INFORMATION TECHNOLOGY – IMPORTANT DEFINITIONS - FOR IPCC/PCC

1. **BIOS:** It stands for Basic Input Output system. It is a small chip on the motherboard that includes start up code, the set up program and also loads the hardware settings required to operate various devices like keyboard, monitor, disk drives, etc.
2. **ASCII:** It stands for American Standard Code for Information Interchange. It issued to represent data in main computer memory. It uses the rightmost seven bits of the 8-bit byte to represent numbers, letters and special characters. The 8th bit is used for parity or it may be permanently 1 or 0.
3. **VPN:** It stands for Virtual Private Network. It is a private network that uses a public network (usually the Internet) to connect remote sites or users together. Instead of using a dedicated, real-world connection, a VPN uses virtual connections routed through the Internet from the company's private network to the remote site or employee.
4. **Bluetooth:** Bluetooth is a telecommunications industry specification that describes how mobile phones, computers, and personal digital assistants (PDAs) can be easily interconnected using a short-range wireless connection.
5. **Joystick:** It is a screen pointing input device. It is a vertical lever usually placed in a ball socket, which can be moved in any direction to control cursor movements around the screen, for computer games and some professional applications.
6. **SCSI:** Small Computer System Interface (SCSI) is a device interface that is used to solve the problem of a finite and possibly insufficient number of expansion slots. Instead of plugging interface cards into the computer's bus via the expansion slots, SCSI extends the bus outside the computer by way of a cable.
7. **Management Database:** Management databases store data and information extracted from selected operational and external databases. They consist of summarized data and information most needed by the organization's managers and other end users as part of decision support systems and executive information systems to support managerial decision making. They are also called information databases.
8. **Mirror Log:** It is an optional database file which is a copy of a transaction log (a file that records database modifications) and provides additional protection against the loss of data in the event the transaction log becomes unusable. It has a file extension of .mlg.
9. **Program Debugging:** Cleansing the computer program from errors is called program debugging. Towards this purpose, the programmers devise a set of test data transactions to test the various alternative branches in the program. The results got from the computer are compared with the ones derived manually prior to computer processing. If the results do not tally, the programmer then verifies the flowcharts and code in a search for the bugs and then fixes the bugs.

10. **Repeater:** It is a device that solves the snag of signal degradation which results as data is transmitted along the various cables. It boosts or amplifies the signal before passing it through to the next section of cable.
11. **Fat Client:** In two-tier architecture, a client is called as a fat client if the business logic and the presentation layer are located on the client machine and data layer is on the server machine. The entire processing load is on the client. It imposes a lot of memory and bandwidth requirement on the client's machine.
12. **DDE:** Direct Data Entry (DDE) refers to entry of data directly into the computers through machine readable source documents. It does not require manual transcription of data from original paper documents. DDE devices can scan source documents magnetically or optically to capture data. Examples of such devices include magnetic ink character readers and optical character readers.
13. **Key:** In the context of relational databases, a key is a set of one or more columns whose combined values are unique among all occurrences in a given table. A key is the relational means of specifying uniqueness.
14. **EFT:** EFT stands for Electronic Funds Transfer and represents the way the business can receive direct deposit of all payments from the financial institution to the company's bank account. Once the user signs up, money come to him directly and sooner than ever before. Examples of EFT systems in operation include Automated Teller Machines (ATMs) and Point-of-Sale transactions.
15. **Decision Table:** A decision table is a table listing all the possible contingencies that may be considered within the program, together with the corresponding actions to be taken. Decision tables permit complex decision-making criteria to be expressed in a concise and logical format.
16. **Flowchart:** A flowchart is a diagram, prepared by the programmer, of the sequence of steps, involved in solving a problem. It shows the general plan, architecture, and essential details of the proposed structure. It is an essential tool for programming and it illustrates the strategy and thread of logic followed in the program.
17. **Web Browser:** A Web browser is a special client software package which is used to view Web pages on the Internet. It fetches a Web page from a server using a standard HTTP request. Some of the popular browsers are Internet Explorer, Netscape Navigator, Mozilla Firefox, and Opera.
18. **Hollerith Code:** Hollerith Code is used for representing alphanumeric data on punched cards. Each card column holds one character. Each decimal digit, letter, and special character is represented by one, two or three holes punched into designated row positions of the column.
19. **Virus:** A virus is a program that instructs the operating system to append it to other programs and thus propagates to other programs via files containing macros which are sent as attachments to electronic mail messages. A virus can be benign like it can cause minor

disruptions by printing laughing messages or can be malignant like it can delete files or corrupt other programs.

