Integral University

Study & Evaluation Scheme

B.Tech. CSE (Data Science & Artificial Intelligence) in association with IBM

w.e.f. 2020-2021

Year I, Semester I

S. No.	Course Category	Subject Code	Name of Subject	Periods				Evaluation Scheme				Subject Total
								Sessional (CA)			End Sem. Exam. (ESE)	
				L	T	P	C	CT	TA	Total		
1	BS	PY-101	Physics	3	1	0	4	40	20	60	40	100
2	LN	LN-101	Professional Communication-I	3	1	0	4	40	20	60	40	100
3	MT	MT-101	Engineering Mathematics-I	3	1	0	4	40	20	60	40	100
4	ESA	EE-103	Basic Electrical Engineering	3	1	0	4	40	20	60	40	100
5	ESA	EC-101	Basic Electronics	3	1	0	4	40	20	60	40	100
6	BS	PY-104	Physics Lab	0	0	2	1	30	30	60	40	100
7	ESA	EE-104	Electrical Engineering Lab	0	0	2	1	30	30	60	40	100
8	ESA	ME-103	Engineering Graphics	0	0	2	1	30	30	60	40	100
9	DC	CS-125	Digital Workforce Skills	0	0	2	1	30	30	60	40	100
			Total	**15**	**5**	**8**	**24**	**320**	**220**	**540**	**360**	**900**

L - Lecture **T - Tutorial** **P - Practical** **C - Credits** **CT - Class Test** **TA - Teacher Assessment**

Sessional Total (CA) = Class Test (CT) + Teacher Assessment (TA)

Subject Total (CA) = Sessional Total (CA) + End Semester Examination (ESE)

BS - Basic Sciences DC - Departmental Core

HM - Humanities OE - Open Elective

DE - Departmental Elective ESA - Engineering Sciences & Arts (Foundation Course & Engineering Course)

Integral University

Study & Evaluation Scheme

B.Tech. CSE (Data Science & Artificial Intelligence) in association with IBM

w.e.f. 2020-2021

Year I, Semester II

S. No.	Course Category	Subject Code	Name of Subject	Periods				Evaluation Scheme				Subject Total
								Sessional (CA)			End Sem. Exam. (ESE)	
				L	T	P	C	CT	TA	Total		
1	BS	CH-101	Chemsitry	3	1	0	4	40	20	60	40	100
2	ES	ES-101	Environmental Studies	2	1	0	3	40	20	60	40	100
3	BS	MT-112	Engineering Mathematics II	3	1	0	4	40	20	60	40	100
4	ESA	ME-101	Basic Mechanical Engineering	3	1	0	4	40	20	60	40	100
5	ESA	CS-101	Computer Programming	3	1	0	4	40	20	60	40	100
6	BS	CH-102	Engineering Chemistry Lab	0	0	2	1	30	30	60	40	100
7	ESA	ME-102	Mechanical Engineering Lab	0	0	2	1	30	30	60	40	100
8	ESA	CS-102	Computer Programming Lab	0	0	2	1	30	30	60	40	100
9	DC	CS-126	Changing Business with Data Insight (Watson Analytics)	0	0	2	1	30	30	60	40	100
			Total	**14**	**5**	**8**	**23**	**320**	**220**	**540**	**360**	**900**

