	16IT804	Project	3, 4,9,10,11,12, PSO1,PSO2	-	-	3	10
5	16IT706	Full Semester Internship[2]	1,2,5,8,9,10,11,12	-	-	-	16
			Total	9	3	3	19/16

Commented [C10]: 8th BoS (01.07.2017 – Suggested to include Knapsack problem in Unit 3 - Dome

Commented [C11]: 8th BoS (01.07.2017 – (1)Suggested to include practical insight in the Unit 4 – Done (2) To include iOS architecture - Done

Commented [C12]: BoS 10: as suggested new text book - talukder

Commented [C13]: 8th BoS (01.07.2017 – Topic on Semantic Data Modeling is to be included - Done

Commented [C14]: 8th BoS (01.07.2017 – Suggested to include topics on OLTP and OLAP – Done

Commented [C15]: To include courses on IOT - Done

Commented [C16]: 9 th BoS (24.02.2018) – Suggested to include topics related to Distributed Databases - Done Mama 22/6/20 9

Commented [C17]: 9 th BoS (24.02.2018) – Suggested to include following experiments related to (1) Attendance monitoring system (2) Conference hall booking (3) Gate pass monitoring and other similar experiments - Done

Commented [C18]: 9 th BoS (24.02.2018) – Suggested to have experiments on Hadoop and Tabuleau - Done

Commented [C19]: 8th BoS (01.07.2017 – Industry Feedback computatSuggested to include Machine Learning course = Done

Commented [C20]: 9 th BoS (24.02.2018) – (1)Suggested to include topics on Plagiarism, ethics of free lancing – Done
(2) To rename the topic on Sexual predators by Frauds

[1]Student who opt for FSI-16IT706 during 7th semester, have to register one more additional elective and 16CS705 & 16IT705 as additional lab courses during 8th semester

[2]Student the who opt for FSI-16IT706 during 8th semester, have to register an additional course in consultation with HoD during 7th semester

List of Electives

No	Course Code	Course	POs& PSOs	Periods			
				L	T	P	C
Elective I							
1	16IT001	Information System Design	3,5	3	1	-	3
2	16CS001	Computer Graphics & Multimedia	2,3,5	3	1	-	3
3	16CS004	Real Time Operating Systems	2, 3	3	1	-	3
4		MOOCs		-	-	-	3
Elective II							
1	16IT002	Distributed Systems	2,7	3	1	-	3
2	16IT003	Information Retrieval Systems	3,6,8	3	1	-	3
3	16IT004	Information Theory & Coding	1,2,3,6,8	3	1	-	3
4		MOOCs		-	-	-	3
Elective III (Open Electives – Mathematics, Chemistry, Entrepreneurship Skills, Industrial Safety and Engineering & Technology)							
1	16CE007	Disaster Management	2	3	1	-	3
2	16EE004	Renewable Energy Sources	2,7	3	1	-	3
3	16ME009	Principles of Entrepreneurship	1,5,8,11	3	1	-	3
4	16EC004	Fundamentals of Global Positioning System	1,2,6	3	1	-	3
5	16CS006	Computational Intelligence	2,3,5	3	1	-	3
6	16CS007	IOT for Engineering Applications	1,5	3	1	-	3
7	16CH007	Industrial Safety and Hazard Management	1,2,3,6,8	3	1	-	3
8	16IT005	Fundamentals of Cloud Computing	2,6,7,8	3	1	-	3
9	16PE007	Smart Grid Technologies	3,5	3	1	-	3
10	16MA001	Computational Mathematics	1,2	3	1	-	3
11	16CY001	Nano Science & Technology	1,12	3	1	-	3
Elective IV							
1	16IT006	Human Computer Interaction	5,7	3	1	-	3
2	16IT007	Middleware Technologies	5,11,PSO1,PSO2	3	1	-	3
3	16CS008	Software Project Management	3,5,6	3	1	-	3
4	16CS003	Qualitative Data Analysis	3,5	3	1	-	3
5		MOOCs		-	-	-	3
Elective V							
1	16EC602	Digital Signal Processing	1,2,3,PSO2	3	1	-	3
2	16IT008	Application Security	5,6,8	3	1	-	3
3	16IT009	Cryptography and Network Security	5,6,8	3	1	-	3
4	16CS009	Social Network Analysis	2,4,5,12	3	1	-	3
5		MOOCs		-	-	-	3
Elective VI							
1	16EC005	Digital Image Processing	3,5,6	3	1	-	3
2	16IT010	Computer Forensics	5,6,7,8	3	1	-	3
3	16IT011	E & M Commerce	5,6,8	3	1	-	3
5	16CS010	Multimedia Database	3,5,6	3	1	-	3
6	16CS011	Wireless Ad hoc Networks	3,5,6	3	1	-	3
7		MOOCs		-	-	-	3

Commented [C21]: 9 th BoS (24.02.2018) – Suggested to include topics on Load balancing

Commented [C22]: 8th BoS (01.07.2017 – Suggested to include topics related image retrieval - Done

Commented [C23]: 8th BoS (01.07.2017 – Suggested to include bio-inspired algorithms in Unit 4

Commented [C24]: 8th BoS (01.07.2017 – This course is newly introduced for all branch of Engineering as per their suggestion as open elective - Done

Commented [C25]: 9 th BoS (24.02.2018) – To include UPNP and API applications - Done

Commented [C26]: : 9 th BoS (24.02.2018) – Suggested to include SOA, Restable Services, Fusion Architecture in Unit - 1

Commented [C27]: 9 th BoS (24.02.2018) – Suggestd to tools for verification and validation

Commented [C28]: BoS 10: as suggested this course is offered as an elective

Commented [C29]: 9 th BoS (24.02.2018) – Suggested to include Anamolies Detection and Misbehavior Response - Done

