



**JECRC**<sup>TM</sup>  
**UNIVERSITY**  
BUILD YOUR WORLD

**School of Computer Application**  
**Syllabus and Scheme of**  
**Bachelor of Computer Applications (BCA)**  
**Specialization -Artificial Intelligence & Machine Learning**  
**(In Association with IBM)**  
**Academic Program**  
**July 2026**

JECRC University, Jaipur  
Plot No. IS-2036 to IS-2039 Ramchandrapura Industrial Area Jaipur, Sitapura, Vidhani,  
Rajasthan 303905

<b>AIML-IBM Specializations Subjects (BCA)</b>							
<b>Semester</b>	<b>Code</b>	<b>Course Name</b>	<b>L (Hr.)</b>	<b>T (Hr.)</b>	<b>P (Hr.)</b>	<b>Credits</b>	<b>Type</b>
<b>I</b>	<b>BCA214A</b>	<b>Introduction to Python</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>S</b>
<b>III</b>	<b>BCA216A</b>	<b>Text Analytics 101 and Rapid Development for AI (AI Services) (64)</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>S</b>
<b>III</b>	<b>BCA215A</b>	<b>Data Visualization</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>S</b>
<b>IV</b>	<b>BCA254A</b>	<b>Predictive Modelling with IBM SPSS Modeler</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>2</b>	<b>S</b>
<b>IV</b>	<b>BCA217A</b>	<b>Cognitive Decision System for Managers</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>S</b>
<b>IV</b>	<b>BCA252A</b>	<b>IBM Watson Studio</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>S</b>
<b>V</b>	<b>BCA218A</b>	<b>Machine Learning with Python</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>S</b>
<b>V</b>	<b>BCA219A</b>	<b>Deep Learning and Machine Learning</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>S</b>
			<b>21</b>			<b>21</b>	

SEMESTER I							
S. No.	Code	Course Name	L (Hr.)	T (Hr.)	P (Hr.)	Credits	Type
1	<b>BCA214 A</b>	<b>Introduction to Python</b>	<b>3</b>	<b>0</b>	<b>0</b>	<b>3</b>	<b>S</b>
2	BCA925 A	Programming in C	2	0	0	2	COR E
3	BCA926 A	Programming in C Lab	0	0	4	2	COR E
4	DCH010 A	Environmental Education	2	0	0	2	VAC
5	BCO570 A	Digital Data and AI Literacy	0	0	4	2	SEC
6	DEN001 C/D	Communication Skills/ Communication Skills Lab	1	0	2	2	AEC
7	JIC002A	Entrepreneurship Development	0	0	2	1	SEC
8	BCA113 B	Operating System	4	0	0	4	COR E
9	<b>BCA106 A</b>	Office Automation Tools Lab	0	0	2	1	CORE
<b>Total</b>			<b>12</b>	<b>0</b>	<b>14</b>	<b>19</b>	

**SEMESTER II**

<b>S. No.</b>	<b>Course Code</b>	<b>Course Name</b>	<b>L (Hr.)</b>	<b>T (Hr.)</b>	<b>P (Hr.)</b>	<b>Credits</b>	<b>Type</b>
1	BCA114B	Database Management Systems	3	0	0	3	CORE
2	BCA126B	Object Oriented Programming Using C++	2	0	0	2	CORE
3	BCA130B	Project Lab Using C++	0	0	4	2	CORE
4	BCA118B	Database Management Systems Lab	0	0	4	2	CORE
5	IKS001A	Inculcation of Human Values and Professional Ethics in Higher Education Institutions	2	0	0	2	VAC
6	DCO018A	Advance Excel	0	0	4	2	SEC
7	DEN002C /DEN002D	Professional Skills / Lab	1	0	2	2	AEC
8		Departmental Elective – 1	3	0	0	3	DE
9		Departmental Elective – 1	3	0	0	3	DE
<b>Total</b>			<b>14</b>	<b>0</b>	<b>14</b>	<b>21</b>	

