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HINDUSTAN
INSTITUTE OF TECHNOLOGY & SCIENCE
(DEEMED TO BE UNIVERSITY)

Revision 1.0
07.11.2023
WEF : 2023-24 AY

B.TECH - INFORMATION TECHNOLOGY CURRICULUM - 2023-24 (NEP R2022 A)

Semester-I

SL. NO	SEM	COURSE CATEGORY	COURSE TYPE	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	I	BS	TP	EMA51001	Matrices and Calculus	3	0	2	4	2	5
2	I	BS	TP	**Any one course to be opted**		3	0	2	4	2	5
				EPH51001	Engineering Physics						
				ECT51001	Engineering Materials						
3	I	HS	TP	**Any one course to be opted**		2	0	1	2	1	3
				GLS51001	Communication Skills						
				GLS51002	Personality Development and Soft Skills						
4	I	ES	TP	**Any one course to be opted**		2	0	2	3	2	4
				ECS51009	Programming Fundamentals using C						
				ECS51010	Programming in Python						
				OR							
				EME51001	Engineering Graphics and Computer Aided Design						
5	I	ES	TP	EGE51002	Design Thinking	2	0	2	3	2	4
6	I	ES	PR	**Any one course to be opted**		0	0	4	2	2	4
				EGE51406	Engineering Practices Lab						
				EGE51409	Fab Lab for Circuit Engineering						
7	I	HS	PR	**Any one course to be opted (Outreach)**		0	0	2	1	4	2
				GGE51401	Outreach (NCC)– Level I #						
				GGE51402	Outreach (NSS, Y's Men, Rotaract) – Level I #						
8	I	HS	TH	**Any one course to be opted (Indian or Foreign Language)**		2	0	0	2	2	2
				GLS51008	Tamil						
				GLS51009	Hindi						
				GLS51010	Telugu						
				GLS51011	French						
				GLS51012	German						
				GLS51013	Spanish						
				GLS51014	Korean						
				GLS51015	Mandarin						
				GLS51016	Japanese						
				OR							
				GGE51001	Universal Human Values						
9	I	HS	TH	GLS51017	Tamil Culture and Technology	1	0	0	1	2	1
					Total	**15**	**0**	**15**	**22**	**19**	**30**

L – Lecture T – Tutorial P – Practical C – Credit S – Self Study TCH – Total Contact Hours

#Students should choose Level – I and Level - II of same outreach course in the semester 1 and 2 respectively

(Dr. G. Amirthayogam)

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Semester-II											
SL. NO	SEM	COURSE CATEGORY	COURSE TYPE	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	II	BS	TP	EMA51002	Analytical Mathematics	3	0	2	4	2	5
2	II	BS	TP	**Any one course to be opted**		3	0	2	4	2	5
				EPH51001	Engineering Physics						
				ECT51001	Engineering Materials						
3	II	HS	TP	**Any one course to be opted**		2	0	1	2	1	3
				GLS51001	Communication Skills						
				GLS51002	Personality Development and Soft Skills						
4	II	PC	TP	EIT51001	Object Oriented Programming and Data Structures	3	0	2	4	2	5
5	II	ES	TP	**Any one course to be opted**		2	0	2	3	2	4
				ECS51009	Programming Fundamentals using C						
				ECS51010	Programming in Python						
				OR							
				EME51001	Engineering Graphics and Computer Aided Design						
6	II	ES	PR	**Any one course to be opted**		0	0	4	2	2	4
				EGE51406	Engineering Practices Lab						
				EGE51409	Fab Lab for Circit Engineering						
7	II	HS	PR	**Any one course to be opted(Outreach)**		0	0	2	1	4	2
				GGE51403	Outreach (NCC) – Level II #						
				GGE51404	Outreach (NSS, Y's Men, Rotaract) – Level II #						
8	II	HS	TH	**Any one course to be opted (Indian or Foreign Language)**		2	0	0	2	2	2
				GLS51008	Tamil						
				GLS51009	Hindi						
				GLS51010	Telugu						
				GLS51011	French						
				GLS51012	German						
				GLS51013	Spanish						
				GLS51014	Korean						
				GLS51015	Mandarin						
				GLS51016	Japanese						
				OR							
				GGE51001	Universal Human Values						
9	II	MC	TH	[illegible]	Mandatory Course I is a Non-credit course (Student shall select one course from the list given under Mandatory Course I)	3	0	0	*	2	3
					Total	18	0	15	22	19	33

