

DBK Creation
Class-XI Computer HSEB Solution

Unit-1. Introduction and Evolution of Computer

Long questions.

Q. 1.What is generation of computer? Explain the different generation of computer.

Ans: Computer generation is classification of computers into different groups according to their manufacturing date and the memory device and other hardware and software technology used in them.

1. First Generation of Computers (1940-1956):

First generation computers were powered by the thousands of vacuum tubes or thermionic valves and their memory was store on magnetic storage devices such as magnetic tapes and drums. Computers of the first generation were very large in size and require a lot of space. These were non portable and slow processing or operating time was in millisecond. Punched cards were used as input device. The operating cost as well as the cost of computers was very high. The examples of first generation of computer are IBM 700 series, ENIAC, EDVAC etc.

2. Second Generation of Computers (1956-1963):

Transistor was the main component used in second generation of computers. The transistor replaced the large, cumbersome vacuum tube based first generation computers. They were more sophisticated high-level languages such as FORTRAN (formula translator) ALGOL (algorithmic language) and COBOL (common

DBK Creation

Class-XI Computer HSEB Solution

business-oriented languages). They were smaller, faster, more reliable, accurate and more energy-efficient as compared to first generation computer. The examples of second generation of computers are IBM 1401, IBM 7090 etc.

3. Third Generation of Computers (1963-1970s):

Third generation computers were based on Integrated circuit(IC) technology. They were smaller, more reliable, and accurate than previous generation of computer. Keyboard and monitor were used as input and output device respectively for the first time. Processing or operating speed was increased to nanoseconds from microseconds. Magnetic disk was used as secondary memory. The examples of third generation of computers are NCR 395, B6500 etc.

4. Fourth Generation of Computers (1970-till date):

Fourth generation computers were based on microprocessor. The size started to go down with the improvement in the integrated circuits. Very Large Scale Integration(VLSI) and Ultra Large Scale Integration(ULS) ensured that millions components could be fit into small chip. It reduced the size and price of the computers at the same time increasing power, efficiency and reliability. Processing speed increased very fast upto picoseconds. The examples of fourth generation of computers are Apple II, Altair 8800 etc.

5. Fifth Generation of Computers (Present and Beyond):

The computers of this generation will use Artificial Intelligence(AI) and bio-chips as memory device so that they can think and decide like a human being. Bio-chips are made up of Biological organism and protein fibres obtain from living organism. So these computers will

DBK Creation
Class-XI Computer HSEB Solution

have the power of sense, logic, decision making capability, and decision making capability parallel processing. Instead of high level language, natural languages like English, Japanese etc.

Q. 2. What are the application areas of computer? Explain any 6 fields of usage of computer in present day.

Ans: A computer is an electronic device that can be used in various fields like in banks, engineering, education, ticketing, defence, business, desktop publishing etc.

1. Banks :

All financial transactions in banks and financial institutions are done by computer software. They provide security, speed, and convenience. Different branches are connected with the help of computer network, one can withdraw and deposit money for any branch system. In ATM system one can withdraw cash from any ATM machines which are interconnected in ATM system.

2. Engineering:

Computer is used in engineering to collect and analyse data. Engineer also use computer technology to collect the latest information around the globe, is mainly used to get experimental result and also in future forecasting. Engineers use computer technology for designing and developing any business as well as scientific model using appropriate software tools.

3. Education:

In educational institution, computers are used information resource, teaching aid, library system, research mode, result system,

DBK Creation
Class-XI Computer HSEB Solution

database kipping for students as well as staff, billing as well as accounting system, examination system etc. We can give online exams and get instant results. We can check examination results online.

4. Ticketing:

One can book air tickets or railway tickets or bus tickets and make hotel reservations online with the help of computer and internet technology that saves time and confirmation. We can also book hall ticket for confirmation watching movies. We can book and buy in advance any sort of ticketing.

5. Defence:

Computers widely used in defence. Secured database and records are kept in computer with the help of software usedin system. Information of defence system is very secured and complicated, so computer is most essential in defence system along with different secured featured software component.

6. Business:

Shops, malls and supermarkets use computers for file management, calculating the bills, office communication, administrative work, decision making etc. One can predict future trends of business using artificial intelligence software. They are fully automated factories running on software in the world.

Q. 3. Explain the technology used in different generation of computers.

DBK Creation
Class-XI Computer HSEB Solution

Ans: The technology used different generation of computers are given below.

1. Vacuum tube:

Vacuum tube is a hollow glass cylinder containing a positive electrode and negative electrode between which is conducted in a full or partial vacuum. A grid between these electrodes controls the flow of electricity. The vacuum tubes were predominately used in electronic devices such as televisions, radios and computers. They are still in use today in a few specialized devices.

2. Transistor:

Transistor is derived from the two words “transfer” and “register” and it is the device which is made of three terminal semi-conductor materials that amplifies the electric signal or opens or closes the electronic circuit. They were much smaller than vacuum tubes and consumed much less power. Electronic circuits could be made more complex, with more transistors switching faster than tubes.

3. Integrated Circuits(ICs):

An integrated circuit, commonly referred to as an IC, is a microscopic array of electronic circuits and components that has been diffused onto the surface of a single crystal, or chip, of semiconducting material such as silicon. ICs range in complexity from the simple logic models and amplifiers complete microcomputers containing millions of elements.

4. Microprocessor:

DBK Creation

Class-XI Computer HSEB Solution

A microprocessor is a computer processor on a microchip. It is sometimes called a logic chip. It is the “engine” that goes into motion when you turn your computer on. A microprocessor is designed to perform arithmetic and logic operations that make use of small number-holding areas called registers. When the computer is turned on, the microprocessor is designed to get the first instruction from the basic input/output system (BIOS) that comes with the computer as part of its memory.

5. Artificial Intelligence (AI):

Artificial intelligence (AI) is the area of computer science focusing on creating machines that can engage on behaviours that humans consider intelligent. The ability to create intelligent machines has intrigued humans since ancient times and today with the advent of the computer and 50 years of research into AI programming techniques, the dream of smart machines is becoming a reality.

Short question.

Q. 1. Describe the features of first generation computers.

Ans: The features of first generations computers are:

- These computers were based on vacuum tubes technology.
- Vacuum tubes required great amount of energy and generated much heat, therefore AC was essential.
- The first generation of computers were very large in size and required a lot of place.
- Punch cards were used as input device.

DBK Creation
Class-XI Computer HSEB Solution

- These machines were unreliable and lack of versatility and speed.

Q. 2. Describe the features of second generation computers.

Ans: The features of second generation computers are:

- These computers were based on transistor technology.
- They were smaller, faster, more reliable and accurate more than first generation computers.
- They were portable and generated less amount of heat as compared to first generation computers.
- These computers still required AC.
- Processing and operating speed was increasing to microseconds from milliseconds.

Q. 3. Describe the features of third generation computers.

Ans: The features of third generation computers are:

- These computers were based on ICs.
- They were smaller, faster, more reliable and accurate than previous generation computers.
- Semi-conductor was used as primary memory.
- Magnetic disk was used as secondary memory.
- High level languages were used.

Q. 4. Describe the features of fourth generation computers.

DBK Creation
Class-XI Computer HSEB Solution

Ans: The features of fourth generation computers are:

- These computers were based on microprocessor.
- These computers were powerful, compact, affordable, portable, and totally reliable.
- Processing speed increasing very fast up to Pico seconds.
- Fourth generation application software and languages became popular.
- Fourth generation computers are cheapest among all the other generation.

Q. 5. Why computer is known as versatile and diligent machine? Explain.

Ans: Computer is known as versatile because a computer can perform various types of tasks. So, the same computer can be used for various purposes such as accounting, generating pay slip, playing games, listening music, watching movies, typing and printing the document etc.

Computer is also known as diligent because, unlike human beings, a computer can never feel tired and bored to do task repeatedly for a long time. So, the computer can perform the same task with the same speed and accuracy even for hours and days if we provided the suitable environment and correct program.

Q. 6. Differentiate between third and fourth generation of computers.

DBK Creation
Class-XI Computer HSEB Solution

Ans: Differentiate between third and fourth generation of computers are given below.

1. Third generation computers:

Third generation computers were based on Integrated circuit(IC) technology. They were smaller, more reliable, and accurate than previous generation of computer. Keyboard and monitor were used as input and output device respectively for the first time. Processing or operating speed was increased to nanoseconds from microseconds. Magnetic disk was used as secondary memory. The examples of third generation of computer are NCR 395, B6500 etc.