**SEMESTER III**

<b>S.No</b>	<b>Course Code</b>	<b>Course Name</b>	<b>L (Hr.)</b>	<b>T (Hr.)</b>	<b>P (Hr.)</b>	<b>Credits</b>	<b>Type</b>
1	BCA305 A	Data Structures and Algorithms	3	0	0	3	COR E
2	BCA216 A	Text Analytics 101 and Rapid Development for AI (AI Services) (64)	2	0	0	2	S
3	BCA215 A	Data Visualization	2	0	0	2	S
4	BCA133 B	Programming in JAVA	3	0	0	3	COR E
5	BCA306 A	Data Structures and Algorithms - I Lab	0	0	4	2	COR E
6	BCA136 B	Project Lab using JAVA	0	0	4	2	COR E
7		Mathematics in India	2	0	0	2	VAC
8		Leadership and Managemnet Skills	1	0	2	2	AEC
9		Generative Artificial Intelligence Tools	0	0	4	2	SEC
10		Open Electivs/MOOC	3	0	0	3	MD
		<b>Total</b>	<b>16</b>	<b>0</b>	<b>14</b>	<b>23</b>	

SEMESTER IV							
S. No.	Course Code	Course Name	L (Hr.)	T (Hr.)	P (Hr.)	Credits	Type
1	BCA252 A	<b>IBM Watson Studio (BCA252A)</b>	3	0	0	3	S
2	BCA300 A	Python Programming	3	0	0	3	COR E
3	BCA301 A	Python Programming Lab	0	0	4	2	COR E
4	BCA254 A	<b>Predictive Modelling with IBM SPSS Modeler</b>	2	0	0	2	S
5	BCA217 A	<b>Cognitive Decision System for Managers</b>	3	0	0	3	S
6		Universal Human Values	2	0	0	2	VAC
7		Health and Yoga	1	0	2	2	AEC
8		Prompt Engineering for coding	0	0	4	2	SEC
9	Open Elective/Mooc		3	0	0	3	GE
<b>Total</b>			<b>17</b>	<b>0</b>	<b>10</b>	<b>22</b>	

SEMESTER V							
S. No.	Course Code	Course Name	L (Hr.)	T (Hr.)	P (Hr.)	Credits	Type
1	BCA218 A	Machine Learning with Python	3	0	0	3	S
2	BCA219 A	Deep Learning and Machine Learning	3	0	0	3	S
3	BCA147 B	Major Project (IOT/Mobile app/AI/ML/Soft)	0	0	6	3	CORE
4	BCA135 A	Computer Network	3	0	0	3	CORE
5	Departmental Elective –6		3	0	0	3	E
6	Open Elective/Mooc		3	0	0	3	GE
7							
		<b>Total</b>	<b>15</b>	<b>0</b>	<b>06</b>	<b>18</b>	

Semester – VI					
Course Code	Course Name	L (Hr.)	P (Hr.)	Credits	Type
BCA165 A	Industrial Training/Internship	0	0	16	CORE

<b>SEMESTER VII</b>							
<b>S. No.</b>	<b>Course Code</b>	<b>Course Name</b>	<b>L (Hr.)</b>	<b>T (Hr.)</b>	<b>P (Hr.)</b>	<b>Credits</b>	<b>Type</b>
1		Literature Review	3	0	0	3	CORE
2		Statistical Analysis using R	3	0	4	5	CORE
3		Data Analytics	3	0	4	5	CORE
4		Scientific Paper Writing	3	0	0	3	CORE
5		Research Project-I/ Research Internship Report and viva voce	0	0	8	4	CORE
<b>Total</b>			<b>12</b>	<b>0</b>	<b>16</b>	<b>20</b>	

<b>Semester – VIII</b>					
<b>Course Code</b>	<b>Course Name</b>	<b>L (Hr.)</b>	<b>P (Hr.)</b>	<b>Credits</b>	<b>Type</b>
	<b>Research Project/Capstone Project/ Dissertation (For Research Track)</b>	<b>0</b>	<b>40</b>	<b>20</b>	<b>CORE</b>