

COMPUTER MEMORY

Computer memory stores data and instructions required during the processing of data and output results. It also relates to many devices that are responsible for storing data on a temporary or a permanent basis.

Types of Memory

Primary Memory

The memory unit that communicates directly with the CPU is called main memory or internal memory or primary memory.

The primary memory allows the computer to store data for immediate manipulation and to keep track of what is currently being processed. It has limited storage capacity.

Main memory is volatile in nature, it means that when the power is turned OFF, the contents of this memory are lost forever.

Primary memory can be further classified in two types which are as follows

1. **Random Access Memory (RAM)** It is also known as read/write memory, that allows CPU to read as well as write data and instructions into it.

RAM is used for the temporary storage of input data, output data and intermediate results.

The two categories of RAM are as follows

- (i) **Dynamic RAM (DRAM)** It is made up of memory cells where each cell is composed of one capacitor and one transistor.

DRAM must be refreshed continually to store information. DRAM is slower, less expensive and occupies less space on the computer's motherboard.

- (ii) **Static RAM (SRAM)** It retains the data as long as power is provided to the memory chip.

SRAM needs not be refreshed periodically. It uses multiple transistors for each memory cell. It does not use capacitor. SRAM is often used cache memory due to its high speed. SRAM is more expensive and faster than DRAM.

2. **Read Only Memory (ROM)** It is also known as non-volatile memory or permanent storage. It does not lose its contents when the power is switched OFF.

ROM can written data and instructions to it only one time. Once a ROM chip is programmed at the time of manufacturing, it cannot be reprogrammed or rewritten. So, it has only read capability, not write.

The three categories of ROM are as follows

- (i) **Programmable ROM (PROM)** It is also non-volatile in nature. Once a PROM has been programmed, its content can never be changed. It is one-time programmable device. This type of memory is found in video game consoles, mobile phones, implantable medical devices and high definition multimedia interfaces.
- (ii) **Erasable Programmable ROM (EPROM)** It is similar to PROM, but it can be erased by exposure to strong ultraviolet light, then rewritten. So, it is also known as Ultraviolet Erasable Programmable ROM (UVEPROM).
- (iii) **Electrically Erasable Programmable ROM (EEPROM)** It is similar to EPROM, but it can be erased electrically, then rewritten electrically and the burning process is reversible by exposure to electric pulses. It is the most flexible type of ROM and is now commonly used for holding BIOS.

Note BIOS stands for Basic Input/Output System.

Some Special Memories

Apart from above memories, there are also some other memories that help to primary memory, which are as follows

Cache Memory

It is a storage buffer that stores the data which is used more often, temporarily and makes it available to CPU at a fast rate. Cache memory is a very high speed memory placed in between RAM and CPU. It increases the speed of processing.

Flash Memory

It is a kind of semiconductor based non-volatile rewritable memory, used in digital camera, mobile phone, printer, etc.

Virtual Memory

It is a technique that allows the execution of processes that are not completely in main memory. One major advantage of this memory is that programs can be larger than main memory.

Secondary Memory/ Storage

This memory stores much larger amount of data and information for extended periods of time. Data in secondary memory cannot be processed directly by the CPU, it must first be copied into primary memory, i.e. RAM. It is the slower and cheaper form of memory than primary memory.

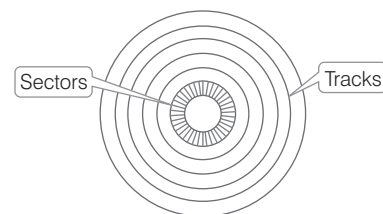
Secondary storage is used to store data and programs when they are not being processed. It is also non-volatile in nature. Due to this, the data remain in the secondary storage as long as it is not overwritten or deleted by the user. It is a permanent storage.

Secondary memory devices include following types of memory

1. **Magnetic Storage** It is the manipulation of magnetic fields on a medium in order to record audio, video or other data. It includes hard disk drive, floppy disk and magnetic tape, which are described below
- (i) **Hard Disk Drive (HDD)** It is a non-volatile and random access digital data storage device. HDD is a data storage device used for storing and retrieving digital information using rotating disks (platters) coated with magnetic material.

