

**DEPARTMENT OF INFORMATION TECHNOLOGY**  
**Course Articulation matrix**  
**MCA**

1.Low, 2. Moderate, 3. High

**1<sup>st</sup> sem 1Year: CT10209 Computer Organization & Architecture**

Statement	CO's	P O1	P O2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO1 1	P0 12	PS O1	PSO2	PSO 3
Analyze and understand digital systems	CO1	3	2	3	2	2	-	1	-	1	-	1	1	3	2	1
Apply knowledge of computer architecture	CO2	3	3	3	3	3	-	1	1	1	-	1	1	2	3	1
Evaluate and differentiate between memory and control units	CO3	2	3	3	2	2	-	1	-	-	-	1	-	1	3	2
Demonstrate understanding of I/O systems	CO4	2	2	2	2	2	-	2	2	2	-	2	1	1	2	3
Analyze advanced computer architectures	CO5	3	3	2	3	3	-	2	-	1	-	1	2	3	1	2
<b>Avg</b>		<b>2.5</b>	<b>2.5</b>	<b>2.5</b>	<b>2.4</b>	<b>2.4</b>	<b>-</b>	<b>1.4</b>	<b>1.5</b>	<b>2.5</b>	<b>-</b>	<b>1.2</b>	<b>1</b>	<b>2.2</b>	<b>2.2</b>	<b>1.8</b>

**1. CT10211: Data Structure:**

**1.Low, 2. Moderate, 3. High**

Statements	CO's	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
Understand and apply various data structures	CO1	3	3	2	1	3	-	2	-	1	-	1	1	3	2	1
Demonstrate proficiency in implementing and manipulating data structures	CO2	3	3	3	2	3	1	2	1	3	1	2	1	2	3	2
Apply algorithms for tree and graph traversal	CO3	2	3	3	2	3	-	2	-	1	-	2	2	1	2	3
Analyze and implement different sorting and searching techniques	CO4	3	3	2	2	3	-	2	-	1	-	1	2	2	3	1
Evaluate the use of different data structures and algorithms	CO5	3	2	3	2	3	-	3	-	2	1	2	3	3	1	2
<b>Avg</b>		<b>2.8</b>	<b>2.8</b>	<b>2.5</b>	<b>1.8</b>	<b>3</b>	<b>0.2</b>	<b>2.2</b>	<b>0.5</b>	<b>1.6</b>	<b>0.4</b>	<b>1.6</b>	<b>1.8</b>	<b>2.2</b>	<b>2.2</b>	<b>1.8</b>

**3.II<sup>nd</sup> sem I Year: CT10706 Database Management System:  
1.Low, 2. Moderate, 3. High**

Statement	CO's	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
Understand database fundamentals	CO1	3	3	3	1	3	-	2	1	2	1	1	2	3	2	1
Analyze and apply the relational data model	CO2	3	3	3	2	3	1	2	2	3	1	2	3	2	3	2
Comprehend the principles of functional dependencies and normalization	CO3	2	3	3	1	2	-	3	-	2	-	1	2	2	3	1
Understand transaction processing concepts	CO4	2	2	2	3	2	1	2	2	2	2	2	2	1	2	3
Analyze and apply storage structures and indexing techniques	CO5	2	3	2	2	3	-	1	1	3	1	1	3	3	1	2
<b>Avg</b>		<b>2.4</b>	<b>2.8</b>	<b>2.5</b>	<b>1.8</b>	<b>2.5</b>	<b>0.4</b>	<b>2</b>	<b>1.2</b>	<b>2.4</b>	<b>1</b>	<b>1.4</b>	<b>2.4</b>	<b>2.2</b>	<b>2.2</b>	<b>1.8</b>

## II<sup>nd</sup> I Year CT10709: Operating System:

1.Low, 2. Moderate, 3. High

Statement	COs	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
Understand the basic concepts, functions, and types of OS	CO1	3	3	3	1	3	-	2	1	2	1	1	2	3	2	1
Analyze process management concepts	CO2	3	3	3	2	3	1	3	2	3	2	2	3	2	3	2
Comprehend memory management techniques	CO3	2	3	3	2	3	-	2	1	2	1	2	2	1	2	3
Understand file system organization and access methods	CO4	3	2	3	1	3	-	1	1	2	2	2	3	2	1	3
Analyze I/O systems and security aspects	CO5	2	3	2	3	3	1	3	2	3	2	2	3	3	2	1
<b>Avg</b>		2.6	2.8	2.8	1.8	2.6	0.4	2.2	1.4	2.4	1.6	1.8	2.6	2.2	2	2

### III<sup>nd</sup> sem III year CT20202: Machine Learning:

1.Low, 2. Moderate, 3. High

Statement	COs	PO 1	PO 2	PO 3	PO 4	PO 5	PO 6	PO 7	PO 8	PO 9	PO 10	PO 11	PO 12	PSO 1	PSO 2	PSO 3
Gain an overview of machine learning	CO1	3	3	3	1	3	1	3	2	3	2	1	3	3	1	2
Understand and apply various classification methods	CO2	3	3	3	2	3	-	1	1	2	-	1	2	2	3	1
Analyze and implement clustering methods	CO3	1	2	2	-	2	-	3	1	2	1	2	3	2	3	2
Understand the concepts of neural networks	CO4	2	3	2	2	3	1	3	2	3	2	2	3	3	2	1
Explore the field of reinforcement learning	CO5	2	3	3	1	3	1	3	1	3	1	3	3	1	2	3
<b>Avg</b>		<b>2.2</b>	<b>2.8</b>	<b>2.6</b>	<b>1.2</b>	<b>2.8</b>	<b>0.6</b>	<b>2.6</b>	<b>1.4</b>	<b>2.6</b>	<b>1.2</b>	<b>1.8</b>	<b>2.8</b>	<b>2.2</b>	<b>2.2</b>	<b>1.8</b>