Panipat Institute of Engineering & Technology

Department of Information Technology

Scheme of Studies & Examinations
of
B.Tech. (Honors) Degree
in
Information Technology
(w.e.f. session 2025-26 onwards)

ANNEXURE-I

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B. Tech. Information Technology (Hons.): Approved in 2nd meeting of Academic Council held on 24.06.2025.

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General Credit Distribution

S. No.	Category	No. of Courses	Credit Breakup for IT
1	Humanities & Social Sciences (HUM)	6	12
2	Mathematics & Basic Sciences (BS)	7	22
3	Engineering Sciences (ES)	14	25.5
4	Professional Core (PC)	29	56.5
5	Professional Electives (PE)	7	19
6	Open Electives (OE)	2	6
7	Project & Industrial Trainings	5	21
8	Mandatory Courses (MC)	1	Non-Credit
	Total	**71**	**162**

B. Tech. Information Technology (Hons.): Approved in 2nd meeting of Academic Council held on 24.06.2025.

Summary of Credits (Year wise)

Program	I	II	III	IV	V	VI	VII	VIII	Total Credits
Certificate in IT	21.5	22	-	-	-	-	-	-	43.5+6*
Diploma (IT)	21.5	22	21	21	-	-	-	-	85.5+4*
Advance Diploma (IT)	21.5	22	21	21	21	20	-	-	126.5
B. Tech (IT)	21.5	22	21	21	21	20	20	15.5	162
B. Tech (IT) Honors	21.5	22	21+4	21+4	21+4	20+4	20+4	15.5	162+20 =182

*Credits earned by the students if taking an Exit.

B. Tech. Information Technology (Hons.): Approved in 2nd meeting of Academic Council held on 24.06.2025.

ANNEXURE-I

First Semester

	PANIPAT INSTITUTE OF ENGINEERING AND TECHNOLOGY								
	An Autonomous Institute affiliated to Kurukshetra University, Kurukshetra								
	B.Tech. Information Technology Semester - I								
	Scheme of Studies & Examinations (w.e.f. Session 2024-25)								

Course Code	Subject Name	Period (s)			Hours /Week	Credit(s)	Continuous Internal Evaluation (CIE)	Semester End Examination (SEE)	Total Marks (CIE+ SEE)	Duration of Exam
		L	T	P						
Basic Science Courses										
ASH-MAT-101A	Engineering Mathematics-I	3	1	0	4	4	40	60	100	3 hrs
ASH-PHY-103A	Semiconductor & Quantum Physics	3	1	0	4	4	40	60	100	3 hrs
ASH-PHY-173A	Semiconductor & Quantum Physics Lab	0	0	2	2	1	50	50	100	3 hrs
Engineering Sciences Courses										
BT-CSE-101A	Problem Solving using "C"	3	0	0	3	3	40	60	100	3 hrs
BT-CSE-171A	Problem Solving using "C "Lab	0	0	2	2	1	50	50	100	3 hrs
BT-ME-173A	Engineering Workshop	0	0	2	2	1	50	50	100	3 hrs
Humanities & Social Sciences Courses										
ASH-HUM-105A	Essentials of English Language	2	1	0	3	3	40	60	100	3 hrs
Value Added Courses										
ASH-HUM-107A	Universal Human Values	2	0	0	2	2	40	60	100	3 hrs
Skill Enhancement Courses										
BT-ME-171A	Design Thinking Lab	0	0	3	3	1.5	50	50	100	3 hrs
BT-ME-175A	IDEA Lab	0	0	2	2	1	50	50	100	3 hrs
Total		**13**	**3**	**11**	**27**	**21.5**	**450**	**550**	**1000**	

