



**BRAINWARE UNIVERSITY**  
**SCHOOL OF COMPUTATIONAL & APPLIED SCIENCES**  
**DEPARTMENT OF COMPUTATIONAL SCIENCES**  
**BACHELOR OF COMPUTER APPLICATIONS /**  
**BACHELOR OF COMPUTER APPLICATIONS (HONOURS) /**  
**BACHELOR OF COMPUTER APPLICATIONS (HONOURS with RESEARCH) - 2024**

**SEMESTER – I**

Sl. No.	Course Code	Course	L	T	P	Evaluation Scheme		Total	Credits	Course Type
						CIA	ESE			
1	BCA17101	Digital Logic	1	0	2	40	60	100	2	Major
2	BCA19102	Programming in C Lab	0	0	4	40	60	100	2	Major
3	BCA10201	Sustainability in Indian Knowledge System	4	0	0	40	60	100	4	Minor
4	BCA10001	Mathematics and Numerical Methods	3	0	0	40	60	100	3	IC
5	AEC00005	Functional English	2	0	0	40	60	100	2	AEC
6	BCA10002	Soft Skills	3	0	0	40	60	100	3	SEC
7	VAC00012	Problem-Solving Methodologies	2	0	0	40	60	100	2	VAC
8	VAC00007	Human Values and Ethics	2	0	0	40	60	100	2	VAC
<b>TOTAL</b>			<b>17</b>	<b>0</b>	<b>6</b>	<b>320</b>	<b>480</b>	<b>800</b>	<b>20</b>	

**SEMESTER – II**

Sl. No.	Course Code	Course	L	T	P	Evaluation Scheme		Total	Credits	Course Type
						CIA	ESE			
1	BCA27103	Database Management System	3	0	2	40	60	100	4	Major
2	BCA20202	Computer Network	3	1	0	40	60	100	4	Minor
3	BCA20001	Discrete Mathematical Structure	3	0	0	40	60	100	3	IC
4	AEC00002	Communicative English	2	0	0	40	60	100	2	AEC
5	BCA20002	HTML, CSS and CSS Preprocessor	3	0	0	40	60	100	3	SEC
6	VAC00003	Computer Architecture	2	0	0	40	60	100	2	VAC
7	VAC00006	Environmental Studies	2	0	0	40	60	100	2	VAC
<b>TOTAL</b>			<b>18</b>	<b>1</b>	<b>2</b>	<b>280</b>	<b>420</b>	<b>700</b>	<b>20</b>	



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**SEMESTER – III**

Sl. No.	Course Code	Course	L	T	P	Evaluation Scheme		Total	Credits	Course Type
						CIA	ESE			
1	BCA30104	Data Structure and Algorithm	3	1	0	40	60	100	4	Major
2	BCA39105	Data Structure and Algorithm Lab	0	0	4	40	60	100	2	Major
3	BCA39106	Python Lab	0	0	4	40	60	100	2	Major
4	BCA30203	Artificial Intelligence	3	1	0	40	60	100	4	Minor
5	BCA30001	Vedic Mathematics	3	0	0	40	60	100	3	IC
6	AEC00006	Modern Indian Language A. Hindi B. Bengali C. Alternative English	2	0	0	40	60	100	2	AEC
7	BCA37002	Internet and Web Technologies	2	0	2	40	60	100	3	SEC
<b>TOTAL</b>			<b>13</b>	<b>2</b>	<b>10</b>	<b>280</b>	<b>420</b>	<b>700</b>	<b>20</b>	

**SEMESTER – IV**

Sl. No.	Course Code	Course	L	T	P	Evaluation Scheme		Total	Credits	Course Type
						CIA	ESE			
1	BCA40107	Object Oriented Programming in JAVA	3	0	0	40	60	100	3	Major
2	BCA49108	Object-Oriented Programming in JAVA Lab	0	0	4	40	60	100	2	Major
3	BCA49109	PHP and MySQL Lab	0	0	4	40	60	100	2	Major
4	BCA40110	Operating System	3	0	0	40	60	100	3	Major
5	BCA47111	Full-stack Development-I	2	0	4	40	60	100	4	Major
6	BCA40204	Data Warehousing and Data Mining	4	0	0	40	60	100	4	Minor
7	AEC09001	Communicative English Lab	0	0	4	40	60	100	2	AEC
<b>TOTAL</b>			<b>12</b>	<b>0</b>	<b>16</b>	<b>280</b>	<b>420</b>	<b>700</b>	<b>20</b>	



