



# KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE

Opp : Yerragattu Gutta, Hasanparthy (Mandal), WARANGAL - 506 015, Telangana, INDIA.

కాకతీయ ప్రేచ్ఛాగికీ ంవం విజ్ఞాన సంస్థాన, వరంగల - 506 015 తెలంగానా, భారత

కాకతీయ సాంకేతిక విజ్ఞాన శాస్త్ర విద్యాలయం, వరంగల్ - 506 015 తెలంగాణ, భారతదేశము

(An Autonomous Institute under Kakatiya University, Warangal)

(Approved by AICTE, New Delhi; Recognised by UGC under 2(f) & 12(B); Sponsored by EKASILA EDUCATION SOCIETY)

website: [www.kitsw.ac.in](http://www.kitsw.ac.in)

E-mail: [principal@kitsw.ac.in](mailto:principal@kitsw.ac.in)

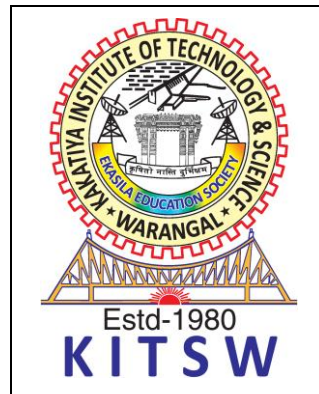
☎ : +91 9392055211, +91 7382564888

## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING (NETWORKS)

**B.Tech. CSE(IoT)-SCHEME (URR'18)**  
(for 2020-21 Batch)

*of*

**(I, II, III, IV, V, VI, VII & VIII SEMESTERS)**



**KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE, WARANGAL-15**  
(An Autonomous Institution under Kakatiya University), WARANGAL



## KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE

Opp : Yerragattu Gutta, Hasanparthy (Mandal), WARANGAL - 506 015, Telangana, INDIA.

काकतीय प्रौद्योगिकी एवं विज्ञान संस्थान, वरंगल - ५०६ ०१५ तेलंगाना, भारत

కాకతీయ సాంకేతిక విజ్ఞాన శాస్త్ర విద్యాలయం, వరంగల్ - ౫౦౬ ౦౧౫ తెలంగాణ, భారతదేశము

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### VISION OF THE INSTITUTE

- To make our students technologically superior and ethically strong by providing quality education with the help of our dedicated faculty and staff and thus improve the quality of human life

### MISSION OF THE INSTITUTE

- To provide latest technical knowledge, analytical and practical skills, managerial competence and interactive abilities to students, so that their employability is enhanced
- To provide a strong human resource base for catering to the changing needs of the Industry and Commerce
- To inculcate a sense of brotherhood and national integrity

## DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING (NETWORKS)

### VISION OF THE DEPARTMENT

- Attaining centre of excellence status in various fields of Computer Science and Engineering by offering worthwhile education, training and research to improve quality of software services for ever growing needs of the industry and society.

### MISSION OF THE DEPARTMENT

- Practice qualitative approach and standards to provide students better understanding and profound knowledge in the fundamentals and concepts of computer science with its allied disciplines.
- Motivate students in continuous learning to enhance their technical, communicational, and managerial skills to make them competent and cope with the latest trends, technologies, and improvements in computer science to have a successful career with professional ethics.
- Involve students in analyze, design and experimenting with contemporary research problems in computer science to impact socio-economic, political and environmental aspects of the globe.

## PROGRAM EDUCATIONAL OBJECTIVES (PEOs)

### UG - COMPUTER SCIENCE & ENGINEERING (IoT) - CSO

<b>PROGRAM EDUCATIONAL OBJECTIVES (PEOs)</b>	<b>Within first few years after graduation, the COMPUTER SCIENCE AND ENGINEERING (IoT) graduates will be able to ...</b>
<b>PEO1:</b> Technical Expertise:	Apply the fundamental knowledge of the core courses of computer science and Internet of Things (IoT) for developing the effective software and smart applications.
<b>PEO2:</b> Successful Career:	Excel in profession, higher education and entrepreneurship with updated technologies in software, internet of things and industrial based domains.
<b>PEO3:</b> Soft Skills and Life Long Learning	Exhibit professional ethics, effective communication, and team work in solving engineering problems by adapting contemporary research towards sustainable development of society.

