

B.N.M. Institute of Technology

An Autonomous Institution under VTU

For Internal Communication

Department of Computer Science & Engineering

III SEMESTER

updated
AB on 05/01/2023

| Sl. No | Course and Course Code | | Course Title | Teaching Department | Teaching Hours /Week | | | | Hours Per week | Credits | Examination | | |
|--------------|------------------------|----------|---|---------------------|----------------------|----------|-----------|----------|----------------|-----------|-------------|------------|------------|
| | | | | | Theory Lecture | Tutorial | Practical | Project | | | CIA | SEA | Total |
| | | | | | L | T | P | J | | | | | |
| 1 | BSC | 21MAI131 | Fourier Transforms Numerical Methods and Linear Algebra | Mathematics | 2 | 2 | - | - | 4 | 3 | 50 | 50 | 100 |
| 2 | PCC | 21CSE132 | Computer Organization | CSE | 3 | - | - | - | 3 | 3 | 50 | 50 | 100 |
| 3 | PCC | 21CSE133 | Operating Systems | CSE | 2 | 1 | 1 | - | 4 | 3 | 50 | 50 | 100 |
| 4 | PCI | 21CSE134 | Logic Design and applications | CSE | 3 | - | 2 | - | 5 | 4 | 50 | 50 | 100 |
| 5 | PCI | 21CSE135 | Data Structures and Applications | CSE | 3 | - | 2 | - | 5 | 4 | 50 | 50 | 100 |
| 6 | PBL | 21CSE136 | Object Oriented Programming using Java | CSE | - | - | 2 | 2 | 4 | 2 | 50 | 50 | 100 |
| 7 | HSS | 21EVS137 | Environmental Studies | Humanities | - | 2 | - | - | 2 | 1 | 100 | - | 100 |
| 8 | AEC | 21SFT138 | Soft Skill -I | Humanities | - | - | 2 | - | 2 | 1 | 100 | - | 100 |
| 9 | IPL | 21CSE139 | Innovative Project Lab [IPL] | CSE | - | - | 2 | - | 2 | 1 | 100 | - | 100 |
| TOTAL | | | | | 13 | 5 | 11 | 2 | 31 | 22 | 600 | 300 | 900 |

| | | | | | | | | | | | | |
|-----|-------------|------------------------|-------------|---|---|---|---|---|---|-----|---|-----|
| BSC | 21MATDIP131 | Bridge Mathematics – I | Mathematics | 3 | - | - | - | 3 | 0 | 100 | - | 100 |
|-----|-------------|------------------------|-------------|---|---|---|---|---|---|-----|---|-----|

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|-------------------------------|------------------------------------|---------------------------------|-------------------------------------|
| BSC-->Basic Science | MAT-->Mathematics | PCC--> Professional Core course | PCI--> Professional Core Integrated |
| PBL--> Project based learning | HSS--> Humanity and Social Science | UHV--> Universal Human Values | AEC--> Ability Enhancement course |
| PW--> Project Work | PEC--> Professional Elective | INT--> Internship | PEC--> Professional Elective |
| OEC-->Open Elective | IPL--> Innovative Project Lab | | |

Sheela

CSSE
05/01/23

Chayud
Head of the Department
Dept. of Computer Science & Engineering
B.N.M. Institute of Technology
Bangalore - 560 070

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Department of Computer Science & Engineering

IV SEMESTER

updated
18 Jan 05/01/2023

| Sl. No | Course and Course Code | Course Title | Teaching Department | Teaching Hours/Week | | | | Hours Per week | Credits | Examination | | |
|--------------|------------------------------|--|---------------------|---------------------|----------|-----------|----------|----------------|-----------|-------------|------------|------------|
| | | | | Theory Lecture | Tutorial | Practical | Project | | | CIA | SEA | Total |
| 1 | BSC 21MA1141 | Statistics Probability and Graph Theory | Mathematics | 2 | 2 | - | - | 4 | 3 | 50 | 50 | 100 |
| 2 | PCC 21CSE142 | Microcontroller and Embedded Systems | CSE | 2 | 1 | 1 | - | 4 | 3 | 50 | 50 | 100 |
| 3 | PCI 21CSE143 | Database Management System | CSE | 3 | - | 1 | 1 | 5 | 4 | 50 | 50 | 100 |
| 4 | PCI 21CSE144 | Design and Analysis of Algorithms | CSE | 3 | - | 2 | - | 5 | 4 | 50 | 50 | 100 |
| 5 | PBL 21CSE145 | Python Programming and applications | CSE | - | - | 2 | 2 | 4 | 2 | 50 | 50 | 100 |
| 6 | HSS 21CIP146 | Constitution of India, Indian Polity and professional Ethics | Humanities | - | 2 | - | - | 2 | 1 | 100 | - | 100 |
| 7 | AEC 21KSK147 21KKBK147 | Sanskrituhika Kannada / Balake Kannada | Humanities | - | 2 | - | - | 2 | 1 | 100 | - | 100 |
| 8 | HSS 21SFT148 | Soft Skill-2 | Humanities | - | 2 | - | - | 2 | 1 | 100 | - | 100 |
| 9 | INT 21CSE149 | Internship-1/PL | CSE | - | - | 2 | 2 | 4 | 2 | 100 | - | 100 |
| TOTAL | | | | 10 | 9 | 8 | 5 | 32 | 21 | 650 | 250 | 900 |
| BSC | 21MATDIP141 | Bridge Mathematics - II | Mathematics | 3 | - | - | - | 3 | 0 | 100 | - | 100 |