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**SEMESTER –V**

Sl. No.	Course Code	Course	L	T	P	Evaluation Scheme		Total	Credits	Course Type
						CIA	ESE			
1	BCA50112	Software Engineering	3	1	0	40	60	100	4	Major
2	BCA50113	Design and Analysis of Algorithm	4	0	0	40	60	100	4	Major
3	BCA59114	Design and Analysis of Algorithm Lab	0	0	4	40	60	100	2	Major
4	BCA57115	Full-stack Development -II	2	0	4	40	60	100	4	Major
5	BCA57205	Machine Learning	3	0	2	40	60	100	4	Minor
6	BCA58001	Project-I	0	0	0	40	60	100	2	IAPC
<b>TOTAL</b>			<b>12</b>	<b>1</b>	<b>10</b>	<b>240</b>	<b>360</b>	<b>600</b>	<b>20</b>	

**SEMESTER – VI**

Sl. No.	Course Code	Course	L	T	P	Evaluation Scheme		Total	Credits	Course Type
						CIA	ESE			
1	BCA60116	E-Commerce Technologies	4	0	0	40	60	100	4	Major
2	BCA60117	Cyber Security	2	0	0	40	60	100	2	Major
3	BCA60118	IT Enabled Services and Entrepreneurship	4	0	0	40	60	100	4	Major
4	BCA60119	Cloud Computing	4	0	0	40	60	100	4	Major
5	BCA68120	Project-II	0	0	0	40	60	100	2	Major
6	BCA60206	Big Data Analytics	4	0	0	40	60	100	4	Minor
<b>TOTAL</b>			<b>18</b>	<b>0</b>	<b>0</b>	<b>240</b>	<b>360</b>	<b>600</b>	<b>20</b>	



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**SEMESTER – VII**

Sl. No.	Course Code	Course	L	T	P	Evaluation Scheme		Total	Credits	Course Type
						CIA	ESE			
1	BCA70121	Research Methodologies	4	0	0	40	60	100	4	Major
2	BCA70122	Distributed Database	4	0	0	40	60	100	4	Major
3	BCA70123	Client Server Computing	4	0	0	40	60	100	4	Major
4	BCA70124	Formal Language and Automata Theory	4	0	0	40	60	100	4	Major
5	BCA77207	Image Processing	3	0	2	40	60	100	4	Minor
<b>TOTAL</b>			<b>19</b>	<b>0</b>	<b>2</b>	<b>200</b>	<b>300</b>	<b>500</b>	<b>20</b>	

**SEMESTER – VIII (Honours)**

Sl. No.	Course Code	Course	L	T	P	Evaluation Scheme		Total	Credits	Course Type
						CIA	ESE			
1	BCA80125H	Compiler Design	4	0	0	40	60	100	4	Major
2	BCA80126H	Blockchain Technology	4	0	0	40	60	100	4	Major
3	BCA87127H	Pattern Recognition	3	0	2	40	60	100	4	Major
4	BCA88128H	Project	0	0	0	40	60	100	4	Major
5	BCA87208H	Soft Computing	3	0	2	40	60	100	4	Minor
<b>TOTAL</b>			<b>14</b>	<b>0</b>	<b>4</b>	<b>200</b>	<b>300</b>	<b>500</b>	<b>20</b>	

**SEMESTER – VIII (HONOURS with RESEARCH)**

Sl. No.	Course Code	Course	L	T	P	Evaluation Scheme		Total	Credits	Course Type
						CIA	ESE			
1	BCA80125R	Natural Language Processing	3	1	0	40	60	100	4	Major
2	BCA80208R	Virtual Reality and Augmented Reality	3	1	0	40	60	100	4	Minor
3	BCA88001R	Research Project	0	0	0	40	60	100	12	RPC
<b>Total</b>			<b>6</b>	<b>2</b>	<b>0</b>	<b>120</b>	<b>180</b>	<b>300</b>	<b>20</b>	