## PROGRAM OUTCOMES (POs) & PROGRAM SPECIFIC OUTCOMES (PSOs)

### UG - COMPUTER SCIENCE & ENGINEERING - CSE (IoT)

<b>PROGRAM OUTCOMES (POs)</b>	<b>At the time of graduation, the COMPUTER SCIENCE AND ENGINEERING (IOT) graduates will be able to ...</b>
<b>PO1: Engineering knowledge</b>	<i>apply the knowledge of mathematics, science, engineering fundamentals, and an engineering specialization to the solution of complex engineering problems</i>
<b>PO2: Problem analysis</b>	<i>identify, formulate, review research literature, and analyze complex engineering problems reaching substantiated conclusions using first principles of mathematics, natural sciences, and engineering sciences</i>
<b>PO3: Design/development of solutions</b>	<i>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</i>
<b>PO4: Conduct investigations of complex problems</b>	<i>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</i>
<b>PO5: Modern tool usage</b>	<i>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</i>

<b>PO6:The engineer and society</b>	<i>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</i>
<b>PO7:Environment and sustainability</b>	<i>understand the impact of the professional engineering solutions in societal and environmental contexts, demonstrate the knowledge of, and need for sustainable development</i>
<b>PO8:Ethics</b>	<i>apply ethical principles and commit to professional ethics, responsibilities, and norms of the engineering practice</i>
<b>PO9:Individual and team work</b>	<i>function effectively as an individual, and as a member or leader in diverse teams, and in multidisciplinary settings</i>
<b>PO10:Communication</b>	<i>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</i>
<b>PO11:Project management and finance</b>	<i>demonstrate knowledge and understanding of the engineering and management principles and apply these to one's own work, as a member and leader in a team, to manage projects and in multidisciplinary environments</i>
<b>PO12:Life-long learning</b>	<i>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</i>

**PROGRAM SPECIFIC OUTCOMES (PSOs):**

<b>PSO1: Software Development and Quality assurance</b>	<i>Apply the fundamental knowledge of computer science and engineering in developing effective software for real world complex engineering problems by adapting advanced technologies.</i>
<b>PSO2: Maintenance</b>	<i>Design and configure various internet of things based smart applications using contemporary hardware and software tools.</i>
<b>PSO3: Immediate professional practice</b>	<i>Design and implement industrial IoT based solutions for improving operational efficiency by investigating existing industrial environment.</i>



**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING (INTERNET OF THINGS)**  
**KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE:: WARANGAL - 15**  
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**SCHEME OF INSTRUCTION & EVALUATION (Applicable from B20 batch)**  
**I-SEMESTER OF 4-YEAR B.TECH DEGREE PROGRAM**

**[5Th+4P+2MC]**

Sl. No	Category	Course Code	Course Title	Periods/week			Credits	Evaluation scheme				
				L	T	P		C	CIE			ESE
							TA		MSE	Total		
1	BSC	U18MH101	Engineering Mathematics - I	3	1	-	4	10	30	40	60	100
2	ESC	U18CS102	Programming for Problem Solving using C	3	-	-	3	10	30	40	60	100
3	BSC	U18PH103	Engineering Physics	3	1	-	4	10	30	40	60	100
4	HSMC	U18MH104	English for Communication	2	-	2	3	10	30	40	60	100
5	ESC	U18EE105	Basic Electrical Engineering	3	1	-	4	10	30	40	60	100
6	ESC	U18EE106	Basic Electrical Engineering Laboratory	-	-	2	1	40	-	40	60	100
7	ESC	U18CS107	Programming for Problem Solving using C Laboratory	-	-	2	1	40	-	40	60	100
8	BSC	U18PH108	Engineering Physics Laboratory	-	-	2	1	40	-	40	60	100
9	ESC	U18ME109	Workshop Practice	-	-	2	1	10	30	40	60	100
10	MC	U18EA110	EAA *: Sports/Yoga/NSS	-	-	2	-	100	-	100	-	100
11	MC	U18MH111	Universal Human Value-I ( <i>Induction Programme</i> )	-	-	-	-	-	-	-	-	-
<b>Total:</b>				<b>14</b>	<b>3</b>	<b>12</b>	<b>22</b>	<b>280</b>	<b>180</b>	<b>460</b>	<b>480</b>	<b>1000</b>