20. **Buffering:** Buffering is a process that enables the processor to execute another instruction while input or output is taking place rather than being idle while transfer is completed.
21. **GUI:** GUI or Graphical User Interface takes the user away from command-driven interfaces to an user-friendly graphics oriented environment, which provide an alternative to cryptic text commands. With the GUI, the user can interact with operating system and other software packages by selecting options from menus that are temporarily super-imposed over whatever is currently on the screen by using mouse to position the graphics cursors over the appropriate icon thus eliminating the need for users to memorize and enter cumbersome commands.
22. **System Software:** System Software comprises of Programming Languages, Operating systems, Subroutines, Utility Programs, Diagnostic Routines and Language translators that control and support the computer system and its data processing applications. In other words, system software includes operating systems and any program that supports application software.
23. **Workstation:** A workstation looks like a personal computer and is typically used by one person. Workstations are more powerful than the average personal computer and are based on different architecture of CPU called Reduced Instruction Set Computing (RISC), which results in faster processing of instructions.
24. **ISDN:** ISDN or Integrated Services Digital Network (ISDN) is a system of digital phone connections to allow simultaneous transmission of voice and data across the world. ISDN allows multiple digital channels to be operated simultaneously through the same regular phone cable meant for analog signals.
25. **Spooling Software:** The purpose of spooling software is to compensate for the speed differences between the computer and its peripheral devices. Spooling utilities can also be used on the input side, so that programs and data to be processed are temporarily stored in an input spooling area on disk.
26. **Sort Utilities:** Sort utilities are often found in mainframe and minicomputer environments and are those that sort data. For example, sort routines are commonly found in spreadsheet and database management software.
27. **Transaction Server:** Transaction Server is an integral part of Windows NT, and is installed by default as part of the operating system in NT5. It is a service that is all about managing the way applications use components, and not just about managing transactions.
28. **EBCDIC Code:** EBCDIC stands for Extended BCD Interchange Code. It is an 8-bit standard character code without parity for large computers. A 9th bit can be used for parity. With 8 bits, up to 256 characters can be coded. In EBCDIC, the first 4 bits are known as Zone Bits and the remaining 4 bits represent digit values.
29. **The Boot Record**: It is a small program that runs when the computer is started and determines whether the disk has the basic components of DOS or Windows that are

necessary to run the operating system successfully. If the required files are present and the disk has a valid format, it transfers control to one of the operating system programs that continues the process of starting up. This process is called Booting because the boot program makes the computer pull itself up by its bootstraps. The boot record also describes other disk characteristics, such as the number of bytes per sector and the number of sectors per track.

30. **FAT:** The FAT or File-Allocation table is a log that records the location of each file and the status of each sector. When a file is written to a disk, the operating system checks the FAT for an open area, stores the file, and then identifies the file and its location in the FAT.
31. **Motherboard:** The motherboard or the system board is the main circuit board on the computer. It acts as a direct channel for the various components to interact and communicate with each other. There are various types of motherboards available depending on the processors that are used.
32. **ALU:** ALU includes a group of registers – high-speed memory locations built directly into the CPU that are used to hold the data currently being processed. Arithmetic operations include addition, subtraction, multiplication, and division whereas Logical operations include comparisons, such as determining whether one number is equal to, greater than, or less than another number.
33. **MMX**: MMX stands for Multimedia Extensions which is defined as a set of instructions built in to the CPU, specifically intended for improving the performance of multimedia or graphic applications – mainly games.
34. **Volatile memory** is a type of memory that requires constant power to maintain the stored information and is typically used only for primary storage.
35. **Network-attached storage** is secondary or tertiary storage attached to a computer which another computer can access over a local-area network, a private wide-area network, or in the case of online file storage, over the Internet.
36. **Storage density** refers to the compactness of stored information. It is the storage capacity of a medium divided with a unit of length, area or volume (e.g. 1.2 megabytes per square centimeter).
37. **Screen Resolution** is one of the most important features used to differentiate display. Most display devices form images from tiny dots - called pixels that are arranged in a rectangular pattern. The more dots available to display any image on - screen, the sharper the image (the greater the resolution) is.
38. **Data Transfer Time** is defined as the time taken to activate the read/write head, read the requested data and transmit them to primary memory for processing.
39. **Data Mart** is defined as a database which contains selective data from a data warehouse meant for a specific function or department.
40. A **Port** is a hardware device that allows a series of bits to be transferred to a bus for data input or, inversely, the transfer of data from a bus to the port for data output.

