SHRI G S INSTITUTE OF TECHNOLOGY & SCIENCE, INDORE
DEPARTMENT OF INFORMATION TECHNOLOGY

SUMMARY OF CREDITS			
YEAR	SEMESTER		Credits
	A	B	
I	20	20	40
II	23	22	45
III	24	22	46
IV	16	14	30
Total	83	78	161

Additional	*	As per department Choice	General Proficiency (Communication Skill, Professionalism, Presentation Skill, etc..)
	*	As per department Choice	Professional Practice (Technical visit, Expert lectures, poster presentation, technical exhibition, Alumni interaction, participation in Hackethon, Coding Plateform ranking, Technical events outside the institute, Idea Lab, IIC activity etc.)
Grand Total		**161 + 02***	

Semester : I

S.No.	Category	Subject Code	Subject Name	Hours/Week			Credits		Maximum Marks				Total Credits
				L	T	P	T	P	Theory		Practical		
									Th.	CW	Pr.	SW	
1	BSC	MA10001	Mathematics – I	3	1	0	4	0	70	30	0	0	4
2	BSC	PH10017	Physics	3	-	-	3	0	70	30	0	0	3
3	ESC	CE10013	Fundamentals of Civil Engineering and Applied Mechanics	2	1	-	3	0	70	30	0	0	3
4	ESC	ME10149	Engineering Graphics	2	0	-	2	0	70	30	0	0	2
5	ESC	EE10015	Fundamentals of Electrical Engineering	2	1	-	3	0	70	30	0	0	3
6	BSC (LC)	PH10151	Applied Physics Lab	-	0	2	0	1	0	0	30	20	1
7	ESC	ME10153	Engineering Graphics	-	0	4	0	2	0	0	60	40	2
8	ESC (LC)	EE10152	Fundamentals of Electrical Engineering	-	0	2	0	1	0	0	30	20	1
9	MC	HU10191	Extra Cocurricular Activity	0	0	2	0	1	0	0	0	50	1
10	MC	HU….....	Induction program in Universal Human Value	0	0	2	0	0	0	0	0	0	0
			Total	**12**	**3**	**10**	**15**	**5**	**350**	**150**	**120**	**130**	**20**
Induction program of three week duration													

Semester : II

S.No.	Category	Subject Code	Subject Name	Hours/Week			Credits		Maximum Marks				Total Credits
				L	T	P	T	P	Theory		Practical		
									Th.	CW	Pr.	SW	
1	BSC	MA10501	Mathematics – II	3	1	0	4	0	70	30	0	0	4
2	BSC	CH10516	Chemistry	3	0	0	3	0	70	30	30	20	3
3	HSMC	HU10551	Technical English	2	0	0	2	0	70	30	30	20	2
4	ESC	CO10507	Programming for Problem Solving	2	1	0	3	0	70	30	30	20	3
5	ESC	EC10508	Basic Electronics Engineering	2	0	0	2	0	70	30	30	20	2
6	BSC	CH10656	Chemistry Lab	0	0	2	0	1	70	30	0	0	1
7	HSMC	HU10651	Language Lab	0	0	2	0	1	70	30	0	0	1
8	ESC (LC)	CO10654	Computer Programming Lab	0	0	2	0	1	70	30	0	0	1
9	ESC (LC)	IP10655	Manufacturing Practices	0	0	4	0	2	0	0	60	40	2
10	HSMC	HU10691	Extra Cocurricular Activity	0	0	2	0	1	0	0	0	50	1
11	MC	HU….....	Induction program in Universal Human Value	0	0	2	0	0	0	0	0	0	0
			Total	**12**	**2**	**14**	**14**	**6**	**560**	**240**	**180**	**170**	**20**
*Mandatory Non credit course. PASS/FAIL status will appear in Marksheet													
* Mandatory 01 Credit NPTEL Course on Design Thinking to be done by each student													