B. Tech. Information Technology (Hons.): Approved in 2nd meeting of Academic Council held on 24.06.2025.

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Second Semester

<table>
<tr><td colspan="11" align="center">PANIPAT INSTITUTE OF ENGINEERING AND TECHNOLOGY</td></tr>
<tr><td colspan="11" align="center">An Autonomous Institute affiliated to Kurukshetra University, Kurukshetra</td></tr>
<tr><td colspan="11" align="center">B.Tech. Information Technology Semester - II</td></tr>
<tr><td colspan="11" align="center">Scheme of Studies & Examinations (w.e.f. Session 2024-25)</td></tr>
<tr>
<td rowspan="2">Course Code</td>
<td rowspan="2">Subject Name</td>
<td colspan="3">Period (s)</td>
<td rowspan="2">Hours /Week</td>
<td rowspan="2">Credit(s)</td>
<td rowspan="2">Continuous Internal Evaluation (CIE)</td>
<td rowspan="2">Semester End Examination (SEE)</td>
<td rowspan="2">Total Marks (CIE+ SEE)</td>
<td rowspan="2">Duration of Exam</td>
</tr>
<tr>
<td>L</td><td>T</td><td>P</td>
</tr>
<tr><td colspan="11" align="center">Basic Science Courses</td></tr>
<tr><td>ASH-MAT-102A</td><td>Engineering Mathematics-II</td><td>3</td><td>1</td><td>0</td><td>4</td><td>4</td><td>40</td><td>60</td><td>100</td><td>3 hrs</td></tr>
<tr><td>ASH-CHE-108A</td><td>Engineering Chemistry</td><td>3</td><td>1</td><td>0</td><td>4</td><td>4</td><td>40</td><td>60</td><td>100</td><td>3 hrs</td></tr>
<tr><td>ASH-CHE-178A</td><td>Engineering Chemistry Lab</td><td>0</td><td>0</td><td>2</td><td>2</td><td>1</td><td>50</td><td>50</td><td>100</td><td>3 hrs</td></tr>
<tr><td colspan="11" align="center">Engineering Sciences Courses</td></tr>
<tr><td>BT-CSE-102A</td><td>Programming with Python</td><td>3</td><td>0</td><td>0</td><td>3</td><td>3</td><td>40</td><td>60</td><td>100</td><td>3 hrs</td></tr>
<tr><td>BT-ECE-102A</td><td>Basics of Electrical and Electronics Engineering</td><td>3</td><td>1</td><td>0</td><td>4</td><td>4</td><td>40</td><td>60</td><td>100</td><td>3 hrs</td></tr>
<tr><td>BT-CSE-172A</td><td>Programming with Python Lab</td><td>0</td><td>0</td><td>2</td><td>2</td><td>1</td><td>50</td><td>50</td><td>100</td><td>3 hrs</td></tr>
<tr><td>BT-ECE-172A</td><td>Basics of Electrical and Electronics Engineering Lab</td><td>0</td><td>0</td><td>2</td><td>2</td><td>1</td><td>50</td><td>50</td><td>100</td><td>3 hrs</td></tr>
<tr><td colspan="11" align="center">Ability Enhancement Courses</td></tr>
<tr><td>ASH-HUM-106A</td><td>Basics of Communication Skills</td><td>2</td><td>0</td><td>0</td><td>2</td><td>2</td><td>40</td><td>60</td><td>100</td><td>3 hrs</td></tr>
<tr><td>ASH-HUM-176A</td><td>Basics of Communication Skills Lab</td><td>0</td><td>0</td><td>2</td><td>2</td><td>1</td><td>50</td><td>50</td><td>100</td><td>3 hrs</td></tr>
<tr><td colspan="11" align="center">Skill Enhancement Courses</td></tr>
<tr><td>BT-ECE-174A</td><td>Internet of Things Lab</td><td>0</td><td>0</td><td>2</td><td>2</td><td>1</td><td>50</td><td>50</td><td>100</td><td>3 hrs</td></tr>
<tr><td colspan="2" align="center">Total</td><td>14</td><td>3</td><td>10</td><td>27</td><td>22</td><td>450</td><td>550</td><td>1000</td><td></td></tr>
</table>

Note:
1. Student Induction Program of 3 weeks is mandatory in the beginning of the session as per AICTE.
2. Students have to undertake an internship offered during the first year summer term. The viva-voce for the internship will be held in the 3rd Semester as per Scheme of Syllabi & Examination, IT.
3. One (1) credit of internship is equivalent to minimum 40-45 hours of work per week. After the 2nd Semester, the student is required to undergo 160-180 hours of internship work in 4 weeks in order to obtain 4 credits.
4. Students to join NCC/NSS/Sports/Yoga/Technical or Cultural Club/Society activities in 1st year. A minimum of 1 certificate per semester is required to get 1 credit in 6th semester as per Scheme of Syllabi & Examination, IT.