Commented [C30]: 9 th BoS (24.02.2018) – Suggested to include Dos and Donts on Social Web and Network

Commented [C31]: 9 th BoS (24.02.2018) – Suggested to include topics on Compression and Image Retrieval - Done

Commented [C32]: : 9 th BoS (24.02.2018) – Suggested to include topics on Linguistic Forensics - Done

Commented [C33]: 9 th BoS (24.02.2018) – (1)As suggested the title was changed to E and M Commerce as it was initiatlly with E-Commerce (2) To include topics related to Wallet based transactions, multimedia applications, payment models

Commented [C34]: 9 th BoS (24.02.2018) – Suggested to rearrange the order of Units

Commented [C35]:

Contemporary Courses (CC)[3]							
1	16IT012	Data Analytics-I	3,5,6	3	1	-	3
2	16IT013	Data Analytics-II	3,5,6,7	3	1	-	3
3	16IT014	Data Analytics-III	3,5,6	3	1	-	3
4	16CS012	Security Analytics-I	3,5,6	3	1	-	3
5	16CS013	Security Analytics-II	3,5,6	3	1	-	3
6	16CS014	Security Analytics-III	3,5,6	3	1	-	3
7	16IT015	Introduction to Data Analytics	3,5,6	3	1	-	3
8	16IT016	Enterprise Application development Using IBM RAD & Bluemix	3,5,6,7	3	1	-	3
9	16IT017	Big Data Analytics with Hadoop Platform	3,5,6,7	3	1	-	3
10	16IT018	Foundation course in Security Identity & Access Management.	3,5,6,7	3	1	-	3
11	16CSX16	Digital Marketing – (MOOCS)	2,5,12	-	-	-	1
One Credit Course (s)[3]							
1	16CSI01	Tibero®DB		1	0	0	1
2	16ITI01	Ethical Hacking & Cyber Security		1	0	0	1
3	16ITI02	Ruby on Rails		1	0	0	1
Audit Courses							
1	16AT001	Contemporary India: Economy, Polity & Society (ME)	-----				
2	16AT002	Indian Heritage and Culture (EEE)					
3	16AT003	Intellectual Property Rights and Patents (ECE)					
4	16AT004	Introduction to Journalism (CSE)					
5	16AT005	Professional Ethics and Morals (CE)					
6	16AT006	Science, Technology and Development (Chem.)					
7	16AT007	Industrial sociology (PE)					
8	16AT008	Organizational Behavior (IT)					
9	16AT009	Communication Etiquette in workplaces (BS& H)					

[3]Contemporary and One Credit Courses may vary from one Academic Year to another academic year and depends on the recent trends in the industries

IT

Curriculum under Academic Regulation 2019

Suggestions/Revisions Carried Out

during 10th, 11th and 12th Board of Studies

and Approved by Academic Council

10th BoS: 12.09.2018 (ACY: 2018 – 2019)

11th BoS: 06.07.2019 (ACY: 2018 – 2019)

12th BoS: 22.02.20 (ACY: 2019 – 2020)

10th BoS:

Feedback collected from Industry/Alumni/Academic people

GMR Institute of Technology | 24-Jun-20

S.No	Details of stake holder	Comments
1	Dr. Aditya Abhyankar Professor, SP Pune Univ.	5 to 6 Lab Experiments need to be depth in each lab courses . Machine learning, Deep learning and Python courses need to be included
2	Mr. A. Paul CSI Secretary, Vizag Chapter	Legal aspects of IT in Information security and various IT standards like ISO 27001 could be included.
3	Mr. T. Suresh Kumar, Wipro, Alumni	Testing and IOS or Android Programming courses need to be included Application layer protocols need to be included in Computer Networks Social Network Analysis can be included in Big Data Analytics
4	Mr. M. Dhanush Kumar, TCS, Chennai, Alumni	Make use of IDEs to code the program Include Hadoop lab by covering proof of concepts
5	Mr. Sirisha Panda, TCS, Alumni	Content of Big Data Analytics is very good and include tableau with R Instead of theoritical subjects add programming subjects like Python, C++, . Net

Feedback collected from Industry/Alumni/Academic people

GMR Institute of Technology | 24-Jun-20

S.No	Details of stake holder	Comments
6	Ms. A. Nirmala, DELL, Hyderabad, Alumni	Can introduce topics for Angular JS, Bootstrap for CSS, Hibernate for database connectivity, SAX parser, JSON usage instead of XML Parsing in Web technologies. Can have hands-on with IDEs like Eclipse
7	Mr. P. Ramji	Make it mandatory to use only IDEs Eclipse or Net beans and connectors for the database connectivity rather than traditional tools It would be better if it covers the PERL Script programming basics as well Add the implementation of various algorithms in Computer Graphics
8	Mr. K. V. Saiteja, TCS, Alumni	Include one more programming language in 3rd Year of study like Python or C++ Include Angular JS in Web Technologies Include Data Analytics in Curriculum

Feedback collected from Industry/Alumni/Academic people

GMR Institute of Technology | 24-Jun-20

S.No	Details of stake holder	Comments
9	Mr Vasanta Rao Addanki Project Manager/CTS	Overview of BI tools like Tableau, Cognos shall be included
10	Mr N Naresh Kumar SSE/Workspot	Concepts like AWS EMR, Azure can be included in BDA
11	Mr Krishna Kumar Chief Architect/SAP	Topics on Hadoop can be included; Curriculum is balanced
12	Mr SRV Prasad SE/CGI	Make students to do project on BDA/BI
13	Ms M Deepthi SE/TCS	Curriculum as overall is good
14	Mr R Soundararajan Technical Mgr./ALE	Curriculum as overall is good Latest trends and tools in networking shall be introduced

