

# **JERUSALEM COLLEGE OF ENGINEERING**

**(An Autonomous Institution)**

**Approved by AICTE & Affiliated to Anna University**

**Accredited by NAAC with 'A' Grade**

**Chennai – 600 100**



**DEPARTMENT OF ARTIFICIAL INTELLIGENCE  
AND MACHINE LEARNING**

**B.E. CSE  
(ARTIFICIAL INTELLIGENCE AND MACHINE  
LEARNING)**

## **CURRICULUM**

**REGULATION 2023**

**CHOICE BASED CREDIT SYSTEM**

**JERUSALEM COLLEGE OF ENGINEERING**  
**(AN AUTONOMOUS INSTITUTION AFFILIATED TO ANNA**  
**UNIVERSITY, CHENNAI)**  
**B.E. – COMPUTER SCIENCE AND ENGINEERING**  
**(ARTIFICIAL INTELLIGENCE AND MACHINE LEARNING)**  
**CURRICULUM 2023**  
**REGULATION – 2023**  
**CHOICE BASED CREDIT SYSTEM**

**COURSE SUMMARY SHEET**

S. NO.	CATEGORY	SEMESTER-WISE CREDITS								TOTAL CREDITS
		1	2	3	4	5	6	7	8	
1	HS	4	4	-	-	-	1	1	-	10
2	BS	10	9	3	3	3	-	-	-	28
3	ES	8	3	-	-	-	-	-	-	11
4	PC	-	5	17	14	12	12	-	10	70
5	PE	-	-	-	3	3	6	6	-	18
6	OE	-	-	-	3	3	3	3	-	12
7	EEC	-	2	*	3	2	3	3	-	13
8	NCM	-	-	*	-	-	-	*	-	-
<b>TOTAL</b>		<b>22</b>	<b>23</b>	<b>20</b>	<b>26</b>	<b>23</b>	<b>25</b>	<b>13</b>	<b>10</b>	<b>162</b>

**SEMESTER 1**

S. NO.	COURSE CODE	COURSE TITLE	T / P / I	CATEGORY	CONTACT PERIODS	L	T	P	C
1	JHS2121	English for Communicative Competence	I	HS	4	2	0	2	3
2	JMA2101	Matrices and Calculus	I	BS	4	2	2	0	3
3	JPH2101	Engineering Physics 1	T	BS	3	3	0	0	3
4	JCY2101	Engineering Chemistry	T	BS	3	3	0	0	3
5	JGE2101	Basic Engineering	T	ES	3	3	0	0	3
6	JCS2121	Programming in C	I	ES	5	3	0	2	4
7	JGE2102	Heritage of Tamils	T	HS	1	1	0	0	1
8	JPC2111	Engineering Physics and Chemistry Laboratory	P	BS	2	0	0	2	1
9	JGE2111	Basic Engineering Laboratory	P	ES	2	0	0	2	1
<b>TOTAL</b>					<b>27</b>	<b>17</b>	<b>2</b>	<b>8</b>	<b>22</b>

**SEMESTER 2**

S. NO.	COURSE CODE	COURSE TITLE	T / P / I	CATEGORY	CONTACT PERIODS	L	T	P	C
1	JHS2221	English for Science and Technology	I	HS	4	2	0	2	3
2	JMA2201	Statistics for Engineers	I	BS	4	2	2	0	3
3	JPH2201	Engineering Physics 2	T	BS	3	3	0	0	3
4	JCY2201	Engineering Graphics	I	ES	4	2	0	2	3
5	JCS2201	Python Programming	T	PC	3	3	0	0	3
6	JCY2201	Environmental Science and Sustainability	T	BS	2	2	0	0	2
7	JGE2202	Tamils and Technology	T	HS	1	1	0	0	1
8	JPC2211	Engineering Physics and Environmental Science Laboratory	P	BS	2	0	0	2	1
9	JCS2211	Python Programming Laboratory	P	PC	4	0	0	4	2
10	JGE2241	Gaming Craft Studio	P	EEC	4	0	0	4	2
<b>TOTAL</b>					<b>31</b>	<b>15</b>	<b>2</b>	<b>14</b>	<b>23</b>

### SEMESTER 3

S. NO.	COURSE CODE	COURSE TITLE	T / P / I	CATEGORY	CONTACT PERIODS	L	T	P	C
1	JMA2302	Mathematical Foundations for Computer Science	T	BS	4	2	2	0	3
2		Object Oriented Programming	T	PC	3	3	0	0	3
3		Data Structures and Algorithms	T	PC	3	3	0	0	3
4		Data Science	T	PC	3	3	0	0	3
5		Digital Principles and Computer Organization	I	PC	5	3	0	2	4
6	JNC2361	Non-Credit Mandatory Course 1	T	NCM	3	3	0	0	-
7	JPT2041	Soft Skills and Aptitude	P	EEC	2	0	0	2	*
8		Object Oriented Programming Laboratory	P	PC	4	0	0	4	2
9		Data Science Laboratory	P	PC	4	0	0	4	2
<b>TOTAL</b>					<b>31</b>	<b>17</b>	<b>2</b>	<b>12</b>	<b>20</b>

