Exercises

Short Answer Type Questions

Question 1:

Give any two examples of dual core processors.

Answer 1:

Two examples of dual core processors are:

- <u>Core 2 processors</u>: The Core 2 processor refers to two separate double centre kicks the bucket (CPUs) close to each other in one quad-centre bundle.
- <u>Xeon processors</u>: It refers to numerous groups of Intel is multiprocessing CPUs for dual-processor (DP) and multi-processor (MP) arrangement on a solitary motherboard. They are utilized for worker and workstation PCs. It has been kept up finished a few ages of x86 and x86-64 processors. The Xeon CPUs for the most part have more reserve than their work area partners, notwithstanding multiprocessing abilities.

Question 2:

Describe the characteristics of Xeon processors.

Answer 2:

- Xeon processors refers to numerous groups of Intel is multiprocessing CPUs for dual-processor (DP) and multi-processor (MP) arrangement on a solitary motherboard.
- They are utilized for worker and workstation PCs.
- It has been kept up finished a few ages of x86 and x86-64 processors.
- The Xeon CPUs for the most part have more reserve than their work area partners, notwithstanding multiprocessing abilities.

Question 3:

Differentiate between 3-D optical and holographic memories.

Answer 3:

- 3D optical information storage is another innovation where information is put away in various layers in the optical plate.
- Laser bar is utilized for perusing and composing the information from/to an optical plate.
- The plate contains numerous layers of information, each at an alternate profundity in the media and each comprising of a DVD-like winding track.
- Holographic Memory is very like 3-D Optical Data Storage.
- Here information is recorded through full profundity of the media rather than just on the surface.
- Subsequently it can record and read a great many bytes of information with a blaze of light. High thickness Optical plate is a case of holographic storage.

Question 4:

What is Nanotechnology?

Answer 4:

- Nanotechnology is an innovation for building or developing materials, gadgets, apparatuses and so on in littlest or least conceivable structure for example on the scale of iota and atom. One nanometre is a one billionth of a meter. Nano-technological innovations would bring gigantic advantages and extravagance in human life.
- It is generally accepted that nanotechnology has the genuinely necessary potential to be viable regarding vitality utilization other than being condition benevolent. It is additionally expected to tackle significant medical issues.
- Uses of this innovation will help fabricating items at diminished cost which will be littler, lighter also, less expensive. The Nanotechnology is accepted to be exceptionally encouraging in bringing arrangements in the fields of wellbeing and sterilization, food security and ecological issues.

Question 5:

What is component driven software development?

Answer 5:

• The utilization of component driven programming is for improvement.

- Here, rather than composing programs without any preparation again and again, programming designers can choose segments from exhaustive libraries of dependable and all-around reported programming parts.
- Then it can be joined together to complete the required reason.

Question 6:

How Graphene is expected to improve the computer processing speed?

Answer 6:

- Graphene, which is a type of unadulterated carbon where a solitary layer of carbon iota's are orchestrated in a honeycomb lattice.
- It could permit electrons to handle data and produce radio transmissions multiple times better than silicon-based gadgets.
- Utilization of Graphene will deliver quicker and all the more impressive mobile phones, PCs and other electronic gadgets, since the versatility of electrons is more than any current semiconductor materials, similar to Silicon, GaAs also, carbon nanotube.

Long Answer Type Questions

Question 1:

What is a processor? Describe different types of processors.

Answer 1:

The processor is a chip or a legitimate circuit that reacts and measures the fundamental guidelines to drive a specific PC. The primary elements of the processor are bringing, disentangling, executing, and compose back the tasks of a guidance. The processor is additionally called the cerebrum of any framework which fuses PCs, PCs, cell phones, installed frameworks, and so forth. The ALU (Arithmetic Logic Unit) and CU (Control Unit) are the two pieces of the processors.

Different types of processors:-

• <u>Microprocessor:</u> A microprocessor is a multipurpose programmable rationale gadget that peruses paired directions from a capacity gadget called memory, acknowledges double information as info and cycle's information as per those guidelines and gives results as yield. Rather than single chip, bundles of different CPUs and processors are delivered which satisfy and meet the presentation necessity for a figuring framework for a specific application. These bundles are just introduced into standard interface on motherboards.