[L= Lecture, T = Tutorials, P = Practical & C = Credits]      EAA: Extra Academic Activity      \* indicates mandatory non-credit course

**Total Contact Periods/Week : 29      Total Credits : 22      Stream-I: ME, CSE, IT, CSN,CSO      Stream-II: CE, EIE, EEE, ECE, ECI,CSM**



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**SCHEME OF INSTRUCTION & EVALUATION (Applicable from B20 batch)**  
**II-SEMESTER OF 4-YEAR B.TECH DEGREE PROGRAM**

**[5Th+2P+2MC]**

Sl. No	Category	Course Code	Course Title	Periods/week			Credits	Evaluation scheme				
				L	T	P		C	CIE			ESE
							TA		MSE	Total		
1	BSC	U18MH201	Engineering Mathematics - II	3	1	-	4	10	30	40	60	100
2	ESC	U18CS202	Data Structures through C	3	-	-	3	10	30	40	60	100
3	BSC	U18CH203	Engineering Chemistry	3	1	-	4	10	30	40	60	100
4	ESC	U18ME204	Engineering Drawing	2	-	4	4	10	30	40	60	100
5	ESC	U18CE205	Engineering Mechanics	3	1	-	4	10	30	40	60	100
6	ESC	U18CS207	Data Structures through C Laboratory	-	-	2	1	40	-	40	60	100
7	BSC	U18CH208	Engineering Chemistry Laboratory	-	-	2	1	40	-	40	60	100
8	MC	U18CH209	Environmental Studies*	2	-	-	-	40	-	40	60	100
9	MC	U18EA210	EAA : Sports/Yoga/NSS*	-	-	2	-	100	-	100	-	100
<b>Total:</b>				<b>16</b>	<b>3</b>	<b>10</b>	<b>21</b>	<b>270</b>	<b>150</b>	<b>420</b>	<b>480</b>	<b>900</b>

[L= Lecture, T = Tutorials, P = Practical & C = Credits]

EAA: Extra Academic Activity

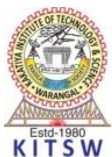
\* indicates mandatory non-credit course

Total Contact Periods/Week : 29      Total Credits : 21

Stream-I: ME, CSE, IT, CSN,CSO

Stream-II: CE, EIE, EEE, ECE, ECI,CSM

**Internships:** All students should plan for mandatory 6-8 weeks internship, from end of II semester to commencement of VII semester at industry/R&D organizations/industries of national importance (IITs/IIITs/NITs). As part of Internship Evaluation in VII Semester, students are expected to submit a well-documented internship report and give an informative PPT presentation in VII semester



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**SCHEME OF INSTRUCTION & EVALUATION (Applicable from B20 batch)**  
**III-SEMESTER OF 4-YEAR B.TECH DEGREE PROGRAM**

**[7Th+3P+1MC]**

S.No	Category	Course Code	Course Title	Periods/week			Credits	Evaluation scheme				
				L	T	P		C	CIE			ESE
							TA		MSE	Total		
1	BSC	U18MH301	Engineering Mathematics - III	3	1	-	4	10	30	40	60	100
2	HSMC	U18MH302	Professional English	-	-	2	1	100	-	100	-	100
3	PCC	U18IN303	Object Oriented Programming through JAVA	3	1	-	4	10	30	40	60	100
4	PCC	U18IN304	Fundamentals of Internet of Things	3	-	-	3	10	30	40	60	100
5	PCC	U18IN305	Computer Organization and Architecture	3	-	-	3	10	30	40	60	100
6	PCC	U18IN306	Computer Networks	3	-	-	3	10	30	40	60	100
7	ESC	U18EI309	Digital Electronics	3	-	-	3	10	30	40	60	100
8	PCC	U18IN310	Object Oriented Programming through JAVA Laboratory	-	-	2	1	40	-	40	60	100
9	PCC	U18EI311	Digital Electronics Laboratory	-	-	2	1	40	-	40	60	100
10	ESC	U18IN312	Fundamentals of Internet of Things Laboratory	-	-	2	1	40	-	40	60	100
11	MC	U18MH315	Essence of Indian Traditional Knowledge	2	-	-	-	10	30	40	60	100
<b>Total:</b>				<b>20</b>	<b>1</b>	<b>8</b>	<b>24</b>	<b>290</b>	<b>210</b>	<b>500</b>	<b>600</b>	<b>1100</b>