11th BoS:

Feedback collected from Industry/Alumni/Academic people

GMR Institute of Technology | 24-Jun-20

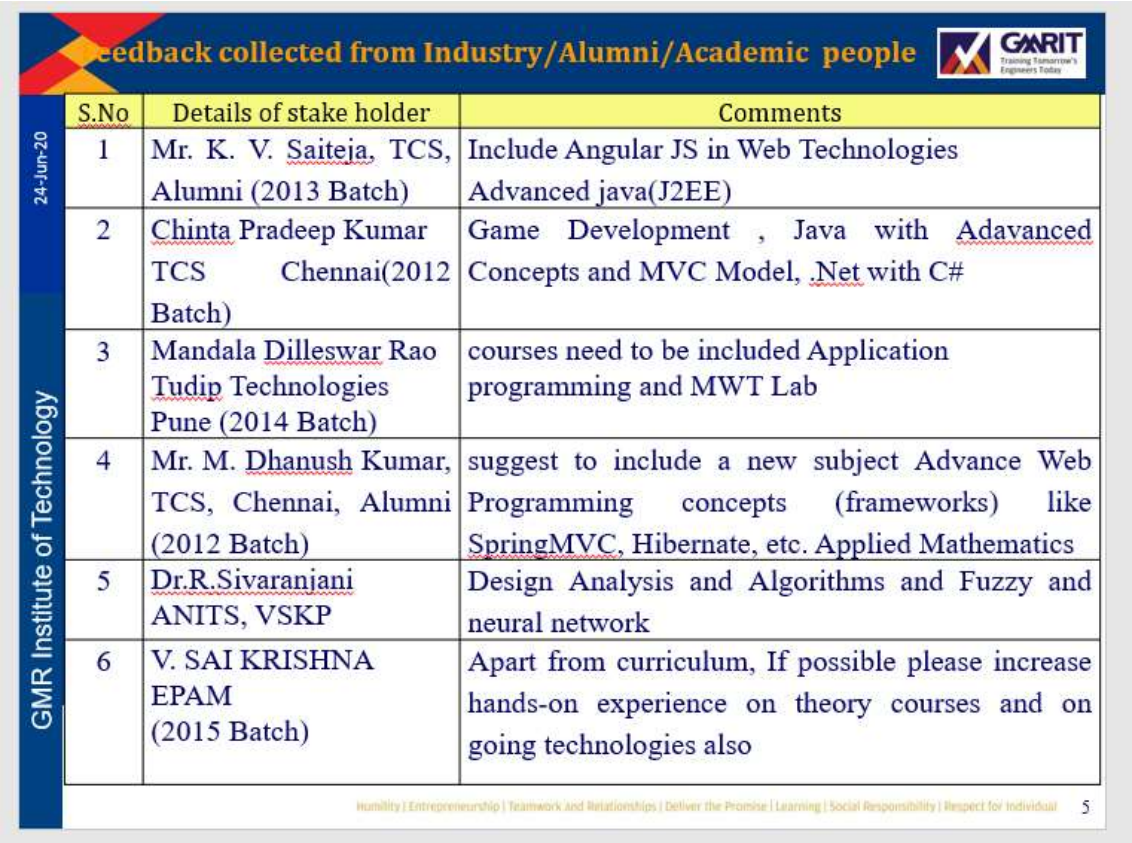
S.No	Details of stake holder	Comments
1	Manikanta Gudla. TCS Hydrabad (2010 Batch)	to be included Data Analytics, Big Data and Advanced Java
2	Dr K Sathya Babu NIT Rourkela	Biometric security to be included Compressive viva name to be changed Applied mathematics need to be changed to P & S
3	Mandala Dilleswar Rao Tudip Technologies Pune (2014 Batch)	courses need to be included Application programming and MWT Lab
4	Mr. M. Dhanush Kumar, TCS, Chennai, Alumni (2012 Batch)	suggest to include a new subject Advance Web Programming concepts (frameworks) like SpringMVC, Hibernate, etc. Applied Mathematics
5	Dr.R.Sivaranjani ANITS, VSKP	Design Analysis and Algorithms and Fuzzy and neural network
6	V. SAI KRISHNA EPAM (2015 Batch)	Apart from curriculum, If possible please increase hands-on experience on theory courses and on going technologies also

Feedback collected from Industry people

GMR Institute of Technology | 24-Jun-20

SNo	Details of stake holder	Comments
1	Mr Vasanta Rao Addanki Project Manager/CTS	Overview of BI tools like Tableau, Cognos shall be included
2	Mr N Naresh Kumar SSE/Workspot	Concepts like AWS EMR, Azure can be included in BDA
3	Mr Krishna Kumar Chief Architect/SAP	Topics on Hadoop can be included; Curriculum is balanced
4	Mr SRV Prasad SE/CGI	Make students to do project on BDA/BI
5	Ms M Deepthi SE/TCS	Curriculum as overall is good
6	Mr R Soundararajan Technical Mgr./ALE	Curriculum as overall is good Latest trends and tools in networking shall be introduced

12th BoS:



eedback collected from Industry/Alumni/Academic people

GARIT Training Tomorrow's Engineers Today

24-Jun-20

GMR Institute of Technology

S.No	Details of stake holder	Comments
1	Mr. K. V. Saiteja, TCS, Alumni (2013 Batch)	Include Angular JS in Web Technologies Advanced java(J2EE)
2	Chinta Pradeep Kumar TCS Chennai(2012 Batch)	Game Development , Java with Adavanced Concepts and MVC Model, .Net with C#
3	Mandala Dilleswar Rao Tudip Technologies Pune (2014 Batch)	courses need to be included Application programming and MWT Lab
4	Mr. M. Dhanush Kumar, TCS, Chennai, Alumni (2012 Batch)	suggest to include a new subject Advance Web Programming concepts (frameworks) like SpringMVC, Hibernate, etc. Applied Mathematics
5	Dr.R.Sivaranjani ANITS, VSKP	Design Analysis and Algorithms and Fuzzy and neural network
6	V. SAI KRISHNA EPAM (2015 Batch)	Apart from curriculum, If possible please increase hands-on experience on theory courses and on going technologies also