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Department of Computer Science & Engineering

V SEMESTER

| Sl. No | Course and Course code | | Course Title | Teaching Department | Teaching Hours /Week | | | | Hours Per week | Credits | Examination | | |
|--------------|------------------------|-----------|---|---------------------|----------------------|----------|-----------|----------|----------------|-----------|-------------|------------|------------|
| | | | | | Theory Lecture | Tutorial | Practical | Project | | | CIA | SEA | Total |
| | | | | | L | T | P | J | | | | | |
| 1 | PCC | 21CSE151 | Software Project Management and Finance | CSE | 2 | 2 | - | - | 4 | 3 | 50 | 50 | 100 |
| 2 | PCC | 21CSE152 | Automata Theory and Computation | CSE | 2 | 2 | - | - | 4 | 3 | 50 | 50 | 100 |
| 3 | PCI | 21CSE153 | Computer Networks | CSE | 3 | - | 2 | - | 5 | 4 | 50 | 50 | 100 |
| 4 | PCI | 21CSE154 | Computer Graphics and Visualization | CSE | 3 | - | 2 | - | 5 | 4 | 50 | 50 | 100 |
| 5 | PBL | 21CSE155 | Web Technology and its Applications | CSE | - | - | 2 | 2 | 4 | 2 | 50 | 50 | 100 |
| 6 | OEC | 21CSE156X | Open Elective -1 | CSE | 2 | - | 2 | - | 4 | 3 | 50 | 50 | 100 |
| 7 | AEC | 21CSE157 | Employability Skills-1(Technical) | T&P | - | 2 | - | - | 2 | 1 | 100 | - | 100 |
| 8 | INT | 21CSE158 | Internship-2 | CSE | - | - | 2 | 2 | 4 | 2 | 100 | - | 100 |
| TOTAL | | | | | 12 | 6 | 10 | 4 | 32 | 22 | 500 | 300 | 800 |

Open Elective - 1

| | | | |
|-----------|-------------------------------------|-----------|--------------------------------|
| 21CSE1561 | Data Structures and its Application | 21CSE1563 | Mobile Application Development |
| 21CSE1562 | Java and its Applications | 21CSE1564 | Data Analytics |

Internship-2 (21CSE158)- All the students registered to III year of BE shall have to undergo mandatory internship of 4 weeks during IV semester vacation. Semester End Assessment will be conducted in V semester and the prescribed credit will be included. Internship shall be considered as a head of passing and shall be considered for the award of degree.

CIE: Continuous Internal Evaluation, SEE: Semester End Examination, NCMC: Non Credit Mandatory Course

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.

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VI SEMESTER

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|--------------|------------------------|-----------|--|---------------------|----------------------|----------|-----------|----------|----------------|-----------|-------------|------------|------------|
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| | | | | | L | T | P | J | | | | | |
| 1 | PCC | 21CSE161 | System Software and Compiler Design | CSE | 2 | 2 | - | - | 4 | 3 | 50 | 50 | 100 |
| 2 | PCI | 21CSE162 | Artificial Intelligence and Machine Learning | CSE | 3 | - | 2 | - | 5 | 4 | 50 | 50 | 100 |
| 3 | PCI | 21CSE163 | Cryptography and Cyber security | CSE | 3 | | 2 | | 5 | 4 | 50 | 50 | 100 |
| 4 | PBL | 21CSE164 | Data Science | CSE | - | - | 2 | 2 | 4 | 2 | 50 | 50 | 100 |
| 5 | PEC | 21CSE165X | Professional Elective-1 | CSE | 2 | - | 2 | - | 4 | 3 | 50 | 50 | 100 |
| 6 | PEC | 21CSE166X | Professional Elective -2 | CSE | 3 | - | - | - | 3 | 3 | 50 | 50 | 100 |
| 7 | OEC | 21CSE167X | Open Elective-2 | CSE | 3 | - | - | - | 3 | 3 | 50 | 50 | 100 |
| 8 | AEC | 21CSE168 | Employability Skills -2(Technical) | T&P | - | - | 2 | - | 2 | 1 | 100 | - | 100 |
| TOTAL | | | | | 16 | 2 | 10 | 2 | 30 | 23 | 450 | 350 | 800 |

Open Elective - 2

| | | | |
|-----------|-------------------------------------|-----------|----------------------------------|
| 21CSE1671 | Computer Graphics and Visualization | 21CSE1673 | Storage Area Network |
| 21CSE1672 | Operating Systems and RTOS | 21CSE1674 | Information and Network Security |

Professional Elective - 1 (PCI)

| | | | |
|-----------|----------------------------------|-----------|--|
| 21CSE1651 | Digital Image Processing | 21CSE1654 | Advanced Java Programming |
| 21CSE1652 | Wireless Sensor Networks | 21CSE1655 | Cryptography Hash and Integrity Protection |
| 21CSE1653 | Data Warehousing and Data Mining | 21CSE1656 | High Performance Computing in Cloud |

Professional Elective - 2

| | | | |
|-----------|---|-----------|---|
| 21CSE1661 | Computer Vision: Algorithms and Application | 21CSE1664 | Cloud Computing |
| 21CSE1662 | Mobile Adhoc Networks | 21CSE1665 | Cyber Security and Digital Forensics |
| 21CSE1663 | DevOps | 21CSE1666 | High Performance Computer Architecture and Parallel Computing |

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