L – Lecture T – Tutorial P – Practical C – Credit S – Self Study TCH – Total Contact Hours

#Students should choose Level – I and Level - II of same outreach course in the semester 1 and 2 respectively *Non credit course

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Semester-III											
SL. NO	SEM	COURSE CATEGORY	COURSE TYPE	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	III	BS	TH	EMA51003	Partial Differential Equations and Transforms	3	1	0	4	2	4
2	III	HS	TP	GLS51003	Advanced Academic Writing	1	0	1	1	1	2
3	III	PC	TP	EIT51002	Concepts of Operating Systems	3	0	2	4	2	5
4	III	PC	TP	EIT51003	Data Communication Networking using Python	2	0	2	3	2	4
5	III	PC	TP	EIT51004	Design and Analysis of Algorithms	2	0	2	3	2	4
6	III	DE	TP	EIT515**	Department Elective-1	2	0	2	3	2	4
7	III	ES	TH	GGE51003	Environmental Science and Sustainable Development	2	0	0	2	2	2
8	III	EEC	DP	EIT51800	Design Project – 1	0	0	2	1	6	2
9	III	EEC	IN	EIT51801	Internship -1 (To be carried out in summer after 2nd semester and evaluated in 3rd semester)	#	#	#	1	2	0
10	III	MC	TH	[illegible]	Mandatory Course- II is a Non-credit course (Student shall select one course from the list given under Mandatory Course II)	3	0	0	*	2	3
					Total	**18**	**1**	**11**	**22**	**23**	**30**
L – Lecture T – Tutorial P – Practical C – Credit S – Self Study TCH – Total Contact Hours											
# 15 Days Minimum *Non credit course											

Semester-IV											
SL. NO	SEM	COURSE CATEGORY	COURSE TYPE	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	IV	BS	TH	EMA51007	Probability and Statistics	3	1	0	4	2	4
2	IV	HS	TP	GLS51004	Professional Editing and Project Writing	1	0	1	1	1	2
3	IV	PC	TP	EIT51005	Database Technologies	3	0	2	4	2	5
4	IV	PC	TP	EIT51006	Java and Web Programming	2	0	2	3	2	4
5	IV	PC	TP	EIT51007	Industry Collaborated Course - Introduction to Dev Ops	2	0	2	3	2	4
6	IV	DE	TP	EIT515**	Department Elective-2	2	0	2	3	2	4
7	IV	NE	TP	E**517**	Non-Department Elective-1	2	0	2	3	2	4
8	IV	EEC	DP	EIT51802	Design Project – 2	0	0	2	1	6	2
9	IV	MC	TH	GGE5103*	Mandatory Course- III is a Non-credit course (Student shall select one course from the list given under Mandatory Course III)	3	0	0	*	2	3
					Total	**18**	**1**	**13**	**22**	**21**	**32**
L – Lecture T – Tutorial P – Practical C – Credit S – Self Study TCH – Total Contact Hours											
***Non credit course**											

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Semester-V											
SL. NO	SEM	COURSE CATEGORY	COURSE TYPE	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	V	HS	TP	GLS51005	Public Speaking	1	0	1	1	1	2
2	V	PC	TP	EIT51008	Artificial Intelligence	3	0	2	4	2	5
3	V	PC	TH	EIT51009	Object Oriented Analysis in Software Engineering	2	1	0	3	2	3
4	V	PC	TP	EIT51010	Embedded System Programming	2	0	2	3	2	4
5	V	DE	TP	EIT515**	Department Elective-3	2	0	2	3	2	4
6	V	NE	TP	E**517**	Non-Department Elective-2	2	0	2	3	2	4
7	V	EEC	DP	EIT51803	Design Project – 3	0	0	2	1	6	2
8	V	ES	TH	EGE51004	Entrepreneurship	2	0	0	2	6	2
9	V	EEC	IN	EIT51804	Internship -2 (to be evaluated in 5th semester. To be carried out in summer after 4th semester))	#	#	#	1	0	0
					Total	14	1	11	21	23	27