Humility | Entrepreneurship | Teamwork And Relationships | Deliver the Promise | Learning | Social Responsibility | Respect for Individual 5

GMR Institute of Technology
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GMRIT Training Tomorrow's Engineers Today

Department of Information Technology
10th BOS - MINUTES OF MEETING

Dated: 22-09-2018

Person in Chair: Dr. Ajit Kumar Rout, HoD IT, GMRIT

Venue: Board Room

Point in **Time(s):** 10:30 Am to 3:30 PM

10th

S. No	Points Discussed	Remarks
1	Board Chairman Dr. Ajit Kumar Rout, IT HOD had welcomed all the BOS Members and Faculty of IT	
2	Board Chairman presented a PPT for the 10th BOS Members	
3	ATR on 9th BOS Meeting is presented by BOS Chairman	
4	Board Chairman presented a detailed report on feedback received from various Stake Holders	
5.	Slide-7: PSO1. Instead of Soft computing change it to "Computing" or "Data Computing" or "n/w Computing". or "Scientific computing"	
6.	Before Stacks and queues Linked lists should be first.	Data Structures
	Stacks and queues implementation with both Arrays & Linked lists	
	Linked List → Unit -1 ; Stacks and queues → Unit -2	
	AR16: Unit-1: Linked list, Stacks, Queues. (Finalized Order)	

S. Rajesh
(RAJESH SRINIVASAN)

Suresh
[Suresh Kumar Tankala]

Ajit
(Dr. D P Ajit)

	Points Discussed	Remarks
	Schaum Series → Text book : 3.	Data Structres (theory)
7.	Assigning marks to self-study concepts is not good.	DSGT
	Recurrence Relation and combinatory should be seperated.	
	DSGT is huge syllabus.	
	Unit : 3 → Remove combinatory concepts. (Generating functns and recurrance relations only in Unit 3)	
	DSGT to DMS (subject name) or MFCS	
	remove Graphs concepts from Unit-4 and bring some Concepts from Unit 3 to Unit 4.	
	MFCS: Include mathematical concepts.	
8.	Application Layer : more detailed (Seperate Unit) with Protocol names and concepts.	CN
9.	Cloud computing should be taught by certified faculty.	CC Lab
	Or by the domain experts from industry.	
	Better to go with one or two platforms only to teach cclab.	
10.	Seperate CD and Automate Theory into 2 subjects	ACD
	CD with theory and Lab.	
	CD / AT → As elective	

(RAJESH SRINIVASAN)

(Suresh Kumar Tankala)

(Dr. D. P. Acharjya)

(K. SHADEVALLI)

		Points Discussed	Remarks
	11	CGM - OK	
	12.	SNA part can be included in Big data.	
	13.	Python and DS mandatory to all branches - AR20.	
	14.	Enterprise mobility courses should be included.	
	15.	Mobile Computing : Talukder as Text book :3	
AR20	16.	C → Semester 1 Python → Semester 2.] for all branches.	
	17.	reduce the credits by combining theory & lab courses like DS(3) +DS lab(1) without reducing hours.	
	18.	DS to all branches	
	19	CD & AT can be seperated Elective.	
	20.	Term papers can be converted to Research program development.	
	21.	Term papers → Proof of concepts	
	22.	EEPM may be removed - it may obsolete by 2020, instead Ajile, Scrum can be included.	
	23.	Middle ware Technologies : change the contents, choose a better technology.	
	24	Datamining & IRS can be clubbed into a single course	
		IRS can be replaced with Spark, SCALAR etc,	

C. Rajesh (RAJESH SRINIVASAN)

Suresh. [Suresh Kumar Tankala]

Dwijm (Dr. D.P. Acharjya)

K. Sathadevi (K. SATHADEVI)

	Points Discussed	Remarks
25.	Cryptography & Network Security or SNA should	
	be compulsory course.	
26.	EEPM can be replaced with Cryptography & Nlw Secur subject.	
27.	Management courses can be taught in 2nd or 3rd Semester.	
28.	Focus on s/w testing is missing.	
29.	MC can be replaced with software Testing Subject	
30.	Modify 'c' as 'c& DS' ; common for all branches ↓semester 1	
31.	Semester 2 : 2 subjects → python & DS and Semester 1 : 'C' Using 'c'.	
	(or)	
32.	Sem1 : C Sem2 : DS Using C Sem3 : Phyton	
33.	DSGT → rename MFCS (include number theory)	
34.	Minimize mathematics contents to introduce core Subjects	
35.	Xc++ → Object oriented c++ Lab (not required c++)	
36	OS & CN Lab combine as OS+CN	
37.	WT and CN integrated course.	