B. Tech. Information Technology (Hons.): Approved in 2nd meeting of Academic Council held on 24.06.2025.

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Third Semester

		PANIPAT INSTITUTE OF ENGINEERING AND TECHNOLOGY								
		An Autonomous Institute affiliated to Kurukshetra University, Kurukshetra								
		B.Tech. Information Technology Semester - III								
		Scheme of Studies & Examinations (w.e.f. Session 2025-26)								
Course Code	Subject Name	Period (s)			Hours /Week	Credit(s)	Continuous Internal Evaluation (CIE)	Semester End Examination (SEE)	Total Marks (CIE+ SEE)	Duration of Exam
		L	T	P						
Engineering Sciences Courses										
BT-ECE-221A	Digital Systems Design	3	0	0	3	3	40	60	100	3 hrs
BT-ECE-273A	Digital Systems Design Lab	0	0	2	2	1	50	50	100	3 hrs
Basic Sciences Courses										
ASH-MAT-211A	Discrete Structures	3	1	0	4	4	40	60	100	3 hrs
Mandatory Non-Credit Course										
BT-CE-102A	Environmental Studies	3	0	0	3	0	40	60	100	3 hrs
Professional Core Courses										
BT-IT-203A	Data Structures	3	0	0	3	3	40	60	100	3 hrs
BT-IT-205A	Object Oriented Programming	3	0	0	3	3	40	60	100	3 hrs
BT-IT-271A	Data Structures Lab	0	0	2	2	1	50	50	100	3 hrs
BT-IT-273A	Object Oriented Programming Lab	0	0	2	2	1	50	50	100	3 hrs
BT-IT-275A	Web Development Lab	0	0	2	2	1	50	50	100	3 hrs
BT-IT-291A	Summer Internship I	0	0	0	0	4	100	-	100	3 hrs
Total		15	1	08	24	21	500	500	1000	
Honors Degree Courses										
BT-IT-251A	R programming	3	0	2	5	4	40	60	100	3 hrs
BT-IT-253A	Web Programming with Python and Java Script									
Total		18	1	10	29	25	540	560	1100	

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Fourth Semester

	PANIPAT INSTITUTE OF ENGINEERING AND TECHNOLOGY									
	An Autonomous Institute affiliated to Kurukshetra University, Kurukshetra									
	B.Tech. Information Technology Semester - IV									
	Scheme of Studies & Examinations (w.e.f. Session 2025-26)									
Course Code	Subject Name	Period (s)			Hours /Week	Credit(s)	Continuous Internal Evaluation (CIE)	Semester End Examination (SEE)	Total Marks (CIE+ SEE)	Duration of Exam
		L	T	P						
Engineering Sciences Courses										
BT-EC-202A	Microprocessors Based System Design	3	0	0	3	3	40	60	100	3 hrs
BT-EC-272A	Microprocessors Based System Design Lab	0	0	2	2	1	50	50	100	3 hrs
Mandatory Credit Course										
ASH-HUM-210A	Indian Knowledge System: Concepts in Engineering	2	0	0	2	2	40	60	100	3 hrs
Professional Core Courses										
BT-IT-202A	Operating Systems	3	0	0	3	3	40	60	100	3 hrs
BT-IT-204A	Design & Analysis of Algorithms	3	0	0	3	3	40	60	100	3 hrs
BT-IT-206A	Database Management Systems	3	0	0	3	3	40	60	100	3 hrs
BT-IT-208A	Computer Organization and Architecture	3	0	0	3	3	40	60	100	3 hrs
BT-IT-272A	Operating Systems Lab	0	0	2	2	1	50	50	100	3 hrs
BT-IT-274A	Design & Analysis of Algorithms Lab	0	0	2	2	1	50	50	100	3 hrs
BT-IT-276A	Database Management Systems Lab	0	0	2	2	1	50	50	100	3 hrs
Total		17	0	8	25	21	440	560	1000	
Honours Degree Courses										
BT-IT-252A	Foundations of Data Analytics, Machine Learning and Statistics	3	0	2	5	4	40	60	100	3 hrs
BT-IT-254A	Server-Side Programming									
Total		20	0	10	30	25	480	620	1100	

Minors in Cloud Technology										
BT-IT-256A	Linux & Cloud Technology	4	0	0	4	4	40	60	100	3 hrs
BT-IT-278A	Linux & Cloud Technology Lab	0	0	2	2	1	50	50	100	3 hrs

Note:
1. Students must undertake an internship offered during the second-year summer term. The viva-voce for the internship will be held in the 5th Semester as per Scheme of Syllabi & Examination, IT.
2. One (1) credit of internship is equivalent to minimum 40-45 hours of work per week. After the 4th Semester, the student is required to undergo 160-180 hours of internship work in 4 weeks in order to obtain 4 credits.

