NEERAJ®

Serving Education for Last 40 Years

COMPUTER APPLICATION IN BUSINESS

B.C.O.S.-183

**Chapter Wise Reference Book
Including Many Solved Sample Papers**

Based on

C.B.C.S. (Choice Based Credit System) Syllabus of

I.G.N.O.U.

& Various Central, State & Other Open Universities

By: *Gaurav Sahni*

NP

NEERAJ
PUBLICATIONS
(Publishers of Educational Books)

MRP ₹ **320/-**

Content

COMPUTER APPLICATION IN BUSINESS

Question Bank – (Previous Year Solved Question Papers)

S.No.	*Chapterwise Reference Book*	*Page*

PART-A

BLOCK-I : FUNDAMENTALS OF COMPUTERS

BLOCK-II : DATA HANDLING

BLOCK-III : WORD PROCESSING

■■

QUESTION PAPER

June – 2023

(Solved)

COMPUTER APPLICATION IN BUSINESS B.C.O.S.-183

Time: 3 Hours] **[Maximum Marks: 100**

Note: *Answer any* **five** *questions. All questions carry equal marks.*

Q. 1. What is computer network? Briefly discuss the various types of computer network i.e. PAN, LAN, MAN, WAN and HAN. Also, compare the following: Internet, Intranet and Extranet.

Ans. Ref.: See Chapter-2, Page No. 17, 'Importance of Computer Networks'.

Also Add:

Internet: The network formed by the co-operative interconnection of millions of computers, linked together is called the Internet.

Intranet: It is an internal private network built within an organization using Internet and World Wide Web standards and products that allows employees of an organization to gain access to corporate information.

Extranet: It is the type of network that allows users from outside to access the Intranet of an organization.

Q. 2. Compare and contrast the following:

(a) **Graphical Web Browser and Non-Graphical Web Browser**

Ans. Graphical Web Browser: It allows using point and click method to view, read, and jump from one web page to another web page. For example, Internet Explorer, Google Chrome. Google Chrome is a cross platform web browser developed by Google. Graphic browser is used to display images inline with text instead of displaying images in a separate window.

Non-graphical Web Browser: They are also called text based web browsers that provide only text of web pages and ignore any graphic content. In character based method, it doesn't allow the same method as allowed by the graphical web browser. For viewing, reading and navigating from one web page to another web page keyboard is used instead of mouse. For example, it allows users to highlight the word by using arrow up and down keys and then press the enter key.

(b) **File Storage and File Synchronization**

Ans. Ref.: See Chapter-3, Page No. 30, Q. No. 5.

(c) **B2B AND B2C**

Ans. B2B stands for 'business to business' while B2C is 'business to consumer'. B2B ecommerce utilizes online platforms to sell products or services to other businesses. B2C ecommerce targets personal consumers. A company that sells office furniture, software, or paper to other businesses would be an example of a B2B company. B2B ecommerce tends to be more complex than B2C ecommerce. It involves heavier research, more needs-based purchasing, and less marketing-driven buying. Many B2B buyers have very rigorous parameters around the purchases they can make. This means that traditional revenue drivers like add-ons don't have the same impact. B2B organizations didn't have much of an incentive to optimize their customer journey but this is changing in the current climate.

(d) **Batch Operating System and Real Time Operating System**

Ans. Ref.: See Chapter-4, Page No. 36, Q. No. 3.

(e) **Application Software and System Software**

Ans. Ref.: See Chapter-4, Page No. 34, Q. No. 2.

Q. 3. How can we relate Business to Information System? Discuss the relationship of Business with Information system, with suitable block diagram. Also, discuss the Business Information system architecture.

Ans. Ref.: See Chapter-5, Page No. 38, 'Introduction to Business Information System'.

