Department of Computer Science and Engineering

Course Structure and Syllabi

for

2.5 years Executive M. Tech. Programme
in Computer Science and Engineering with specialization
Data Science and Artificial Intelligence

भारतीय सूचना प्रौद्योगिकी संस्थान राँची

INDIAN INSTITUTE OF INFORMATION TECHNOLOGY, RANCHI

(An Institution of National importance under act of Parliament)

(Ranchi - 834010), Jharkhand

I.   Format of Course codes

1) Course code AA-XYZZ is explained as

AA - Department

X-Academic year

Y-Theory/Lab; 0 ==Theory and 1== Lab

ZZ-odd/even semester; odd number == odd semester and even number == even semester

2) For project/seminar/comprehensive viva:

AA= PR

X= 1

3) For open electives:

AA= OE

Breakup of the credits semester wise

Credits required for M.Tech Course: 68-78

Semester/ Projects	Credits
I	13-16
II	13-17
III	12-15
IV	14
V	16
Total	68-78

Curriculum for M. Tech. in Computer Science and Engineering with specialization Data Science & Artificial Intelligence

Semester-wise Curriculum

Semester I

S. No.	Course Code	Course Name	L	T	P	C
1	CD-5001	Fundamentals of Data Science	3	0	0	3
2	CD-5003	Artificial Intelligence and its Applications	3	0	0	3
3	CD-50XX	Elective -I	3	1	0	4
4	CD-5101	Fundamentals of Data Science Lab	0	0	3	2
5	CD-5103	Artificial Intelligence and its Applications Lab	0	0	3	2
		Total	**9**	**1**	**6**	**14**

Semester II

S. No.	Course Code	Course Name	L	T	P	C
1	CD-5002	Data Mining and Data Ware Housing	3	0	0	3
2	CD-5004	Advanced Machine Learning	3	0	0	3
3	CD-5006	Pattern Recognition & Classifications	3	0	0	3
4	CD-50XX	Elective -II	3	1	0	4
5	CD-5102	Data Mining and Data Ware Housing Lab	0	0	3	2
		Total	**12**	**1**	**3**	**15**

Semester III

S. No.	Course Code	Course Name	L	T	P	C
1	CD-6001	Big Data Analytics	3	0	0	3
2	CD-6003	Deep and Reinforcement Learning Techniques	3	0	0	3
3	CD-60XX	Elective -III	3	1	0	4

4	CD-6103	Deep and Reinforcement Learning Techniques Lab	0	0	3	2
		Total	**9**	**2**	**3**	**12**

Semester IV

S. No.	Course Code	Course Name	L	T	P	C
1	PR-6102	Research Project (Stage-I)	0	0	24	12
2	PR-6104	Comprehensive Viva	0	0	0	02
		Total	**0**	**0**	**24**	**14**

Semester V

S. No.	Course Code	Course Name	L	T	P	C
1	PR-7101	Research Project (Stage-II)	0	0	32	16
		Total	**0**	**0**	**32**	**16**

L-T-P-C Notation

L – T – P − C => Lecture – Tutorial – Practical – Credits

Credit structure of each course is given in L – T – P − C form. The numbers corresponding to L, T and P denote the contact hours per week for Lecture, Tutorial and Practical respectively, and that of C denotes the total number of credits for that course in a semester.

Semester wise Credit Summary

Semester	I	II	III	IV	V	Total
Credits	14	15	12	14	16	**71**