2. Fourth of computer generation:

Fourth generation computers were based on microprocessor. The size started to go down with the improvement in the integrated circuits. Very Large Scale Integration (VLSI) and Ultra Large Scale Integration (ULSI) ensured that millions components could be fit into small chip. It reduced the size and price of the computers at the same time increasing power, efficiency and reliability. Processing speed increased very fast up to picoseconds. The examples of fourth generation of computers are Apple II, Altair 8800 etc.

Q. 7. Differentiate between second and third generation computers.

Ans: Differentiate between second and third generation computers.

DBK Creation
Class-XI Computer HSEB Solution

Second generation computers	Third generation computers
1. These computers were based on transistor.	1. These computers were based on integrated circuits.
2. They are larger, slower and less reliable than third generation computers.	2. They are smaller, faster and more reliable than second computers.
3. They generated high amount of heat.	3. They generated less amount of heat.
4. They consumed high electricity.	4. They consumed less electricity.
5. These computers still require AC.	5. These computers does not require AC.

Q. 8. What is Artificial Intelligence (AI)? List out the advantage of AI.

Ans. Artificial intelligence (AI) is the intelligence of machines. It is about designing machines that can think. Researchers also aim at introducing an emotional aspect into them.

Advantages of Artificial Intelligence (AI) are as follows.

1. With artificial intelligence, the chances of error are almost nil and greater precision and accuracy is achieved.
2. Intelligent robots can be programmed to reach the Earth's nadirs. They can be used to dig for fuels. They can be used for mining purposes.
3. The intelligence of machines can be harnessed for exploring the depths of oceans. These machines can be of use in overcoming the limitations that human have.
4. Fraud detection in smart card-based systems is possible with the use of AI. It is also employed by financial institutions and banks to organize and manage records.
5. The greatest advantage of artificial intelligence is that machines do

DBK Creation
Class-XI Computer HSEB Solution

not require sleep or breaks, and are able to function without stopping. They can continuously perform the same task without getting bored or tired. When employed to carry out dangerous tasks, the risk to human health and safety is reduced.

Q. 9. Describe the disadvantage of AI?

Ans. Disadvantage of AI are as follows.

1. One of the main disadvantages of artificial intelligence is the cost incurred in the maintenance and repair. Programs need to be updated to suit the changing requirements, and machines need to be made smarter.
2. An important concern regarding the application of artificial intelligence is about ethics and moral values. Is it ethically correct to create replicas of human beings? Do our moral values allow us to recreate intelligence? Intelligence is a gift of nature. It may not be right to install it into a machine to make it work for our benefit.
3. If the control of machines goes in the wrong hands, it may cause destruction. Machines won't think before acting. Thus, they may be programmed to do the wrong things, or for mass destruction.
4. Ideally, human beings should continue to be the masters of machines. However, if things turn the other way round, the world will turn into chaos. Intelligent machines may prove to be smarter than us, they might enslave us and start ruling the world.

Unit-2 Classification of computer

Short questions.

Q. 1. What is mobile computing? Explain why it is becoming more popular these days.

DBK Creation
Class-XI Computer HSEB Solution

Ans: Mobile computing is generic term describing one's ability to use technology while moving, as opposed to portable computers, which are only practical for use while deployed in a stationary configuration. In other words, a technology that allows transmission of data via a computer, without having to be connected to a fixed physical link is mobile computing.

Mobile computing becoming more popular these days, because it reduces transaction cost one account to another because of portability and easy communication access. It is very useful tool for social interactivity that allows for data sharing and collaboration between users. We can sell a product or give service in quicker time by using mobile computing. Mobile computing is very popular for streamline business processes for its promotion and enhancement easily and quickly.

Q. 2. Differentiate between microcomputer and super computer.

Ans: Differentiate between micro and super computer are given below.

- Microcomputer:

A computer is small sized personal computer that designed for an individual having a microprocessor inside it. Microcomputers are designed to be used by individuals, whether in the form of personal computers, workstations or notebook computers. Microcomputers are called micro because of the use of microprocessor as processing unit. The smaller of this category are laptop, notebook, palmtop computers etc. Example: IBM pc, Apple, Dell etc.

- Super computer:

DBK Creation

Class-XI Computer HSEB Solution

A super computers are fastest type of computer which perform at a rate of speed which is far above that of other computers which harness immense processing power so that they are incredibly fast, sophisticated and powerful. Super computers are very expensive and they are employed for specialized applications that require immense amounts of mathematical calculations. For example: Weather forecasting requires super computer.

Q. 3. Differentiate between IBM pc and IBM compatible computers.

Ans: Differentiate between IBM pc and IBM compatible are given below.

- IBM pc:

IBM pc stands for “International Business Machine personal computer” which is made by IBM Company. IBM Company established by Dr. Herman Hollerith in 1920 AD. And it is the largest computer manufacturing company in the world till today. It is leading the market of mainframe, mini and personal computer. The IBM computers are more reliable, durable and have high processing capability. It is also called IBM branded computer as its whole parts are developed by IBM itself. Generally, these computers are more expensive than other computers.

- IBM compatible:

The word compatible means ‘*able to exist together and work successfully*’. So in IBM compatible, the components of computer are developed by different companies and finally, they are assembled

DBK Creation
Class-XI Computer HSEB Solution

and computer is made. So, it is also called on assembled personal computer. Although the architecture of IBM compatible is similar to IBM pc, they are very cheaper than IBM PC.

Q. 4. Describe the application areas of super computer.

Ans: The application areas of super computers are given below.

- Climate researchers used super computers to weather forecasting.
- Astronomers and space scientists used super computer to study the sun and space weather.
- Scientists used super computer to simulate how a tsunami would impact a given city.
- Super computers are used for designing aircrafts.
- Super computers used for designing robots.

Q. 5. Give the advantages and disadvantages of mobile technology.

Ans: The advantages (features) of mobile technology are given below.

- Portable:

Mobile computing also reduces the transaction cost from one account to another because of portability and easy communication access.

- Social interactivity:

It is very useful tool for social interactivity that allows for data sharing and collaboration between users.

- Context sensitivity:

DBK Creation

Class-XI Computer HSEB Solution

It is also very useful tool for context sensitivity to gather and respond to real or simulated data unique to a current location, environment or time.

- Connectivity ability:

Its connectivity ability helps for communication of data in any environment.

- Quick service:

We can sell a product or give service in quicker time by using mobile technology.

Disadvantages of mobile technology are given below.

- Insufficient bandwidth:

If the user needs access to a network such as the internet on the go, they must resort to slow wireless wide area networks systems primarily intended for telephone use. High speed network are only available in specific sites.

- Security standards:

When working mobile one is dependent on public network, requiring careful use of Virtual Privet Network.

- Power consumption:

Since the grid cannot be used, mobile computers must rely entirely on battery power. Combined with compact size, this means unusually expensive batteries must be used.

- Human interface with device:

DBK Creation
Class-XI Computer HSEB Solution

This are still uncommon, screens are often too small. Keyboards are impractical, especially one-handed, and alternate methods. Such as speech and handwriting recognition require training.

Q. 6. Differentiate between mini and mainframe computer.

Ans: Differentiate between mini and mainframe computers are given below:

- Mini computers:

Minicomputers are computers that are somewhere in between mainframe and microcomputer. The minicomputer was typically stand along device that was ideal, used by small and middle size businesses who needed more power and memory that could by obtained with microcomputers, but did not have a need for the resources provided by mainframes. Minicomputer is smaller, less expensive and less powerful than mainframe and super computer, but more expensive and more powerful than a personal computer.

- Mainframe computer:

Mainframe are large, powerful and expensive computers used mainly by large companies for bulk data processing, commercial data processing and other large-scale such bank transaction processing. The largest mainframes can handle the processing needs of thousands of users at any given moment. It is general propose computing system designed for large scale data processing. It is very large in size. It is used in network system.

Q. 7. Differentiate between Analog and Digital computer.

Ans: The difference between Analog and Digital are given below.

DBK Creation
Class-XI Computer HSEB Solution

- ANALOG

- The computer which is based on continuous data is known as analog computer.
- Analog computer used for specific purpose.
- Analog computer has no or less storage.
- Cost is low as compared to digital computer.
- The accuracy of analog computer is poor.