L – Lecture T – Tutorial P – Practical C – Credit S – Self Study TCH – Total Contact Hours

15 Days Minimum

Semester-VI											
SL. NO	SEM	COURSE CATEGORY	COURSE TYPE	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	VI	HS	TP	GLS51006	English for Competitive Examinations	1	0	1	1	1	2
2	VI	PC	TP	EIT51011	Industrial Internet of Things	3	0	2	4	2	5
3	VI	PC	TH	EIT51012	Networks and Information Security	2	1	0	3	2	3
4	VI	PC	TP	EIT51013	Machine Learning Techniques	2	0	2	3	2	4
5	VI	DE	TP	EIT515**	Department Elective-4	2	0	2	3	2	4
6	VI	NE	TP	E**517**	Non-Department Elective-3	2	0	2	3	2	4
7	VI	PC	TP	EIT51014	Introduction to Industry 4.0 (Case Study / Field Study / Product study)	2	0	2	3	6	4
8	VI	EEC	DP	EIT51805	Design Project – 4	0	0	2	1	6	2
					Total	14	1	13	21	23	29

L – Lecture T – Tutorial P – Practical C – Credit S – Self Study TCH – Total Contact Hours

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Semester-VII											
SL. NO	SEM	COURSE CATEGORY	COURSE TYPE	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	VII	HS	TP	GLS51007	Verbal Reasoning and Interview Skills	1	0	1	1	1	2
2	VII	PC	TP	EIT51015	Cloud and Fog Computing	3	0	2	4	2	5
3	VII	PC	TH	EIT51016	Cyber Physical Systems	2	1	0	3	2	4
4	VII	PC	TP	EIT51017	Data Analytics	2	0	2	3	2	4
5	VII	DE	TP	EIT515**	Department Elective-5	2	0	2	3	2	4
6	VII	NE	TP	E**517**	Non-Department Elective-4	2	0	2	3	2	4
7	VII	ES	TH	EGE51005	Research Methodology & IPR	2	0	0	2	2	2
8	VII	EEC	PJ	EIT51806	Project Phase 1	0	0	6	3	6	6
					Total	14	1	15	22	19	31

L – Lecture T – Tutorial P – Practical C – Credit S – Self Study TCH – Total Contact Hours

Semester-VIII											
SL. NO	SEM	COURSE CATEGORY	COURSE TYPE	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	VIII	EEC	PJ	EIT51807	Project Phase - 2	0	0	26	13	10	26
					Total	0	0	26	13	10	26

L – Lecture T – Tutorial P – Practical C – Credit S – Self Study TCH – Total Contact Hours

Mandatory Course-I											
SL. NO	SEM	COURSE CATEGORY	COURSE TYPE	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	II	MC	TH	GGE51011	Introduction to Women and Gender Studies	3	0	0	Non Credit Course	2	3
2	II	MC	TH	GGE51012	Public and Personal Administration	3	0	0	Non Credit Course	2	3
3	II	MC	TH	GGE51013	Constitution of India	3	0	0	Non Credit Course	2	3
4	II	MC	TH	EGE51006	Law for Engineers	3	0	0	Non Credit Course	2	3
5	II	MC	TH	GGE51015	Indian Knowledge System (IKS)	3	0	0	Non Credit Course	2	3

L – Lecture T – Tutorial P – Practical C – Credit S – Self Study TCH – Total Contact Hours