41. **Latency** is the time taken to access a particular location in storage. It is typically measured in nanosecond for primary storage, millisecond for secondary storage, and second for tertiary storage.
42. An **Alternate Key** of any table is simply that candidate key which is not currently selected as the primary key. An alternate key is a function of all candidate keys minus the primary key.
43. **Mobile Commerce (M-commerce)** is defined as the buying and selling of goods and services through wireless handheld devices such as cellular telephone and Personal Digital Assistants (PDAs). Known as next-generation E-commerce, M-commerce enables users to access the Internet without needing to find a place to plug in.
44. **Graph Plotter** is a device capable of tracing out graphs, designs and maps into paper and even into plastic or metal plates. Plotters may be driven on-line or off-line wherein a high degree of accuracy can be achieved, even upto one thousandth of an inch.
45. **Metadata** or "data about data" is used to inform operators and users of the data warehouse about its status and the information held within the data warehouse. Examples of data warehouse metadata include the most recent data load date, the business meaning of a data item and the number of users that are logged in currently.
46. **Data warehouse operations** comprise of the processes of loading, manipulating and extracting data from the data warehouse. Operations also cover user management, security, capacity management and related functions.
47. A **Directory** is like a drawer in a filing cabinet containing files. A computer disk usually contains multiple directories, if necessary, a directory can also contain other directories. The purpose of directories is to enable the user to partition the computer's disk/storage devices in an organized and meaningful manner.
48. **Syntax of protocol** defines the format of the data being exchanged, character set used, type of error connection used, type of encoding scheme (eg.. signal levels) during data transmission.
49. **Multiprocessing**: Multiprocessing (or parallel processing) refers to the use of two or more central processing units, linked together, to perform coordinated work simultaneously. Instructions are executed simultaneously by different CPUs at any given time.
50. **Fat Server:** In a fat-server system, more of the processing takes place on the server. Fat-servers try to minimize the processing done by clients. Examples of fat servers are transaction, GroupWare, and web servers. They are also referred to as "3-Tier" systems.
51. **Subroutine:** A subroutine is a subset of instructions that are called or executed from a main program or finds applications in several programs. It is economical to write it once. Subroutines may be incorporated in the main program from a library of subroutines.
52. **Mesh Topology:** A random connection of nodes using communication links is known as mesh topology. A mesh network may be fully connected or connected with only partial links. In fully interconnected topology, each node is connected by a dedicated point to point link to every node.

53. **Multiplexer:** Multiplexer enables several devices to share one communication line. It scans each device to collect and transmit data on a single line to the CPU, and also communicates transmission from the CPU to the appropriate terminal linked to the multiplexer. The devices are polled and periodically asked whether there is any data to transmit.
54. **Modem:** Modem stands for Modulator/Demodulator. It is a device that converts a digital computer signal into an analog telephone signal (i.e. it modulates the signal) and converts an analog telephone signal into a digital computer signal (i.e. it demodulates the signal) in a data communication system.
55. **Transaction log:** A transaction log is a file that records database modifications such as inserts, updates, deletes, commits, rollbacks, and database schema changes. The database engine uses a transaction log to apply any changes made between the most recent checkpoint or a system failure.
56. **Data Definition Language:** Data Definition Language (DDL) defines the conceptual schema providing a link between the logical (the way the user views the data) and physical (the way in which the data is stored physically) structures of the database. It defines the physical characteristics of each record, field in the record, field's data type, field's length, field's logical name and also specifies relationships among the records.
57. **Memo data type:** A data type that can store up to 65,536 characters. It can be used if there is a requirement to store more than 255 characters.
58. **Intrusion Detection System:** Intrusion detection systems (IDS) are used for detecting inappropriate, incorrect, or anomalous activity on the network from outside. ID systems can be host-based or network-based. They provide automated network-based security assessment and policy compliance evaluation.
59. **File Sharing:** File sharing consists of grouping files together on a server or servers. When files in an organization are concentrated in one place, documents can be shared easily by all users in a networked environment.
60. **Remote Access:** Remote access allows users to login and access in to his/her organization's network via internet and access all of the same network resources they can access when they're in the office.
61. **Access Time:** Access time is the time interval between the instant when a computer or control unit calls for a transfer of data to or from a storage device and the instant when the operation is completed. Thus, access time is the sum of the waiting time and transfer time.
62. **Screen Resolution:** It indicates the degree of detail – that can be perceived, which depends on the number of pixels used to display any image. The more pixels that are available to display any image on-screen, the sharper the image is. The higher the resolution, the finer the detail is.
63. **VPN:** A VPN (Virtual Private Network) is a private network that uses a public network (usually the Internet) to connect remote sites or users together. It uses "virtual" connections routed through the Internet from the company's privatenetwork.