- DIGITAL

- The computer which is based on discrete data is known as digital computer.
- Digital computer used for general purpose.
- Digital computer has high storage.
- Cost is high as compared to analog computer.
- The accuracy of digital computer is high.

Q. 8. Describe the features of super computer.

Ans: The features of super computers are given below.

- Super computers are faster, sophisticated and powerful computers.
- They are more expensive.
- Super computers perform complex mathematical calculations.
- Super computers typically have multiple processors.
- Super computers use for rendering complex formula.

Q. 9. Write short note about Hybrid computers.

Ans: A combination of computers which is capable of processing in both digit and analog signals. A Hybrid computer system set up with a cost effective method of performing complex simulations. A Hybrid

DBK Creation
Class-XI Computer HSEB Solution

computer incorporated the measuring feature an analog computer and counting feature of digital computer. For computational purposes, these computers use analog components and for the storage of intermediate digital memories are used.

Unit-5 Computer Systems

Long questions.

Q. 1. Define the terms “computer architecture” and “computer organization”. Explain the different units of computer system.

Ans: Computer architecture refers to those attributes of a system visible to a programmer or those attributes that have a direct impact on the logical execution of a program.

Computer organization refers to the operational units and their interconnections that realize the architectural specifications.

The different types of computers unit are given below.

- Input Unit:

It accepts the data or instructions given by the user and it converts the data and instructions from man readable to machine readable code. Some common input devices are keyboard, mouse, scanner, punch cards, a typewriter, reader etc.

- Processor/Central Processing Unit:

Central processing unit (CPU) is the portion of computer system that carries out the instruction of a computer program, and is the primary element carrying out the computer's functions. The central processing unit carries out each instruction of the program in

DBK Creation

Class-XI Computer HSEB Solution

sequence, to perform the basic arithmetic, logical and input/output operation of the system. A CPU built on a single chip is called microprocessor.

Some of the primary elements of CPU are given below.

- **Register:**

Registers are the primary memory of computer system. They are mainly used to store data during the time of processing inside ALU. The registers within CPU are special purpose temporary storage locations. The main types of registers are general purpose and specific purpose registers. The important register within CPU is program counter (PC).

- **Control Unit:**

The control unit is the brain of CPU itself. It is situated inside a processor. It controls overall operations and devices of computer. There are two types of control units, the first type is called hardwired control unit. The hardwired control units are constructed using digital circuits and once formed can't be changed. The other type of control unit is called micro programmed control unit. A micro programmed control unit itself decodes and executes instructions by means of executing micro programs.

- **Arithmetic Logic Unit (ALU):**

The arithmetic logic unit carries out as the name suggests. Arithmetic and logical operations on the data made available to it. Basic arithmetic functions which an ALU can carry out are an addition, subtraction, multiplication and division. The logical operation which

DBK Creation

Class-XI Computer HSEB Solution

can it can carry out greater than, equal to less than etc. Besides these operations some processors also supports operations which check if particular bits are on or off.

- Storage:

The computer memory is a data storing devices. There are mainly two types of memory, primary memory and secondary memory. Primary memory or main memory is a volatile memory of computer. As soon as a computer starts, primary memory stores all running applications, operating system, user interface and any other. Secondary memory is also called auxiliary memory of computer. They are slower access rates for data storage capacity and data stability.

- Output unit:

When the computer completes its processing task, the result must conveyed back to the users. Information from the CPU converted into an understandable form through output devices. The output of the computer can be presented into different ways, such as softcopy and hard copy. Some commonly used output devices are monitor, printer, plotter, speaker etc.

Q. 2.What is memory? Explain the different types of memory present in the computer system.

Ans: Memory is a space or area to store any type of data. Or memory is the storage device of computer that stores data either permanently and temporarily. There are many categories of memories: primary and secondary memory. RAM, ROM, resisters, floppy disk, magnetic tapes etc. are the example of computer memory. The processing capacity of memory not only depends on

DBK Creation

Class-XI Computer HSEB Solution

processor, but also on capacity of primary memory. A memory system can be logically divided into two categories: primary memory and secondary memory.

- **Primary Memory:**

The primary memory of computer is also called main memory of computer. It is fast and less capacity memory of computer. The primary memories of computer are ROM, RAM, cache memory, registers etc. They are mainly used to store data during a time of processing. The fast and integrated memory of less capacity is termed as primary memory or main memory. These memories have great effect on processing speed of computer. Some such types of memories are explained below.

- **Random Access Memory (RAM):**

Random-access memory is a form of computer data storage. The word “RAM” is often associated with volatile types of memory, where the information is lost after the power is switched off. The advantage of using RAM is to store whatever you are working on at any moment and RAM is very fast memory. There are two types of RAM.

1. **Dynamic Random Access Memory (DRAM):**

It is a type of random-access memory that stores each bit of data in a separate capacitor within an integrated circuit. The capacitor can be either charge or discharge; these two states are taken to represent the two values of a bit, conventionally called 0 and 1.

2. **Static Random Access Memory (SRAM):**

DBK Creation

Class-XI Computer HSEB Solution

It is a type of semiconductor memory where the word static indicates that, unlike dynamic RAM, it does not need to be periodically refreshed. SRAM is more expensive, but faster and significantly less power consumption than DRAM.

▪ Read-Only Memory (ROM):

It is a class of storage media used in computers. Data store in ROM can't be modified, or can be modified only slowly or with difficulty, so it is mainly used to distributed firmware. The manufacturing company already installed program in ROM. There are 3 types of ROM.

1. Programmable Read-Only Memory (PROM):

Programmable read-only memory (PROM), or one-time programmable ROM (OTP), can be written or programmed via a special device called a PROM programmer. Typically, this device uses high voltages to permanently or create internal links within the chip.

2. Erasable Programmable Read-Only Memory (EPROM):

Erasable programmable read-only memory (EPROM) can be erased by exposure to strong ultraviolet light (typically for 10 minutes or longer), then written with a process that again needs higher than usual voltage applied. Repeated exposure to UV light will eventually wear out an EPROM.

3. Electrically Erasable Programmable Read-Only Memory (EEPROM):

Electrically erasable programmable read-only memory is based on similar semiconductor structure to EPROM, but allows its entire

DBK Creation
Class-XI Computer HSEB Solution

contents to be electrically erased, and then rewritten electrically, so that they need not be removed from the computer.

- **Cache Memory:**

Cache memory is extremely fast memory that is built into a computer's central processing unit (CPU), or located next to it on a separate chip. The CPU uses cache memory to store instructions that are repeatedly required to run programs, improving overall system speed. The advantage of cache memory is that the CPU does not have to use the motherboard's system bus for data transfer.

- **Secondary Memory:**

Secondary memory, also known as secondary storage, is the slower and cheaper form of memory. CPU does not access the secondary memory directly. The content in it must first be copied into the primary storage RAM for CPU to process. Secondary memory devices include hard drives, floppy disks etc.

Q. 3. What is the computer system? Describe the different types of bus.

Ans: A computer system refers to the fully function able system that is integration of both hardware and software. The hardware components of a computers system are physical components that are tangible such as keyboard, mouse, processor, mother board, memory etc. Whereas the software components are logical components that make physical components work such as data, information, computer instruction etc.

DBK Creation
Class-XI Computer HSEB Solution

The components of computer are interacted by the bus. There are different types of bus structure. The bus is a medium used to transfer data, memory address and control signal from one part to other part of computers. There are three types of bus.

1. Address BUS:

It is a group of wires of lines that are used to transfer the addresses of memory or input/output devices. It is unidirectional. In Intel 8085 microprocessor, Address bus was of 16 bits. This means that microprocessor 8085 can transfer maximum 16 bit address.

2. Data Bus:

It is used to transfer data within microprocessor and memory/input or output devices. It is bidirectional as microprocessor requires sending or receiving data. The word length of a processor depends on data bus, that's why Intel 8085 is called 8 bit microprocessor because it has an 8 bit data bus.

3. Control Bus:

A control bus is a computer bus used by the CPU to communicate with devices that are contained within the computer. This occurs through physical connections such as cables or printed circuits. The CPU transmits a variety of control signal to components and devices to transmit control signals to the CPU using the control bus.

Short questions.

