



**BRAINWARE UNIVERSITY**  
**SCHOOL OF COMPUTATIONAL & APPLIED SCIENCES**  
**DEPARTMENT OF COMPUTATIONAL SCIENCES**  
**Master of Computer Applications - 2023**

**SEMESTER – I**

<b>Course Code</b>	<b>Course Name</b>	<b>L-T -P</b>	<b>Credits</b>	<b>Total Marks</b>
MCA101	Data Structures and Algorithms	3 – 1 – 0	4	100
MCA102	Interactive Web Designing	3 – 1 – 0	4	100
MCA103	Computer Architecture and Microprocessor	3 – 1 – 0	4	100
MCA104	Mathematical Foundation for Computer Science	3 – 0 – 0	3	100
MCA(HU)191	Professional Communication Lab	0 – 0 – 2	1	100
MCA191	Data Structures and Algorithms Lab	0 – 0 – 4	2	100
MCA192	Interactive Web Designing Lab	0 – 0 – 4	2	100
MCA193	Computer Architecture and Microprocessor Lab	0 – 0 – 4	2	100
	<b>Total</b>	<b>29</b>	<b>22</b>	<b>800</b>

**SEMESTER- II**

<b>Course Code</b>	<b>Course Name</b>	<b>L – T – P</b>	<b>Credits</b>	<b>Total Marks</b>
MCA201	Core Java and Advanced Java	3 – 1 – 0	4	100
MCA202	Advanced Operating Systems	3 – 1 – 0	4	100
MCA203	Formal Language and Automata Theory	3 – 1 – 0	4	100
MCA204	Data Communication & Computer Networks	3 – 1 – 0	4	100
MCA291	Core Java and Advanced Java Lab	0 – 0 – 4	2	100
MCA292	Advanced Operating Systems Lab	0 – 0 – 4	2	100
MCA293	PHP with Laravel	0 – 0 – 4	2	100
	<b>Total</b>	<b>28</b>	<b>22</b>	<b>700</b>



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**SEMESTER -III**

Course Code	Course Name	L – T – P	Credits	Total Marks
MCA301	Artificial Intelligence and Machine Learning	3 – 1 – 0	4	100
MCA302	Software Engineering using UML	3 – 1 – 0	4	100
MCA304 (Elective – I)	A. Cryptography & Network Security	3 – 0 – 0	3	100
	B. Cloud Computing			
MCA305 (Elective – II)	A. Data Warehousing and Data Mining	3 – 0 – 0	3	100
	B. Big Data Analysis			
MCA391	Artificial Intelligence and Machine Learning Lab	0 – 0 – 4	2	100
MCA392	Project Management Lab	0 – 0 – 4	2	100
MCA381	Minor Project	—	3	100
MCA382	Industrial Training	—	1	100
	<b>Total</b>	<b>22</b>	<b>22</b>	<b>800</b>

**SEMESTER – IV**

Course Code	Course Name	L – T – P	Credits	Total Marks
MCA401 (Elective 3)	A. Natural Language Processing	3 – 1 – 0	4	100
	B. Applied Data Science			
MCA402 (Elective 4)	A. Internet of Things and Data Analytics	3 – 1 – 0	4	100
	B. Deep Learning			
MCA403 (Elective 5)	A. Mobile Computing	3 – 1 – 0	4	100
	B. Introduction to Blockchain Technology and Applications			
MCA491 (Elective 3)	A. Natural Language Processing Lab	0 – 0 – 4	2	100
	B. Applied Data Science Lab			
MCA492 (Elective 4)	A. Internet of Things and Data Analytics Lab	0 – 0 – 4	2	100
	B. Deep Learning Lab			
MCA481	Major Project	—	5	100
MCA482	Grand Viva	—	1	100
	<b>Total</b>	<b>20</b>	<b>22</b>	<b>700</b>

**Total Credits: 88**  
**Total Marks: 3000**