BNM Institute of Technology

An Autonomous Institution under VTU

Department of Information Science and Engineering
Scheme of Teaching 2021-2025 Batch

III Semester

Sl No	Course Type	Course Code	Course Title	Teaching Department	Teaching Hour/week				Contact Hour	Total Credits	Examination		
					L	T	P	J			CIE	SEE	Total
1	MAT	21MAI131	Fourier Transform, Numerical Methods and Linear Algebra	Mathematics	2	2			4	3	50	50	100
2	PCC	21ISE132	Operating System	ISE	3				3	3	50	50	100
3	PCC	21ISE133	Computer Organization	ISE	3				3	3	50	50	100
4	PCI	21ISE134	Data Structures using C	ISE	3		2		5	4	50	50	100
5	PCI	21ISE135	Object Oriented Programming using Java	ISE	3		2		5	4	50	50	100
6	PBL	21ISE136	Web Technologies	ISE			2	2	4	2	50	50	100
7	HSS	21KAN1371 / 21KAN1372	Samskrutika Kannada / Balake Kannada	HSS		1			1	1	100		100
8	AEC	21SFT138	Soft Skill I	HSS		2			2	1	100		100
9	IPL	21ISE139	Innovative Project Lab	ISE			2		2	1	100		100
					14	5	8	2	29	22	600	300	900

Note: **BSC**: Basic Science Course, **PCC**: Professional Core Course, **HUM**: Humanity and Social Science & Management Courses, **PCI**: Professional Core Integrated **PBL** – Project Based Learning **AEC** –Ability Enhancement Courses, **UHV** – Universal Human Values, **PE**: Professional Elective, **OE**: Open Elective, **INT**: Summer Internship.

L –Lecture, **T** – Tutorial, **P**- Practical/ Drawing, **J** – Project Component, **CIE**: Continuous Internal Evaluation, **SEE**: Semester End Examination

Credit definition: 1 hour Lecture (L) per week = 1 Credit

2 hours Tutorial (T) per week = 1 Credit

2 hours Practical /Drawing (P) per week = 1 Credit

2 hours Project Component (J) per week = 1 Credit

(a) Four credit courses are to be designed for 50 hours Teaching – Learning process.

(b) Three credit courses are to be designed for 40 hours Teaching – Learning process.

(c) Two credit courses are to be designed for 25 hours Teaching – Learning process.

(d) One credit course are to be designed for 12-15 hours Teaching – Learning process

The course prescribed to lateral entry Diploma holders admitted to III semester of Engineering programs

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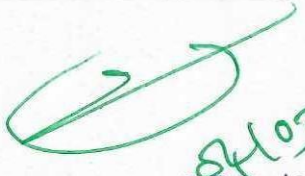
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Scheme of Teaching 2021-2025 Batch
IV Semester

Sl No	Course Type	Course Code	Course Title	Teaching Department	L	T	P	J	Contact Hour	Total Credits	CIE	SEE	Total
1	MAT	21MAI141	Statistics, Probability and Graph Theory	Mathematics	2	2			4	3	50	50	100
2	PCC	21ISE142	Micro Controller and Embedded System	ISE	3	1	1		5	4	50	50	100
3	PCI	21ISE143	Design and Analysis of Algorithms	ISE	3	2			5	4	50	50	100
4	PCI	21ISE144	DataBase Management System	ISE	3		1	1	5	4	50	50	100
5	PBL	21ISE145	Python Programming and its Application	ISE			2	2	4	2	50	50	100
6	HSS	21CIP146	Constitution of India and Professional Ethics	HSS		2			2	1	100		100
7	EVS	21EVS147	Environmental Science	HSS		2			2	1	100		100
8	AEC	21SFT148	SoftSkill II	HSS		2			2	1	100		100
9	INT	21ISE149	Internship - I / Innovative Project Lab	ISE			2	2	4	2	100		100
					11	7	10	5	33	22	650	250	900

Internship - I (21ISE149): All the students admitted shall have to undergo a mandatory summer internship of 04 weeks during the intervening vacation of II and III semesters. Summer Internship shall include Inter / Intra Institutional activities. A Viva-voce examination shall be conducted during IV semesters and the prescribed credit shall be included in IV semesters. The internship shall be considered as a head of passing and shall be considered for the award of degree. Those, who do not take up / complete the internship shall be declared fail and shall have to complete during subsequent examination after satisfying the internship requirements. (The faculty coordinator or mentor has to monitor the students' internship progress and interact to guide them for the successful completion of the internship.)