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Fifth Semester

	PANIPAT INSTITUTE OF ENGINEERING AND TECHNOLOGY								
	An Autonomous Institute affiliated to Kurukshetra University, Kurukshetra								
	B.Tech. Information Technology Semester - V								
	Scheme of Studies & Examinations (w.e.f. Session 2025-26)								
Course Code	Subject Name	Period (s)			Hours /Week	Credit(s)	Continuous Internal Evaluation (CIE)	Semester End Examination (SEE)	Total Marks (CIE+ SEE)	Duration of Exam
		L	T	P						
Professional Core Courses										
BT-IT-301A	Theory of Computation	3	0	0	3	3	40	60	100	3 hrs
BT-IT-303A	Machine Learning	3	0	0	3	3	40	60	100	3 hrs
BT-IT-305A	Computer Networks	3	0	0	3	3	40	60	100	3 hrs
BT-IT-307A	Software Engineering	3	0	0	3	3	40	60	100	3 hrs
BT-IT-371A	Machine Learning Lab	0	0	4	4	2	50	50	100	3 hrs
BT-IT-373A	Computer Networks Lab	0	0	2	2	1	50	50	100	3 hrs
BT-IT-375A	Software Engineering Lab	0	0	2	2	1	50	50	100	3 hrs
BT-IT-377A	Advanced Java Programming Lab	0	0	2	2	1	50	50	100	3 hrs
BT-IT-391A	Summer Internship -II	0	0	0	0	4	100	-	100	3 hrs
Total		**12**	**0**	**10**	**22**	**21**	**460**	**440**	**900**	
Honors Degree Courses										
BT-IT-351A	Business Analytics with Excel and Power BI									
BT-IT-353A	Web Development with React and TypeScript	3	0	2	5	4	40	60	100	3 hrs
BT-IT-355A	Pattern & Visual Recognition									
Total		**15**	**0**	**12**	**27**	**25**	**500**	**500**	**1000**	

Minors in Cloud Technology										
BT-IT-357A	Foundations of Cloud Computing	4	0	0	4	4	40	60	100	3 hrs

B. Tech. Information Technology (Hons.): Approved in 2nd meeting of Academic Council held on 24.06.2025.

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Sixth Semester

		Period (s)			Hours /Week	Credit(s)	Continuous Internal Evaluation (CIE)	Semester End Examination (SEE)	Total Marks (CIE+ SEE)	Duration of Exam
PANIPAT INSTITUTE OF ENGINEERING AND TECHNOLOGY										
An Autonomous Institute affiliated to Kurukshetra University, Kurukshetra										
B.Tech. Information Technology Semester - VI										
Scheme of Studies & Examinations (w.e.f. Session 2025-26)										
Course Code	Subject Name	L	T	P						
Professional Core Courses										
BT-IT-302A	Compiler Design	3	0	0	3	3	40	60	100	3 hrs
BT-IT-304A	Cloud Computing	3	0	0	3	3	40	60	100	3 hrs
BT-IT-306A	Big Data Analytics	2	0	0	2	2	40	60	100	3 hrs
BT-IT-372A	Cloud Computing Lab	0	0	2	2	1	50	50	100	3 hrs
BT-IT-374A	Big Data Analytics Lab	0	0	2	2	1	50	50	100	3 hrs
BT-IT-376A	Linux Administration Lab	0	0	2	2	1	50	50	100	3 hrs
BT-IT-398A	NCC/NSS/Sports/ Yoga/ Technical or Cultural Club/Society activities	0	0	0	0	1	100	-	100	
Professional Elective Courses										
BT-IT-3xxA	Program Elective Course - I	3	0	0	3	3	40	60	100	3 hrs
BT-IT-3xxA	Program Elective Course - II	3	0	0	3	3	40	60	100	3 hrs
BT-IT-3xxA	Program Elective Course - I Lab	0	0	4	4	2	50	50	100	3 hrs
Total		**14**	**0**	**10**	**24**	**20**	**500**	**500**	**1000**	
Honors Degree Courses										
BT-IT-352A	Data Exploration and Visualization	3	0	2	5	4	40	60	100	3 hrs
BT-IT-354A	Web Deployment									
BT-IT-356A	Advanced Machine Learning									
Total		**17**	**0**	**12**	**29**	**24**	**540**	**560**	**1100**	

