BACHELOR OF COMPUTER APPLICATIONS (BCA_NEW)

BCA_NEW /ASSIGN/SEMESTER-I

ASSIGNMENTS

(July-2025 & January 2026 Sessions)

BEVAE-181, BEGLA-136, BCS-111, BCSL-013, BCS-012

SCHOOLOFCOMPUTERANDINFORMATIONSCIENCES
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-111**
Course Title	**:**	**Computer Basics and PC Software**
Assignment Number	**:**	**BCA_NEW(I)-111/Assignment/2025-26**
Maximum Marks	**:**	**100**
Weightage	**:**	**30%**
Last Date of Submission	**:**	**31st October,2025(For July 2025 Session)** **30th April, 2026 (For January 2026 Session)**

This assignment has three questions of 80 marks. Answer all the questions. Rest 20 marks are for viva voce. You may use illustrations and diagrams to enhance explanations. Please go through the guidelines regarding assignments given in the Programme Guide for the format of presentation. Please give precise answers. The word limit for each part is 200 words.

Q1: **(5×6=30 Marks)**

(a) Trace the evolution of computers from mechanical calculators to the fifth generation, and identify how each technological shift enabled a new kind of real-world application.

(b) Draw a labelled diagram of the internal data flow in a digital computer and explain how instructions are fetched and executed using a practical example, such as calculating total marks.

(c) Evaluate the impact of memory hierarchy (cache, RAM, secondary storage) on the performance of commonly used applications such as video editing or gaming.

(d) Imagine you are designing a kiosk for railway ticket booking. Justify your selection of input and output devices based on user interaction, reliability, and efficiency.

(e) You have ₹35,000 to assemble a personal computer for online learning and basic office work. List the hardware components you would choose and justify your selection based on performance and cost.

Q2: **(5×6=30 Marks)**

(a) Compare proprietary and open-source software models by analyzing two software products (e.g., Microsoft Office vs. LibreOffice) in terms of cost, accessibility, updates, and support.

(b) Assume your system has both Linux and Windows installed. Discuss three scenarios where Linux offers more control or flexibility compared to Windows, and explain why.

(c) Reflect on how compilers and interpreters differ in handling programming errors. Provide an example where using an interpreter would be more beneficial during development.

(d) Create a scenario (e.g., preparing an event budget) where both a word processor and spreadsheet are required. Describe how you would use each to accomplish the task effectively.

(e) Design a simple database schema to store student attendance in a classroom. Mention tables, fields, and types. Also, mention one project management tool and how it can help in managing a classroom project.

Q3: **(2×10=20 Marks)**

(a) You have to set up a small office network with internet connectivity. Describe the networking devices (router, switch, etc.) and topology you would choose and justify your decision.

(b) Suppose you are tasked with designing a personal learning portal. Identify three internet services you would integrate (e.g., cloud storage, video conferencing, email notifications) and justify their use.