Also Add:

Relationship of Business with Information System
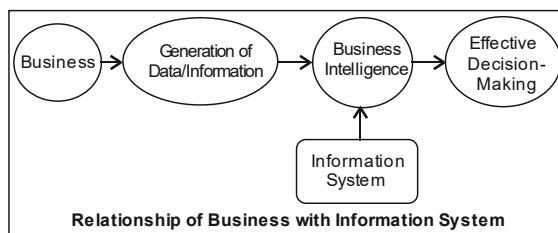
Business Information System Architecture: Business Information systems architecture is an integral part of Business Architecture and strategic planning. A technical blueprint of the company, when aligned with the business components, helps in processing and sharing relevant information across the board. It helps companies to respond to changes in business and technology quickly and also helps reduce costs because of economies of scale and sharing of resources. It makes sound business sense to go for a technical architecture and align it with Business Architecture. It helps in adapting to changes much faster and in responding to clients' needs efficiently.

Q. 4. How does File Procssing System differ from Database Management System (DBMS)? What are the major functionalities of DBMS? How is data abstraction achieved in RDBMS? Discuss with suitable diagram for data abstraction.

Ans. Ref.: See Chapter-5, Page No. 41, Q. No. 1 and Page No. 39, 'Principles of Database Management System'.

Also Add: Major Functionalities of DBMS: The major functions of DBMS are to define the database structure, data type definition, perform, update, delete, and read operations on stored information, preserve consistency, prevent unauthorized access and facilitate database recovery.

Data Abstraction
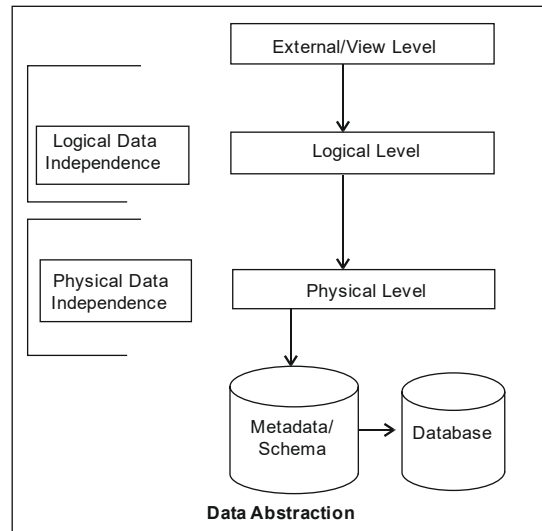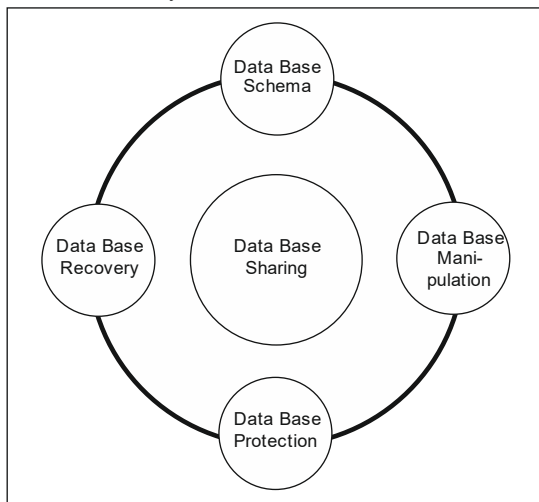
Q. 5. Explain the principles of cyber security, with suitable example for each. What is Authentication? How does Authentication differ from Authorization? Also, explain the role of Penetration testing as a step towards the Information security.

Ans. Ref.: See Chapter-6, Page No. 46, 'Principles of Cyber Security', Page No. 52, Q. No. 8 and Page No. 48, 'Penetration Testing'.

Q. 6. Write short notes on the following:

(a) Mail Merge and its components in MS-Word

Ans. Ref.: See Chapter-11, Page No. 91, 'Meaning of Mail Merge' and 'Components of Mail Merge'.

(b) Word Processing and its attributes

Ans. Ref.: See Chapter-9, Page No. 73, 'Word Processing' and 'Attributes of Word Processing'.

(c) Steps to prepare a presentation for a project in MS-Power Point

Ans. Ref.: See Chapter-15, Page No. 135, 'Steps in Preparig a Project Presentation'.