Minors in Cloud Technology										
BT-IT-350A	Container Orchestration	4	0	0	4	4	40	60	100	3 hrs
BT-IT-384A	Container Orchestration Lab	0	0	2	2	1	50	50	100	3 hrs

Program Elective Course- I	Program Elective Course- II	Program Elective Course- I Lab
BT-IT-358A Neural Networks & Fuzzy Logic	BT-IT-364A Data Mining	BT-IT-378A Neural Networks & Fuzzy Logic Lab
BT-IT-360A Cryptography & Network Security	BT-IT-366A Cyber Security	BT-IT-380A Cryptography & Network Security Lab
BT-IT-362A Distributed System	BT-IT-368A Virtualization	BT-IT-382A Distributed System Lab

Note:
1. Students must undertake an internship offered during the third-year summer term. The viva-voce for the internship will be held in the 7th Semester as per Scheme of Syllabi & Examination, IT.
2. One (1) credit of internship is equivalent to minimum 40-45 hours of work per week. After the 6th Semester, the student is required to undergo 160-180 hours of internship work in 4 weeks in order to obtain 4 credits.
3. Program Elective Courses will be offered at 1/3rd of total strength or 10 students (whichever is smaller).

B. Tech. Information Technology (Hons.): Approved in 2nd meeting of Academic Council held on 24.06.2025.

ANNEXURE-I

Seventh Semester

PANIPAT INSTITUTE OF ENGINEERING AND TECHNOLOGY										
An Autonomous Institute affiliated to Kurukshetra University, Kurukshetra										
B.Tech. Information Technology Semester - VII										
Scheme of Studies & Examinations (w.e.f. Session 2025-26)										
Course Code	**Subject Name**	**Period (s)**			**Hours /Week**	**Credit(s)**	**Continuous Internal Evaluation (CIE)**	**Semester End Examination (SEE)**	**Total Marks (CIE+ SEE)**	**Duration of Exam**
		L	**T**	**P**						
Professional Core Courses										
BT-IT-471A	Mobile Application Development Lab	0	0	4	4	2	50	50	100	3 hrs
BT-IT-481A	Minor Project	0	0	6	6	3	50	50	100	3 hrs
BT-IT-491A	Summer Internship -III	0	0	0	0	4	100	-	100	3 hrs
Professional Elective Courses										
BT-IT-4xxA	Program Elective Course - III	3	0	0	3	3	40	60	100	3 hrs
BT-IT-4xxA	Program Elective Course - IV	3	0	0	3	3	40	60	100	3 hrs
BT-IT-4xxA	Program Elective Course - III Lab	0	0	4	4	2	50	50	100	3 hrs
Open Elective Courses										
BT-OE-xxxA	Open Elective-I	3	0	0	3	3	40	60	100	3 hrs
Total		**09**	**0**	**14**	**23**	**20**	**370**	**330**	**700**	
Honours Degree Courses										
BT-IT-451A	Applied Data Analytics	3	0	2	5	4	40	60	100	3 hrs
BT-IT-453A	DevOps									
BT-IT-455A	Practical Machine Learning									
Total		**12**	**0**	**16**	**28**	**24**	**410**	**390**	**800**	

Minors in Cloud Technology										
BT-IT-469A	Cloud Security	4	0	0	4	4	40	60	100	3 hrs

Program Elective Course- III	Program Elective Course- IV	Program Elective Course- IV Lab
BT-IT-457A Deep Learning	BT-IT-463A Natural Language Processing	BT-IT-473A Deep Learning Lab
BT-IT-459A Blockchains	BT-IT-465A Ethical Hacking	BT-IT-475A Blockchains Lab
BT-IT-461A Cloud Computing Tools & Techniques	BT-IT-467A Edge Computing	BT-IT-477A Cloud Computing Tools & Techniques Lab

Note:
1. Program Elective and Open Elective Courses will be offered to the minimum strength of 10 students.