**\*Only internal assessment**

### SEMESTER 4

S. NO.	COURSE CODE	COURSE TITLE	T / P / I	CATEGORY	CONTACT PERIODS	L	T	P	C
1	JMA2402	Applied Linear Algebra	T	BS	4	2	2	0	3
2		Principles of Artificial Intelligence	T	PC	3	3	0	0	3
3		Database Management System	T	PC	3	3	0	0	3
4		Operating System	I	PC	5	3	0	2	4
5	-	Professional Elective 1	T	PE	3	3	0	0	3
6	-	Open Elective 1	T	OE	3	3	0	0	3
7	JPT2041	Soft Skills and Aptitude	P	EEC	2	0	0	2	1
8		Principles of Artificial Intelligence Laboratory	P	PC	4	0	0	4	2
9		Database Management System Laboratory	P	PC	4	0	0	4	2
10	JGE2442	Advanced IT Infrastructure Laboratory	P	EEC	4	0	0	4	2
<b>TOTAL</b>					<b>35</b>	<b>17</b>	<b>2</b>	<b>16</b>	<b>26</b>

### SEMESTER 5

S. NO.	COURSE CODE	COURSE TITLE	T / P / I	CATEGORY	CONTACT PERIODS	L	T	P	C
1	JMA2501	Mathematical Modelling and Optimization Techniques	T	BS	4	2	2	0	3
2		Machine Learning	T	PC	3	3	0	0	3
3		Computer Networks	T	PC	3	3	0	0	3
4		Time Series Analysis and Forecasting	I	PC	5	3	0	2	4
5	-	Professional Elective 2	T	PE	3	3	0	0	3
6	-	Open Elective 2	T	OE	3	3	0	0	3
7		Machine Learning Laboratory	P	PC	4	0	0	4	2
8	JPT2042	Technical Skills and Aptitude	P	EEC	2	0	0	2	*
9	JGE2542	MERN Stack Development Laboratory	P	EEC	4	0	0	4	2
<b>TOTAL</b>					<b>31</b>	<b>17</b>	<b>2</b>	<b>12</b>	<b>23</b>

**\*Only internal assessment**

### SEMESTER 6

S. NO.	COURSE CODE	COURSE TITLE	T / P / I	CATEGORY	CONTACT PERIODS	L	T	P	C
1		Essence of Natural Language Processing	T	PC	3	3	0	0	3
2		Neural networks and Deep Learning	I	PC	5	3	0	2	4
3		Robotic Process Automation	T	PC	3	3	0	0	3
4	-	Professional Elective 3	T	PE	3	3	0	0	3
5	-	Professional Elective 4	T	PE	3	3	0	0	3
6	-	Open Elective 3	T	OE	3	3	0	0	3
7	JHS2541	Professional Communication	P	HS	2	0	0	2	1
8		Robotic Process Automation Laboratory	P	PC	4	0	0	4	2
9	JPT2042	Technical Skills and Aptitude	P	EEC	2	0	0	2	1
10	JGE2642	Computational Intelligence Laboratory	P	EEC	4	0	0	4	2
<b>TOTAL</b>					<b>32</b>	<b>18</b>	<b>0</b>	<b>14</b>	<b>25</b>

## SEMESTER 7

S. NO.	COURSE CODE	COURSE TITLE	T / P / I	CATEGORY	CONTACT PERIODS	L	T	P	C
1	-	Professional Elective 5	T	PE	3	3	0	0	3
2	-	Professional Elective 6	T	PE	3	3	0	0	3
3	-	Open Elective 4	T	OE	3	3	0	0	3
4	JNC2761	Non-Credit Mandatory Course 2	T	NCM	3	3	0	0	-
5	JAL2741	Comprehension and Technical Seminar	T	EEC	2	0	0	2	1
6	JHS2741	Entrepreneurship for Engineers	P	HS	2	0	0	2	1
7	JAL2742	Internship	P	EEC	-	-	-	4**	2
<b>TOTAL</b>					<b>16</b>	<b>12</b>	<b>0</b>	<b>8</b>	<b>13</b>

**\*\*Internship of 1 month must be undertaken in industry through semester 4, 5 and 6 leading to 1 credit in semester 7**

## SEMESTER 8

S. NO.	COURSE CODE	COURSE TITLE	T / P / I	CATEGORY	CONTACT PERIODS	L	T	P	C
1	JAL2831	Project Work	P	PC	20	0	0	20	10
<b>TOTAL</b>					<b>20</b>	<b>0</b>	<b>0</b>	<b>20</b>	<b>10</b>

**TOTAL NO. OF CREDITS: 162**