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Mandatory Course-II											
SL. NO	SEM	COURSE CATEGORY	COURSE TYPE	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	III	MC	TH	GGE51021	Traditional Indian Systems of Medicine and Therapies	3	0	0	Non Credit Course	2	3
2	III	MC	TH	GGE51022	History of Science and Technology in India	3	0	0	Non Credit Course	2	3
3	III	MC	TH	GGE51023	Political and Economic Thought for a Humane Society	3	0	0	Non Credit Course	2	3
4	III	MC	TH	GGE51024	State, Nation-Building and Politics in India	3	0	0	Non Credit Course	2	3
5	III	MC	TH	GGE51025	Industrial Safety	3	0	0	Non Credit Course	2	3
L – Lecture T – Tutorial P – Practical C – Credit S – Self Study TCH – Total Contact Hours											

Mandatory Course-III											
SL. NO	SEM	COURSE CATEGORY	COURSE TYPE	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	IV	MC	TH	GGE51031	Principles of Management	3	0	0	Non Credit Course	2	3
2	IV	MC	TH	GGE51032	Human Resource Management	3	0	0	Non Credit Course	2	3
3	IV	MC	TH	GGE51033	Green Technology	3	0	0	Non Credit Course	2	3
4	IV	MC	TH	GGE51034	Industrial Management	3	0	0	Non Credit Course	2	3
5	IV	MC	TH	GGE51035	Fintech and Financing new Business	3	0	0	Non Credit Course	2	3
L – Lecture T – Tutorial P – Practical C – Credit S – Self Study TCH – Total Contact Hours											

LIST OF DEPARTMENT ELECTIVES VERTICAL-1:CYBER SECURITY											
SL. NO	SEM	COURSE CATEGORY	COURSE TYPE	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	III	DE	TP	EIT51500	Pentesting Methodologies	2	0	2	3	2	4
				OR							
				EIT51501	IT Security Engineering						
2	IV	DE	TP	EIT51506	Cyber Crime Investigation and Digital	2	0	2	3	2	4
				OR							
				EIT51507	IT Security Operations						
3	V	DE	TP	EIT51512	Ethical Hacking and Cyber Security	2	0	2	3	2	4
				OR							
				EIT51513	Identity and Access Management						
4	VI	DE	TP	EIT51518	Web Application Security	2	0	2	3	2	4
				OR							
				EIT51519	IT Security Assessment and Testing						
5	VII	DE	TP	EIT51524	Mobile Security	2	0	2	3	2	4
				OR							
				EIT51525	Applied Cryptography						
L – Lecture T – Tutorial P – Practical C – Credit S – Self Study TCH – Total Contact Hours											

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VERTICAL-2: DATA ANALYTICS											
SL. NO	SEM	COURSE CATEGORY	COURSE TYPE	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	III	DE	TP	EIT51502	Python Programming	2	0	2	3	2	4
				OR							
				EIT51503	Soft Computing						
2	IV	DE	TP	EIT51508	Decision Modeling	2	0	2	3	2	4
				OR							
				EIT51509	Data Warehousing and Data Mining						
3	V	DE	TP	EIT51514	Natural Language Processing	2	0	2	3	2	4
				OR							
				EIT51515	Predictive Analytics						
4	VI	DE	TP	EIT51520	Deep Learning	2	0	2	3	2	4
				OR							
				EIT51521	Data Visualization						
5	VII	DE	TP	EIT51526	Real Time Analytics	2	0	2	3	2	4
				OR							
				EIT51527	Big data Analytics						
L – Lecture T – Tutorial P – Practical C – Credit S – Self Study TCH – Total Contact Hours											

VERTICAL-3: SOFTWARE MODELLING											
SL. NO	SEM	COURSE CATEGORY	COURSE TYPE	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	III	DE	TP	EIT51504	Software Engineering	2	0	2	3	2	4
				OR							
				EIT51505	Software Conceptual Design						
2	IV	DE	TP	EIT51510	Agile Software Development	2	0	2	3	2	4
				OR							
				EIT51511	Software Development with Microservices						
3	V	DE	TP	EIT51516	UI Technologies	2	0	2	3	2	4
				OR							
				EIT51517	Software Quality and Testing						
4	VI	DE	TP	EIT51522	Web Services and Service Oriented Architecture	2	0	2	3	2	4
				OR							
				EIT51523	Secure Coding Practices						
5	VII	DE	TP	EIT51528	Modern Full Stack Development	2	0	2	3	2	4
				OR							
				EIT51529	Applied Develops and Build and Release Management						
L – Lecture T – Tutorial P – Practical C – Credit S – Self Study TCH – Total Contact Hours											