B. Tech. Information Technology (Hons.): Approved in 2ⁿᵈ meeting of Academic Council held on 24.06.2025.

ANNEXURE-I

Eight Semester

		Period (s)			Hours/Week	Credit(s)	Continuous Internal Evaluation (CIE)	Semester End Examination (SEE)	Total Marks (CIE+ SEE)	Duration of Exam
PANIPAT INSTITUTE OF ENGINEERING AND TECHNOLOGY										
An Autonomous Institute affiliated to Kurukshetra University, Kurukshetra										
B.Tech. Information Technology Semester - VIII										
Scheme of Studies & Examinations (w.e.f. Session 2025-26)										
Course Code	Subject Name	L	T	P	Hours/Week	Credit(s)	Continuous Internal Evaluation (CIE)	Semester End Examination (SEE)	Total Marks (CIE+ SEE)	Duration of Exam
Professional Core Courses										
BT-IT-472A	Cloud and AI Integration Lab	0	0	3	3	1.5	50	50	100	3 hrs
BT-IT-482A	Major Project	0	0	12	12	6	50	50	100	3 hrs
Professional Elective Courses										
BT-IT-4xxA	Program Elective Course - V	3	0	0	3	3	40	60	100	3 hrs
Open Elective Courses										
BT-OE-xxxA	Open Elective-II	3	0	0	3	3	40	60	100	3 hrs
Mandatory Credit Course										
ASH-HUM-xxxA	Intellectual Property Rights	2	0	0	2	2	40	60	100	3 hrs
Total		**8**	**0**	**15**	**23**	**15.5**	**220**	**280**	**500**	

Program Elective Course- V
BT-IT-452A Computer Vision
BT-IT- 454A Cyber Law & Ethics
BT-IT-456A High Performance Computing

Note:
1. Students securing 162 credits will be awarded B.Tech. degree in Information Technology.
2. Students securing 20 credits extra along with 162 credits (i.e. 182 credits) will be awarded B.Tech. (Honors) degree in Information Technology.
3. Program Elective and Open Elective Courses will be offered to the minimum strength of 10 students.

B. Tech. Information Technology (Hons.): Approved in 2nd meeting of Academic Council held on 24.06.2025.

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List of Program Electives

(Total: 19 Credits)

Semester	PEC No.	Option 1	Option 2	Option 3
		Track: AIML	Track: Security	Track: Cloud Computing
VI	PEC1	Neural Networks & Fuzzy Logic (BT-IT-358A)	Cryptography & Network Security (BT-IT-360A)	Distributed System (BT-IT-362A)
VI	PEC2	Data Mining (BT-IT-364A)	Cyber Security (BT-IT-366A)	Virtualization (BT-IT-368A)
VII	PEC3	Deep Learning (BT-IT-457A)	Blockchains (BT-IT-459A)	Cloud Computing Tools & Techniques (BT-IT-461A)
VII	PEC4	Natural Language Processing (BT-IT-463A)	Ethical Hacking (BT-IT-465A)	Edge Computing (BT-IT-467A)
VIII	PEC5	Computer Vision (BT-IT-452A)	Cyber Law & Ethics (BT-IT-454A)	High Performance Computing (BT-IT-456A)

B. Tech. Information Technology (Hons.): Approved in 2ⁿᵈ meeting of Academic Council held on 24.06.2025.

List of Honors Courses

(Total: 20 Credits)

Sem	AI in Data Science & Analytics	Machine Learning	Full Stack Development
III	R Programming (BT-IT-251A)	R Programming (BT-IT-251A)	Web Programming with Python and Java Script (BT-IT-253A)
IV	Foundations of Data Analytics, Machine Learning and Statistics (BT-IT-252A)	Foundations of Data Analytics, Machine Learning and Statistics (BT-IT-252A)	Server-Side Programming (BT-IT-254A)
V	Business Analytics with Excel and Power BI (BT-IT-351A)	Pattern and Visual Recognition (BT-IT-355A)	Web Development with React and TypeScript (BT-IT-353A)
VI	Data Exploration and Visualization (BT-IT-352A)	Advanced Machine Learning (BT-IT-356A)	Web Deployment (BT-IT-354A)
VII	Applied Data Analytics (BT-IT-451A)	Practical Machine Learning (BT-IT-455A)	DevOps (BT-IT453A)

B. Tech. Information Technology (Hons.): Approved in 2ⁿᵈ meeting of Academic Council held on 24.06.2025.

Scheme of Studies & Examinations of B. Tech (IT) Honors in AI in Data Science & Analytics