[L= Lecture, T = Tutorials, P = Practical & C = Credits]

Stream-I: ME, CSE, IT, CSN,CSO

Stream-II: CE, EIE, EEE, ECE, ECI,CSM

**Total Contact Periods/Week : 29**

**Total Credits: 24**

**MOOCs:** Students are encouraged to do Massive Open Online Courses (MOOCs) on SWAYAM platform (<https://www.swayam.gov.in>) offered by NPTEL, CEC, IIM-B,IGNOU. Students shall contact the Head of the Department (HoD) to get their interested MOOCs approved by the HoD/Dean Academic Affairs for proper transfer of the credits for the MOOCs





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**SCHEME OF INSTRUCTION & EVALUATION (Applicable from B20 batch)**  
**IV-SEMESTER OF 4-YEAR B.TECH DEGREE PROGRAM**

[6Th+2P+1MC]

Sl. No	Category	Course Code	Course Title	Periods/week			Credits	Evaluation scheme					
				L	T	P		C	CIE			ESE	Total Marks
									TA	MSE	Total		
1	OE	U18OE401	Open Elective-II	3	1	-	4	10	30	40	60	100	
2	HSMC	U18TP402	Soft and Inter Personal Skills	-	-	2	1	100	-	100	-	100	
3	OE	U18OE403	Open Elective-I	3	-	-	3	10	30	40	60	100	
4	PCC	U18IN404	Theory of Computation	3	-	-	3	10	30	40	60	100	
5	PCC	U18IN405	IoT Architecture and Protocols	3	1	-	4	10	30	40	60	100	
6	PCC	U18IN406	Python Programming for IoT	3	1	-	4	10	30	40	60	100	
7	PCC	U18IN407	Python Programming for IoT Laboratory	-	-	2	1	40	-	40	60	100	
8	OE	U18OE411	Open Elective-I Laboratory	-	-	2	1	40	-	40	60	100	
<b>Total:</b>				<b>15</b>	<b>3</b>	<b>6</b>	<b>21</b>	<b>280</b>	<b>180</b>	<b>460</b>	<b>540</b>	<b>1000</b>	
9	MC	U18CH416	Environmental Studies*	2	-	-	-	10	30	40	60	100	

[L= Lecture, T = Tutorials, P = Practical & C = Credits]

Total Contact Periods/Week = 24

Total Credits: 21

<p><b>Open Elective-I:</b>          U18OE403A: Object Oriented Programming (CSE)          U18OE403B: Fluid Mechanics &amp; Hydraulic Machines (CE)          U18OE403C: Mechatronics (ME)          U18OE403D: Web Programming (IT)          U18OE403E: Microprocessors (ECE)          U18OE403F: Strength of Materials (ME)</p>	<p><b>Open Elective-II:</b>          U18OE401A: Applicable Mathematics (MH)          U18OE401B: Basic Electronics Engineering (ECE)          U18OE401C: Elements of Mechanical Engineering (ME)          U18OE401D: Measurements &amp; Instrumentation (EIE)          U18OE401E: Fundamentals of Computer Networks (CSN)          U18OE401F: Renewable Energy Sources (EEE)</p>	<p><b>Open Elective-I based Laboratory:</b>          U18OE411A: Object Oriented Programming Lab (CSE)          U18OE411B: Fluid Mechanics &amp; Hydraulic Machines Lab (CE)          U18OE411C: Mechatronics Lab (ME)          U18OE411D: Web Programming Lab (IT)          U18OE411E: Microprocessors Lab (ECE)          U18OE411F: Strength of Materials Lab (CE)</p>
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**SCHEME OF INSTRUCTION & EVALUATION (Applicable from B20 batch)**  
**V- SEMESTER OF 4-YEAR B.TECH DEGREE PROGRAM**