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V Semester

Sl No	Course Type	Course Code	Course Title	Teaching Department	Teaching				Contact Hour	Total Credits	Examination		
					L	T	P	J			CIE	SEE	Total
1	PCC	21ISE151	Software Project Management and Finance	ISE	2	2			4	3	50	50	100
2	PCC	21ISE152	Automata Theory and Computability	ISE	2	2			4	3	50	50	100
3	PCI	21ISE153	Introduction to Data Science using Python	ISE	2	2			4	3	50	50	100
4	PCI	21ISE154	Computer Network	ISE	2	2	2		6	4	50	50	100
5	PBL	21ISE155	Robotic Process Automation	ISE			2	2	4	2	50	50	100
6	POE	21ISE156x	Open Elective 1	ISE	3				3	3	50	50	100
7	AEC	21ISE157	Employability Skill - I (Technical)	HSS		2			2	1	100		100
8	INT	21ISE158	Internship - II	ISE			4		4	2	100		100
					11	10	8	2	31	21	500	300	800

Internship - II (21ISE158): All the students admitted shall have to undergo a mandatory summer internship of 04 weeks during the intervening vacation of IV semesters. Summer Internship shall include Inter / Intra Institutional activities. A Viva-voce examination shall be conducted during IV semesters and the prescribed credit shall be included in IV semesters. The internship shall be considered as a head of passing and shall be considered for the award of degree. Those, who do not take up / complete the internship shall be declared fail and shall have to complete during subsequent examination after satisfying the internship requirements. (The faculty coordinator or mentor has to monitor the students' internship progress and interact to guide them for the successful completion of the internship.)

AICTE Activity Points to be earned by students admitted to BE day college programme (For more details refer to Chapter 6, AICTE Activity Point Programme, Model Internship Guidelines): Over and above the academic grades, every Day College regular student admitted to the 4 years Degree programme and every student entering 4 years Degree programme through lateral entry, shall earn 100 and 75 Activity Points respectively for the award of degree through AICTE Activity Point Programme. Students transferred from other institutions and Universities to the fifth semester are required to earn 50 Activity Points from the year of entry to BNMIT. The Activity Points earned shall be reflected on the student's eighth semester Grade Card. The activities can be spread over the years, anytime during the semester weekends and holidays, as per the liking and convenience of the student from the year of entry to the programme. However, the minimum hours' requirement should be fulfilled. Activity Points (non-credit) do not affect SGPA/CGPA and shall not be considered for vertical progression. In case students fail to earn the prescribed activity Points, Eighth semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of the degree only after the release of the Eighth semester Grade Card.

Open Elective 1			
21ISE1561	Introduction to Web Technologies	21ISE1563	Introduction to DBMS
21ISE1562	Software Engineering	21ISE1564	Cloud Computing

Sl No	Course Type	Course Code	Course Title	Teachning Department	Teaching				Contact Hour	Total Credits	Examination		
					L	T	P	J			CIE	SEE	Total
1	PCC	21ISE161	Cryptography and Information Security	ISE	2	2			4	3	50	50	100
3	PCI	21ISE162	Cloud Computing and its Applications	ISE	2		1		3	3	50	50	100
3	PCI	21ISE163	Big Data Analytics	ISE	2	2	2		5	4	50	50	100
4	PBL	21ISE164	Internet of Things	ISE			2	2	4	2	50	50	100
5	CPE	21ISE165x	Professional elective 1	ISE	3				3	3	50	50	100
6	CPE	21ISE166x	Professional elective 2	ISE	3				3	3	50	50	100
7	POE	21ISE167x	Open Elective 2	ISE	3				3	3	50	50	100
8	HSS	21ISE168	Employability Skill-II (Technical)	P&T		2			2	1	100		100
					15	6	5	2	27	22	450	350	800

AICTE Activity Points to be earned by students admitted to BE day college programme (For more details refer to Chapter 6, AICTE Activity Point Programme, Model Internship Guidelines): Over and above the academic grades, every Day College regular student admitted to the 4 years Degree programme and every student entering 4 years Degree programme through lateral entry, shall earn 100 and 75 Activity Points respectively for the award of degree through AICTE Activity Point Programme. Students transferred from other institutions and Universities to the fifth semester are required to earn 50 Activity Points from the year of entry to BNMIT. The Activity Points earned shall be reflected on the student's eighth semester Grade Card. The activities can be spread over the years, anytime during the semester weekends and holidays, as per the liking and convenience of the student from the year of entry to the programme. However, the minimum hours' requirement should be fulfilled. Activity Points (non-credit) do not affect SGPA/CGPA and shall not be considered for vertical progression. In case students fail to earn the prescribed activity Points, Eighth semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of the degree only after the release of the Eighth semester Grade Card.

Professional Elective 1			
21ISE1651	Data Mining	21ISE1654	Data Visualization and Dashboards
21ISE1652	Blockchain Technologies:Platforms and Applications	21ISE1655	UI Framework
21ISE1653	Cybersecurity	21ISE1656	Strategic Management

Professional Elective 2			
21ISE1661	Natural Language Processing	21ISE1664	Introduction to Augmented and Virtual reality
21ISE1662	No SQL	21ISE1665	Agile Software Development
21ISE1663	Operation Research	21ISE1666	Knowledge Management

Open Elective 2			
21ISE1671	Introduction to Data science	21ISE1673	Introduction to Block chain
21ISE1672	Software Testing	21ISE1674	Introduction to Big Data