Course Code	Subject Name	Period (s)			Hours /Week	Credit(s)	Continuous Internal Evaluation (CIE)	Semester End Examination (SEE)	Total Marks (CIE+ SEE)	Duration of Exam
		L	T	P						
PANIPAT INSTITUTE OF ENGINEERING AND TECHNOLOGY										
An Autonomous Institute affiliated to Kurukshetra University, Kurukshetra										
B.Tech. Information Technology Honors in AI in Data Science & Analytics										
Scheme of Studies & Examinations (w.e.f. Session 2025-26)										
Semester- III										
BT-IT-251A	R programming	3	0	2	5	4	40	60	100	3 hrs
Semester- IV										
BT-IT-252A	Foundations of Data Analytics, Machine Learning and Statistics	3	0	2	5	4	40	60	100	3 hrs
Semester- V										
BT-IT-351A	Business Analytics with Excel and Power BI	3	0	2	5	4	40	60	100	3 hrs
Semester- VI										
BT-IT-352A	Data Exploration and Visualization	3	0	2	5	4	40	60	100	3 hrs
Semester-VII										
BT-IT-451A	Applied Data Analytics	3	0	2	5	4	40	60	100	3 hrs
Total		**15**	**0**	**10**	**25**	**20**	**200**	**300**	**500**	

B. Tech. Information Technology (Hons.): Approved in 2nd meeting of Academic Council held on 24.06.2025.

ANNEXURE-I

Scheme of Studies & Examinations of B. Tech (IT) Honors in Full Stack Development

Course Code	Subject Name	Period (s)			Hours /Week	Credit(s)	Continuous Internal Evaluation (CIE)	Semester End Examination (SEE)	Total Marks (CIE+ SEE)	Duration of Exam
		L	T	P						
PANIPAT INSTITUTE OF ENGINEERING AND TECHNOLOGY										
An Autonomous Institute affiliated to Kurukshetra University, Kurukshetra										
B.Tech. Information Technology Honors in Full Stack Development										
Scheme of Studies & Examinations (w.e.f. Session 2025-26)										
Semester- III										
BT-IT-253A	Web Programming with Python and Java Script	3	0	2	5	4	40	60	100	3 hrs
Semester- IV										
BT-IT-254A	Server-Side Programming	3	0	2	5	4	40	60	100	3 hrs
Semester- V										
BT-IT-353A	Web Development with React and TypeScript	3	0	2	5	4	40	60	100	3 hrs
Semester- VI										
BT-IT-354A	Web Deployment	3	0	2	5	4	40	60	100	3 hrs
Semester-VII										
BT-IT-453A	DevOps	3	0	2	5	4	40	60	100	3 hrs
Total		**15**	**0**	**10**	**25**	**20**	**200**	**300**	**500**	

B. Tech. Information Technology (Hons.): Approved in 2nd meeting of Academic Council held on 24.06.2025.

Scheme of Studies & Examinations of B. Tech (IT) Honors in Machine Learning

Course Code	Subject Name	Period (s)			Hours /Week	Credit(s)	Continuous Internal Evaluation (CIE)	Semester End Examination (SEE)	Total Marks (CIE+ SEE)	Duration of Exam
		L	T	P						
PANIPAT INSTITUTE OF ENGINEERING AND TECHNOLOGY										
An Autonomous Institute affiliated to Kurukshetra University, Kurukshetra										
B.Tech. Information Technology Honors in Machine Learning										
Scheme of Studies & Examinations (w.e.f. Session 2025-26)										
Semester- III										
BT-IT-251A	R programming	3	0	2	5	4	40	60	100	3 hrs
Semester- IV										
BT-IT-252A	Foundations of Data Analytics, Machine Learning and Statistics	3	0	2	5	4	40	60	100	3 hrs
Semester- V										
BT-IT-355A	Pattern & Visual Recognition	3	0	2	5	4	40	60	100	3 hrs
Semester- VI										
BT-IT-356A	Advanced Machine Learning	3	0	2	5	4	40	60	100	3 hrs
Semester-VII										
BT-IT-455A	Practical Machine Learning	3	0	2	5	4	40	60	100	3 hrs
Total		**15**	**0**	**10**	**25**	**20**	**200**	**300**	**500**	

B. Tech. Information Technology (Hons.): Approved in 2ⁿᵈ meeting of Academic Council held on 24.06.2025.

ANNEXURE-I

List of Subjects for Minors in Cloud Technology

(Total: 18 Credits)

Sem	Sub Code	Subject Name
IV	BT-IT-256A	Linux & Cloud Computing
IV	BT-IT-278A	Linux & Cloud Computing Lab
V	BT-IT-357A	Foundations of Cloud Computing
VI	BT-IT-350A	Container Orchestration
VI	BT-IT-384A	Container Orchestration Lab
VII	BT-IT-469A	Cloud Security