**[6Th+3P+Seminar]**

Sl. No	Category	Course Code	Course Title	Periods/week			Credits	Evaluation scheme				
				L	T	P		C	CIE			ESE
							TA		MSE	Total		
1	HSMC	U18TP501	Quantitative Aptitude & Logical Reasoning	2	-	-	1	10	30	40	60	100
2	PE	U18IN502	Professional Elective - I/MOOC-I	3	-	-	3	10	30	40	60	100
3	PCC	U18IN503	IoT with Cloud Computing	3	-	-	3	10	30	40	60	100
4	PCC	U18IN504	Advanced Data Structures	3	-	-	3	10	30	40	60	100
5	PCC	U18IN505	Compiler Design	3	-	-	3	10	30	40	60	100
6	PCC	U18IN506	Database Management Systems	3	1	-	4	10	30	40	60	100
7	PCC	U18IN507	Advanced Data Structures Laboratory	-	-	2	1	40	-	40	60	100
8	PCC	U18IN508	IoT with Cloud Computing Laboratory	-	-	2	1	40	-	40	60	100
9	PCC	U18IN509	Database Management Systems Laboratory	-	-	2	1	40	-	40	60	100
10	PROJ	U18IN510	Seminar	-	-	2	1	100	-	100	-	100
<b>Total:</b>				<b>17</b>	<b>1</b>	<b>8</b>	<b>21</b>	<b>280</b>	<b>180</b>	<b>460</b>	<b>540</b>	<b>1000</b>
<i>Additional Learning*:Maximum credits allowed for Honours/Minor</i>				-	-	-	7	-	-	-	-	-
<i>Total credits for Honours/Minor students:</i>				-	-	-	<b>21+7</b>	-	-	-	-	-

\* List of courses for additional learning through MOOCs towards Honours/Minor in Engineering shall be prescribed by the department under Honours/ Minor Curricula

[L= Lecture, T = Tutorials, P = Practical & C = Credits]

Total Contact Periods/Week :26

Total Credits :21

**Professional Elective-I / MOOCs-I:U18IN502A: Operating Systems**  
**U18IN502B: Digital Image Processing**  
**U18IN502C: Data Mining and Data Warehousing**  
**U18IN502M: MOOCs course**



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**VI- SEMESTER OF 4-YEAR B.TECH DEGREE PROGRAM**

[5Th+3P+1MC+Miniproject]

Sl. No	Category	Course Code	Course Title	Periods/week			Credits	Evaluation scheme				
				L	T	P		C	CIE			ESE
							TA		MSE	Total		
1	MC	U18MH601	Universal Human Values-II	2	1	-	-	10	30	40	60	100
2	OE	U18OE602	Open Elective - III	3	-	-	3	10	30	40	60	100
3	PE	U18IN603	Professional Elective - II/ MOOC-II	3	-	-	3	10	30	40	60	100
4	PCC	U18IN604	Design and Analysis of Algorithms	3	-	-	3	10	30	40	60	100
5	PCC	U18IN605	Artificial Intelligence for IoT	3	-	-	3	10	30	40	60	100
6	PCC	U18IN606	Industrial IoT	3	-	-	3	10	30	40	60	100
7	PCC	U18IN607	Advanced Java Programming Laboratory	-	-	2	1	40	-	40	60	100
8	PCC	U18IN608	Artificial Intelligence for IoT Laboratory	-	-	2	1	40	-	40	60	100
9	PCC	U18IN609	Industrial IoT Laboratory	-	-	2	1	40	-	40	60	100
10	PROJ	U18IN610	Mini Project	-	-	2	1	100	-	100	-	100
<b>Total:</b>				<b>17</b>	<b>1</b>	<b>8</b>	<b>19</b>	<b>280</b>	<b>180</b>	<b>460</b>	<b>540</b>	<b>1000</b>
<i>Additional Learning*:Maximum credits allowed for Honours/Minor</i>				-	-	-	7	-	-	-	-	-
<i>Total credits for Honours/Minor students:</i>				-	-	-	<b>19+7</b>	-	-	-	-	-