(d) Relative and Absolute addressing in Excel

Ans. Relative and Absolute addressing in Excel: There are two types of cell references: relative and absolute. Relative and absolute references behave differently when copied and filled to other cells. Relative references change when a formula is copied to another cell. Absolute references, on the other hand, remain constant no matter where they are copied. By default, all cell references are relative references. When copied across multiple cells, they change based on the
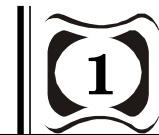
COMPUTER APPLICATION IN BUSINESS

PART-A

BLOCK-I : FUNDAMENTALS OF COMPUTERS

Introduction to Computers

1

INTRODUCTION

The word "computer" is not only confined to PC's but also includes laptops, tablets, smartphones, Electrocardiogram (ECG) machines, etc. The invention of computer made human life much easier, faster and comfortable. Computer is regarded as one of the greatest achievements made by scientists till now. Computer, an electronic device, which has made life easier and comfortable, is today surrounded with many questions of threats. This chapter gives the basic introduction of computers and its evolution, classification, usages and various components as well as advantages and disadvantages. The chapter also makes us familiar how computers being, an integral part of our day-to-day life and help us in enormous way to reduce our workload to a large extent.

CHAPTER AT A GLANCE

OVERVIEW OF COMPUTERS

A computer is a device capable of performing computations and making logical decisions at a speed of millions, and even billions of times faster than human beings. Computers are general purpose information machines that can perform a variety of tasks on data. Now-a-days computers have made their presence in every field and they have their significance almost in every sphere. Everyone in the world now use a personal computer at their office or in their home for performing various tasks such as doing calculations, getting information, watching movies, formulating documents, organizing meetings, writing, etc.

Smartphone Replacing Computer

Computers of these days are being replaced by Smartphones they can do many things that our everyday laptops, gadgets and desktops offer us. Smartphones are getting more powerful every year, and increasing numbers of people are now using them for many of the tasks we used to rely on our PCs for: Browsing the internet, checking e-mails and messaging friends and family around the world can now be done from those useful little rectangles we

carry around in our pockets. Smartphone manufacturers have been claiming that their devices can replace laptops and PCs for a long time, but we're now at the stage where it finally seems like the hardware has caught up with those promises. These days smartphones are incredibly more influential as compared to the desktop and laptops we have been using since years ago.

EVOLUTION OF COMPUTERS

The modern computer took its shape with the advent of time. It was around 16th century when the evolution of computer started. The initial computer faced many changes, obviously for the betterment. It continuously improved itself in terms of speed, accuracy, size, and cost to get the shape of the modern day computer. This long period can be conveniently divided into the following phases called computer generations:

First Generation Computers: Vacuum Tubes (1940-1956): The technology behind the First generation computers was a fragile glass device, which was called vacuum tubes. These computers were very heavy and very large in size. These were not very reliable and programming on them was a very tedious task as they used high level programming language and used no operating system. First generation computers were used for calculation, storage and control purpose. They were too bulky and big that they needed a full room and consume lot of electricity. Main first generation computers are:

ENIAC: Electronic Numerical Integrator and Computer, built by J. Presper Eckert and John V. Mauchly was a general purpose computer. It was very heavy, large and contained 18,000 vacuum tubes.

EDVAC: Electronic Discrete Variable Automatic Computer was designed by Von Neumann. It could store data as well as instruction and thus the speed was enhanced.

UNIVAC: Universal Automatic Computer were developed in 1952 by Eckert and Mauchly.

Second Generation Computers: Transistors (1956-1963): Second generation computers used the technology of transistors instead of bulky vacuum tubes. Another feature was the magnetic core storage.

Transistor is a device composed of semiconductor material that amplifies a signal or opens or closes a circuit. Transistors were invented in Bell Labs. Use of transistors made it possible to perform powerfully and with due speed. It reduced the size and cost and thankfully the heat too, which was generated by vacuum tubes. Central Processing Unit (CPU), memory, programming language and input and output units were also came into the force in the second generation. Programming language was shifted from high level to assembly language and made programming comparatively an easy task for programmers. Languages used for programming in this era were FORTRAN (1956), ALGOL (1958) and COBOL (1959).