B. Tech. Information Technology (Hons.): Approved in 2nd meeting of Academic Council held on 24.06.2025.

ANNEXURE-I

Scheme of Studies & Examinations of B. Tech (Information Technology) Minors in Cloud Technology

	PANIPAT INSTITUTE OF ENGINEERING AND TECHNOLOGY									
	An Autonomous Institute affiliated to Kurukshetra University, Kurukshetra									
	Minors in Cloud Technology									
	Scheme of Studies & Examinations (w.e.f. Session 2025-26)									
Course Code	Subject Name	Period (s)			Hours /Week	Credit(s)	Continuous Internal Evaluation (CIE)	Semester End Examination (SEE)	Total Marks (CIE+ SEE)	Duration of Exam
		L	T	P						
Semester- IV										
BT-IT-256A	Linux & Cloud Technology	4	0	0	4	4	40	60	100	3 hrs
BT-IT-278A	Linux & Cloud Technology Lab	0	0	2	2	1	50	50	100	3 hrs
Semester- V										
BT-IT-357A	Foundations of Cloud Computing	4	0	0	4	4	40	60	100	3 hrs
Semester- VI										
BT-IT-350A	Container Orchestration	4	0	0	4	4	40	60	100	3 hrs
BT-IT-384A	Container Orchestration Lab	0	0	2	2	1	50	50	100	3 hrs
Semester- VII										
BT-IT-469A	Cloud Security	4	0	0	4	4	40	60	100	3 hrs
Total		16	0	4	20	18	260	340	600	

B. Tech. Information Technology (Hons.): Approved in 2nd meeting of Academic Council held on 24.06.2025.

ANNEXURE-I

EXIT POLICY by B. Tech (IT)

After 1st Year
1. Students exiting the program after 1st year must inform the IT department before the conclusion of the 2nd semester end examination (SEE) via attached form. (Annexure – III)
2. Students exiting the program must undergo an internship of 3-4 weeks offered during first year summer term.
3. One (1) credit of internship is equivalent to minimum 40-45 hours of work per week. After 2nd Semester, the student is required to undergo 120-180 hours of internship work in 3-4 weeks to obtain 3-4 credits.
4. The internship is to be done during the first year summer term and evaluated through viva-voce before the commencement of the 3rd Semester by the Department of Information Technology.
5.   A student will be awarded a **Certificate in Information Technology** after the first year if: 5.1 He/she earns requisite credits in the 1st year as per Scheme of Studies & Examinations, B. Tech. (First Year).   **AND**   5.2 (A) He/she earns **3** credits after an internship and **3** credits from assignments based on the internship.   **OR**   (B) He/she earns **4** credits after an internship and **2** credits from assignments based on the internship.   **OR**   (C) He/she earns **4** credits after an internship and **2** credits from Spoken Tutorial/NPTEL Courses/Mini Project(C/Python/IoT)   **OR**   (D) He/she earns **3** credits after an internship and **1** credit from assignment based on the internship and **2** credits from Spoken Tutorial/NPTEL Courses/Mini Project (C/Python/IoT).

After 2nd Year
1. Students exiting the program after 2nd year must inform the IT department before the conclusion of the 4th semester end examination (SEE) via attached form (Annexure-III).
2. Students exiting the program must undergo an internship of 4 weeks offered during the second year summer term.
3. One (1) credit of internship is equivalent to minimum 40-45 hours of work per week. After 4th Semester, the student is required to undergo 160-180 hours of internship work in 4 weeks to obtain 4 credits.
4. The internship is to be done during 2nd year summer term and evaluated through viva-voce before the commencement of the 5th Semester by the Department of Information Technology.
5.   A student will be awarded a **Diploma in Information Technology** after the second year if: 5.1 He/she earns requisite credits till 2nd year as specified in Scheme of Studies & Examinations, B. Tech (IT).   **AND**   5.2 He/she earns 4 credits after the summer internship.

After 3rd Year
The students exiting the program after 3rd year must inform the IT department before the conclusion of the 6th semester end examination (SEE) via attached form (Annexure-III). The student must compulsorily earn requisite credits till 3rd year as specified in the Scheme of Studies & Examination, B. Tech (IT).

B. Tech. Information Technology (Hons.): Approved in 2nd meeting of Academic Council held on 24.06.2025.

ANNEXURE-I

B. Tech. Information Technology (Hons.): Approved in 2nd meeting of Academic Council held on 24.06.2025.