(RAJESH SRINIVASAN) [Suresh Kumar Tamkala] (Dr. D. P. Acharjya) (K. SAHADEVAIAH)

	Points Discussed	Remarks
38	C++ replace with DAA	
39	CNI shifted to Semester 5	
40	Automata Theory and formal lang/IoC in Sem 4	
41	SE shifted to Semester 5	
42	S4 : PS, CO, OS, Toc, LIT, DAA, Web,	
	S5:	
43.	R Programming in Semester 7	
44.	MC replaced by CNS. (CNS should be compulsory)	
45	E.G : Wireless Adhoc nw's replace with Wireless Adhoc sensor nw's	
46	Moocs : Mention title of the course.	
47.	Qualitative Data Analysis : 16CS003 Elective IV	
48	Sw Testing in Semester 7	
49	As augumented experiments are added Mini project can be dropped. CN Team papers can be dropped	
50	Full stack programming.	
51	ARM microprocessor in place of IOT	

S. Rajesh
(RAJESH SRINIVASAN)

Suresh
[Suresh Kumar Tankala]

Achoyjya
(Dr. D.P. Achoyjya)

	Points Discussed	Remarks
52.	Proposed PSO1 is modified to Quantitative computing in place of Softcomputing and PSO2 is as per the proposed one	
53.	BOS members suggested for AR20 structure should be 5 theory (2 integrated) & 2 labs (core courses)	
54.	Suggested in 1st semester PSC & PSC Lab, 2nd sem DSA DSA Lab (using C and phyton & Phyton lab in 3rd sem of IT	
55.	cryptography & Nlw security & Sw Testing are compulsory subjects for IT in AR20	
56.	Arrangement of IT course structure can be done properly after completion of 1st Y/o remaining structure for AR20	
57.	The changes proposed for R16 Syllabus accepted by Forumbers	
58.	change of mission statement has proposed and finalized	

*Prepared By: M. Jyothi & M. Satish.

BOARD MEMBERS SIGNATURES & DATE

S. Rajan
(RAJESH SRINIVASAN)

[Signature]
[Suresh Kumar Tankala]

[Signature]
(Dr. D. P. Acharjya)

[Signature] 22/9/2018
HOD IT

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GMRIT Training Tomorrow's Engineers Today

Department of Information Technology
11th BOS - MINUTES OF MEETING

11th BOS

Dated: 06-07-2019

Person in Chair: Dr. Ajit Kumar Rout, HoD-IT, GMRIT

Venue: I-G-01

Point in **Time(s):** 11:00 AM To 1:30 PM.

S. No.	Points Discussed	Remarks
1	Board Chairman Dr. Ajit Kumar Rout, IT HOD had welcomed all the BOS Members and Faculty of IT	
2	Board Chairman presented a PPT for the 11th BOS Members	
3	Board Chairman presented a detailed report on feedback received from various Stake Holders	
4	Board chairman presented 2019 curriculum & Structure	
5	members Agreed for programming Language title	
6	chairman presented 3rd sem curriculum.	
7	Members suggested Probability & statistics title for Applied Mathematics – IV	
	Title is Data Structures for DSA Course as per members Suggestion.	

06/07/2019 17/7/19 7/7/2019 06/07/19

S. No.	Points Discussed	Remarks
•	Members suggested Programming Practice Lab	
	Using R & Python title for programing	
	Prectice Lab.	
•	Members suggested web Technology title	
	for web programing subject in 5th sem.	
•	Advaced Data Structures & algorithms	
	can be changed to DAA as an	
	integrated course in IV semester.	
•	Web Programming title can be changed	
	to Web Technologies in V semester	
	as per members suggestion.	
•	Members suggested that in open electives	
	clearly mention the courses for	
	other department only (or) IT students	
	will take otherthen FCC & FMC courses.	

06/07/2019 6/7/19 6/7/2019

6/7/19

S. No.	Points Discussed	Remarks
•	Software Testing Methodologies as	
	an elective course as per members	
	suggestion.	
•	Members Suggested not to keep cryptography	
	Syllabus in cyber security course	
•	Members Suggested to have Bio metrics	
	Subjects as an elective course.	
•	Members suggested to have Block chain	
	course as an elective course (or) OE.	
•	Members told AR 19 Structure & curriculum	
	is fine and keep standard books	
	in the syllabus with latest- versions.	
•	members Suggested to keep some good	
	books & standard books in	
	Programming language subject.	

06/07/2019

6/7/19

6/7/2019

6/7/19

S. No.	Points Discussed	Remarks
•	Members suggested to change pearson education india 2008 book to some standard book for programming language subject.	
•	Members suggested to give some standard questions as a sample questions in the syllabus.	
•	Members suggested to have augmented experiments of pattern matchings instead of earlier ones.	
•	Members suggested to have more augmented experiments in Programing language lab.	
•	Members suggested to dont have an open book test as in the college we have hetrogenous students are there	

06/07/2019

6/7/19

6/7/2019

6/7/19

S. No.	Points Discussed	Remarks
•	They suggested at this level it is not possible	
	to have open book exam.	
•	will keep * for identification of open elective	
	courses for floating other than IT students.	
•	STM at elective IV & SPM at elective V.	
•	Members suggested two pattern question (*)	
	as experiment in 1st year lab.	

*Prepared By: M. Satish & P. Archila.

BOARD MEMBERS SIGNATURES & DATE

1. Dr. D. P. Acharjya 06/07/2019
2. Dr. G. Sahoo 6/7/19
3. Dr. A. N. Chakravarty. 6/7/2019
4. T. Suresh Kumar 6/7/19

HOD IT

GMR Institute of Technology
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GMRIT Training Tomorrow's Engineers Today

Department Of Information Technology

12th Board of Studies- Minutes of the Meeting

22.02.2020 (Saturday)

Person in Chair: Dr. Ajit Kumar Rout, HoD-IT, GMRIT

Dated: 22.02.2020 (Saturday)

LINK / 12th B

Venue: 1-G-01

S. No	Points Discussed	Remarks
1	Board Chairman Dr. Ajit Kumar Rout, IT HoD had welcomed all the BoS members and faculty of IT	
2	Board Chairman presented a PPT for the 12th BoS members	
3	Board Chairman presented a Detailed report on Feedback repot received from various stake holders	
4	* Suggested to go for latest additions of text books.	
5	and References.	
6	Suggested to include unstructured data concepts in DBMS	
7	* In Fundamentals of object oriented Programming suggested	
8	to change the framing of practicle components and	
9	remove of applets concepts.	
10		

A.R.
Dr. D.P. Acharjya

S. Roy

S. No	Points Discussed	Remarks
11	* Suggested to include MDC augment Experiments related to department.	
	* Suggested to include Graph related problems in Data structures.	
	* Suggested to exclude Binomial coefficients and include ramsay numbers, catelogue theory, and also Exclude graph theory, four color problem. Suggested to introduce fuzzy concepts	
	* Suggested to add some time complexity, Space complexity for each Experiment in Ds lab.	