Examples: PDP-8, IBM1400 series, IBM 1620, IBM 7090, CDC 3600, etc.

Third Generation Computers: Integrated Circuits (1964-1971): During the third generation, technology envisaged a shift from huge transistors to integrated circuits, also known as ICs. Here a number of transistors were placed on silicon chips, called semi-conductors. The main feature of this era's computer was the speed and reliability. ICs were made of silicon and also called the silicon chips. A single IC, has many transistors, registers and capacitors built on a single thin slice of silicon. The cost size were reduced and memory space and working efficiency was increased in this generation. Programming was now done in Higher level language such as BASIC (Beginners All purpose Symbolic Instruction Code). Mini computers find their shape in this era.

Examples: NCR 395, B6500, IBM 360, 370, etc.

Fourth Generation Computers: Micro-processors (1971-Present): In 1971 First micro-processors were used, large scale of integration LSI circuits built on a single silicon chip called microprocessors. The main advantage of this technology is that a single microprocessor can contain all the circuits required to perform arithmetic, logic and control functions on a single chip. The computers using microchips were called microcomputers. This generation provided even smaller size of computers with larger capacities. That is not enough, after that Very Large Scale Integrated (VLSI) circuits replaced LSI circuits. The Intel 4004 chip, developed in 1971, located all the components of the computer – from the central processing unit and memory to input/output controls on a single chip and allowed the size to reduced drastically. Technologies such as multi-processing, multiprogramming, time-sharing, operating speed and virtual storage made it more user friendly and common device. The concept of personal computer and computer networks came into being in the fourth generation.

Examples: Apple II, Alter 8800, etc.

Fifth Generation Computers (Till now): The technology behind the fifth generation computers is of artificial intelligence. It allows the computers to behave like humans. It can be seen in programmes like voice recognition, area of medicines and entertainment. In the field of games playing also it has shown remarkable performance where computers are capable of beating human competitors. The speed is highest, size is the smallest and area of use has remarkably increased in the fifth generation computers. Though not hundred per cent artificial intelligence has been achieved till date but keeping in view the current developments, it can be said that this dream will also become a reality very soon.

In order to summarize the features of various generations of computers it can be said that a gigantic improvement has been seen as far as the speed and accuracy of functioning is concerned, but if we talk about the size, it is being small over the years. The cost is also diminishing and reliability is of course increasing. The first generation computers used the technology of vacuum tubes, which has been replaced by transistors in the second generation and integrated circuits in the third. The fourth generation envisaged the use of microprocessors and now is the era of artificial intelligence.

Sixth Generation (2020 Onwards): The Sixth Generation of computers is different from, other generation computers in terms of size, speed and tasks that perform. These computers are called intelligent computers based on artificial intelligence or artificial brains. Whereas, it uses the semi-conductors as the raw material to its processors. Moreover, the sixth generation introduces the voice recognition which takes dictation and recognizes the words. By using the voice recognition, you can search and send the messages quickly and easily.

CLASSIFICATION OF COMPUTERS

Classification of Computers: Today one can see various types of computers available in the market. These are available in variety of sizes, weights and capacities. This variety is available to satisfy variety of functions. If you are going to purchase a personal computer you will look for different type and if you want it to be used in a MNC it will have the different configuration. Computers can be classified on the basis of capacity, which means the data processing capacity.

The performance of the computer relies on: Its data storage capacity, speed capacity, number of peripherals, software used by it. The computers can be classified in many ways. The following classification is based on size:

1. Microcomputers: Microcomputers, most commonly known as personal computers, PCs are an outproduct of the mass production of silicon chips, which made it easier to produce small and relatively less expensive machines for personal use. These computers are usually divided into desktop models and laptop models. They are limited in what they can do when compared to the larger models discussed below because they can only be used by one person at a time, they are slower and can store less information than the larger computers, but they are excellent when used in small businesses, homes and school classrooms.

These computers are easy to use. They have become an indispensable part of modern life.