Q. 1. Define software. Explain the different types of software.

DBK Creation
Class-XI Computer HSEB Solution

Ans: Software refers to parts of the computer which do not have a material form, such as programs, data, protocols etc. Software refers to something intangible. Basically, software is a program, written by a programmer which controls specific parts of computer or specific application.

Software is often divided into two categories.

1. Systems Software:

System software is computer software designed to operate the computer hardware and to provide a platform for running application software. It helps in running the computer hardware and the computer system.

2. Application Software:

It enables the users accomplish certain specific tasks. It can use to solve application type of problem. Business software, databases and educational software are some forms of application software.

Q. 2. What is memory? Differentiate between primary and secondary memory.

Ans: Memory is the storage device of computer that stores data either permanently or temporarily. A memory system can be logically divided into two categories: primary memory and secondary memory.

Differences between primary and secondary memory are given table.

PRIMARY MEMORY	SECONDARY MEMORY
1. It is directly connected	1. It is not directly connected

DBK Creation
Class-XI Computer HSEB Solution

to the processor.	to the processor.
2. It is expensive than secondary memory.	2. It is cheaper than primary memory.
3. It has less storage capacity.	3. It has high storage capacity.
4. It is faster than secondary memory.	4. It is slower than primary memory.

Q. 3. Describe the Non-impact printer? Describe the major features of Non-impact printers.

Ans: Nonimpact printers, used almost everywhere now. They are faster and quieter than impact printers because they have fewer moving parts. Nonimpact printers form characters and images without direct physical contact between the printer mechanism and the paper.

The major features of nonimpact printers are given below.

- They are less noisy.
- They are fast
- They are high quality printers.
- They are used almost everywhere now.

Q. 4. Differentiate between RAM and ROM.

Ans: Differences between RAM and ROM are given below.

RAM	ROM
1. It stands for Random Access	1. It stands for Read only

DBK Creation
Class-XI Computer HSEB Solution

Memory.	Memory.
2. It has higher memory space than ROM.	2. It has less memory space than RAM.
3. It is less expensive.	3. It is expensive.
4. It is faster than ROM.	4. It is slower than RAM.
5. Its types are SRAM and DRAM.	5. Its types are PROM, EPROM etc.

Q. 5. Differentiate between SRAM and DRAM.

Ans: Differences between SRAM and DRAM are:

SRAM	DRAM
1. It is expensive.	1. It is less expensive.
2. It has low density of data.	2. It has high density of data.
3. It is faster than DRAM.	3. It is slower than SRAM.
4. It doesn't need periodic refreshing.	4. It needs periodic refreshing.
5. It is mainly used to cache memory.	5. It is mainly used to main memory.

Q. 6. Describe the impact printers with their major features.

Ans: An impact printer has mechanism like to those of a typewriter. It forms characters or images by striking a mechanism such as print hammer or wheel against an inked ribbon, leaving an image on paper.

DBK Creation
Class-XI Computer HSEB Solution

The major features of impact printers are given below.

- They are noisy.
- They are slow.
- They are poor quality printer.
- The head strikes ink coated ribbon to printer information.
- Impact printers are dying out.

Q. 7. What is laser printer? Describe the major features of laser printers.

Ans: Laser printers are non-impact printers which can print text and images in high speed and high quality resolution, ranging from 600 to 1200 dpi.

The major features of laser printers are given below.

- They are high resolution.
- They are having high print speed.
- They are low cost per page.
- They are no smearing.
- They are good for high volume printing.

Q.8. Differentiate between impact printers and nonimpact printers.

Ans: Differences between impact and nonimpact printers are given below.

IMPACT PRINTERS	NONIMPACT PRINTERS
1. They are noisy.	1. They are less noisy.
2. They are slow.	2. They are fast.
3. They are poor quality printers.	3. They are high quality printers.

DBK Creation
Class-XI Computer HSEB Solution

4. Example: dot matrix, daisy wheel etc.	4. Example:thermal, laser etc.
5. They are dying out.	5. They are almost everywhere now.

Q. 9. Describe the terms 'Hardware' and 'Firmware'.

Ans:Hardware:

Computer hardware is the collection of physical components that make up a computer. In other words we can say that hardware covers all parts of computer that are tangible objects. Examples of hardware are input devices like keyboard and mouse, output devices like printer and monitor, storage devices like disk drive and computer itself.

Firmware:

Programmable software that written into read only memory of a computing device is called firmware. Or a set of micro instructions store in a chip is called firmware. Micro instructions are hardware level instructions which are directly executed by the hardware. Firmware is loaded into the equipment, either at the time it is manufactured or later, by the person installing the equipment or the person using it.

Q. 10. Differentiate between CRT and LCD.

Ans: Differences between CRT and LCD are:

CRT (Cathode Ray Tube)	LCD (Liquid Crystal Display)
1.CRT stands for cathode ray	1.LCD stands for liquid crystal

DBK Creation

Class-XI Computer HSEB Solution

tube.	display.
2. It is very large.	2. It is smaller.
3. It has high power consumption.	3. It has less power consumption.
4. It has less application.	4. It has high application.
5. CRDs have less respond time than LCD.	5. LCDs have high respond time than LCD.

Q. 11. Differentiate between compiler and interpreter.

Ans: The differences between compiler and interpreter are given below.

COMPILER	INTERPRETER
1. It translates high level language program into machine language program at single attempt.	1. It translates high level languages program by one instruction at a time.
2. Execution time is very fast.	2. Execution time is slow.
3. Compiler requires more memory.	3. Interpreter requires less memory.
4. Debugging is hard.	4. Debugging is easy.
5. Programming language like C, C++ uses compilers.	5. Programming language like python, Ruby uses interpreters.

Q. 12. What is computer virus? Describe the method of protection from virus.

Ans. Computer virus is a piece of code or Software which is capable of copying itself and typically has a detrimental effect, such as corrupting the system or destroying data.

DBK Creation

Class-XI Computer HSEB Solution

Install quality antivirus

Many computer users believe free antivirus applications, such as those included with an Internet service provider's bundled service offering, are sufficient to protect a computer from virus or spyware infection.

Install real-time anti-spyware protection

Many computer users mistakenly believe that a single antivirus program with integrated spyware protection provides sufficient safeguards from adware and spyware. Others think free anti-spyware applications, combined with an antivirus utility, deliver capable protection from the skyrocketing number of spyware threats.

Keep anti-malware applications current

Antivirus and anti-spyware programs require regular signature and database updates. Without these critical updates, anti-malware programs are unable to protect PCs from the latest threats.

Don't click on email links or attachments

It's a mantra most every Windows user has heard repeatedly: Don't click on email links or attachments. Yet users frequently fail to heed the warning.

Q. 13. Differentiate between hardcopy and softcopy.

Ans. Hard Copy:

The term hard copy itself describes something touchable, physical and tangible. And copy means the result of a production or information. So the collective meaning of hard copy is, production of any record or information in a physical object or form. Printed books, newspapers, magazines, documents, etc. all are kinds of hard copy.

Soft Copy:

DBK Creation
Class-XI Computer HSEB Solution

Soft copy means a data or information which can be stored in any kind of digital memory. It is an intangible form of preserving the material. You can see the record but cannot touch it. Monitors or others display screens are used to see the soft copy results.

Differences:

Both hard copy and soft copy have some advantages and disadvantages

Producing soft copy is less expensive than producing hard copy. Compiling a single book in hard format will be more expensive than producing an eBook on any word processing software.

Soft copy has no weight. Weight is just of the media on which it is stored. Hard copy carries some weight. Having bulk of pages of hard copy means large amount of weight as well.

Soft copy requires no physical space as compares to hard copy. Sometimes hard copies required a special record room or portion of cabinet.

Hard copy cannot be preserved for a long time. Chances of termite becomes even higher in case of old files and documents.

Hard copy is beneficial in the sense that it is touchable and can be read out easily. While soft copy sometime requires special software to read and access.

Soft copy is beneficial for environment as it cuts the cost of papers, ink and printing. Hard copy requires all this material to get the shape.

DBK Creation
Class-XI Computer HSEB Solution

Although soft copy is becoming more popular than hard copy but still hard copy is used as a medium of evidence in case of legal disputes.

Q. 14. Write short notes on.

Cache memory:

Cache memory is the extremely fast memory that is built into the computer's central processing unit(CPU), or located next to it on a separate chip. The CPU uses cache memory to store instructions that are repeatedly required to run programs, improving overall system speed. The advantage of cache memory is that the CPU does not have to use the motherboard's system bus for data transfer.