Semester : III

S.No.	Subject Category	Subject Code	Subject Name	Hours/Week			Credits		Maximum Marks				Total Marks	Total Credits
				L	T	P	T	P	Theory		Practical			
									Th.	CW	Pr.	SW		
1	BSC	MA28005	Mathematics - III	3	-	-	3	-	70	30	-	-	100	3
2	PCC	IT28018	Data Structures	3	1	-	4	-	70	30	-	-	100	4
3	PCC	IT28011	Object Oriented Programming	3	-	-	3	-	70	30	-	-	100	3
4	PCC	IT28009	Computer Organization & Architecture	3	-	-	3	-	70	30	-	-	100	3
5	ESC	EC28012	Digital System Design	3	-	-	3	-	70	30	-	-	100	3
6	HSMC	HU28481	Values, Humanities and Professional Ethics	-	2	-	2	-	-	100	-	-	100	2
7	PCC	IT28401	Data Structures Lab	-	-	2	-	1	-	-	60	40	100	1
8	PCC	IT28402	Object Oriented Programming Lab	-	-	2	-	1	-	-	60	40	100	1
9	ESC	EC28403	Digital System Design Lab	-	-	2	-	1	-	-	60	40	100	1
10	PCC	IT28404	Basic Linux & Shell Programming	-	-	2	-	1	-	-	60	40	100	1
11	MC	ITM2002	Environmental Science*	2	-	-	-	-	-	50			50	0
12	MC	IT_____	Design Thinking	-	-	-	1	-	-	30	-	-	30	1
			Total	**17**	**3**	**8**	**19**	**4**	**350**	**330**	**240**	**160**	**1080**	**23**
*** Mandatory non credit course**														

Semester : IV

S.No.	Subject Category	Subject Code	Subject Name	Hours/Week			Credits		Maximum Marks					Total Credits
				L	T	P	T	P	Theory		Practical			
									Th.	CW	Pr.	SW		
1	PCC	IT28511	Discrete Structures	3	1	-	4	-	70	30	-	-	100	4
2	PCC	IT28504	Design and Analysis of Algorithms	3	1	-	4	-	70	30	-	-	100	4
3	PCC	IT28513	Software Engineering	3	-	-	3	-	70	30	-	-	100	3
4	HSMC	HU28507	Economics for Engineers	3	-	-	3	-	70	30	-	-	100	3
5	ESC	EC28505	Data Communication	3	-	-	3	-	70	30	-	-	100	3
6	PCC	IT28801	Design and Analysis of Algorithms Lab	-	-	2	-	1	-	-	60	40	100	1
7	PCC	IT28802	Software Engineering Lab	-	-	2	-	1	-	-	60	40	100	1
8	PCC	IT28803	Python Programming Lab	-	-	2	-	1	-	-	60	40	100	1
9	PCC	IT28804	Skill Lab-I (Web Programming)	-	1	2	1	1	-	-	60	40	100	2
10	MC	HUM2052	Essence of Indian Knowledge Tradition*	2	-		-	-	-	50			50	0
			Total	**17**	**3**	**8**	**18**	**4**	**350**	**200**	**240**	**160**	**950**	**22**
*** Mandatory non credit course**														
Diploma in Information Technology will be awarded after acquiring additional 10 credit out of which 06 credit as three months industrial training within five years														
**** 2 weeks training during semester break after IV sem is mandatory.**														

Semester : V

S.No.	Category	Subject Code	Subject Name	Hours/Week			Credits		Maximum Marks Alloted				Total Credits
				L	T	P	T	P	Theory		Practical		
									End	CW	End	SW	
1	PCC	IT38___	Computer Networks	3	0	-	3		70	30	-	-	3
2	PCC	IT38___	Data Base Management Systems	3	1	-	4		70	30	-	-	4
3	PCC	IT38___	Operating Systems	3	-	-	3	-	70	30	-	-	3
4	OEC	*IT38___*	Open Elective-I	3	1	-	4		70	30	-	-	4
5	PCC	IT38___	Theory of Computation	3	1	-	4	-	70	30	-	-	4
6	PCC	IT38___	Computer Networks Lab	-	0	2	-	1	-	-	60	40	1
7	PCC	IT38___	Data Base Management Systems Lab	-	0	2	-	1	-	-	60	40	1
8	PCC	IT38___	Operating Systems Lab	-	0	2	-	1	-	-	60	40	1
9	PCC	IT38___	Skill Lab -II (Mobile Application	-	0	2	-	1	-	-	60	40	1
10	INT	IT38___	Industrial Training*	-	0	0	-	2	-	-	-	100	2
11	MC	HUM3802	Constitution of India*	-	2		-	-	-	50			0
			Total	**15**	**3**	**8**	**18**	**6**	**350**	**150**	**240**	**260**	**24**