A.H.O. Dr. D. P. Acharjya

S. Rajam

Jones.

S. No	Points Discussed	Remarks
	* Suggested to include message passing and multicore sheets in all units of operating system	
	* Experiments should be in generalized manner in DAA.	
	* Suggested to exclude Experiment 7 in CN lab	
	* Suggested to allow the students to attend workshops on Servers, networks etc to do the advanced programming skill lab.	
	* Suggested to change the name of Dynamic web programming career path to web application programming.	

A.I.. DY. D. P. Acharjya

S. Rajam

PAGE NO: 2

S. No	Points Discussed	Remarks
	* Suggested to have : user experience, UX and UI design, latest cources, API development.	
	* Suggested to include Computer Graphics in Elective V	

*Prepared by: Mr. Ch. Koteswara Rao

BOARD MEMBERS SIGNATURE & DATE

A.U. 22/2/2020

Dr. D.P. Acharjya 22/2/2020

Rajesh Srinivasan 22/2/2020

22/02/2020

HOD-IT

Department of Information Technology

Minimum Credits to be earned: 164 (for Regular Students)
128 (for Lateral Entry Students)

No	Course Code	Course	POs	Contact Hours			
				L	T*	P	C
First Semester							
1	19HSX01	Communicative English	10,12	3	-	-	3
2	19MAX01	Engineering Mathematics I	1,12	3	1	-	3
3	19PYX01 19CYX01	Engineering Physics / Engineering Chemistry	1,12/ 1,12	3	1	-	3
4	19BEX01 19BEX02	Basics of Engineering/ Problem and Solving Programming Skills	1,12/ 1,12	3	1	-	3
5	19BEX03 19HSX02	Problem Solving and Programming Skills Laboratory/ Communicative English Laboratory	4/ 10,12	-	-	3	2
6	19BEX04 19BEX05	Engineering Drawing/ Engineering Workshop	1,5,10/ 1,9,10	-	-	3	2
7	19PYX02 19CYX02	Engineering Physics Laboratory/ Engineering Chemistry Laboratory	4/ 4	-	-	3	2
			Total	**12**	**3**	**9**	**18**
Second Semester							
1		Language Elective	10,12	3	-	-	3
2	19MAX02	Engineering Mathematics II	1,12	3	1	-	3
3	19PYX01 19CYX01	Engineering Physics/ Engineering Chemistry	1,12/ 1,12	3	1	-	3
4	19BEX01 19BEX02	Basics of Engineering/ Problem Solving and Programming Skills	1,12/ 1,12	3	1	-	3
5	19BEX03 19HSX02	Problem Solving and Programming Skills Laboratory/ Communicative English Laboratory	4/ 10,12	-	-	3	2
6	19BEX04 19BEX05	Engineering Drawing/ Engineering Workshop	1,5,10/ 1,9,10	-	-	3	2
7	19PYX02 19CYX02	Engineering Physics Laboratory/ Engineering Chemistry Laboratory	4/ 4	-	-	3	2
			Total	**12**	**3**	**9**	**18**
Third Semester							
1	19CS304	Data Structures	1,2,3,12	3	1	-	3
2	19CS305	Digital Logic Design	1,3,4	3	-	2	4
3	19IT303	Database Management Systems	1,2,3,12,PSO2	3	1	-	3
4	19IT304	Data Communication systems	1,7,12	3	1	-	3
5	19IT305	Discrete Mathematical Structures	1,2,12	3	1	-	3
6	19IT306	Fundamentals of Object Oriented Programming	1,2,3,4,5,PSO2	3	-	2	4
7	19CS307	Data Structures Laboratory	1,3,4,5	-	-	3	2
8	19IT308	Database Management Systems Laboratory	1,2,3,4,5	-	-	3	2
9	19HSX11	CC&EC Activities I	9,10	-	2	-	-
10	19ESX1A	Employability Skills I	9,10	-	2	-	-
11	19BEA01	Environmental Studies	1,7	-	-	-	-
			Total	**18**	**8**	**10**	**24**
Fourth Semester							
1	19MA405	Probability & Statistics	1,12	3	1	-	3
2	19CS504	Design and Analysis of Algorithms	2,3,4,5	3	-	2	4
3	19IT403	Computer Networks	1,2,12	3	1	-	3
4	19IT404	Computer Organization	1,2,12	3	1	-	3
5	19IT405	Operating Systems	1,2,7,12	3	1	-	3
6	19IT406	Computer Networks Laboratory	4,5	-	-	3	2
7	19IT407	Operating Systems Laboratory	4,5	-	-	3	2
8		Advanced Problem Solving Skills	2,3,4	-	-	3	2
9	19IT409	Comprehensive Quiz I (Sem. 3 & 4)		-	-	-	2
10	19HSX11	CC&EC Activities I	9,10	-	2	-	1
11	19ESX1B	Employability Skills II	9,10	-	2	-	1
			Total	**15**	**8**	**11**	**26**

Commented [C1]: BoS 12: Suggested to include new Editions of textbooks

Commented [C2]: Bos 11: as suggested, course name is changed from Data structures and algorithms to Data Structures

Commented [C3]: BoS 12: included unstructured data concepts, New text book editions included

Commented [C4]: Bos 12: Included new textbook editions

Commented [C5]: BoS 12: Removed applets concept. Added new concepts

Commented [C6]: BoS 11: As suggested spring and hibernate concepts included

Commented [C7]: Bos 12: Included more graph related problems, added more time complexity, space complexity for each concept

Commented [C8]: Bos 12: as suggested new textbook editions were added

Commented [C9]: Bos 11: members suggested probability and statistics title for applied mathematics-IV

Commented [C10]: Bos 12: new career path introduced, suggested to exclude binomial coefficients and include ramsay numbers, catalogue theory, exclude graph theory, four color problem.