\* List of courses for additional learning through MOOCs towards Honours/Minor in Engineering shall be prescribed by the department under Honours/ Minor Curricula

[L= Lecture, T = Tutorials, P = Practical & C = Credits]

**Total Contact Periods/Week: 26**

**Total Credits: 19**

<b>Open Elective-III:</b> U18OE602A: Disaster Management U18OE602B: Project Management U18OE602C: Professional Ethics in Engineering U18OE602D: Rural Technology and Community Development	<b>Professional Elective-II/ MOOC-II:</b> U18IN603A: Software Engineering U18IN603B: Mobile Computing U18IN603C: Sensor Technology U18IN603M: MOOCs Course
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**SCHEME OF INSTRUCTION & EVALUATION (Applicable from B20 batch)**  
**VII - SEMESTER OF 4-YEAR B.TECH DEGREE PROGRAM**

**[4Th+2P+ MP-I+ internship]**

Sl. No	Category	Course Code	Course Title	Periods/week			Credits	Evaluation scheme				
				L	T	P		C	CIE			ESE
							TA		MSE	Total		
1	HSMC	U18MH701	Management, Economics and Accountancy	3	-	-	3	10	30	40	60	100
2	PE	U18IN702	Professional Elective - III / MOOC-III	3	-	-	3	10	30	40	60	100
3	PE	U18IN703	Professional Elective - IV / MOOC-IV	3	-	-	3	10	30	40	60	100
4	PCC	U18IN704	Privacy and Security in IoT	3	-	-	3	10	30	40	60	100
5	PCC	U18IN705	IoT Testing Tools Laboratory	-	-	2	1	40	-	40	60	100
6	PCC	U18IN706	Mobile Application Development Laboratory	-	-	-	-	40	-	40	60	100
7	PROJ	U18IN707	Major Project - Phase - I	-	-	6	3	100	-	100	-	100
8	MC	U18IN708	Internship Evaluation	-	-	2	-	-	-	-	-	-
<b>Total:</b>				<b>12</b>	<b>-</b>	<b>12</b>	<b>16</b>	<b>220</b>	<b>120</b>	<b>340</b>	<b>360</b>	<b>700</b>
<i>Additional Learning*: Maximum credits allowed for Honours/Minor</i>				-	-	-	7	-	-	-	-	-
<i>Total credits for Honours/Minor students:</i>				-	-	-	<b>16+7</b>	-	-	-	-	-

*\* List of courses for additional learning through MOOCs towards Honours/Minor in Engineering shall be prescribed by the department under Honours/ Minor Curricula*

[L= Lecture, T = Tutorials, P = Practical & C = Credits]

**Total Contact Periods/Week: 24**

**Total Credits: 16**

**Professional Elective-III / MOOC-III:**

U18IN702A: Cyber Physical Systems  
 U18IN702B: Big Data Analytics  
 U18IN702C: Microcontrollers and RFID  
 U18IN702M: MOOCs course

**Professional Elective-IV / MOOC-IV:**

U18IN703A: Embedded System Design  
 U18IN703B: Augmented Reality and Virtual Reality  
 U18IN703C: Narrowband IoT  
 U18IN703M: MOOCs course

**\*Note: An Android course with at least 2-weeks duration must be done by students and should submit course completion certificate**



**DEPARTMENT OF COMPUTER SCIENCE AND ENGINEERING (INTERNET OF THINGS)**  
**KAKATIYA INSTITUTE OF TECHNOLOGY & SCIENCE:: WARANGAL - 15**  
*(An Autonomous Institute under Kakatiya University, Warangal)*  
**SCHEME OF INSTRUCTION & EVALUATION (Applicable from B20 batch)**  
**VIII - SEMESTER OF 4-YEAR B.TECH DEGREE PROGRAM**