64. **Artificial Intelligence:** Artificial intelligence (AI) is software that tries to emulate aspects of human behavior, such as reasoning, communicating, seeing, and hearing. AI includes natural language, voice and visual recognition, robotics, neural networks, and expert systems.
65. **Encryption:** It involves encoding and transmitting the encoded message so that any eavesdropper is not able to understand what is being sent. Encryption allows information to transit the Internet while being protected from interception by eavesdroppers.
66. **Proxy Server:** A server which is designed to restrict access to information on the Internet is called proxy server. It operates on a list of rules given to it by a System Administrator. It can be used to restrict or prohibit the flow of certain types of information to the network.
67. **Light Pen:** A light pen is a pointing device which can be used to select an option by simply pointing at it, or draw figures directly on the screen and move the figures around.
68. **Hollerith Code:** Hollerith Code is used for representing alphanumeric data on punched cards. Each card column holds one character. Each decimal digit, letter, or special character is represented by one, two or three holes punched into designated row positions of a column.
69. **LSI Circuit :** LSI or Large Scale Integrated Circuits led to the development of the fourth generation computer. The LSI is a microchip containing thousands of small electronic components which function as a complete system.
70. **USB Connectors :** USB stands for Universal Serial Bus. USB connectors provide the user with higher data transfer speeds for different USB devices like keyboard, mouse, scanner or digital camera.
71. **Touch Screen :** Touch Screens are mainly used in Information – providing systems like Railway Reservation counters, stock exchanges, hotels, restaurants etc. When an invisible infrared beam 'matrix' crisscrossing the screen is pressed by finger over a function or program displayed on the screen, the infrared beam is broken at that intersection and the system is activated. The beam emanates from holes along the bottom and sides of the display unit.
72. **Layer 3 or Network Layer :** Network Layer corresponds to the layer 3 of the OSI model and enables a choice of the physical route of transmission of a message packet by
    i. creating a virtual circuit for upper layers to make them independent of data transmission and switching.
    ii. establishing, maintaining, and terminating connections between the nodes.
    iii. ensuring proper routing of data.
73. **Data Dictionary :** Data Dictionary maintains information pertaining to structure and usage of data and meta data. Each piece of data and various synonyms of data field are determined in consultation with database users.
74. **Transaction Log** : Transaction Log is a file that records database modifications that consist of inserts, updates, deletes, commits, rollbacks, and database schema changes. The database engine makes use of this log to apply any changes made between the most recent checkpoint and the system failure.
75. **Random Access :** Random Access pertains to the method of file organization in a storage device in which the access time of the storage device is not significantly affected by the location of the data to be accessed. It means that any item of data which is stored online can be accessed within a relatively short time (usually in part of a second).

76. **E-mail :** E-mail is a method of composing, sending, storing and receiving messages over electronic communication systems. The term e-mail applies both to the Internet e-mail system based on the Simple Mail Transfer Protocol (SMTP) and to intranet systems allowing users within one company to e-mail each other.
77. **VPDN:** VPDN (Virtual Private Dial-Up Network) is a user to LAN connection used by a company that has employees who need to connect to the private network from various remote locations.
78. **Folder:** Folder, also called a Directory, is a tool for organizing files on a disk. Folders can contain files or other folders, so it is possible to set up a hierarchical system of folders on the computer.
79. **DDL Compiler:** DDL Compiler converts data definition statements into a set of tables. Tables contain meta-data (data about the data) concerning the database. It gives rise to a format that can be used by other components of the database.
80. **Shareware:** Shareware is a software developed by individual and small companies that cannot afford to market their software world wide or by a company that wants to release a demonstration version of its commercial product.
81. **Clock Speed:** The clock speed is the speed at which the processor executes instructions. It is measured in megahertz (MHz) e.g. a 450 MHz processor performs 450 million instructions per second.
82. **Real time Data Warehouse:** A Real time data warehouse is updated on a transaction or event basis, every time an operational system performs a transaction such as an order or a delivery or a booking etc.
83. **MMX:** MMX stands for Multimedia Extensions—a set of instructions built in to the CPU, specifically intended for improving the performance of multimedia or graphic applications—mainly games.
84. **Online Backup:** Data base back-up can be performed while the database is being actively accessed (online). It is performed by executing the command-line or from the 'Backup Database' utility. When this process begins, the database engine externalizes all cached data pages kept in memory to the database file(s) on disk. This process is called a checkpoint. The database engine continues recording activity in the transaction log file while the database is backed up. The log file is backed up after the backup utility finishes backing up the database.
85. **Index Field:** Index fields are used to store relevant information along with a document. The data input to an Index Field is used to find those documents when needed. The program provides up to 25 user-definable Index Fields in an Index Set.
86. **Operating System:** Operating System is defined as an integrated system of programs which supervises the operation of the CPU, controls the input/output functions of the computer system, translates the programming languages into the machine languages and provides various support services.
87. **Server:** A server is a computer system that provides services to other computing systems – called clients – over a network. Server operates continuously on a network and waits for service request from other computers on the network. It provides better access control and can reduce costs by reducing duplication of hardware/software.
88. **Data Bus:** The data bus is an electrical path that connects the CPU, memory, and the other hardware devices on the motherboard. In fact, the bus is a group of parallel wires. The number of wires in the bus affects the speed at which data can travel between hardware components.