All programs of a computer are installed in hard disk. It is a fixed disk, i.e. cannot be removed from the drive. It consists of a **spindle** that holds non-magnetic flat circular disks called **platters**, which hold the recorded data. Each platter requires two read/write heads, that are used to write and read information from a platter.

All the read/write heads are attached to a single access arm so that they cannot move independently.



Tracks and Sectors

The information is recorded in bands; each band of information is called a **track**. Each platter has the same number of tracks and a track location that cuts across all platters is called a **cylinder**. The tracks are divided into pie-shaped sections known as **sectors**.

- (ii) **Floppy Disk** (Diskette) Floppy disk is round in shape and a thin plastic disk coated with iron oxide. It is used to store data but it can store small amount of data and it is slower to access than hard disks.

Data is retrieved or recorded on the surface of the disk through a slot on the envelope. Floppy disk is removable from the drive. Floppy disk is available in three sizes; 8 inch, $5\frac{1}{4}$ inch and $3\frac{1}{2}$ inch.

- (iii) **Magnetic Tape** These tapes are made of a plastic film-type material coated with magnetic materials to store data permanently. Data can be read as well as write. It is usually 12.5 mm to 25 mm wide and 500 m to 1200 m long.

Magnetic tapes hold the maximum data, which can be accessed sequentially. They are generally used to store backup data or that type of data, which is not frequently used or to transfer data from one system to another.

2. **Optical Storage** It is any storage type in which data is written and read with a laser. It includes CD, DVD and Blu-ray disc, *which are described below*

- (i) **Compact Disc** (CD) It is the most popular and the least expensive type of optical disc. A CD is capable of being used as a data storage device alongwith storing of digital audio.

CD is categorised into three main types as follows

- CD-ROM (Compact Disc-Read Only Memory)
- CD-R (Compact Disc- Recordable)
- CD-RW (Compact Disc- Re-Writable)

- (ii) **Digital Video Disc** (DVD) It is also known as Super Density Disc (SDD) or Digital Versatile Disc (DVD). It is an optical disc

storage device. DVDs offer higher storage capacity than CDs while having the same dimensions.

Depending upon the disc type, DVD can store several gigabytes of data (4.7 GB-17.08 GB). DVDs are primarily used to store music or movies and can be played back on your television or computer too. They are not rewritable storage device.

DVDs come in three varieties are as follows

- DVD-ROM (Digital Video Disc-Read Only Memory)
- DVD-R (DVD-Recordable)
- DVD-RW (DVD-Re-Writable)

- (iii) **Blu-ray Disc** It is an optical disc storage medium designed to re-capture the data normally in DVD format. Blu-ray disc (BD) contains 25 GB (23.31 GB) per layer space.

The name Blu-ray disc refers to the blue laser used to read the disc, which allows information to be stored at a greater density than the longer- wavelength red laser used in DVDs.

Blu-ray can hold almost 5 times more data than a single layer DVD.

The variations in the formats are as follows

- BD-ROM (Read only)
- BD-R (Recordable)
- BD-RW (Rewritable)
- BD-RE (Rewritable)

3. **Solid State Storage** It is a type of storage technique that employs storage devices built using silicon microchip based storage architecture. It includes pen/flash drive, memory card, *which are described below*

- (i) **Pen/Thumb Drive** It is also known as flash drive. A flash drive is a data storage device that consists of flash memory (key memory) with a portable USB (Universal Serial Bus) interface. USB flash drives are typically removable, rewritable and much smaller than a floppy disk.

Today, **flash drives** are available in various storage capacities as 256MB, 512MB, 1GB, 4GB, 16GB upto 64 GB. They are widely used

as an easy and small medium to transfer and store the information from the computers.

- (ii) **Memory Cards** These are the data storage devices in chip shaped. They are commonly used in many electronic devices, including digital cameras, mobile phones, laptop, computers. They are small, re-recordable, easily portable and very light weighted.