2. Minicomputers: Minicomputers are smaller than mainframe computers and they are also much less expensive. They possess most of the features found on mainframe computers, but on a more limited scale. They can still have many terminals, and have storage capacity but not as much as the mainframes. Medium and small businesses typically use these computers. Minicomputer lies between the mainframe (Multi-user system) and microcomputers (Single user system). The speed and storage capacity is more than microcomputers.

3. Medium-size Computers: Medium size computers are better on bases of speed and storage as compared to small computers.

4. Large Computers: These are better than the medium size computers when compared on the basis of speed and variability. The large computers provide a variety from single-processing configurations to nationwide computer based networks involving general large computers. These computers are able to perform actions in incredible nanoseconds.

5. Mainframe Computers: Mainframes (often colloquially referred to as Big Iron) are powerful computers used mainly by large organizations for critical applications, typically bulk data processing such as census, industry and consumer statistics, enterprise resource planning, and financial transaction processing. Mainframe computers are very large, often filling an entire room. They can store enormous of information, can perform many tasks at the same time, can communicate with many users at the same time, and are very expensive. The price of a mainframe computer frequently runs into the millions of dollars. Mainframe computers usually have many terminals connected to them. These terminals look like small computers but they are only devices used to send and receive information from the actual computer using wires. Terminals can be located in the same room with the mainframe computer, but they can also be in different rooms, buildings, or cities. Large businesses, government agencies and universities usually use this type of computer.

6. Supercomputers: Supercomputers are the supreme of the computers and are biggest of all the types. These are used for highly calculation intensive tasks such as weather forecasting. A supercomputer is typically used for scientific and engineering applications that must handle very large databases or do a great amount of computation (or both). India's Center for Development of Advanced Computing (C-DAC) developed a supercomputer PARAM and its processing speed is up to 1 trillions instructions per second.

Examples: IBM Blue Gene/L, IBM Roadrunner, etc.

Classification by Technology: On the basis of technology, computers can be divided in the following categories:

Analog Computers: An analog computer is a mechanical, electrical, or electronic computer that performs arithmetical operations by using some variable physical quantity, such as mechanical movement or voltage, to represent numbers. It can be used to solve various types of problems. It solves them in an "analogous" way means in a similar fashion. Most general purpose analog computers use an active electrical circuit as the analogous system because it has no moving parts, a high speed of operation, good accuracy and a high degree of versatility.

It is used in solving problems in relationship of changing variable quantities. The analog system is set up according to initial conditions and then allowed to change freely. Analog computers are especially well suited to simulating dynamic systems; such simulations may be conducted in real time or at greatly accelerated rates, allowing experimentation by performing many runs with different variables. They have been widely used in simulating the operation of aircraft, nuclear power plants, and industrial chemical processes.

Digital Computers: Digital computer is a computer that performs calculations and logical operations with quantities represented as digits, usually in the binary number system. It is a machine that specializes in counting. It is an electronic computer in which the input is discrete rather than continuous, consisting of combinations of numbers, letters, and other characters written in an appropriate programming language and represented internally in binary notation. Digital computers are famous for accurate data processing, speed, easy data storage, high capacity, etc.

Hybrid Computers: Hybrid computers are computers that are intermediate device which exhibit features of analog computers and digital computers. The digital component normally serves as the controller and provides logical operations, while the analog component normally serves as a solver of differential equations. Because of their ease of use and because of technological breakthroughs in digital computers in the early 70s, the analog-digital hybrids were replacing the analog-only systems.

**COMPONENTS OF A COMPUTER SYSTEM:
HARDWARE AND SOFTWARE**

Every computer is composed of two basic components: hardware and software. Hardware includes the physical features, which are every part that you can either see or touch, for example: monitor, case, keyboard, mouse and printer.

The part which activates the physical components is called software. It includes the features that responsible for directing the work to the hardware. Software can be divided into other programs and data.