Semester : VI

S.No.	Category	Subject Code	Subject Name	Hours/Week			Credits		Maximum Marks Alloted				Total Credits
				L	T	P	T	P	Theory		Practical		
									End	CW	End	SW	
1	PEC	IT38___	Advanced Computer Networks	3	-	-	3	-	70	30	-	-	3
2	PCC	IT38___	Compiler Design	3	-	-	3	-	70	30	-	-	3
3	PCC	IT38___	Cloud Computing	3	-	-	3	-	70	30	-	-	3
4	PCC	IT38___	Machine Learning	3	-	-	3	-	70	30	-	-	3
5	PEC	_____	Elective – I	3	-	-	3	-	70	30	-	-	3
6	PCC	IT38___	Advanced Computer Networks Lab	-	-	2	-	1	-	-	60	40	1
7	PCC	IT38___	Cloud Computing Lab	-	-	2	-	1	-	-	60	40	1
8	PCC	IT38___	Machine Learning Lab	-	-	2	-	1	-	-	60	40	1
9	PRO	IT38___	Minor Project	-	-	8	-	4	-	-	60	40	4
			Total	**15**	**0**	**14**	**15**	**7**	**350**	**150**	**240**	**160**	**22**

**** 2 weeks training during semester break after VI sem is mandatory.**

Diploma in Information Technology will be awarded after acquiring additional 10 credit out of which 06 credit as three months industrial training

Elective – I					
	IT38___	Object Oriented Analysis and Design		IT38___	Statistics & Probability
	IT38___	Social Networking (NPTEL)		IT38___	Embeded System (NPTEL)

Semester : VII

S.No.	Category	Subject Code	Subject Name	Hours/Week			Credits		Maximum Marks Alloted				Total Credits
				L	T	P	T	P	Theory		Practical		
									End Sem	CW	End Sem	SW	
1	PCC	IT48____	Information Security	3	-	-	3	-	70	30	-	-	3
2	PEC	IT48____	Elective - II	3	-	-	3	-	70	30	-	-	3
3	PCC	IT48____	Information Security Lab	-	-	2	-	1	-	-	60	40	1
4	PCC	IT48____	Data Visualisation Lab	-	-	2	-	1	-	-	60	40	1
5	**INT**	IT48____	**Industrial Training****	**-**	**-**	**-**	**-**	**4**	**-**	**-**	**-**	**100**	4
6	**PRO**	IT48____	**Major Project**	**-**	**-**	**8**	**-**	**4**	**-**	**-**	**60**	**40**	4
Total			**For AB group**	**6**	**0**	**12**	**6**	**10**	**140**	**60**	**180**	**220**	16
			For BA group	**6**	**0**	**12**	**6**	**10**	**140**	**60**	**180**	**220**	16

Elective – II					
	IT48____	Computer Graphics & Multimedia Systems		IT48____	Human Computer Interaction (NPTEL)
	IT48____	Game Theory (NPTEL)		IT48____	Introduction to Soft Computing (NPTEL)

Semester : VIII

S.No.	Category	Subject Code	Subject Name	Hours/Week			Credits		Maximum Marks Alloted				Total Credits
				L	T	P	T	P	Theory		Practical		
									End Sem	CW	End Sem	SW	
1	**PEC**	IT48____	**Elective – III**	**3**	**-**	**-**	**3**	**-**	**70**	**30**	**-**	**-**	**3**
2	PEC	IT48____	Elective – IV	3	-	-	3	-	70	30	-	-	**3**
3	**INT**	IT48____	**Industrial Training/ Internship ***	**-**	**-**	**-**	**-**	**8**	**-**	**-**		**100**	**8**
OR													
4	**INT**	**Code 4**	**Industrial Training/ Internship ****	**-**	**-**	**-**	**-**	**14**	**-**	**-**		**100**	**14**
			Grand Total						-	-	-	-	**14**
	Note: *Student require to complete 6-8 weeks of industrial training/internship during the semester												
	Note: **Student require to complete 12-16 weeks of industrial training/internship during the semester break												