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LIST OF NON-DEPARTMENT ELECTIVES

NON-DEPARTMENT ELECTIVE-1

SL. NO	SEM	COURSE CATEGORY	COURSE TYPE	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	IV	NE	TP	EIT51700	Cyber Security for Beginners	2	0	2	3	2	4
2	IV	NE	TP	EIT51701	Programming for Analytics	2	0	2	3	2	4

NON-DEPARTMENT ELECTIVE-2

SL. NO	SEM	COURSE CATEGORY	COURSE TYPE	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	V	NE	TP	EIT51702	Cyber Crime Investigation and Digital	2	0	2	3	2	4
2	V	NE	TP	EIT51703	Fundamentals of Data Analytics	2	0	2	3	2	4

NON-DEPARTMENT ELECTIVE-3

SL. NO	SEM	COURSE CATEGORY	COURSE TYPE	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	VI	NE	TP	EIT51704	Edge Computing	2	0	2	3	2	4
2	VI	NE	TP	EIT51705	Ethical Hacking Techniques	2	0	2	3	2	4

NON-DEPARTMENT ELECTIVE-4

SL. NO	SEM	COURSE CATEGORY	COURSE TYPE	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	VII	NE	TP	EIT51706	Cloud Security	2	0	2	3	2	4
2	VII	NE	TP	EIT51707	Mobile Application Development	2	0	2	3	2	4

L – Lecture T – Tutorial P – Practical C – Credit S – Self Study TCH – Total Contact Hours

LIST OF HONORS COURSES

HONORS IN ARTIFICIAL INTELLIGENCE

SL. NO	SEM	COURSE CATEGORY	COURSE TYPE	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	V	HN	TH	EIT51900	Artificial Intelligence & Machine Learning	3	0	0	3	2	3
2	VI	HN	TH	EIT51901	Search methods for problem solving	3	0	0	3	2	3
3	VII	HN	TH	EIT51902	Knowledge Representation and Reasoning	3	0	0	3	2	3
4	VII	HN	TH	EIT51903	Neural Networks and Deep Learning	3	0	0	3	2	3

L – Lecture T – Tutorial P – Practical C – Credit S – Self Study TCH – Total Contact Hours

MINORS IN CYBER SECURITY ESSENTIALS

SL. NO	SEM	COURSE CATEGORY	COURSE TYPE	COURSE CODE	NAME OF THE COURSE	L	T	P	C	S	TCH
1	V	MN	TH	EIT51951	Introduction to Cyber Security Tools and Cyber Attacks	3	0	0	3	2	3
2	VI	MN	TH	EIT51952	Introduction to cyber security and Risk management	3	0	0	3	2	3
3	VII	MN	TH	EIT51953	Introduction to cyber security	3	0	0	3	2	3

L – Lecture T – Tutorial P – Practical C – Credit S – Self Study TCH -- Total Contact Hours

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S. No.	Course Category	Course Category	Breakup of Credits
1	HS	Humanities & Social Science Courses	16
2	BS	Basic Science Courses	24
3	ES	Engineering Science Courses	19
4	PC	Program Core Courses	57
5	DE	Department Elective Courses	15
6	NE	Non Department Elective Courses	12
7	EEC	Employment Enhancement Courses	22
8	MC	Mandatory Courses	*
		TOTAL	**165**
9	HN	HONORS	12
10	MN	MINORS	9

* Non Credit Course

COURSE TYPE	
TP	Theory with Practical Course
TH	Theory Course
PR	Practical Course
DP	Design Project
PJ	Project
IN	Internship

Coordinator

HOD

DEAN E&T 8-11-23

IQAC Coordinator 8/11/2023

Vice Chancellor

9/11/23