Commented [C11]: Bos 11:as suggested, advanced data structures & algorithms can be changed to Design and analysis of algorithms and can be as an integrated course.

Commented [C12]: BoS 12: message passing concept is added, more case studies has been added as suggested

Fifth Semester							
1	19CS405	Software Engineering	1,2,3,4,5,11	3	-	2	4
2	19CS603	Internet of Things	3,4,6	3	1	-	3
3	19IT502	Automata and Compiler Design	1,2,3,12	3	1	-	3
4	19IT005	Artificial Intelligence	1,2,3,12	3	1	-	3
5	19IT505	Web Technologies	1,2,3,9,12	3	-	2	4
6		Elective I* (Career Path or Other Core Electives)		3	-	-	3
7	19CS606	Internet of Things Laboratory	4,5	-	-	3	2
8	19IT508/ 19IT509	Term Paper / Mini Project	2,8,10,12/ 2,3,4,5,8,9,10, 11,12	-	-	3	2
9	19HSX12	CC&EC Activities II	9,10	-	2	-	-
10	19ESX2A	Employability Skills III	9,10	-	2	-	-
11	19SIX01	Summer Internship	2,3,4,5,8,9,10,11,12,PSO1,PSO2	-	-	-	-
			Total	**18**	**7**	**10**	**24**
Sixth Semester							
1	19HSX10	Engineering Economics and Project Management	11,12	3	1	-	3
2	19IT503	Data Warehousing and Data Mining	1,2,3,4,5,PSO1	3	1	-	3
3	19IT603	Cloud Computing	6,7,12	3	1	-	3
4		Elective II** (Career Path or Other Core Electives)		3	0/2	2/0	4/4
5		Elective III (Open Elective)		3	-	-	3
6	19IT606	Cloud Computing Laboratory	4,5,10,PSO2	-	-	3	2
7	19IT508/ 19IT509	Term Paper / Mini Project	2,8,10,12/ 2,3,4,5,8,9,10, 11,12	-	-	3	2
8	19HSX12	CC&EC Activities II	9,10	-	2	-	1
9	19ESX2B	Employability Skills IV	9,10	-	2	-	1
10	19IT610	Comprehensive Quiz II (Sem. 5&6)		-	-	-	2
11		Audit Course		-	-	-	-
			Total	**15**	**7/ 9**	**8/ 6**	**24/ 24**
Seventh Semester							
1	19CS702	Big Data Analytics	2,3,5,12	3	1	-	3
2	19CS003	Computer Graphics and Multimedia	2,3,5,12	3	1	-	3
3		Elective IV** (Career Path or Other Core Electives)		3	-	-	3
4		Elective V		3	1	-	3
5	19CS706	Big Data Analytics Laboratory	3,4,5	-	-	3	2
6	19IT706	Mobile Application Development Laboratory	2,3,4,5,9,PSO1, PSO2	-	-	3	2
7	19IT707	Full Semester Internship (FSI)**	2,3,4,5,8,9,10, 11,12,PSO1,PSO2	-	-	-	8
			Total	**12**	**3**	**6**	**16/8**
Eighth Semester							
1	19IT801	Machine Learning	1,2,3	3	1	-	3
2		Elective VI		3	1	-	3
3	19IT803	Project	3,4,9,10,11,12, PSO1,PSO2	-	-	16	8
4	19IT707	Full Semester Internship (FSI)***	2,3,4,5,8,9,10, 11,12, PSO1,PSO2	-	-	-	8
			Total	**6**	**2**	**16**	**14/8**

Commented [C13]: Bos 11: Members suggested web technologies title for web programming subject

* Hours suggested for tutorials

** The students shall opt any of the career paths being offered by their respective department and subsequently take up the courses in line with career path from 5th semester onwards leading to a major project in the 7th semester. The students cannot change the career path after 5th semester.

*** To balance the credit requirement for the award of the degree the students who are opting for FSI in 7th semester will follow the course pattern as per the 8th semester. Internship will replace the project work and the theory courses offered other than project work shall be taken up on self-study mode. While these students during their 8th semester shall take up the 7th semester course pattern on regular mode. Students who undergo FSI during 8th semester, internship will replace the project and the theory courses offered shall be taken on self-study mode during the internship period