[3Th+ 1MP-II]

Sl. No	Category	Course Code	Course Title	Periods/week			Credits	Evaluation scheme				
				L	T	P		C	CIE			ESE
							TA		MSE	Total		
1	PE	U18IN801	Professional Elective - V / MOOC-V	3	-	-	3	10	30	40	60	100
2	PE	U18IN802	Professional Elective - VI / MOOC-VI	3	-	-	3	10	30	40	60	100
3	OE	U18OE803	Open Elective - IV / MOOC-VII	3	-	-	3	10	30	40	60	100
4	PROJ	U18IN804	Major Project - Phase - II	-	-	14	7	60	-	60	40	100
<b>Total</b>				<b>9</b>	<b>-</b>	<b>14</b>	<b>16</b>	<b>90</b>	<b>90</b>	<b>180</b>	<b>220</b>	<b>400</b>
<i>Additional Learning*: Maximum credits allowed for Honours/Minor</i>				-	-	-	7	-	-	-	-	-
<b>Total credits for Honours/Minor students:</b>				-	-	-	<b>16+7</b>	-	-	-	-	-

\* List of courses for additional learning through MOOCs towards Honours/Minor in Engineering shall be prescribed by the department under Honours/ Minor Curricula

[L= Lecture, T = Tutorials, P = Practical & C = Credits]

Total Contact Periods/Week: 23

Total Credits: 16

<u>Professional Elective-V / MOOC-V:</u> U18IN801A: Software Defined Networks U18IN801B: Smart Grid U18IN801C: Introduction to Robotics Systems U18IN801M: MOOCs course	<u>Professional Elective-VI/ MOOC-VI:</u> U18IN802A: Fog and Edge Computing U18IN802B: Internet of Medical Things U18IN802C: Block Chain Technology U18IN802M: MOOCs course	<u>Open Elective-IV/MOOCs-VII:</u> U18OE803A: Operations Research U18OE803B: Management Information Systems U18OE803C: Entrepreneurship Development U18OE803D: Forex & Foreign Trade U18OE803M: MOOCs Course
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**SCHEME OF INSTRUCTION & EVALUATION**

**I to VIII SEMESTER OF 4-YEAR B.TECH DEGREE PROGRAM**

**SEMESTER Vs COURSE CATEGORY WEIGHTAGE**

*(in terms of Total No. of Courses / Total No. Credits)*

Semester	Number of Courses / Number of Credits ( <i>Course Category wise</i> )									B.Tech (Honours/ Minor) Programme
	BSC	ESC	HSMC	PCC	OE	PE	PROJ	MC	TOTAL	
I	3/9	5/10	1/3	-	-	-	-	2/0	11/22	Additional 20 credits through 8 courses out of the list of courses prescribed under Honours/M inor curricula
II	3/9	4/12	-	-	-	-	-	2/0	9/21	
III	1/4	2/4	1/1	6/15	-	-	-	1/0	11/24	
IV	-	-	1/1	4/12	3/8	-	-	1/0	9/21	
V	-	-	1/1	7/16	-	1/3	1/1	-	10/21	
VI	-	-	-	6/12	1/3	1/3	1/1	1/0	10/19	
VII	-	-	1/3	3/4	-	2/6	1/3	1/0	8/16	
VIII	-	-	-	-	1/3	2/6	1/7	-	4/16	
<b>Total</b>	<b>7/22</b>	<b>11/26</b>	<b>5/9</b>	<b>26/59</b>	<b>5/14</b>	<b>6/18</b>	<b>4/12</b>	<b>8/0</b>	<b>72/160</b>	<b>(72+8)/ (160+20)</b>
<b>% Weightage of Course Category</b>	<b>13.75 % (22/160)</b>	<b>16.25 % (26/160)</b>	<b>5.625 % (9/160)</b>	<b>36.875 % (59/160)</b>	<b>8.75 % (14/160)</b>	<b>11.25 % (18/160)</b>	<b>7.5 % (12/160)</b>	<b>0 %</b>	<b>100 % (160/160)</b>	