LIST OF ELECTIVES

Elective – III		
S.No.	**Sub Code**	**Subject Name**
1	IT48____	Cyber Security & IT Laws
2	IT48____	Large Language Models (NPTEL)
3	IT48____	Business Analytics & Text Mining (NPTEL)
4	IT48____	Introduction to industry 4.0 and industrial Internet of Things

Elective – IV		
S.No.	**Sub. Code**	**Subject Name**
1	IT48____	UI|UX Design (NPTEL)
2	IT48____	Real Time Oprating Systems
3	IT48____	GIS Drone and Machine Learning (NPTEL)
4	IT48____	Blockchain and its Application (NPTEL)

Exit Clause Subjects (As per NEP-2020)

I Year

S.No.	Subject Code	Subject Name	Hours/Week			Credits		Total Credits
			L	T	P	T	P	
1	IT28…….	Data Structures	2	-	-	2	-	2
2	IT28…….	Data Structures Lab	-	-	4	-	2	2
3	IT28…….	Internship & Industrial Training	-	-	12	-	6	6
							Total	**10**

II Year (Diploma in Information Technology)

S.No.	Subject Code	Subject Name	Hours/Week			Credits		Total Credits
			L	T	P	T	P	
1	IT38…….	Computer Networks	2	-	-	2	-	2
2	IT38…….	Mini Project	-	-	4	-	2	2
3	IT38…….	Internship & Industrial Training	-	-	12	-	6	6
							Total	**10**

III Year (Vocational Degree in Information Technology)

S.No.	Subject Code	Subject Name	Hours/Week			Credits		Total Credits
			L	T	P	T	P	
1	IT48…….	Information Security	2	-	-	2	-	2
2	IT48…….	Major Project	-	-	4	-	2	2
3	IT48…….	Internship & Industrial Training	-	-	12	-	6	6
							Total	**10**

* L=Lecture, P=Practical, T=Tutorial

Department of Information Technology

MINOR Degree in Software Engineering (NPTEL)

S.No.	Category	Subject Code	Subject Name	Hours/Week			Credits		Maximum Marks				Total Credits
									Theory		Practical		
				L	T	P	T	P	End Sem	CW	End Sem	SW	
1	------	IT_____	Software Testing	-	-	-	3	1	-	-	-	-	4
2	------	IT_____	Software Project Mangment	-	-	-	3	1	-	-	-	-	4
3	------	IT_____	Open Source Software	-	-	-	3	1	-	-	-	-	4
4	------	IT_____	Software Maintenance	-	-	-	3	1	-	-	-	-	4
5	------	IT_____	DevOps	-	-	-	3	1	-	-	-	-	4
Total				0	0	0	15	5	0	0	0	0	20

IT_____				IT_____		
IT_____				IT_____		

Department of Information Technology

MINOR Degree in Machine Learning (NPTEL)

S.No.	Category	Subject Code	Subject Name	Hours/Week			Credits		Maximum				Total Credits
									Theory		Practical		
				L	T	P	T	P	End Sem	CW	End Sem	SW	
1	------	IT_____	Advanced Machine Learning	-	-	-	3	1	-	-	-	-	4
2	------	IT_____	Natural Language Processing	-	-	-	3	1	-	-	-	-	4
3	------	IT_____	Programming for Machine Learning	-	-	-	3	1	-	-	-	-	4
4	------	IT_____	Computer Vision and Image Processing	-	-	-	3	1	-	-	-	-	4
5	------	IT_____	Generative AI	-	-	-	3	1	-	-	-	-	4
Total				0	0	0	15	5	0	0	0	0	20

IT_____				IT_____	
IT_____				IT_____	

Department of Information Technology

MINOR Degree in Core Computing IoT and Cloud System (NPTEL)

