



**BRAINWARE UNIVERSITY**  
**SCHOOL OF COMPUTATIONAL & APPLIED SCIENCES**  
**DEPARTMENT OF COMPUTATIONAL SCIENCES**  
**BACHELOR OF COMPUTER APPLICATIONS /BACHELOR OF COMPUTER APPLICATIONS (HONOURS) - 2023**

**SEMESTER – I**

Sl. No.	Course Code	Course	L	T	P	Evaluation Scheme		Total	Credits	Course Type
						CIE	ESE			
1	BCA10101	Digital Logic	3	1	0	40	60	100	4	Major
2	BCA19102	Digital Logic Lab	0	0	4	40	60	100	2	Major
3	BCA19103	Programming in C Lab	0	0	4	40	60	100	2	Major
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>15</b>	<b>1</b>	<b>8</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
						CIE	ESE			
1	BCA20104	Data Structure and Algorithm	3	1	0	40	60	100	4	Major
2	BCA29105	Data Structure and Algorithm Lab	0	0	4	40	60	100	2	Major
3	BCA29106	Python Lab	0	0	4	40	60	100	2	Major
4	BCA20001	Discrete Mathematical Structure	3	0	0	40	60	100	3	IC
5	AEC00002	Communicative English	2	0	0	40	60	100	2	AEC
6	BCA20002	HTML, CSS and CSS Preprocessor	3	0	0	40	60	100	3	SEC
7	VAC00003	Computer Architecture	2	0	0	40	60	100	2	VAC
8	VAC00006	Environmental Studies	2	0	0	40	60	100	2	VAC
<b>TOTAL</b>			<b>15</b>	<b>1</b>	<b>8</b>	<b>320</b>	<b>480</b>	<b>800</b>	<b>20</b>	



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**SEMESTER – III**

Sl. No.	Course Code	Course	L	T	P	Evaluation Scheme		Total	Credits	Course Type
						CIE	ESE			
1	BCA30107	Database Management System	3	1	0	40	60	100	4	Major
2	BCA39108	Database Management System Lab	0	0	4	40	60	100	2	Major
3	BCA30109	Object Oriented Programming in JAVA	3	0	0	40	60	100	3	Major
4	BCA30110	Operating System	3	0	0	40	60	100	3	Major
5	BCA30001	Vedic Mathematics	3	0	0	40	60	100	3	IC
6	AEC09003	Object-Oriented Programming in JAVA Lab	0	0	4	40	60	100	2	AEC
7	BCA37002	Internet and Web Technologies	2	0	2	40	60	100	3	SEC
<b>TOTAL</b>			<b>14</b>	<b>1</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
						CIE	ESE			
1	BCA47111	Design and Analysis of Algorithm	2	0	4	40	60	100	4	Major
2	BCA49112	PHP and MySQL Lab	0	0	4	40	60	100	2	Major
3	BCA47113	Full-stack Development-I	2	0	4	40	60	100	4	Major
4	BCA40201	Sustainability in Indian Knowledge System	4	0	0	40	60	100	4	Minor
5	BCA40202	Computer Network	3	1	0	40	60	100	4	Minor
6	AEC00006	Modern Indian Language A. Hindi B. Bengali C. Alternative English	2	0	0	40	60	100	2	AEC
<b>TOTAL</b>			<b>13</b>	<b>1</b>	<b>12</b>	<b>240</b>	<b>360</b>	<b>600</b>	<b>20</b>	



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**SEMESTER –V**

Sl. No.	Course Code	Course	L	T	P	Evaluation Scheme		Total	Credits	Course Type
						CIE	ESE			
1	BCA50114	Software Engineering	3	1	0	40	60	100	4	Major
2	BCA50115	Cloud Computing	2	0	0	40	60	100	2	Major
3	BCA57116	Full-stack Development -II	2	0	4	40	60	100	4	Major
4	BCA57203	Artificial Intelligence	2	0	4	40	60	100	4	Minor
5	BCA57204	Machine Learning	2	0	4	40	60	100	4	Minor
6	BCA58001	Project-I	0	0	0	40	60	100	2	IAPC
<b>TOTAL</b>			<b>11</b>	<b>1</b>	<b>12</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
						CIE	ESE			
1	BCA60117	E Commerce Technologies	4	0	0	40	60	100	4	Major
2	BCA60118	Cyber Security	2	0	0	40	60	100	2	Major
3	BCA60119	IT Enabled Services and Entrepreneurship	4	0	0	40	60	100	4	Major
4	BCA68120	Project-II	0	0	0	40	60	100	2	Major
5	BCA60205	Data warehouse and Data mining	4	0	0	40	60	100	4	Minor
6	BCA60206	Big Data Analysis	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
						CIE	ESE			
1	BCA70121	Research Methods in Computer Science	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
						CIE	ESE			
1	BCA80125H	Compiler Design	4	0	0	40	60	100	4	Major
2	BCA80126H	Block Chain 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>160</b>	<b>340</b>	<b>500</b>	<b>20</b>	

**SEMESTER – VIII (Research)**

Sl. No.	Course Code	Course	L	T	P	Evaluation Scheme		Total	Credits	Course Type
						CIE	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>	