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w.e.f. 2020-2021

Year II, Semester III

S. No.	Course Category	Subject Code	Name of Subject	Periods				Evaluation Scheme				Subject Total
								Sessional (CA)			End Sem.	
				L	T	P	C	CT	TA	Total		
1	DC	CS-204	Data Structure using C	3	1	0	4	40	20	60	40	100
2	DC	CS-270	Object Oriented Concepts using Java	3	1	0	4	40	20	60	40	100
3	DC	CS-260	Data Science Fundamentals (DE-1)	3	1	0	4	40	20	60	40	100
4	ESA	EC-209	Digital Electronics	3	1	0	4	40	20	60	40	100
5	DC	CS-206	Discrete Structure	3	1	0	4	40	20	60	40	100
6	ESA	CS-203	Cyber Law & Information Security	2	1	0	3	40	20	60	40	100
*	HM	BM-226	Human Values and Professional Ethics	3	0	0	0	-	-	-	50	50
7	DC	CS-208	Data Structure Using C Lab	0	0	2	1	30	30	60	40	100
8	DC	CS-272	Python Programming Lab	0	0	2	1	30	30	60	40	100
9	DC	CS-271	Object Oriented Concepts using Java Lab	0	0	2	1	30	30	60	40	100
10	ESA	EC-214	Digital Electronics Lab	0	0	2	1	30	30	60	40	100
			Total	**20**	**6**	**8**	**27**	**360**	**240**	**600**	**400**	**1000**

L - Lecture **T - Tutorial** **P - Practical** **C - Credits** **CT - Class Test** **TA - Teacher Assessment**

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w.e.f. 2020-2021

Year II, Semester IV

S. No.	Course Category	Subject Code	Name of Subject	Periods				Evaluation Scheme				Subject Total
								Sessional (CA)			End Sem. Exam. (ESE)	
				L	T	P	C	CT	TA	Total		
1	DC	CS-261	Cloud Application Development	3	1	0	4	40	20	60	40	100
2	ESA	MT-206	Mathematical Analysis	3	1	0	4	40	20	60	40	100
3	DC	CS-212	Database Management System	3	1	0	4	40	20	60	40	100
4	DC	CS-284	Computer Organization & Architecture	3	1	0	4	40	20	60	40	100
5	ESA	ES-202	Disaster Management	2	1	0	3	40	20	60	40	100
6	DC	CS281	Graph Theory and Applications	3	1	0	4	40	20	60	40	100
7	DC	CS-285	Computer Organization & Architecture Lab	0	0	2	1	30	30	60	40	100
8	DC	CS-266	Cloud Application Development Lab	0	0	2	1	30	30	60	40	100
9	DC	CS-282	Advance Java Programming Lab	0	0	2	1	30	30	60	40	100
10	DC	CS-220	DBMS Lab	0	0	2	1	30	30	60	40	100
11	DC	CS-286	Comprehensive Annual Assessment - I	0	0	0	1	0	100	100	0	100
			Total	**17**	**6**	**8**	**28**	**360**	**340**	**700**	**400**	**1100**

L - Lecture **T - Tutorial** **P - Practical** **C - Credits** **CT - Class Test** **TA - Teacher Assessment**

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w.e.f. 2021-2022

Year III, Semester V

S. No.	Course Category	Subject Code	Name of Subject	Periods				Evaluation Scheme				Subject Total
								Sessional (CA)			End Sem. Exam. (ESE)	
				L	T	P	C	CT	TA	Total		
1	DC	CS-301	Design and Analysis of Algorithm	3	1	0	4	40	20	60	40	100
2	DC	CS-303	Principles of Operating System	3	1	0	4	40	20	60	40	100
3	DC	CS-304	Theory of Automata and Formal Languages	3	1	0	4	40	20	60	40	100
4	DC	CS-340	Software Engineering	3	1	0	4	40	20	60	40	100
5	DC	CS-391	Hadoop Fundamentals	3	1	0	4	40	20	60	40	100
6	DC	CS-392	Data Science and Use Cases	3	1	0	4	40	20	60	40	100
7	DC	CS-393	Hadoop Fundamentals Lab	0	0	2	1	30	30	60	40	100
8	DC	CS-310	Open Source Lab	0	0	2	1	30	30	60	40	100
9	DC	CS-302	Design and Analysis of Algorithm lab	0	0	2	1	30	30	60	40	100
			Total	**18**	**6**	**6**	**27**	**330**	**210**	**540**	**360**	**900**

L - Lecture **T - Tutorial** **P - Practical** **C - Credits** **CT - Class Test** **TA - Teacher Assessment**