Scanner:

Scanner is a device that optically scans images, printed text, handwriting, or an object and converts it to a digital image. Scanners use a light beam to scan the input data. If the data to be scanned is an image, it can be changed by using the special image editing software. If image is a page of text, then the special optical character recognition software must be used to convert the images of letters in text and this can be edited by using a word processor.

Light pen:

A light pen is a computer input device in the form of a light-sensitive used in conjunction with a computer's CRT TV set or monitor. It allows the used to paint to displayed objects, or draw on the screen, in a similar way to a touch screen but with greater positional

DBK Creation
Class-XI Computer HSEB Solution

accuracy. A light pen can work with any CRT-based display, but not with LCD screens projectors and other display devices.

MICR:

Magnetic Ink Character Recognition, or MICR, is a character recognition technology used primarily by the banking industry to facilitate the processing of cheques. The technology allows computers to read information off printed documents. Unlike barcodes or similar technologies, however, MICR codes can be easily read by humans.

OCR:

Optical Character Recognition is themechanical or electronic translation of scanned images of handwritten, typewritten or printed text into machine-encode text. It is widely used to convert books and documents into electronic files, to computerize a record keeping system in an office, or to publish the on a website.

USB:

Pen drive is portable USB (Universal Serial Bus) flash memory device that can be used to transfer audio, video, and data files from one computer to another computer. It is a portable device just like external hard disk. USB flash drives are called thumb drive, pen drive, USB drive. Storage capacity of pen drive is MB to GB.

Modem:

Modem is communication device. Modem has two parts – (a) modulator and (b) demodulator. Modulator converts digital signal into analog signal and demodulator converts analog into digital

DBK Creation
Class-XI Computer HSEB Solution

signal. Modem is signal converter. It convert input signal into digital and output signal into analog. There are two types of modem use: internal and external modem.

Unit 6. Operating System

Long questions.

Q. 1. What is operating system? The Explain any six functions of operating system.

Ans: Operating system is designed to control the hardware of specific data processing system in order to allow users and application programs to make use of it. Or operating system is a large collection of system software, which manages the resource of computer system such as memory, storage, processor, input/output devices and it also acts as an interface between machine and user.

The functions of operating system are given below.

1. Input output management:

Operating system manages the input and output of computer. This applies to the flow of data among computers, terminals and other devices such as monitors, printers etc. Application programs use the operating system extensively o handle input and output devices as needed.

2. Command interpreter:

The command interpreter takes a command from the user and then operating system translate it into a detailed meaningful instruction,

DBK Creation

Class-XI Computer HSEB Solution

which computer can understand easily. So, main function of computer interpreter is to get and execute the user specified command. In the MS-DOS, command.com is a command interpreter.

3. Data management:

Operating system also manages the storage and regain of data. As the system software handles many of the details associated with the process such details are not primary concerns for users or programmers writing application programs.

4. File management:

Files management creates a mechanism of files and directories by making a table of each file and directories in the storage device, so as to keep track of each element. Then it implements different type efficient searching mechanism of files.

5. Memory management:

Computers system includes number of storage device like registers, cache memory, primary memory and secondary memory etc. Whenever, processor needs some data or instructions, it is first researched in registers and then after cache memory, if it isn't available there, then it looks into primary memory (RAM). The way of loading, accessing and removing the data from these devices are managed by the operating system.

6. Job management:

It recognizes the jobs, identifies their priorities, determines whether the appropriate main memory and secondary memory capability they require is available or not. Then, operating system

DBK Creation
Class-XI Computer HSEB Solution

schedules job and finally runs each job at the appropriate format with scheduling.

Q. 2. Explain the types of operating system based on processor.

Ans: The types of operating system based on processor are given below.

1. Batch processing operating system:

A batch is group of similar types of jobs which are store in secondary memory especially magnetic tape. It is not a complete operating system. It is a traditional way of data processing mechanism, especially used in mainframe computer early day of computing. Batch processing operating system carried out from beginning to end without user intervention. It takes long computation time.

2. Multiprogramming:

Multiprogramming allows execution of two or more programs in a main memory of the computer. In this environment, processor processes several programs simultaneously. All programs are kept in the job pool of mass storage device and these programs are ready for processing but CPU is busy, so these programs are waiting their turns. When one processing is completed, next ready program is fetched from main memory for processing. Different forms of multiprogramming operating system are, multitasking, multiprocessing multi-user.

3. Multitasking:

A system able to process a number of tasks at a time is called multitasking. It allows more than one program to run concurrently.

DBK Creation
Class-XI Computer HSEB Solution

In multitasking, only one CPU is involved, but it switches from one program to another so quickly that it gives the appearance of executing all the programs at the same time. In this system, more than one task is performed on the priority basis, a high priority task interrupts low priority task.

4. Multiprocessing:

Multiprocessing operating system is the one which runs on the computer having more than one processor and all these processors share some or all of the same memory. Such operating system simultaneously executes two or more jobs at a single time. Multiprocessing systems are much more complicated than single process systems, because the operating system must allocate resources to competing processes in a reasonable manner.

5. Time sharing management:

In time sharing systems, the CPU executes multiple jobs by switching among them, but occurs so frequently that the users can interact with each program while it is running. The user gives instructions to the OS or to a program directly, using an input device such as a keyboard, or a mouse and waits for immediate results on an output device.

6. Real time system:

Real time operating systems are systems that respond to input immediately. This category includes OS designed substantially for the purpose of controlling and monitoring external activities with timing constraints. They are used for those tasks, in which computer must react to a steady flow of new information without interruption.

DBK Creation
Class-XI Computer HSEB Solution

Q. 3 Describe GUI and CUI based operating system.

Ans. Graphical User Interface (GUI):

There are many operating systems available with GUI. The concept of GUI is invented by Xerox corporation in 1970, but it is used in business by apple corporation in first time in 1983 and Macintosh Computer introduced it's updated from in 1984. GUI allows to you to enter commands by pointing and clicking at objects that appears on the screen. The main advantage of GUI is that it is easy to use. The disadvantage of GUI is the amount of memory space they need. It needs a lot of RAM and hard disk space to run GUI.

Some features of GUI:

- GUI is graphical and user friendly.
- Users don't have to remember syntax and command.
- It needs large amount of memory space.
- It runs other Windows based programs like MS-Word.
- By using icons, easy to understand the job of component.
- It supports multimedia environment.

Character User Interface(CUI):

Command-line interface/text base interface/character user interface where the user provides the input by typing a command string with the computer keyboard and the system provide output by printing text on the computer monitor. So, the commands are accepted and executed by a part of the OS called CUI. The main advantage of CUI is that they can be quick to use. Since, there are no involvements of graphical components, so CUI required less memory to operate it.

DBK Creation

Class-XI Computer HSEB Solution

Some features of CUI:

- CUI is more textual and less user friendly.
- Users have to remember syntax and commands.
- It needs less amount of memory space.
- It can't display graphics, pictures or icons

Q. 4. Explain the importance of an operating system. Differentiate between GUI and CUI with example.

Ans: An operating system is a large collection of system software, which manages the resource of computer system such as memory, storage, processor, I/O devices and it also acts as interface between machine and user. Moreover, it also performs the basic tasks such as reorganization or peripheral devices, sending and receiving information to the external sources kipping task of files, folders on the disk and other different utility tasks.

On the other hands, and OS also acts as an interface between hardware and users. It is designed to handle basic elements of computer operation such as sending instruction to hardware devices like disk drives and computer screen with the help of interface provided by the operating system.

The differences between GUI and CUI are given below:

Graphical user interface (GUI)	Character user interface (CUI)
1.GUI is user friendly.	1.CUI is less user friendly.
2. Users don't have to remember syntax and commands.	2. Users have to remember syntax and commands.
3. It needs large amount of	3. It needs less amount of

DBK Creation
Class-XI Computer HSEB Solution

memory space.	memory space.
4. It is slower than CUI.	4. It is faster than GUI.
5. Example: Microsoft, window.	5. Example: dos.

Short questions.

Q. 1. What is booting? Describe the types of computer booting.

Ans: Loading the system files of operating system in the memory of computer is called booting. Booting of computer can be performed by two ways.