S.No.	Category	Subject Code	Subject Name	Hours/Week			Credits		Maximum Marks				Total Credits
									Theory		Practical		
				L	T	P	T	P	End Sem	CW	End Sem	SW	
1	------	IT_____	Distributed System	-	-	-	3	1	-	-	-	-	4
2	------	IT_____	Building Cloud and Big Data Applications	-	-	-	3	1	-	-	-	-	4
3	------	IT_____	Mini-Project/Hands on Cloud Computing & Big Data	-	-	-	3	1	-	-	-	-	4
4	------	IT_____	IoT	-	-	-	3	1	-	-	-	-	4
5	------	IT_____	Edge and Fog Computing	-	-	-	3	1	-	-	-	-	4
Total				0	0	0	15	5	0	0	0	0	20

IT_____				IT_____		
IT_____				IT_____		

Department of Information Technology

MINOR Degree in Advanced Computer and Advanced Mobile Networks (NPTEL)

S.No.	Category	Subject Code	Subject Name	Hours/Week			Credits		Maximum Marks				Total Credits
									Theory		Practical		
				L	T	P	T	P	End Sem	CW	End Sem	SW	
1	------	IT_____	Wireless Networks	-	-	-	3	1	-	-	-	-	4
2	------	IT_____	Data Driven Wireless Networks	-	-	-	3	1	-	-	-	-	4
3	------	IT_____	Basic of 5G	-	-	-	3	1	-	-	-	-	4
4	------	IT_____	Current State and Challenges	-	-	-	3	1	-	-	-	-	4
5	------	IT_____	Wireless Security	-	-	-	3	1	-	-	-	-	4
Total				0	0	0	15	5	0	0	0	0	20

IT_____				IT_____		
IT_____				IT_____		

Department of Information Technology

MINOR Degree in Data Science (NPTEL)

S.No.	Category	Subject Code	Subject Name	Hours/Week			Credits		Maximum Marks				Total Credits
									Theory		Practical		
				L	T	P	T	P	End Sem	CW	End Sem	SW	
1	------	IT_____	Programming using Python		-	-			-	-	-	-	
2	------	IT_____	Probability & Staistics	-	-	-			-	-	-	-	
3	------	IT_____	Data Mining	-	-	-			-	-	-	-	
4	------	IT_____	Data Science -I (Using Python)	-	-	-			-	-	-	-	
5	------	IT_____	Data Science -II (Using R)	-	-	-			-	-	-	-	
6	------	IT_____	Data Science for Engineers)	-	-	-			-	-	-	-	
7	------	IT_____	Advanced R Programming for Data Analytics	-	-	-			-	-	-	-	
8	------	IT_____	Data Analytics	-	-	-			-	-	-	-	
Total													20

IT_____				IT_____	
IT_____				IT_____	

Minor Degree (Total Credite : 20)				
S.No.	**Software Enginearing**	**Machine Learning**	**Core Computing IOT and Cloud System**	**Advanced Computer and Advanced Mobile N/W**
1	Software Testing	Advanced Machine Learning	Distributed System	Wireless Networks
2	Software Project Mangment	Natural Language Processing	Building Cloud and Big Data Applications	Data Driven Wireless Networks
3	Open Source Software	Programming for Machine Learning	Mini-Project/Hands on Cloud Computing & Big Data	Basic of 5G
4	Software Maintenance	Computer Vision and Image Processing	IOT	Current State and Challenges
5	DevOps	Generative AI	Edge and Fog Computing	Wireless Security

Minor Degree (Total Credite : 20)				
S.No.	**Data Science**	**Software Enginearing**	**Machine Learning**	**Core Computing IOT and Cloud System**
1	Programming Using Python	Software Testing	Advanced Machine Learning	Distributed System
2	Probability & Statistics	Software Project Mangment	Natural Language Processing	Building Cloud and Big Data Applications
3	Data Mining	Open Source Software	Programming for Machine Learning	Mini-project/Hands on Cloud Computing & Big Data
4	Data Science - I (Using Python)	Software Maintenance	Computer Vision and Image processing	IOT
5	Data Science - II (Using R)	DevOps	Genrative AI	Edge and Fog Computing
6	Data Science for Engineers			
7	Advanced R Programming for Data Analytics			
8	Data Analytics			