

# BACHELOR(Hons) OF COMPUTER SCIENCE (BCS)

## NETWORK TECHNOLOGY & CYBER SECURITY

( 4 YEARS, 8 SEMESTERS, CREDITS : 126 )

Graduates of this course will acquire the necessary skills required to manage a network and maintain its security. We also provide laboratory facilities, for the study of key areas, such as, network operating systems, network management and network implementation. This program offers a unique opportunity to learn about specialist security techniques and use real-world networking equipment in a security context. Students are also educated about market-leading Cisco Routing & Switching Techniques, security appliances, ethical hacking techniques, vulnerability analysis, and penetration testing and data encryption technology.

### PROGRAM AIM

Computer systems and network, establishes link between people and businesses on a global scale. Business and industry is dependent on diverse network technologies and there is a high demand for professionals for designing as well as efficiently managing network systems.

### CAREER OPPORTUNITIES

- Chief Information Security Officer
- Forensic Computer Analyst
- Information Security Analyst
- Penetration Tester
- Security Architect
- IT Security Engineer
- Network Administrator
- Security Systems Administrator
- IT Security Consultant
- Security Software Developer.
- Cryptographer



# BCS SYLLABUS

## FIRST YEAR | SEMESTER 1

| S.N           | Module Name                          | Module Code | Credits   |
|---------------|--------------------------------------|-------------|-----------|
| 1             | English                              | ENG 111     | 3         |
| 2             | Computer Network                     | CNW 112     | 3         |
| 3             | Principle of Programming             | BCSNT 6013  | 3         |
| 4             | Discrete Mathematics and Probability | BCSNT 6023  | 3         |
| 5             | Computer Systems                     | BCSNT 6033  | 3         |
| <b>Credit</b> |                                      |             | <b>15</b> |

## FIRST YEAR | SEMESTER 2

| S.N           | Module Name                     | Module Code | Credits   |
|---------------|---------------------------------|-------------|-----------|
| 1             | Computer Ethics                 | BCSNT 6073  | 3         |
| 2             | Data Communication & Networking | DCN 263     | 3         |
| 3             | Object Oriented Programming     | BCSNT 6063  | 3         |
| 4             | Operating Systems               | OPS 252     | 3         |
| 5             | Computer Organization           | ECM 383     | 3         |
| <b>Credit</b> |                                 |             | <b>15</b> |

## SECOND YEAR | SEMESTER 3

| S.N           | Module Name                                   | Module Code | Credits   |
|---------------|-----------------------------------------------|-------------|-----------|
| 1             | Software Engineering Fundamentals             | BCSNT 6103  | 3         |
| 2             | Human Computer Interaction                    | HCI 131     | 3         |
| 3             | Applied Statistics                            | BCSNT 6043  | 3         |
| 4             | Microsoft Windows Server Administration       | WSA 381     | 4         |
| 5             | Cyber Security Legal Issues & Policy Analysis | CSLPA 372   | 3         |
| 5             | Cisco Certified Network Associate             |             | 4         |
| <b>Credit</b> |                                               |             | <b>20</b> |

## SECOND YEAR | SEMESTER 4

| S.N           | Module Name                  | Module Code | Credits   |
|---------------|------------------------------|-------------|-----------|
| 1             | Values & Ethic in Profession | BCSNT 6053  | 3         |
| 2             | Web Technology               | HCI 131     | 3         |
| 3             | Wireless Communication       | WLC 384     | 4         |
| 4             | Information Security         | BCSNT 6123  | 3         |
| 5             | Database Management System   | DMS 254     | 3         |
| 6             | Ethical Hacking              |             | 4         |
| <b>Credit</b> |                              |             | <b>20</b> |

## THIRD YEAR | SEMESTER 5

| S.N           | Module Name                                      | Module Code | Credits   |
|---------------|--------------------------------------------------|-------------|-----------|
| 1             | Linux Administration                             | LNXA 371    | 4         |
| 2             | Human Relations and Leadership Skills            | MPU 3232    | 3         |
| 3             | Artificial Intelligence                          | AFI 373     | 3         |
| 4             | Information Assurance & Security 1               | BCSNT 6083  | 3         |
| 5             | System Analysis & Design Server-Side Programming | SAD 375     | 3         |
| 6             | Cyber Security Management                        | CBS 381     | 3         |
| <b>Credit</b> |                                                  |             | <b>19</b> |

## THIRD YEAR | SEMESTER 6

| S.N           | Module Name                        | Module Code | Credits   |
|---------------|------------------------------------|-------------|-----------|
| 1             | Network Security & Privacy         | BCSNT 6093  | 3         |
| 2             | Project Management                 | BCSNT 6114  | 4         |
| 3             | Data Structure & Algorithms        | DSA 251     | 3         |
| 4             | Information Assurance & Security 2 | BCSNT 6143  | 3         |
| 5             | Inter Routing Technology           | IRT 252     | 4         |
| <b>Credit</b> |                                    |             | <b>17</b> |

## FOURTH YEAR | SEMESTER 7

| S.N           | Module Name                                    | Module Code | Credits   |
|---------------|------------------------------------------------|-------------|-----------|
| 1             | Advance Switching Technology & Troubleshooting | AST 382     | 04        |
| 2             | Final Year Project 1                           | BCSNT 6138  | 04        |
| <b>Credit</b> |                                                |             | <b>08</b> |

## FOURTH YEAR | SEMESTER 8

| S.N           | Module Name          | Module Code | Credits   |
|---------------|----------------------|-------------|-----------|
| 1             | Industrial Training  | BCSNT 6158  | 8         |
| 3             | Final Year Project 2 | BCSNT       | 4         |
| <b>Credit</b> |                      |             | <b>12</b> |