Basic Units of Memory Measurements

1 Bit	=	Binary Digit (0 or 1)
4 Bits	=	1 Nibble
8 Bits	=	1 Byte = 2 Nibble
1024 Bytes	=	1 KB (KiloByte)
1024 KB	=	1 MB (MegaByte)
1024 MB	=	1 GB (GigaByte)
1024 GB	=	1 TB (TeraByte)
1024 TB	=	1 PB (PetaByte)
1024 PB	=	1 EB (ExaByte)
1024 EB	=	1 ZB (ZettaByte)
1024 ZB	=	1 YB (YottaByte)
1024 YB	=	1 (BrontoByte)
1024 BB	=	1 (GeopByte)

Note Bit is the smallest memory measurement unit.
GeopByte is the highest memory measurement unit.
A byte can represent 256 ($0-255$ or 2^8) distinct values.

Cloud Computing

It is a general term for anything that involves hosted services over the internet. The name comes from the use of clouds as an abstraction for the complex infrastructure it contains in system diagrams.

It entrusts services with a user's data, software and computation over a network. It has considerable overlap with Software as a Service (SaaS).

Types of Cloud Deployments

The three types of cloud deployments categorised based on an organisation's ability to manage and secure assets are as follows

1. **Public Cloud** These are managed by third party which provides cloud services over the Internet to public. They offer solutions for minimising IT infrastructure costs and act as a good option for handling peak loads on the local infrastructure. A public cloud is meant to serve multiple users, not a single customer.
2. **Private Cloud** These are distributed systems that work on a private infrastructure and providing the users with dynamic provisioning of computing resources.
3. **Hybrid Cloud** It is a heterogeneous distributed system resulted by combining facilities of public cloud and private cloud. For this reason, they are also called heterogeneous clouds.

Cloud Computing Services

1. **Infrastructure as a Service (IaaS)** It is a cloud computing model where virtualised infrastructure is offered to and managed for business by external cloud providers. Some examples of the wide usage of IaaS are automated policy-driven operations such as backup, recovery, etc.
2. **Software as a Service (SaaS)** It is a method for delivering software applications over the Internet as per the demand and on a subscription basis. Most common examples of SaaS are Microsoft Office 360, Oracle CRM, Marketo, etc.
3. **Platform as a Service (PaaS)** It refers to the supply an on-demand environment for developing, testing, delivering and managing software applications. Some key players offering PaaS are Bluemix, CloudBees, Salesforce.com, etc.

Several Next Generation Memories

- **FeFET or FeRAM** A next generation ferroelectric memory.
- **Nanotube RAM** In R & D for years, nanotube RAM is targeted to displace DRAM. Others are developing carbon nanotubes and next generation memories on the same device.
- **Phase Change Memory** After shipping the first

PCM devices, Intel is readying a new version. Others may enter the PCM market.

- **ReRAM** Future versions are positioned for AI apps.
- **Spin Orbit Torque-MRAM (SOT-MRAM)** A next generation MRAM targeted to replace SRAM.

Tit-Bits

- The rate at which data is written to disc or read from disc is called **data transfer rate**.
- **Root directory** is the main folder of disk. It contains information about all folders on the disk.

QUESTION BANK

- stores data and instructions required during the processing of data and output results.
 - (1) Memory
 - (2) Architecture
 - (3) Input
 - (4) Output
- Where is data saved permanently?
 - (1) Memory
 - (2) Storage
 - (3) CPU
 - (4) Printer
- Where are programs and data to be used by the computer available? [SSC FCI 2012]
 - (1) Processing unit
 - (2) Output
 - (3) Storage
 - (4) Input
- How many types of memory does a computer have?
 - (1) Four
 - (2) Eight
 - (3) One
 - (4) Two
- Primary storage is as compared to secondary storage.
 - (1) slow and inexpensive
 - (2) fast and inexpensive
 - (3) fast and expensive
 - (4) slow and expensive
- The key feature(s) of internal memory is/are
 - (1) limited storage capacity
 - (2) temporary storage
 - (3) fast access and high cost
 - (4) All of the above
- The two kinds of main memory are
 - (1) ROM and RAM
 - (2) primary and secondary
 - (3) floppy disk and hard disk
 - (4) direct and sequential
- Which of the following is a correct definition of volatile memory?
 - (1) It does retain its contents at high temperature
 - (2) It is to be kept in air-tight box
 - (3) It loses its content on failure of power supply
 - (4) It does not lose its content on failure of power supply
- Cache and main memory will not be able to hold their contents when the power is OFF. They are
 - (1) dynamic
 - (2) static
 - (3) volatile
 - (4) non-volatile
- In computer terminology, what is the full form of RAM? [SSC CGL 2018]
 - (1) Random Access Memory
 - (2) Repeated Access Memory
 - (3) Rapid Access Memory
 - (4) Regular Access Memory
- memory in a computer is where information is temporarily stored while it is being accessed or worked on by the processor. [IBPS RRB PO 2017]
 - (1) Logical
 - (2) Secondary
 - (3) ROM
 - (4) RAM
 - (5) Cache
- Why RAM is so called? [IBPS Clerk 2015]
 - (1) Because it is read and write memory
 - (2) Because it is a volatile memory
 - (3) Because it can be selected directly for storing and retrieving data and instructions of any location of chip
 - (4) Because it is a non-volatile memory
 - (5) None of the above

