



**UNIVERSITY OF KALYANI**

**Department of Engineering and Technological Studies**

Kalyani, Nadia, W. Bengal – 741 235

**Syllabus Structure for B. Tech. in Information Technology Part – II through Part - IV**

**Curriculum Structure for B. Tech. in Information Technology**

**Part – II through Part - IV**

**To Be Effective from AY 2021-22 from Part II**

<b>Semester III (Second Year)</b>							
<b>Sl. No.</b>	<b>Type of Course</b>	<b>Code</b>	<b>Course Title</b>	<b>Hours per week</b>			<b>Credit</b>
				<b>L</b>	<b>T</b>	<b>P</b>	
<b>Theory</b>							
1.	Engineering Science Courses	IT301	Analog and Digital Circuits	3			3
2.	Professional core Courses	IT302	Data structure & Algorithms	3			3
3.	Professional core Courses	IT303	Formal Language & Automata Theory	3			3
4.	Basic Science Courses	MA303	Mathematics-III	3			2
5.	Humanities & Social Sciences including Management Courses	HU302	Economics for Engineers	3			3
6.	Mandatory Courses	HU303	Constitution of India	3			0
<b>Practical</b>							
7.	Professional core Courses	IT391	Analog and Digital Circuits Lab	0	0	4	2
8.	Professional core Courses	IT392	Data structure & Algorithms Lab	0	0	4	2
9.	Engineering Science Courses	IT394	IT Workshop (Python)	0	0	4	3
<b>Total Credits</b>							<b>21</b>



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<b>Semester IV (Second Year)</b>							
<b>Sl. No.</b>	<b>Type of Course</b>	<b>Code</b>	<b>Course Title</b>	<b>Hours per week</b>			<b>Credit</b>
				<b>L</b>	<b>T</b>	<b>P</b>	
<b>Theory</b>							
1.	Professional core Courses	IT401	Discrete Mathematics	3	0	0	3
2.	Professional core Courses	IT402	C++ Programming	3	0	0	3
3.	Professional core Courses	IT403	Operating System	3	1	0	4
4.	Professional core Courses	IT404	Microprocessor and Microcontroller	3	1	0	4
5.	Humanities & Social Sciences including Management Courses	HU401	Organizational Behaviour Management	3	0	0	3
6.	Mandatory Courses	HU402	Environmental Science	3	0	0	0
<b>Practical</b>							
7.	Professional core Courses	IT491	Operating System Lab	0	0	4	2
8.	Professional core Courses	IT492	C++ Programming Lab	0	0	4	2
9.	Professional core Courses	IT493	Microprocessor and Microcontroller Lab	0	0	4	2
<b>Total Credits</b>							<b>23</b>



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<b>Semester V (Third Year)</b>							
<b>Sl. No.</b>	<b>Type of Course</b>	<b>Code</b>	<b>Course Title</b>	<b>Hours per week</b>			<b>Credit</b>
				<b>L</b>	<b>T</b>	<b>P</b>	
<b>Theory</b>							
1.	Engineering Science Courses	IT501	Signals & Systems	3	0	0	3
2.	Professional core Courses	IT502	Database Management Systems	3	0	0	3
3.	Professional core Courses	IT503	Design and Analysis of Algorithms	3	0	0	3
4.	Professional core Courses	IT504	Computer Organization & Architecture	3	0	0	3
5.	Professional core Courses	IT505	Java Programming	3	0	0	3
6.	Professional Elective Courses	IT 506A/506B	Elective I (Computer Graphics/Graph Theory)	3	0	0	3
<b>Practical</b>							
7.	Professional core Courses	IT591	Database Management Systems Lab	0	0	4	2
8.	Professional core Courses	IT592	Java Programming Lab	0	0	4	2
<b>Total Credits</b>							<b>22</b>



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Semester VI (Third Year)							
Sl. No.	Type of Course	Code	Course Title	Hours per week			Credit
				L	T	P	
<b>Theory</b>							
1.	Professional core Courses	IT601	Compiler Design	3	0	0	3
2.	Professional core Courses	IT602	Computer Networks	3	0	0	3
3.	Professional Elective Courses	IT 603A/603B	Elective II (Soft Computing / Neural Networks and Deep Learning)	3	0	0	3
4.	Professional Elective Courses	IT 604A/604B	Elective III (Image Processing / Parallel and Distributed Algorithm)	3	0	0	3
5.	Humanities & Social Sciences including Management Courses	HU601	Introduction to Industrial Management	2	0	0	2
<b>Practical</b>							
7.	Professional core Courses	IT691	Elective II Lab	0	0	4	2
8.	Professional core Courses	IT692	Elective III Lab	0	0	4	2
9.	Project	IT681	Project-I	0	0	6	3
Total Credits							21



<b>Semester VII (Fourth Year)</b>							
Sl. No.	Type of Course	Code	Course Title	Hours per week			Credit
				L	T	P	
<b>Theory</b>							
1.	Professional Elective Courses	IT 701A/701B	Elective IV (Cryptography & Network Security/Digital Signal Processing)	3	0	0	3
2.	Professional Elective Courses	IT 702A/702B	Elective V (Artificial Intelligence/Advanced Algorithms)	3	0	0	3
3.	Basic Science Courses	BI701	Biology	2	1	0	3
4.	Open Elective Courses	IT 705A/705B	Open Elective I (Cyber Law & Ethics / Entrepreneurship)	3	0	0	3
<b>Practical</b>							
5.	Project	IT781	Project-II	0	0	12	6
<b>Total Credits</b>							<b>18</b>

<b>Semester VIII (Fourth Year)</b>							
Sl. No.	Type of Course	Code	Course Title	Hours per week			Credit
				L	T	P	
<b>Theory</b>							
1.	Professional Elective Courses	IT 801A/801B	Elective VI (Web and Internet Technology /Speech and Natural Language Processing)	3	0	0	3
2.	Open Elective Courses	IT 802A/802B	Open Elective III (Pattern Recognition/Optimization Techniques)	3	0	0	3
3.	Open Elective Courses	IT 803A/803B	Open Elective IV (Software Engineering/ Bioinformatics)	3	0	0	3
<b>Practical</b>							
4.	Project	IT881	Project-III	0	0	12	6
<b>Total Credits</b>							<b>15</b>



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