1. Warm Boot:

When the user is working with the computer and wishes to reboot the computer, that is he wants to store the program in RAM and press CTRL+ALT+DEL keys at the same time, the computer searches for system file in the disk and loads them into the RAM. This process of booting is called warm boot.

2. Cold Boot:

When the computer is at off state and the user puts on the power switch of the computer, the computer reads its RAM space and searches for system files of DOS from disk drive A: or C:. As soon as it finds the system file, the files are resident to the computer memory. This is called cold boot.

Q. 2. What is software? Why GUI operating system is more popular than CUI operating system.

DBK Creation
Class-XI Computer HSEB Solution

Ans: Software refers to parts of the computer which do not have a material form, such as programs, data, protocols etc. Software refers to something intangible. Basically, software is a program, written by a programmer which controls specific parts of computer or specific application.

GUI (graphical user interface) operating system is more popular than CUI (character user interface) operating system, because the GUI is easy for used than CUI. There are many operatingsystems available with GUI than CUI. It is graphical and user friendly than CUI. Users don't have to remember syntax and commands in graphical user interface but users have to remember syntax and commands in character user interface. GUI has many features than CUI.

Q. 3. What is operating system? Write down the features of GUI based operating system.

Ans: Operating system is designed to control the hardware of specific data processing system in order to allow users and application programs to make use of it. Or operating system is a large collection of system software, which manages the resource of computer system such as memory, storage, processor, input/output devices and it also acts as an interface between machine and user.

The features of GUI based operating system are:

- GUI is graphical and user friendly.
- Users don't have to remember syntax and command.
- It needs large amount of memory space.
- It runs other Windows based programs like MS-Word.
- By using icons, easy to understand the job of component.

DBK Creation

Class-XI Computer HSEB Solution

- It supports multimedia environment.

Q. 4. Differentiate between GUI and CUI.

Ans: The differences between GUI and CUI are given below:

Graphical user interface (GUI)	Character user interface (CUI)
1. GUI is user friendly.	1. CUI is less user friendly.
2. Users don't have to remember syntax and commands.	2. Users have to remember syntax and commands.
3. It needs large amount of memory space.	3. It needs less amount of memory space.
4. It is slower than CUI.	4. It is faster than GUI.
5. Example: Microsoft, window.	5. Example: dos.

Q. 5. What is operating system? Explain its major function.

Ans: Operating system is designed to control the hardware of specific data processing system in order to allow users and application programs to make use of it. Or operating system is a large collection of system software, which manages the resource of computer system such as memory, storage, processor, input/output devices and it also acts as an interface between machine and user.

The main functions of operating system are given below.

1. Input output management:

Operating system manages the input and output of computer. This applies to the flow of data among computers, terminals and other devices such as monitors, printers etc.

DBK Creation
Class-XI Computer HSEB Solution

2. Command interpreter:

The command interpreter takes a command from the user and then operating system translate it into a detailed meaningful instruction, which computer can understand easily.

3. Data management:

Operating system also manages the storage and regain of data. As the system software handles many of the details associated with the process such details are not primary concerns for users or programmers writing application programs.

4. File management:

Files management creates a mechanism of files and directories by making a table of each file and directories in the storage device, so as to keep track of each element.

Unit.7 Programming concept and logic

Long questions.

Q. 1. What is programming language? Explain the different types of programming language with their merits and demerits.

Ans: Language is a means of communication between two people. Human beings used languages such as Nepali, English etc. during communication. A language used by human beings is known as natural language, whereas a language used by a computer is known as computer language or programming language. Programming language helps us to make a common platform for developing

DBK Creation

Class-XI Computer HSEB Solution

programs or application in a computer. Or programming language is defined as a set of rules that provides a platform for instructing computer to perform some specific tasks.

Programming language classified into two categories: high level and low level language.

1. High Level Language:

High level languages are divided into 3 categories: third generation language, fourth generation language and fifth generation language.

- Third Generation Language:

Third generation languages were developed during 60s to make programming easier and overcome the limitations of low level languages. General purpose first high level language is known as third generation language. FORTRAN was the first high level language developed in IBM laboratory. Mostly there are general purpose and machine independent languages. Examples of third generation languages are: FORTRAN, BASIC etc.

Some features (merits) of third generation of language are:

1. It is very easy for program developed.
2. It is very easy for modifying and finding errors.
3. They are less user friendly languages.

Some demerits of third generation language are:

1. Mostly, they are general purpose language so they can't solve complex and specific type of real word problems.

DBK Creation
Class-XI Computer HSEB Solution

2. They are less efficient language as compared to fourth generation languages.

- Fourth Generation Language:

Problem oriented specific purpose high level languages are called fourth generation languages. They are specially developed for solving specific type of problems such as database problems, web based problems, application development etc. Basically fourth generation language is specific high level language in which, the instructions are expressed by using graphical components and English instructions.

Some features (merits) of fourth generation language are:

1. It is user friendly.
2. It helps for rapid application development.
3. It is not suitable hardware interfacing problem.

Some demerits of fourth generation language are:

1. It takes more execution time.
2. It is not suitable for solving hardware interfacing problem.

- Fifth Generation Language:

Fifth generation languages are still in developing stage. It is also known as natural language. Natural language such as Nepali, English language would be used in computer because they make computer more intelligent and user friendly. They are used particularly in the areas of robotics, artificial intelligence and expert system. The high level languages like PROLOG and LISP have been used in fifth generation languages.

DBK Creation
Class-XI Computer HSEB Solution

Some features (merits) of fifth generation language are:

1. It makes human and machine are closer than before.
2. They are designed to allow the computer to become more natural and intelligent.

Some demerits of fifth generation language are:

1. It is not completely ready.
2. It is use to hard.

2. Low Level Language:

Low level languages are divided into two categories: Machine languages and assembly languages.

- Machine Language:

Machine language is the first language of a computer system. It is the language of CPU till date. In the early days of computing, there were no complex hardware and software, so machine language was used for data input/output and process. It consists of sets of instructions composed with 0s and 1s that represent electrically off state and on state respectively in computer system. Machine language is different from one to another.

Some features (merits) of machine language are:

1. Machine language does not require translator program.
2. Execution time of machine language program is extremely faster.

Some demerits of machine language are:

DBK Creation

Class-XI Computer HSEB Solution

1. Programming is very complex and tedious job for the programmers.
 2. It is very difficult for finding errors.
- Assembly Language:

During 1950s, some standard programming languages were developed in order to reduce programming complexity of machine languages. Assembly language is special type of low level language which consists set of alphanumeric instructions, called mnemonics. Meaningful and easily memorable symbols are selected for this purpose for example ADD for addition, SUB for subtraction, MUL for multiplication, COM for comparison etc.

Some features (merits) of assembly language are:

1. It easy to understand than machine language.
2. It is more standard than machine language.
3. Programme execution time is slower.

Some demerits of assembly language are:

1. A programmer written in assembly language is very lengthy and complex for programming.
2. Programmer should have depth knowledge about the computer hardware during programming.

Q. 2. Describe the different types of programming design tools with example and their merits and demerits.

Ans: During designing a program, a program designer requires different tools for solving a problem. Some of the most commonly used tools are algorithm, flowchart and pseudo code etc.

DBK Creation

Class-XI Computer HSEB Solution

1. Algorithm:

Algorithm is one of the most basic tools used for solving problem. It is defined as the finite sequence of instructions for solving a problem. It consists of stepwise list of English Statements making sequential procedure. The number of instruction should be minimized to increase the speed of algorithm. There are not any specific rules for designing algorithm however, designing an algorithm requires a clear understanding of a problem. Before writing an algorithm, designer should have the knowledge about the input, output and process of a problem.

Some merits of algorithm are given below.

- It is very simple and easy to understand.
- It has no hard and specific rules for writing an algorithm.

Some demerits of algorithm are given below.

- It is more difficult for translating algorithm into program codes.
- It is not considers as standard tool for programme designing.

2. Flowchart:

When an algorithm is expressed in pictorial form, then it is called flowchart. It is defined as a pictorial representation of an algorithm that describes the procedure to solve a problem. It shows the order of instructions and relationship between them. The purpose of constructing flowchart is to help for the programmer for understanding the logic of a problem. It uses different meaningful symbols in order to solve a problem. Moreover it also helps for

DBK Creation
Class-XI Computer HSEB Solution

solution of mathematical and logical problems. A flowchart is classified into two type system flowchart and program flowchart.

Some merits of flowchart are given below.