- 13.** Which of the following is not true about RAM? [IBPS PO 2015, IBPS Clerk 2014]
(1) RAM is the same as hard disk storage
(2) RAM is a temporary storage area
(3) RAM is volatile
(4) RAM is a primary memory
(5) Other than those given as options
- 14.** Virtual memory allocates hard disk space to supplement the immediate, functional memory capacity of [SBI PO 2014]
(1) ROM (2) EPROM
(3) the registers (4) extended memory
(5) RAM
- 15.** Storage that retains its data after the power is turned OFF is referred to as [SBI Clerk 2009]
(1) volatile storage (2) non-volatile storage
(3) sequential storage (4) direct storage
- 16.** The advantage of DRAM is
(1) it is cheaper than SRAM
(2) it can store data more than that of SRAM
(3) it is faster than SRAM
(4) data can be erased easily from it as compared to SRAM
- 17.** Which of the following stores data permanently in a computer? [SSC CGL 2017]
(1) ALU (2) Cache memory
(3) RAM (4) ROM
- 18.** Permanent instructions that the computer use when it is turned ON and that cannot be changed by other instructions are contained in [UPSSSC 2016]
(1) ROM (2) RAM (3) ALU (4) SRAM
- 19.** When you first turn on a computer, the CPU is preset to execute instructions stored in the [IBPS PO 2015]
(1) RAM (2) flash memory
(3) ROM (4) CD-ROM
(5) ALU
- 20.** What is the full form of PROM? [SSC CHSL 2019]
(1) Programmable Read Only Memory
(2) Program Read Output Memory
(3) Program Read Only Memory
(4) Primary Read Only Memory
- 21.** A disc's content that is recorded at the time of manufacture and cannot be changed or erased by the user is [IBPS Clerk 2013]
(1) memory only (2) write only
(3) once only (4) run only
(5) read only
- 22.** In the field of Information and Communication Technology (ICT), what is the full form of EEPROM? [SSC CGL 2018]
(1) Electrically Erasable Programmable Read Only Memory
(2) Electrically Efficient Portable Read Only Memory
(3) Electrically Efficient Programmable Read Only Memory
(4) Enhanced Electrical Portable Read Only Memory
- 23.** The difference between memory and storage is that memory is and storage is [IBPS Clerk 2015]
(1) temporary; permanent
(2) permanent; temporary
(3) slow; fast
(4) non-volatile; volatile
(5) None of the above
- 24.** The acts as a buffer between the CPU and the main memory. [UPSSSC 2018]
(1) primary memory (2) cache memory
(3) secondary memory (4) RAM
- 25.** Which of the following is a very high speed semiconductor memory which can speed up the CPU? [SSC CHSL 2019]
(1) Secondary memory (2) Main memory
(3) Primary memory (4) Cache memory
- 26.** What is the term used for temporarily stored data? [UPSSSC 2019]
(1) Miscellaneous data (2) Cache data
(3) Picked data (4) Tempo data
- 27.** is having more memory addresses than are physically available. [SBI PO 2014]
(1) Virtual memory
(2) System software
(3) Application software
(4) RAM
(5) Vertical memory