List of Electives

No.	Course Code	Course	POs	Contact Hours			
				L	T	P	C
Language Electives							
1	19HSX03	Advanced Communicative English	10,12	3	-	-	3
2	19HSX04	Communicative German		3	-	-	3
3	19HSX05	Communicative French		3	-	-	3
4	19HSX06	Communicative Japanese		3	-	-	3
5	19HSX07	Communicative Spanish		3	-	-	3
6	19HSX08	Communicative Korean		3	-	-	3
7	19HSX09	Communicative Hindi		3	-	-	3
Elective I Career Path I, II,III and other Electives							
1	19CSC11	**Exploratory Data Analytics**	1,3	3	-	-	3
2	19CSC21	**Web Programming Languages**	3,5,6	3	-	-	3
3	19ITC31	**Fundamentals of Security**	1,2	3	-	-	3
4	19IT504	Mobile Computing	3,6,12,	3	1	-	3
5	19IT003	Information Theory and Coding	1,2,3,6,8,12	3	1	-	3
6	19IT004	Management Information Systems	9,11,12	3	1	-	3
7		MOOCs / CC		-	-	-	3
Elective II							
1	**19CSC12**	**Interpretable Deep Learning**	2,3	3	-	2	4
2	**19CSC22**	**Web Application Developments Framework**	3,4,5	3	-	2	4
3	**19ITC32**	**Cyber Security**	2,3,6	3	-	2	4
4	19CS008	Software Project Management	3, 5, 6, 12	3	2	-	4
5	19IT006	Distributed Systems	2,7,12	3	2	-	4
6	19CS007	Information Retrieval Systems	3,6,8,12	3	2	-	4
7		MOOCs / CC		-	-	-	4
Elective III : Open Electives							
1	19CE001	Disaster Management	2,7,12	3	-	-	3
2	19CE002	Environmental Impact Assessment	6,12	3	-	-	3
3	19EE001	Renewable energy sources	3,6,7,12	3	-	-	3
4	19EE002	Energy audit, conservation and management	6,7,11,12	3	-	-	3
5	19ME001	Principles of Entrepreneurship	1,11,12	3	-	-	3
6	19ME002	Organizational Behavior and Financial Management	1,8,11,12	3	-	-	3
7	19EC001	Modern Communication	1,12	3	-	-	3
8	19EC002	Electronics for Engineers	1,12	3	-	-	3
9	19CS001	Machine Learning	1,2,12	3	-	-	3
10	19CS002	Data Science for Engineering Applications	1,2,12	3	-	-	3
11	19CH001	Industrial Safety and Hazard Management	1,2,6,8,12	3	-	-	3
12	19CH002	Environmental Pollution and Control Measures	1,2,7,12	3	-	-	3
13	19IT001	Fundamentals of Cloud Computing	2,6,7,8,12	3	-	-	3
14	19IT002	Fundamentals of Mobile Computing	2,3,5,12	3	-	-	3
15	19BS001	Nano Science and Technology	1,12	3	-	-	3
16	19BS002	Computational Mathematics	1,5,12	3	-	-	3
Elective IV Career Path I, II, III and Core Electives							
1	**19CSC13**	**Natural Language Processing**	2,3	3	-	-	3
2	**19CSC23**	**Web Application Databases**	3,5	3	-	-	3
3	**19CSC33**	**Cloud Security**	2,3,5	3	-	-	3
4	19IT007	Human Computer Interaction	5,7,12	3	1	-	3
5	19IT008	Wireless Ad hoc Networks	3,5,6,12	3	1	-	3
6	19IT009	Software Testing Methodologies	5,6,12	3	1	-	3
7		MOOCs / CC		-	-	-	3

Commented [C14]: Bos 12: New career path introduced

Commented [C15]: Bos 12: new career path introduced

Commented [C16]: Bos 12: As suggested, name of the career path has been changed fromDynamiv web programming to Web Application Programming

Commented [C17]: Bos 12: new career path introduced

Commented [C18]: Bos 12: new career path introduced

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Commented [C24]: Bos 12: new career path introduced

Commented [C25]: Bos 12: new career path introduced

Commented [C26]: Bos 11: as suggested made this course as an elective

Elective V							
1	19CS009	Social Network Analysis	2,4,5,12	3	1	-	3
2	19IT010	Bio Informatics	6,12	3	1	-	3
3	19EC601	Digital Signal Processing	1,2,3,12,PSO2	3	1	-	3
4	19IT011	Real Time Operating Systems	2,3,12	3	1	-	3
5		MOOCs / CC		-	-	-	3
Elective VI							
1	19EC012	Digital Image Processing	3,5,6,12	3	1	-	3
2	19CS015	E & M Commerce	5,6,8,12	3	1	-	3
3	19IT012	Multimedia Database	3,5,6,12	3	1	-	3
4	19IT013	Qualitative Data Analysis	3,5,12	3	1	-	3
5		MOOCs / CC		-	-	-	3
Contemporary Courses (CC)							
1	19IT014	Data Analytics-I	1,5,12	3	1	-	3
2	19IT015	Data Analytics-II	1,5,12	3	1	-	3
3	19IT016	Data Analytics-III	1,5,12	3	1	-	3
4	19IT017	Security Analytics-I	3,5,6,12	3	1	-	3
5	19IT018	Security Analytics-II	3,5,6,12	3	1	-	3
6	19IT019	Security Analytics-III	3,5,6,12	3	1	-	3
7	19IT020	Enterprise Application development	3,5,6,7,12	3	1	-	3
8	19IT021	Big Data Analytics with Hadoop Platform	3,5,6,7,12	3	1	-	3
9	19IT022	Foundation course in Security Identity & Access Management.	3,5,6,7,12	3	1	-	3
Courses offered to Other Branches							
1	19ITE01	Fundamentals of Computer Networks (ECE)	1,2,4,5	3	-	2	4
Audit Course							
1	19AT001	Communication Etiquette in Workplaces					
2	19AT002	Contemporary India: Economy, Policy and Society					
3	19AT003	Design The Thinking					
4	19AT004	Ethics and Integrity					
5	19AT005	Indian Heritage and Culture					
6	19AT006	Industrial sociology					
7	19AT007	Intellectual Property Rights and Patents					
8	19AT008	Introduction to Journalism					
9	19AT009	Mass Media Communication					
10	19AT010	Science, Technology and Development					
11	19AT011	Social Responsibility					
12	19AT012	The Art of Photography and Film Making					
13	19AT013	Trans/Forming Gender					
14	19AT014	Women in Leadership					

Commented [C27]: Bos 11: as suggested this course is offered as an elective