- It is very efficient tool for solving logical and mathematical problems.
- It is very easy for converting flowchart into program codes.

Demerits of flowchart are in given below.

- It is difficult for solving large and complex problem.
- It is very difficult for modifying and updating the flowchart.

3. Pseudo code:

Pseudo code is a kind of algorithm for solving a problem. The instruction of pseudo code is writing by using English phrase and mathematical expressions. It is also known as structures English. It has no any specific rules for writing instructions but the instructions are very closer to the high level language instructions. Designer should have basic knowledge about high level language instructions before writing pseudo code.

Some merits of algorithm are given below.

- Complex and hard problem can be easily solved.
- It is easy for converting pseudo code into programcodes.

Some demerits of pseudo code are given below.

- Designer should have prior knowledge of programming while writing pseudo code.

DBK Creation
Class-XI Computer HSEB Solution

- It is more complex than algorithm.

Q. 3.Explain the types of programming error.

Ans: A programme is never 100 percent correct throughout its life span. But, we assume that a programme should be almost 100 percent correct, otherwise it doesn't fulfil the actual requirement of users. There might be mistake due to the violation of rules of programming language, called errors or debugs. The process of finding error is called debugging. Mainly, they are three types of error.

1. Syntax Error:

A syntax error is occurred due to the violation of syntax of a programming language. Reserved word by the programming language and the structures of instruction must be in correct form. A syntax error is very easy to debug because compiler itself detects syntax error and it also describes the cause of errors. So, a programmer does not need to be trace the errors in programme.

2. Logical Error:

A logical error is occurred due to the violation of semantics of programming language. It is also called semantic errors. The meaningless instructions caused logical errors so wrong logic must be carefully removed from the programme. A compiler does not detect the logical errors, therefore they are very difficult to find out.

3. Runtime Error:

A run time errors occur during the running time of the software. It is occurred due to the problem of system or mishandling of the

DBK Creation
Class-XI Computer HSEB Solution

software. Run time error might be occurred anytime while running in a programme. So, a good programmer has to handle the errors using different error handling mechanism during software development time.

Q. 4. What is programming? Differentiate between compiler and interpreter.

Ans: A computer program is a set of instructions or statements to carry out some specific job. Computer can't perform task of its own so it works as per the set of instructions provided by the user. An instruction is simply a command or expression to perform some specific job in computer. A computer specialist who is responsible for designing, writing and modifying computer program is known as computer programmer. A programmer has depth knowledge about programming tolls, techniques and programming language. A job of writing program is called programming.

The differences between compiler and interpreter are given below.

COMPILER	INTERPRETER
1. It translates high level language program into machine language program at single attempt.	1. It translates high level language program into machine languages program by one instruction at a time.
2. Execution time is very fast.	2. Execution time is slow.
3. Compiler requires more memory.	3. Interpreter requires less memory.
4. Debugging is hard.	4. Debugging is easy.
5. Programming language like C, C++ uses compilers.	5. Programming language like python, Ruby uses interpreters.

DBK Creation
Class-XI Computer HSEB Solution

Q. 5. What is language processor? What is different between Program and software?

Ans: Language processor is the special type of computer system software that can be used to translate the program written in one language into another language. It is the most compulsory for low level language and high level language. The types of language translator are given below.

- Compiler
- Interpreter
- Assembler

The differences between program and software are given below.

Program	Software
1. It is set of instructions to perform specific job	1. It is collection of instructions, program and data.
2. It is components of software,	2. It is a logical unit that drives a computer system.
3. It defines the process in computer.	3. It defines both process and data.
4. Examples: Interest Calculation, Number searching and MS-DOS etc., are program	4. Examples: MS-DOS, Linux, Adobe etc. are software.

Short questions.

DBK Creation
Class-XI Computer HSEB Solution

Q. 1. What is program testing and debugging? Explain why logical errors are difficult to detect and correct than syntax errors.

Ans: The elimination of errors in computer system is a major activity in any development project. One of the most popular method of finding error is program testing. In computer system the process of finding error is called debugging.





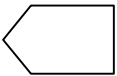

A syntax error is occurred due to the violation of syntax of a programming language but a logical error is occurred due to the violation of semantics of programming language. The syntax errors are very easy to debug, because a compiler itself detects syntax error, but a compiler does not detect the logical errors, therefore they are very difficult to detect and correct than syntax errors.

Q. 2. What is flowchart? Describe the symbols used in flow chart.

Ans: When an algorithm is expressed in pictorial form, then it is called flowchart. It is defined as a pictorial representation of an algorithm that describes the procedure to solve a problem. It shows the order of instructions and relationship between them. The purpose of constructing flowchart is to help for the programmer for understanding the logic of a problem.

DBK Creation

Class-XI Computer HSEB Solution

Symbols	description
	Sequential access storage
	Magnetic storage
	Manual input
	Data store
	Display
	Document

Q. 3. Differentiate between logical error and syntax error.

Ans: Differential between logical error and syntax error are given below.

Syntax error	Logical error
1. It is occurred due to the violation of syntax of a programming language.	1. It is occurred due to the violation of semantics of a programming language.
2. It is very easy to debug.	2. It is very hard to debug.
3. Compiler itself detects syntax error.	3. Compiler itself does not detect logical error.

DBK Creation
Class-XI Computer HSEB Solution

- | | |
|---|---|
| 4. Compiler describes the cause of error. | 4. Compiler does not describe cause of error. |
| 5. It is widely used. | 5. It is less use. |

Q. 4. Describe the features of high level programming language.

Ans: The features of high level programming languages are:

1. It is user friendly.
2. It helps for rapid application development.
3. It is very easy for modifying and finding errors.
4. Programmer can design, create and debug an application in very short period of time.

Q. 5. What is language translator? Describe the subcategories of fourth generation language.

Ans: Language processor is the special type of computer system software that can be used to translate the program written in one language into another language. It is the most compulsory for low level language and high level language. The types of language translator are given below.

The sub categories of fourth generation languages are:

1. Database and Query Processing Languages:

DBK Creation

Class-XI Computer HSEB Solution

They allow user to maintain database management system. They also help to generate customized forms and reports of the database. A form is an interface to enter data into database.

2. Application Generator Language:

They allow programmer to make any kind of application software as well as system software. Such languages are very popular. Examples: Visual net, Visual C++ etc.

3. Web Based Scripting Language:

They allow programmer to develop web based application. They are not considered as complete programming languages. They are only used to place the information in web sites and also help for accessing database of a server.

Q.6. Differentiate between algorithm and flowchart.

Ans: Differential between algorithm and flowchart are in given below.

1. Algorithm:

Algorithm is one of the most basic tools used for solving problem. It is defined as the finite sequence of instructions for solving a problem. It consists of stepwise list of English Statements making sequential procedure. The number of instruction should be minimized to increase the speed of algorithm. There are not any specific rules for designing algorithm however, designing an algorithm requires a clear understanding of a problem. Before writing an algorithm, designer should have the knowledge about the input, output and process of a problem.

DBK Creation
Class-XI Computer HSEB Solution

2. Flowchart:

When an algorithm is expressed in pictorial form, then it is called flowchart. It is defined as a pictorial representation of an algorithm that describes the procedure to solve a problem. It shows the order of instructions and relationship between them. The purpose of constructing flowchart is to help for the programmer for understanding the logic of a problem. It uses different meaningful symbols in order to solve a problem.

Q. 7. Explain the advantage of algorithm.

Ans: Advantages of algorithm are:

- It is very simple and easy to understand.
- It has no hard and specific rules for writing an algorithm.
- It does not require prior knowledge about programming during writing an algorithm.
- It consists of stepwise list of English statements making sequential procedure.
- It is defined as the finite sequence of instructions for solving a problem.

Unit 8 : Application package

Q. 1. What is word processor? Give the major features of word processor.

Ans: Wordprocessor is application software that helps for editing, formatting, writing a document. Moreover it also helps for designing

DBK Creation

Class-XI Computer HSEB Solution

and presenting the document in attractive format. We can insert pictures, tables, shapes, graphs etc.

The major features of word processor are given below.

- It is used for creating, saving and closing, printing a documents.
- It is used for formatting text, paragraphs, table and page.
- It is used for drawing pictures, charts and graphs.
- It is used for checking spelling.