- 28.** is the ability of a device to 'jump' directly to the requested data.
- (1) Sequential access
 - (2) Random access
 - (3) Quick access
 - (4) All of the above
- 29.** The is the amount of data that a storage device can move from the storage to the computer per second.
- (1) data migration rate
 - (2) data digitising rate
 - (3) data transfer rate
 - (4) data access rate
- 30.** The main directory of a disk is called the directory. [IBPS PO 2015]
- (1) network
 - (2) folder
 - (3) root
 - (4) other than those given as options
 - (5) program
- 31.** The indicates how much data a particular storage medium can hold. [IBPS Clerk 2013]
- (1) storage
 - (2) access
 - (3) capacity
 - (4) memory
 - (5) None of these
- 32.** The secondary storage devices can only store data but they cannot perform
- (1) arithmetic operations
 - (2) logic operations
 - (3) fetch operations
 - (4) All of the above
- 33.** Where do you save the data that, your data will remain intact even when the computer is turned OFF?
- (1) RAM
 - (2) Motherboard
 - (3) Secondary storage device
 - (4) Primary storage device
- 34.** The term refers to data storage systems that make it possible for a computer or electronic device to store and retrieve data.
- (1) retrieval technology
 - (2) input technology
 - (3) output technology
 - (4) storage technology
- 35.** The storage device used to compensate for the difference in rates of flow of data from one device to another is termed as
- (1) chip
 - (2) channel
 - (3) floppy
 - (4) buffer
- 36.** Which of the following is the magnetic storage device?
- (1) Hard disk
 - (2) Compact disc
 - (3) Audio tapes
 - (4) All of these
- 37.** Hard disk devices are considered storage. [SBI Clerk 2014]
- (1) flash
 - (2) temporary
 - (3) worthless
 - (4) non-volatile
 - (5) non-permanent
- 38.** The thick, rigid metal platters that are capable of retrieving information at a high rate of speed are known as [SBI Clerk 2014]
- (1) hard disk
 - (2) SAN
 - (3) soft disk
 - (4) flash memory
 - (5) None of these
- 39.** Hard drive is used to store [IBPS Clerk Mains 2017]
- (1) volatile data
 - (2) non-volatile data
 - (3) permanent data
 - (4) temporary data
 - (5) intermediate data
- 40.** The hard drive is normally located [SBI PO 2014]
- (1) next to the printer
 - (2) plugged into the back of the computer
 - (3) underneath the monitor
 - (4) on top of the CD-ROM
 - (5) inside the system base unit
- 41.** Data on a floppy disk is recorded in rings called
- (1) sectors
 - (2) ringers
 - (3) rounders
 - (4) tracks
- 42.** Which of the following is/are example(s) of magnetic storage media?
- (1) Zip disk
 - (2) CD-ROM
 - (3) Floppy disk
 - (4) DVD
 - (5) Both (1) and (3)
- 43.** Floppy disks are organised as
- (1) files
 - (2) heads and folders
 - (3) tracks and sectors
 - (4) All of the above