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Integral University
Study & Evaluation Scheme
B.Tech. CSE (Data Science & Artificial Intelligence) in association with IBM
w.e.f. 2021-2022

Year III, Semester VI

S. No.	Course Category	Subject Code	Name of Subject	Periods				Evaluation Scheme				Subject Total
								Sessional (CA)			End Sem. Exam. (ESE)	
				L	T	P	C	CT	TA	Total		
1	DC	CS-313	Microprocessor and its Applications	3	1	0	4	40	20	60	40	100
2	DC	CS-315	Compiler Design	3	1	0	4	40	20	60	40	100
3	DC	CS-305	Computer Networks	3	1	0	4	40	20	60	40	100
4	OE		Open Elective-1	3	1	0	4	40	20	60	40	100
6	DE		Departmental Elective-1	3	1	0	4	40	20	60	40	100
7	DC	CS-394	Artificial Intelligence Analyst	3	1	0	4	40	20	60	40	100
8	DC	CS-396	AI Analyst Lab	0	0	2	1	30	30	60	40	100
10	DC	CS-314	Microprocessor Lab	0	0	2	1	30	30	60	40	100
11	DC	CS-306	Computer Networks Lab	0	0	2	1	30	30	60	40	100
10	DC	CS-386	Comprehensive Annual Assessment - II	0	0	0	1	0	100	100	0	100
			Total	**18**	**6**	**6**	**28**	**330**	**310**	**640**	**360**	**1000**

Departmental Elective-1	CS-311	Software Project & Quality Management	
	CS-347	Green Computing	
	CS-348	Human Computer Interaction	

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Study & Evaluation Scheme

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(tentative)

Year IV, Semester VII

S. No.	Course Category	Subject Code	Name of Subject	Periods				Evaluation Scheme				Subject Total
								Sessional (CA)			End Sem. Exam. (ESE)	
				L	T	P	C	CT	TA	Total		
1	DE	CS485	Data Security and Threat Analysis	3	1	0	4	40	20	60	40	100
2	DC	CS-410	Distributed System	3	1	0	4	40	20	60	40	100
3	DC	CS-412	Cryptography and Network Security	3	1	0	4	40	20	60	40	100
4	DE		Departmental Elective-2	3	1	0	4	40	20	60	40	100
5	DE		Departmental Elective-3	3	1	0	4	40	20	60	40	100
6	DC	CS-424	SciLab	0	0	2	1	30	30	60	40	100
8	DC	CS-421	Minor Project	0	0	2	1	30	30	60	40	100
9	DC	CS-300	Industrial Training	0	0	0	0	0	0	0	0	100
			Total	**15**	**5**	**4**	**22**	**260**	**160**	**420**	**280**	**800**
Departmental Elective-2		CS-417	Mobile Computing									
		CS-415	Fuzzy Logic & Neural Networks									
Departmental Elective-3		CS-418	Data Warehousing and Data Mining									
		CS-419	Pattern Recognition									

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(tentative)

Year IV, Semester VIII

S. No.	Course Category	Subject Code	Name of Subject	Periods				Evaluation Scheme				Subject Total
								Sessional (CA)			End Sem.	
				L	T	P	C	CT	TA	Total		
1	DC	CS-451	Seminar	0	0	0	3	0	100	100	0	100
2	DC	CS-499	B. Tech. Project	0	0	0	4	0	60	60	40	100
3	DC	CS-499	B. Tech. Project	0	0	0	4	0	60	60	40	100
4	DC	CS-499	B. Tech. Project	0	0	0	4	0	60	60	40	100
5	DC	CS-452	Comprehensive Viva	0	0	0	2	0	100	100	0	100
6	OE		Open Elective-2	3	1	0	4	25	15	40	60	100
			Total	**3**	**1**	**0**	**21**	**25**	**395**	**420**	**180**	**600**

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	Credit	Marks
	200	7200