

BACHELOR OF COMPUTER APPLICATIONS (BCA)

(Revised Syllabus)

BCA(Revised Syllabus)/ASSIGN/SEMESTER-V

ASSIGNMENTS

(July - 2026 & January - 2027)

(BCS-051, BCS-052, BCS-053, BCS-054, BCS-055

BCSL-056, BCSL-057, BCSL-058)



**SCHOOL OF COMPUTER AND INFORMATION SCIENCES
INDIRA GANDHI NATIONAL OPEN UNIVERSITY
MAIDAN GARHI, NEW DELHI – 110 068**

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Important Notes

1. Submit your assignments to the Coordinator of your Study Centre on or before the due date.
2. Assignment submission before due dates is compulsory to become eligible for appearing in corresponding Term End Examinations. For further details, please refer to BCA Programme Guide.
3. To become eligible for appearing the Term End Practical Examination for the lab courses, it is essential to fulfill the minimum attendance requirements as well as submission of assignments (on or before the due date). For further details, please refer to the BCA Programme Guide.

Course Code	:	BCS-052
Course Title	:	Network Programming and Administration
Assignment Number	:	BCA(V)/052/Assignment/2026-27
Maximum Marks	:	100
Weightage	:	25%
Last Dates for Submission	:	31st October, 2026 (For July 2026 Session)
	:	30th April, 2027 (For January 2027 Session)

There are three questions in this assignment. In total, they carry 80 marks. Answer all the questions. 20 marks are for viva voce. You may use illustrations and diagrams to enhance the explanations. Please go through the guidelines regarding assignments given in the Programme Guide for the format of presentation.

- Q1:** What is Network Programming? Explain the Client-Server model of communication with a neat diagram. Discuss the role of sockets in network programming and differentiate between TCP sockets and UDP sockets. **(30 marks)**
- Q2:** Explain the concept of IP addressing. Discuss IPv4 addressing classes (A, B, C, D, E), subnetting, and the need for IPv6. Also, explain the features of IPv6. Explain the working of DHCP in dynamic IP address allocation. **(30 marks)**
- Q3:** What is Network Security? Explain common threats to a network (viruses, worms, DoS/DDoS attacks, sniffing, spoofing) and describe how firewalls, VPNs, and encryption techniques help in securing a network and its administration. **(20 marks)**