89. **Dumb Terminal**: It consists of I/O devices for data entry and obtaining result but has no processing capability. It cannot process the data at its own level, instead the data is processed by the central server. These terminals are used in central processing environment.
90. **WORM Disk:** It refers to Write Once, Read Many optical laser disks, or WORM disks. Once the data has been written to the medium, they only can be read, not updated or changed. Companies generally store their proprietary information in WORM disk. These are 3½ inch diskette of 200 MB capacity onwards.
91. **Repeaters:** Repeaters are devices that solve the snag of signal degradation which results as data is transmitted along the cables. It boosts or amplifies the signals before passing it through to the next section of cable.
92. **Subroutine:** A subroutine is a subset of instructions that appears over and again in the program or finds application in several programs. A great deal of coding effort can be saved through judicious use of subroutines to handle tasks which are encountered repetitively.
93. **PROM:** Programmable read only memory is a non-volatile memory which allows the user to program the chip with a PROM writer. The chip can be programmed once, there after, it cannot be altered.
94. **Web Casting:** It is a web based technology, which allows users to passively receive broadcast information rather than actively search the web for information. It allows users to choose from a menu of sources, specifying what kind of information is needed. Once selected, the information is automatically forwarded to the user e.g. Internet news services.
95. **Assembler:** It refers to a computer program that translates programs written in symbolic coding to produce machine language programs.
96. **Data transformation:** The data transformation layer receives data from the data sources, cleans and standardizes it, and loads it into data repository.
97. **Touch Screen:** It is used in information providing systems. It consists of a screen which is lined with light emitting devices on its vertical sides and photo-detectors are placed on the horizontal sides. When the user's finger approaches the screen, the light beam is broken and is detected by the photo detectors. It is more effect than the mouse.
98. **Switch:** It is hardware device used to direct messages across a network. Switches create temporary point to point links between two nodes on a network and send all data along that link.
99. **Data Centre:** It is a centralized depository for the storage, management and discrimination of data and information. It can be defined as highly secure, faultresistant facilities, hosting customer equipment that connects to telecommunications networks.
100. **Data Dictionary:** A Data Dictionary is a set of metadata that contains definitions and representations of data elements. It maintains information pertaining to structure and usage of data and meta data.
101. **Uniform Resource Locators (URL):** are used to address and access individual web pages and internet resources. The format of URL is protocol / internet address / web page address. http://www.icai.org/seminars.html
102. **Cache Memory:** Processors incorporate a special type of internal memory (cache) to boost processing power significantly. Some of the information in the main memory is duplicated in the cache memory which is slightly slower but of much greater capacity than the processor register and faster but much smaller than main memory. It comes in two types : L1 and L2 Cache.

103. **Boot record:** Booting is a process that starts operating systems when the user turns on a computer system. Boot record is a small program that runs when the computer is started. The Boot record program checks the basic component and the files of the operating system which is used to run the system successfully.
104. **Spooling Software:** The purpose of spooling software is to compensate for the speed difference between the computer and its peripheral devices such as input and output devices. It is used in large system and network computing environment.
105. **Internet Browser:** It is a application software that enables a user to display and interact with text, images and other information typically located on a web page at a website on the world wide web or local area network. Microsoft Internet Explorer is the most popular internet browser.
106. **Index field**: Index fields are used to store relevant information along with a document. The data input to an index field is used to find those documents when needed. The program provides upto twenty five user definable index fields in an index set.
107. **VPDN:** VPDN (Virtual Private Dial-Up Network) is a user to LAN connection used by a company that has employees who need to connect to the private network from various remote locations.
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