

# CMR INSTITUTE OF TECHNOLOGY

## COMPARISON

### Bachelor of Engineering in COMPUTER SCIENCE and INFORMATION SCIENCE

SEM	CSE	SEM	ISE	COMPARISON
I / II	Principles of Programming in C	I / II	Principles of Programming in C	Common to all branches
	Principles of Programming in C Lab		Principles of Programming in C Lab	
	<b>ESC-I: (TH &amp; P):</b> Introduction to C Programming		<b>ESC-I: (TH &amp; P):</b> Introduction to C Programming	
	<b>ETC-I &amp; II:</b> Introduction to Internet of Things (IOT) <b>OR</b> Introduction to Cyber Security <b>OR</b> Introduction to Embedded System		<b>ETC-I &amp; II:</b> Introduction to Internet of Things (IOT) <b>OR</b> Introduction to Cyber Security <b>OR</b> Introduction to Embedded System	
	<b>PLC-I &amp; II: (TH &amp; P):</b> Introduction to Web Programming <b>OR</b> Introduction to Python Programming <b>OR</b> Basics of JAVA programming <b>OR</b> Introduction to C++ Programming		<b>PLC-I &amp; II: (TH &amp; P):</b> Introduction to Web Programming <b>OR</b> Introduction to Python Programming <b>OR</b> Basics of JAVA programming <b>OR</b> Introduction to C++ Programming	
	<b>ESC-II: (TH &amp; P):</b> Introduction to C Programming		<b>ESC-II: (TH &amp; P):</b> Introduction to C Programming	
III	Mathematics for Computer Science	III	Mathematics for Computer Science	Common to both CSE & ISE Branch (Electives are common)
	Digital Design & Computer Organization		Digital Design & Computer Organization	
	Operating System		Operating System	
	Data Structures & Applications		Data Structures & Applications	
	Data Structures Lab		Data Structures Lab	
	Digital Design & Computer Organization Lab		Digital Design & Computer Organization Lab	
	Operating System Lab		Operating System Lab	
	ESC/ETC/PLC		ESC/ETC/PLC	
	AEC / SEC		AEC / SEC	
IV	Design & Analysis of Algorithms	IV	Analysis & Design of Algorithms	1 Theory subject & 1 lab is different between ISE & CSE (Electives are common)
	<b>Microcontrollers*</b>		<b>Advanced Java*</b>	
	Database Management System		Database Management System	
	Design and Analysis of Algorithms Lab		Analysis & Design of Algorithms Lab	
	ESC/ETC/PLC		ESC/ETC/PLC	
	AEC / SEC		AEC / SEC	
Biology For Engineers	Biology For Engineers (Information Technology in Biology)			

V	Software Engineering & Project Management	V	Software Engineering & Project Management	1 Theory subject & 1 lab is different between ISE & CSE (Only 1 common Elective)
	Computer Networks		Computer Networks	
	Theory of Computation		Theory of Computation	
	<b>Web Technology Lab*</b>		<b>Data Visualization Lab*</b>	
	Research Methodology & IPR		Research Methodology & IPR	
	Computer Networks Lab		Computer Networks Lab	

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CSE		ISE		COMPARISON
SEM	SUBJECTS	SEM	SUBJECTS	
VI	<b>Cloud Computing (Open Stack/Google)*</b>	VI	<b>Full Stack Development*</b>	2 Theory subjects & 2 labs are different between ISE & CSE (Few Electives are common)
	<b>Cloud Computing Lab*</b>		<b>Full Stack Development Lab*</b>	
	Machine Learning		Machine Learning	
	Machine Learning Lab		Machine Learning Lab	
	PEC / OEC / AEC / SDC		PEC / OEC / AEC / SDC	
VII	Internet of Things	VII	Internet of Things	2 Subjects are different between CSE & ISE Branch (Few electives are common)
	Internet of Things Lab		Internet of Things Lab	
	Parallel Computing		Parallel Computing	
	Parallel Computing Lab		Parallel Computing Lab	
	<b>Cryptography &amp; Network Security*</b>		<b>Information &amp; Network Security*</b>	
	PEC, OEC		PEC, OEC	
VIII	Professional Elective (Online Courses) only through NPTEL	VIII	Professional Elective (Online Courses) only through NPTEL	Common to both CSE & ISE Branch
	Open Elective (Online Courses) only through NPTEL		Open Elective (Online Courses) only through NPTEL	
	Internship (Industry/Research) (14 - 20 weeks)		Internship (Industry/Research) (14 - 20 weeks)	

Comparison:

- 1) I Sem & II Sem – PPC is common to all the branches including ISE & CSE
- 2) III Sem is common to ISE & CSE Branch
- 3) IV & V Sem – 1 theory subject & 1 Lab is different to CSE & ISE.  
Elective list is somewhat common & selection of elective is done based on student options (Marked\*)
- 4) VI & VII Sem – 2 theory subjects & 2 Labs differs between ISE & CSE  
Elective list is common & selection of elective is done based on student options (Marked\*)
- 5) VIII Sem – Common to both CSE & ISE Branch
- 6) Project work can be done either in house or in the industry. Project will be completed batch wise.
- 7) Seminar topics shall be selected from the emerging technical areas only.