- 44.** The capacity of 3.5 inch floppy disk is
(1) 1.40 MB (2) 1.44 GB
(3) 1.40 GB (4) 1.44 MB
- 45.** The most common storage device for the personal computer is the [SBI Clerk 2014]
(1) floppy disk
(2) USB personal computer
(3) mainframe
(4) a laptop
(5) None of these
- 46.** Which of the following has the smallest storage capacity? [IBPS Clerk 2015]
(1) Zip disk (2) Hard disk
(3) Floppy disk (4) Data cartridge
(5) CD
- 47.** FDD stands for [SSC, CGL 2018, IBPS Clerk 2015]
(1) Floppy Drive Detector
(2) Floppy Drive Demodulator
(3) Floppy Disk Drive
(4) Floppy Demodulator Disc
(5) None of the above
- 48.** is the process of dividing the disc into tracks and sectors.
[SBI PO 2015, IBPS Clerk Mains 2017]
(1) Tracking (2) Formatting
(3) Crashing (4) Allotting
(5) None of these
- 49.** Data on a floppy disk was recorded in rings called [IBPS RRB PO 2017]
(1) flip (2) ringers
(3) rounders (4) fields
(5) segments
- 50.** Magnetic tape is not practical for applications where data must be quickly recalled because tape is
(1) a random access medium
(2) a sequential access medium
(3) a read only medium
(4) fragile and easily damaged
- 51.** Which of the following can hold maximum data?
(1) Optical disc (2) Floppy disk
(3) Magnetic disk (4) Magnetic tape
- 52.** On a CD-RW, you can
(1) read and write information
(2) only read information
(3) only write information
(4) read, write and rewrite information
- 53.** Which of the following are advantages of CD-ROM as a storage media? [RBI Grade B 2014]
(1) CD-ROM is an inexpensive way to store large amount of data and information
(2) CD-ROM discs retrieve data and information more quickly than magnetic disks
(3) CD-ROMs make less errors than magnetic media
(4) All of the above
(5) None of the above
- 54.** Which media has the ability to have data/information stored (written) on them by users more than once? [RBI Grade B 2014]
(1) CD-R discs
(2) CD-RW discs
(3) Zip discs
(4) Optical discs
(5) CD-RW discs and Zip discs
- 55.** What is the difference between a CD-ROM and CD-RW? [IBPS PO 2015]
(1) They are the same—just two different terms used by different manufactures.
(2) A CD-ROM can be written to and a CD-RW cannot.
(3) Other than those given as options
(4) A CD-ROM holds more information than a CD-RW.
(5) A CD-RW can be written to but a CD-ROM can only be read from.
- 56.** Compact discs that can store approximately 650-800 MB of data or 74-80 min of music are [SBI Clerk 2015]
(1) zip discs (2) CD-ROM
(3) video cards (4) pressing machines
(5) floppy diskettes
- 57.** A flat metallic disk that contains a large amount of permanently stored information read optically, is called a
(1) monitor (2) ALU
(3) CD-ROM (4) RAM

- 58.** CD-ROM is an example of [RBI Grade B 2014]
(1) input device
(2) output device
(3) Both input & output devices
(4) Memory device
(5) None of the above
- 59.** DVD refers to [SSC MTS 2013]
(1) Digital Video Developer
(2) Digital Video Device
(3) Digital Video Disc
(4) None of the above
- 60.** A DVD is an example of a(n) [SBI Clerk 2014]
(1) optical device
(2) output device
(3) hard disk
(4) solid state storage device
(5) None of the above
- 61.** Which of the following discs can be read only? [IBPS Clerk 2015]
(1) DVD-R (2) DVD-ROM
(3) DVR-RW (4) CD-R
(5) None of these
- 62.** Which is not an external storage device? [SSC CGL 2016]
(1) CD-ROM (2) DVD-ROM
(3) Pen drive (4) RAM
- 63.** is the smallest unit of data in a computer. [SSC CGL 2018]
(1) Gigabyte (2) Bit
(3) Byte (4) Terabyte
- 64.** The term Bit is short for [SBI Clerk 2009]
(1) megabyte
(2) binary language
(3) binary digit
(4) binary number
(5) None of the above
- 65.** Which among the following is another name for a group of 4 bits? [IBPS Clerk 2015, IBPS PO 2016]
(1) Nibble (2) Byte
(3) KiloByte (3) MegaByte
(5) PetaByte
- 66.** Which of the following is the smallest measure of storage? [UPSSSC 2015]
(1) Tera byte (2) Gigabyte
(3) Kilobyte (4) Byte
- 67.** are used to measure both computer memory (RAM) and storage capacity of Floppy disks, CD-ROM drives and Hard drives. [SBI Clerk 2015]
(1) Bytes
(2) Bits
(3) Octal numbers
(4) Hexadecimal numbers
(5) Binary numbers
- 68.** How many bits are equal to one byte ? [SSC CGL 2016]
(1) 8 (2) 6 (3) 7 (4) 2
- 69.** Instructions and memory address are represented by [IBPS Clerk 2015]
(1) character code (2) binary codes
(3) binary word (4) parity bit
(5) None of these
- 70.** Kilo Byte equals to how many bytes? [SBI Clerk 2012]
(1) 1000 (2) 1035 (3) 100 (4) 1008
(5) 1024
- 71.** A is approximately a million bytes. [SBI PO 2014]
(1) giga byte (2) kilo byte
(3) mega byte (4) tera byte
(5) None of these
- 72.** What does the computer abbreviation 'MB' used for? [IBPS Clerk 2014]
(1) Megabit (2) Millionbytes
(3) Megabytes (4) Millionbit
(5) Microbytes
- 73.** The amount of memory (RAM or ROM) is measured in [SBI PO 2014]
(1) bytes (2) bits
(3) megabytes (4) megabits
(5) hertz
- 74.** How many kilobytes make a megabyte? [UPSSSC 2016, IBPS Clerk 2015]
(1) 128 (2) 1024 (3) 256 (4) 512
(5) 64