- <u>Core 2 processor:</u> The Core 2 processor alludes to two separate double centre passes on (CPUs) close to each other in one quad-centre bundle.
- <u>Xeon processor</u>: It refers to numerous groups of Intel is multiprocessing CPUs for dual-processor (DP) and multi-processor (MP) arrangement on a solitary motherboard. They are utilized for worker and workstation PCs.

Question 2:

What are the new technologies used in processors?

Answer 2:

The new technologies used in processors include:

- <u>Hybrid Hard Disk Drive (HHDD)</u> is a more current innovation where the traditional plate drive is joined with non-unstable blaze memory, of ordinarily 128MB or more to reserve information during ordinary use. The information is at first put away in non-unpredictable memory before for all time putting away it in the hard circle. Venture HDDs are explicitly intended for mission critical applications, for example, center workers and enormous scope stockpiling frameworks. The main half and half hard circle drives were 2.5 inch drives for note pads.
- <u>Whole Disk Encryption/Full Disk Encryption (FDE)</u> is another innovation (equipment or programming) where information is scrambled before capacity. This forestalls unapproved access or recovery of information.
- <u>Micro Electro Mechanical Systems [MEMS]</u> based capacity is another innovation being created as another age stockpiling media because of its appealing highlights, for example, little size, stun opposition, and low-power utilization. MEMS-based capacity is foreseen to be generally utilized for versatile customer gadgets.
- <u>3D optical data storage</u> is another innovation where information is put away in various layers in the optical circle. Laser shaft is utilized for perusing and composing the information from/to an optical circle. The

circle contains numerous layers of information, each at an alternate profundity in the media and each comprising of a DVD-like winding track.

Question 3:

Which different physical characteristics do a MEMS-based storage has as compared to a traditional disk?

Answer 3:

Nonetheless, MEMS-based storage has immeasurably unique physical attributes contrasted with a traditional disk.

- MEMS-based storage has a great many heads that can be enacted all the while.
- The media of MEMS-based storage is a square structure which is not the same as the turn based platter structure of circles.
- The size of a segment in MEMS-based storage is littler than 512 bytes of a customary legitimate square. In this paper, we present another location planning plan for MEMS storage that utilizes the previously mentioned attributes.
- This new plan abuses the total equal component of MEMS-based capacity just as the qualities of the two dimensional square structure. By misusing the high parallelism of MEMS storage, the new plan improves the exhibition of MEMS storage altogether.

Question 4:

Describe how binary data is stored and represented in 3-D optical storage devices.

Answer 4:

- 3D optical information storage is another innovation where information is put away in various layers in the optical plate.
- The plate contains numerous layers of information, each at an alternate profundity in the media and each comprising of a DVD-like winding track.
- The information on them can't be crushed by power blackouts or attractive unsettling influences, the circles themselves are moderately impenetrable to physical harm, and dissimilar to attractive plates and tapes, they need not be kept in firmly fixed compartments to shield them from contaminants.

Question 5:

What is network storage? Describe various upcoming network storage trends.

Answer 5:

The various upcoming network storage trends being used are:

- <u>Storage Area Network (SAN)</u>: Storage Area Network (SAN) is an architecture where the different secondary storage devices like hard disk arrays, tape drive etc. are attached to remote computer storage devices and all the servers are connected to the SAN through the SAN switch and the servers can access data as local disk drives. The remote storage devices are shared by multiple servers simultaneously.
- <u>Network Attached Storage (NAS)</u>: Network Attached Storage (NAS) uses remote computer with storage devices which are connected through TCP/IP network. It uses file-based protocols such as Network File System or Common Internet File System (CIFS). All the servers and storage devices are connected through LAN or WAN.

Question 6:

Mention the roles software play in our daily life. Describe with examples.

Answer 6:

The roles software play in our daily life:

- <u>Educational and communication software:</u> The presentations are done in multimedia form and have educational value in entertaining way so Edutainment Software is used. Software which manages user learning interventions is Learning Management System (LMS). They are used by regulated industries and also educational institutions and based on a variety of platforms like Java/J2EE, .net and PHP and use a database as backend.
- Design, media and simulation software: The needs of people who generate print and electronic media, usually in educational and commercial settings so Media development software is used. E.g. Image organizer one can resize, tag digital images, organise pictures into albums by drag and drop, can export the pictures for external use.