Q. 2. What is spreadsheet application program? List the uses of spreadsheet.

Ans: Spreadsheet is a computer application that helps for handling, manipulating and analysing data. Moreover it helps for data presentational using charts and it also helps for decision making for the managers.

The uses of spreadsheet are given below:

- It helps for preparing annual budget and report.
- It helps for maintaining database.
- It helps for data presentation using charts.
- It helps for preparing mark sheet, salary sheet, bills, budget etc.

Q. 3. Describe the terms cell, cell reference, worksheet and workbook.

DBK Creation
Class-XI Computer HSEB Solution

Ans: Cell:

A cell is the intersection of row and column where we put data inside it. A cell is a unit element of worksheet and it has a unique address defined by the respective column name followed by the row number.

Cell reference:

A cell reference is also known as cell address. A cell reference allows user to access data in the cells. MS Excel supports three types of cell reference: relative, absolute and mixed cell references.

Worksheet:

A worksheet is an electronic sheet that contains a number of rows and columns. A row is defined by the integer number, 1, 2up to 12038 and a column is defined by the roman alphabets A, B, Cup to XYZ.

Workbook:

A workbook is a file created by MS Excel. A workbook contains multiple worksheets. Its default name is book1, book2 and so on.

Q. 4. Write down the features of spreadsheet.

Ans: The features of spreadsheet are given below:

- It allows for keeping records in the worksheet and workbook.
- It allows for sorting, filtering and conditional formatting of given data.

DBK Creation
Class-XI Computer HSEB Solution

- It provides various charts for presenting data.
- It offers the features for data validation and data entry rules.
- It helps for analysing data using pivot table and pivot chart.

Q. 5. Write down the application of word processor. Describe the word processing software.

Ans: The applications of word processor are given below.

- Text editing and publishing documents.
- Checking spelling and grammars of document.
- Web publishing, mail margin and image insertion.
- Mathematical calculation and macro handlings.
- Formatting and editing documents.

The word processing software are given below.

- MS Word
- Word Prefect
- Word Star
- Lotus Notes

Q. 6. Define the term worksheet, workbook, sorting and formatting in spreadsheet.

Ans:Worksheet:

A worksheet is an electronic sheet that contents number of rows and columns. A row is defined by the integer number, 1, 2up to 12038 and a column is defined by the roman alphabets A, B, Cup to XYZ.

Workbook:

DBK Creation

Class-XI Computer HSEB Solution

A workbook is file created by MS Excel. A workbook contains multiple worksheets. Its default name is book1, book2 and so on.

Sorting:

The process by which sedimentary particles become separated according to some particular characteristic, as size or shape.

Formatting:

Formatting refers to the appearance or presentation of your essay. Another word for formatting is layout. Or formatting is a plan for organizations and arrangement of a specified production.

Q. 7. Describe the application of spreadsheets.

Ans: The applications of spreadsheets are given below:

- It helps for preparing annual budget and report.
- It helps for maintaining database.
- It helps for data presentation using charts.
- It helps for preparing mark sheet, salary sheet, bills, budget etc.
- It helps for statistical analysis, financial analysis, scientific analysis, engineering data analysis and research works.

Unit 9 Internet and E-mail

Short questions.

Q. 1. Describe the advantages of internet.

Ans: Advantages of internet are given below.

- Information:

DBK Creation
Class-XI Computer HSEB Solution

Any kind of information on any topic is available on the internet. The search engine like GOOGLE, YAHOO etc. on the internet can help us to find the data on any subject that we need. There is huge amount of information available on the internet.

- Services:

Many services are now provided on the internet such as online booking, job seeking and application, ticket booking and hotel reservation etc. These services are only provided in on line.

- Entertainment:

On internet we can find all forms of entertainment from watching movies, to playing games online etc. Almost anyone can find the right kind of entertainment for themselves. Music, hobbies, news and more can be found and share on the internet.

- Job search:

Internet makes life easy for both employers and job seekers as there are plenty of job sites which connect employers and job seekers.

- Online chart:

There are many chat rooms on the web that can be accessed to meet new people, make new friends, as well as to stay in touch with old friends.

Q. 2. Describe the disadvantage of internet.

Ans. Disadvantages of internet are given below.

- Personal information:

DBK Creation
Class-XI Computer HSEB Solution

If we used the internet, our personal information such as our name, address, contact numbers etc. can be accessed by other people who may cause us badly. If we use a credit card for online shopping, our credit card information can also be stolen which is like similar to give someone a blank cheque.

- Pornography:

This is a very serious issue concerning the internet, especially when it comes to young children. There are thousands of pornography sites on the internet that can be easily found and can be harm to letting children use the internet.

- Spamming:

This refers to sending unwanted emails in bulk, which serve no purpose and unnecessarily obstruct the entire system. We may face this kind of problem frequently nowadays in email by sending us fake information.

(NOTE- Advantage, positive impact, important in our society and the uses of internet are the same answers.)

Q. 2. What is internet?

Ans: Internet is a global system of interconnected computer networks that use the standard internet protocol suite to serve billions of users worldwide. Internet means of connecting a computer to any other computer anywhere in the world via

DBK Creation
Class-XI Computer HSEB Solution

dedicated routers and servers is internet. Since, the internet has become very popular, it is being used for many purposes. Through the help of the World Wide Web and Websites, the internet has become very useful in many ways for the common man.

Q. 3. What is URL? Describe the search engine.

URL refers to Uniform Resource Locator which is the global address of documents and other resource on the World Wide Web. The first part of the URL is called a protocol identifier and it indicates what protocol to use and the second part is called a resource name and it specifies the IP address or the domain name where the resource is located.

Search engine is a web site that collects and organizes content from all over the internet to located something would enter a query about what we would like to find and the engine provides links to content the matches what we want.

Q. 4. Describe the different types of e-mail Account.

Ans. There are mainly two types of email account which are Web Based Email and POP email.

Web Based Email:

Web based email is an email account that is accessed through a web browser. The interface is implemented as a web site that provides access to the various functions like reading, sending or organizing messages. Popular examples of web based email services include Hotmail and Yahoo mail.

POP3:

DBK Creation
Class-XI Computer HSEB Solution

In computing, the Post Office Protocol (POP) is an application-layer internet standard protocol used by local email clients to retrieve email from a remote over a TCP/IP connection. This type of email is accessed using email checking, receiving, sending application programs like Outlook Express, Eudora etc.

Q. 5. What is mail merge? Describe its major uses.

Ans. Mail merge is a process to create personalized letters and pre-addressed envelopes or mailing labels for mass mailings from a form letter – a word processing document which contains fixed text, which will be the same in each output document, and variables, which act as placeholders that are replaced by text from the data source.

Unit- 10 Web page designing

Short questions.

Q. 1. What is HTML? Describe the importance of HTML in web page designing.

Ans: HTML is not case sensitive language; we can type html codes either in upper case character, lower case character or even mix. HTML (Hypertext Mark-up Language) is most commonly used mark-up language to developed web pages. Web page is simply electronic document writing using HTML tags.

The important of HTML in web page is that, Mark-up language provides a way to describe the structure and the behaviour of information on a web page. Hypertext is a type of text which connects to the other documents. It is used for organizing

DBK Creation
Class-XI Computer HSEB Solution

information and linking related documents together using words or link. It is very useful for beginners in web page designing field.

Q. 2. Define HTML? Describe the uses of HTML.

Ans: HTML is the most commonly used in Mark-up language to developed web page. Html is the simply language used to write web page on the World Wide Web. It was invented by Jim Burners Lee in 1990. Besides, web page, html is also used in desktop computer software, CD-ROMs, E-books and other places.

Q. 3. Write down the features of HTML.

Ans: The features of html are given below.

- Html is used to create web page.
- Html used many tags to make web page.
- The tags of html are surrounded by angular bracket.
- It can use wide range of colours, object and layout.
- Very useful for beginner in web designing field.

Q. 4. Write down the advantage of html.

Ans: Advantages of html are given below:

- It is widely used.
- Every browser supports html language.
- Easy to learn and use.
- It is by default in every window. So, you don't have to purchase extra software.

Q. 5. Write down the disadvantage of html.

DBK Creation
Class-XI Computer HSEB Solution

Ans: Disadvantages of html are given below.

- It can create only static and plain page so if we need dynamic page then html is not useful.
- Need to write long code for making simple web page.
- Security features are not good in html.
- If we need to write long code for making a webpage then it produce some complexity.

BEST OF LUCK