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VII Semester

Sl No	Course Type	Course Code	Course Title	Teaching Department	Teaching				Contact Hour	Total Credits	Examination		
					L	T	P	J			CIE	SEE	Total
1	PCI	21ISE171	Artificial Intelligence and Machine Learning	ISE	3		2		5	4	50	50	100
2	PE	21ISE172x	Professional Elective 3 (Industry Elective)	ISE	3				3	3	50	50	100
3	PE	21ISE173x	Professional Elective 4 (MOOC Course)	ISE	3				3	3	50	50	100
4	AEC	21AEC174	Research Methodology and IPR	ISE	1	2			3	2	50	50	100
5	PROJECT	21ISE175	Project Work Phase I	ISE				10	10	5	100		100
					10	2	2	10	24	17	300	200	500

Project work: Based on the abilities of the students and recommendations of the mentor, a single discipline or a multidisciplinary project can be assigned to an individual student or to a group having not more than 4 students. In extraordinary cases, like the funded projects requiring students from different disciplines, the project student strength can be 5 or 6.

AICTE Activity Points to be earned by students admitted to BE day college programme (For more details refer to Chapter 6, AICTE Activity Point Programme, Model Internship Guidelines): Over and above the academic grades, every Day College regular student admitted to the 4 years Degree programme and every student entering 4 years Degree programme through lateral entry, shall earn 100 and 75 Activity Points respectively for the award of degree through AICTE Activity Point Programme. Students transferred from other institutions and Universities to the fifth semester are required to earn 50 Activity Points from the year of entry to BNMIT. The Activity Points earned shall be reflected on the student's eighth semester Grade Card. The activities can be spread over the years, anytime during the semester weekends and holidays, as per the liking and convenience of the student from the year of entry to the programme. However, the minimum hours' requirement should be fulfilled. Activity Points (non-credit) do not affect SGPA/CGPA and shall not be considered for vertical progression. In case students fail to earn the prescribed activity Points, Eighth semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of the degree only after the release of the Eighth semester Grade Card.

Professional Elective 3			
21ISE1721	Advanced Computer Vision	21ISE1724	Python for Cybersecurity
21ISE1722	Smart Contracts and Solidity Programming	21ISE1725	Salesforce Developer (Industry Elective)
21ISE1723	Prompt Engineering	21ISE1726	Business Analytics

Professional Elective 4 (MOOC Course) Tentative changes may be there based on the course offered during the semester			
21ISE1731	Image and Video Processing	21ISE1734	Computer Graphics and Animation
21ISE1732	Human Computer Interaction	21ISE1735	Wireless Networks
21ISE1733	IoT :Security and Attacks	21ISE1736	Digital Marketing

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VIII Semester

Sl No	Course Type	Course Code	Course Title	Teaching Department	Teaching				Contact Hour	Total Credits	Examination		
					L	T	P	J			CIE	SEE	Total
1	PE	21ISE181x	Professional Elective 5 (MOOC Course)	ISE	3				3	3	50	50	100
2	PROJECT	21ISE182	Project Work Phase II	ISE				20	20	10	50	50	100
3	INT	21ISE183	Internship/Global Certification Course	ISE			8		8	4	50	50	100
					3		8	20	31	17	150	150	300

AICTE Activity Points to be earned by students admitted to BE day college programme (For more details refer to Chapter 6, AICTE Activity Point Programme, Model Internship Guidelines): Over and above the academic grades, every Day College regular student admitted to the 4 years Degree programme and every student entering 4 years Degree programme through lateral entry, shall earn 100 and 75 Activity Points respectively for the award of degree through AICTE Activity Point Programme. Students transferred from other institutions and Universities to the fifth semester are required to earn 50 Activity Points from the year of entry to BNMIT. The Activity Points earned shall be reflected on the student's eighth semester Grade Card. The activities can be spread over the years, anytime during the semester weekends and holidays, as per the liking and convenience of the student from the year of entry to the programme. However, the minimum hours' requirement should be fulfilled. Activity Points (non-credit) do not affect SGPA/CGPA and shall not be considered for vertical progression. In case students fail to earn the prescribed activity Points, Eighth semester Grade Card shall be issued only after earning the required activity Points. Students shall be admitted for the award of the degree only after the release of the Eighth semester Grade Card.

Internship/ Global Certification Course (21ISE183): All the students admitted shall have to undergo a mandatory summer internship of 24 weeks during VIII semesters. Summer Internship shall include Industry/Research/startup or a global certification offerd from the department. A Viva-voce examination shall be conducted during VIII semesters and the prescribed credit shall be included in VIII semesters. Those, who do not take up / complete the internship shall be declared fail and shall have to complete during subsequent examination after satisfying the internship requirements. (The faculty coordinator or mentor has to monitor the students' internship progress and interact to guide them for the successful completion of the internship.)

Professional Elective 5 (MOOC Course)			
Tentative changes may be there based on the course offered during the semester			
21ISE1811	Information Retrieval	21ISE1814	Full Stack Development
21ISE1812	Blockchain and web Development	21ISE1815	GPU Architecture and programming
21ISE1813	Penetration Testing,Auditing and Ehical Hacking	21ISE1816	Privacy and security in online social Media

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