Hardware: Hardware refers to the physical elements of a computer. This is also sometime called the machinery or the equipment of the computer. Examples of hardware in a computer are the keyboard, the monitor, the mouse and the central processing unit. However, most of a computer's hardware cannot

be seen; in other words, it is not an external element of the computer, but rather an internal one, surrounded by the computer's casing (tower). A computer's hardware is comprised of many different parts, but perhaps the most important of these is the mother-board. The motherboard is made up of even more parts that power and control the computer. In contrast to software, hardware is a physical entity. Hardware and software are interconnected, without software, the hardware of a computer would have no function. However, without the creation of hardware to perform tasks directed by software via the central processing unit, software would be useless. Hardware is limited to specifically designed tasks that are, taken independently, very simple. Software implements algorithms (problem solutions) that allow the computer to complete much more complex tasks.

Software: Software, commonly known as programs or apps, consists of all the instructions that tell the hardware how to perform a task. These instructions come from a software developer in the form that will be accepted by the platform (operating system + CPU) that they are based on. For example, a program that is designed for the Windows operating system will only work for that specific operating system. Compatibility of software will vary as the design of the software and the operating system differ. Software that is designed for Windows XP may experience a compatibility issue when running under Windows 2000 or NT.

Software is capable of performing many tasks, as opposed to hardware which can only perform mechanical tasks that they are designed for. Software provides the means for accomplishing many different tasks with the same basic hardware. Practical computer systems divide software systems into two major classes:

System Software: Helps run the computer hardware and computer system itself. System software includes operating systems, device drivers, diagnostic tools and more. System software is almost always pre-installed on your computer.

Application Software: Allows users to accomplish one or more tasks. It includes word processing, web browsing and almost any other task for which you might install software. (Some application software is pre-installed on most computer systems.)

APPLICATIONS OF COMPUTERS

As has been mentioned earlier computers are being used now-a-days in almost every industry, some major applications of computers are elaborated as under:

1. Education: There are a variety of uses of computer in education. Teachers are using multi-media and variety of software to make the instructions easy and understandable. For example, in order to teach about aquatic animals, the teacher can use computers to present a documentary on this topic in the lab or classroom with sound effects, it will yield far better results in comparison to traditional lecture method. Computer aided software are also helping in teaching skills through simulation and help in economic use of resources and reduction of danger. **Example:** Driving simulation and dissection simulation software. Language teachers cannot deny the use of language labs to younger children in learning accurate pronunciation.

With the advancement in the technology and Internet, Online Education, e-learning, m-learning are getting very popular. These provide the learning at the pace of student and thus provide convenience. Students are using computers to access, retrieve, manipulate and transmit information from far off places.

2. Student's Database: In an educational institute it becomes very necessary to keep record of each and every student in order to provide individualized attention. Computers are being used in this field to make the function a success. Admissions, withdrawal, fee slip generation, examination form, etc. are some fields where computers are being used.

3. Educational Research: Computers play a vital role in the area of educational research. Educational research is a tedious process. Gathering information from far off places, latest updates in styles of citation, previous researches, suggestions and bibliographic citations are made easier by computers.

4. Human Resource Management: Use of computers make it easy and prompt to keep track of all the employees and manage the human resources of the industry.

5. Sports: Computer is used to maintain player records, track scores, create virtual playing field, support video cameras and simulation learning software, etc.

6. Banking: Today with the increasing population, banking customers have increased tremendously. To cater to the increasing needs of such a huge clientage it becomes necessary to use computers in banking. This makes the functioning easier, fast and reliable.

7. Entertainment: Today, in entertainment industry computers are playing a vital role. In computerized sound generation, animation and digitalization, computers are doing wonders.

8. Traffic Light Control: In managing the functioning of traffic lights which help to manage the traffic, computers play an important role.

9. Health Care Management and Hospital: Medical world is also benefiting from the use of computers. Here it is used to keep record of the patient, generate reports, bills and for management and administration.

10. Weather Forecasting: Computers are being used in forecasting the weather.

11. Ticketing: Be it railways or airways computers are being used extensively in ticket booking, ticket generating, etc.

12. Games: Computer generated games are being popular and are really very interesting. Educational games are also available which can help in learning in the playful way.