- 75.** A ... is approximately one billion bytes.
[IBPS Clerk 2014, SBI PO 2015]
(1) kilobyte (2) bit
(3) gigabyte (4) megabyte
(5) None of these
- 76.** The term 'gigabyte' refers to [IBPS PO 2012]
(1) 1024 byte
(2) 1024 kilobyte
(3) 1024 megabyte
(4) 1024 gigabyte
(5) None of the above
- 77.** Which of the following is the largest unit of storage?
[SBI PO 2015]
(1) GB (2) KB
(3) MB (4) TB
(5) None of these
- 78.** Which of the following is correct sequence of smallest to largest units of storage size?
[SBI PO 2014]
(1) Petabyte, Kilobyte, Megabyte, Gigabyte, Terabyte
(2) Kilobyte, Megabyte, Terabyte, Petabyte, Gigabyte
(3) Megabyte, Terabyte, Gigabyte, Kilobyte, Petabyte
(4) Kilobyte, Megabyte, Petabyte, Terabyte, Gigabyte
(5) Kilobyte, Megabyte, Gigabyte, Terabyte, Petabyte
- 79.** How many gigabytes is equal to 1 petabyte?
[SSC CGL 2016]
(1) 256 (2) 512
(3) 1024 (4) 1024×1024
- 80.** (HHDD) is a technology where the conventional disk drive is combined with non-volatile flash memory, of typically 128 MB or more to cache data during normal use.
[SSC CGL 2017]
(1) Hyper Hard Disk Drive
(2) Hybrid Hard Disk Drive
(3) Hybrid Helium Disk Drive
(4) Hyper Helium Disk Drive
- 81.** Which of the following provides computing and storage capacity services to heterogeneous community of end recipients?
(1) Cloud computing (2) Big data
(3) FutureSkills (4) Robotics
- 82.** What is/are characteristics of cloud computing?
(1) On demand self services
(2) Broad network access
(3) Resource pooling
(4) All of the above
- 83.** Which type of cloud deployments is used to serve multiple users, not a single customer?
(1) Private cloud (2) Public cloud
(3) Hybrid cloud (4) None of these
- 84.** Which cloud computing services refers to supply on demand environment for developing software applications?
(1) SaaS (2) AaaS
(3) PaaS (4) IaaS

ANSWERS

1. (1)	2. (2)	3. (3)	4. (4)	5. (5)	6. (4)	7. (1)	8. (3)	9. (3)	10. (1)
11. (4)	12. (3)	13. (1)	14. (5)	15. (2)	16. (1)	17. (4)	18. (1)	19. (3)	20. (1)
21. (5)	22. (1)	23. (1)	24. (2)	25. (4)	26. (2)	27. (1)	28. (2)	29. (2)	30. (3)
31. (3)	32. (4)	33. (3)	34. (4)	35. (4)	36. (1)	37. (4)	38. (1)	39. (3)	40. (5)
41. (4)	42. (5)	43. (3)	44. (4)	45. (1)	46. (3)	47. (3)	48. (2)	49. (5)	50. (2)
51. (4)	52. (4)	53. (1)	54. (2)	55. (1)	56. (2)	57. (3)	58. (4)	59. (3)	60. (1)
61. (2)	62. (4)	63. (2)	64. (3)	65. (1)	66. (4)	67. (1)	68. (1)	69. (2)	70. (5)
71. (3)	72. (3)	73. (3)	74. (2)	75. (3)	76. (3)	77. (4)	78. (5)	79. (4)	80. (2)
81. (1)	82. (4)	83. (2)	84. (3)						