- Office Automation and Process Management Software: Office Automation and Process Management Software can automate office routine, administrative processes. There is software designed to streamline and automate different types of work processes. In commercial and business environment single software can process loan, mortgage, insurance, claim processing, etc. Some of the Accounting software e.g. are Tally, Gnu Cash, Turbo cash etc.
- <u>Control and analysis software:</u> There are devices which controlled by some software's presenting data in the desired format like images or chart etc. The software's coming under are:
- a. <u>Medical software:</u> To control or monitor patients are predominantly controlled by software many medical devices are used with software such as monitor interpreters, analysis software etc. It is a significant branch of software engineering.
- b. <u>Mapping software</u>: They make use of combination of capabilities of programs like database management, graphics and spreadsheet etc. for displaying data graphically. They are also called as Geographic Information System (GIS). Some of the e.g. are GeoNetwork Open Source, Key Indicator Data System (KIDS) etc.

Question 7:

Describe the advantages of using a mapping software

Answer 7:

The advantages of using mapping software are:

- They utilize mix of abilities of projects like information base administration, designs and spreadsheet and so forth for showing information graphically, in plain structure, map and so on. Some models of Earthquake 3D, ArcGis, GeoNetwork OpenSource, Key Indicator Data System (KIDS).
- 2. The software permits you to compose and re-orchestrate the given information as an enlarged and folding tree. This will make it possible to spare a lot of information in a product created visual guide without getting overpowered. Subsequently, you will have the option to deal with the formation of different progressed pieces of data, improving models that

would not be likely to make on paper.

- 3. It gives you the likelihood to revamp ill-advised subjects and organize them all through the thought with the goal that it makes reason and until you are persuaded. This is very different than hand-drawn guides asking huge amounts of amendment or enormous erasers just to fix one snippet of data. In standard planning, it is exceptionally hard to move and secure the plans to included psyche maps, though the product deals with this without any problem.
- 4. The software licenses you to import and fare thoughts to other programming types, for example, venture the board processors. This permits you to utilize your guide as an apparatus for inventive front end in practically a wide range of activities where idea organizing is required.

Question 8:

Compare educational software and computer game software.

Answer 8:

Educational Software:

- 1. Some computer programming is intended to be utilized uniquely for instructive reason, for example, Teaching, Learning or self-learning.
- 2. Instructive programming on themes easy to intricate, extending from learning letters in order to probes hereditary qualities are being created for learning purposes Such programming are known as educational software.
- 3. In this way learning turns into a calm and charming activity to the client.

<u>Computer Game Software:</u>

- 1. Some computer game programming is intended to be utilized to create, control, design and run games and its related applications.
- 2. Such programming is known as Gaming programming. Adobe streak, Game creator studio etc. are some of the examples.

Question 9:

Categorise different application software according to their use and give examples for each.

Answer 9:

The different application software according to their use with examples:

- <u>Educational and communication software:</u> The presentations are done in multimedia form and have educational value in entertaining way so Edutainment Software is used. Software which manages user learning interventions is Learning Management System (LMS). They are used by regulated industries and also educational institutions and based on a variety of platforms like Java/J2EE, .net and PHP and use a database as backend.
- Design, media and simulation software: The needs of people who generate print and electronic media, usually in educational and commercial settings so Media development software is used. E.g. Image organizer one can resize, tag digital images, organize pictures into albums by drag and drop, can export the pictures for external use.
- Office Automation and Process Management Software: Office Automation and Process Management Software can automate office routine, administrative processes. There is software designed to streamline and automate different types of work processes. In commercial and business environment single software can process loan, mortgage, insurance, claim processing, etc. Some of the Accounting software e.g. are Tally, Gnu Cash, Turbo cash etc.
- <u>Control and analysis software:</u> There are devices which controlled by some software's presenting data in the desired format like images or chart etc. The software's coming under are:
- 1. <u>Medical software:</u> To control or monitor patients are predominantly controlled by software many medical devices are used with software such as monitor interpreters, analysis software etc. It is a significant branch of software engineering.
- Mapping software: They make use of combination of capabilities of programs like database management, graphics and spreadsheet etc. for displaying data graphically. They are also called as Geographic Information System (GIS). Some of the e.g. are GeoNetwork Open Source, Key Indicator Data System (KIDS) etc.