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**COMPUTER
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2012 - 2019

*Lahore, Gujranwala, Rawalpindi, Faisalabad, Sargodha, Multan
Bahawalpur, Sahiwal, D.G. Khan and Mirpur (AJK) Boards*

- ☞ MCQs with solutions from exercises of PTBB.
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- ☞ Chapter wise MCQs with solutions from Past Papers (2014 - 2019) of all Boards of Punjab.
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CONTENTS

Ch.#	SUBJECT	Pg.#
Ch. 1	Basics of Information Technology	01
Ch. 2	Information Networks	05
Ch. 3	Data Communications	10
Ch. 4	Applications and Uses of Computer	16
Ch. 5	Computer Architecture	21
Ch. 6	Security, Copy Right and "The Law"	32
Ch. 7	Windows Operating System	37
Ch. 8	Word Processing	43
Ch. 9	Spread Sheet Processing	46
Ch. 10	Fundamentals of the Internet	51

Chapter 1

Basics of Information Technology

SECTION I

Multiple Choice Questions

From Exercises:

7. Smallest unit of memory is: (SWL-GI-15)
 (a) Byte (b) Bit
 (c) Character (d) Word

From Punjab Board:

1. Testing of a program component is called: (MTN/GI-2016)(BWP/GI-17)
 (a) Pilot testing (b) Isolation testing
 (c) System testing (d) Unit testing
2. Testing all program components together in SDLC is called: (FSD/GI-17)(RWP/GI-16) (SWL/GI-18)(SGD-19)
 (a) group testing (b) volume testing
 (c) system testing (d) composite testing
3. System requirements are created during: (RWP/GI-15)
 (a) Analysis (b) Design
 (c) Preliminary investigation
 (d) Development
4. A set of instructions that run the computer are: (MTN/GI-2017) (LHR/GI-18)
 (a) Hardware (b) Document
 (c) CPU (d) Software
5. Data processing is also known as: (RWP/GI-18), (RW-GI-16)
 (a) Knowledge (b) Computing
 (c) Procedure (d) Merging
6. Which of the following is not an example of system software. (GRW/GI-18) (SGD-19)
 (a) operating system (b) utility program
 (c) drivers (d) Microsoft office
7. An operating system is a: (RWP/GI-15)(FSD/GI-18) (GRW/GI-18) (BWP-19)
 (a) system utility (b) application software
 (c) system software (d) software packing
8. Software that is available free for a limited period is called: (LHR/GI-18)
 (a) Freeware (b) Shareware
 (c) Groupware (d) Netware

9. BIT stands for:
 (a) Binary tree (b) binary digit
 (c) Binary integer (d) Binary interval
10. 3 bytes is equal to: (LHR/GI-17)
 (a) 16 bits (b) 20 bits
 (c) 24 bits (d) 30 bits
11. Which software is used to solve every day personal or business tasks? (BWP/GI-17)
 (a) Operating system (b) System software
 (c) Application software (d) Device Driver
12. Collection of 4 bits is called:
 (D.G.K/GI-16)(AJK/GI-16)
 (a) Byte (b) 1 KB
 (c) 1 MB (d) 1 Nibble
13. Information technology is a combination of: (LHR/GI-16)
 (a) Computing and mechanical technology
 (b) Computing and electrical technology
 (c) Computing and mechatronics technology
 (d) Computing and communication technology
14. Data and program being used by computer are stored in: (AJK/GI-16)(SWL-19)
 (a) Primary storage (b) Cache
 (c) Secondary storage (d) Printer
15. Which one is storage device? (FSD/GI-16)
 (a) Magnetic tape (b) Printer
 (c) Keyboard (d) Camera
16. The physical part of computer is called: (GRW/GI-16)
 (a) software (b) shareware
 (c) firmware (d) hardware
17. Which is a storage device? (D.G.K-19)(LHR/GI-15)
 (a) Floppy (b) CPU
 (c) Clock (d) BUS
18. The program that contains instructions to operate a device is called. (GRW/GI-15)(D.G.K-19)
 (a) Device driver (b) Device operator
 (c) Device linking (d) Device system
19. Types of application software: (LHR/GI-15)
 (a) 5 (b) 4
 (c) 3 (d) 2
20. The process of transferring a file from remote computer to local computer on network is called: (GRW/GI-18), (LHR/GI-18) (FSD/GI-18)
 (a) downloading (b) browsing
 (c) uploading (d) pasting
21. The electronic circuit that executes computer instructions is called: (RWP/GI-16)
 (a) Monitor (b) Hard disk
 (c) CPU (d) Keyboard

SECTION II**SHORT QUESTIONS ANSWERS****From Exercises:**

1. What is the difference between hardware and software?

Ans.

Hardware	Software
1. Physical parts of the computer are called hardware.	1. A set of instructions given to the computer is called software.
2. You can touch, see and feel hardware.	2. You cannot touch, see and feel software.
3. Hardware causes the input, output and processing operations of data.	3. Software cause the computer to perform desired functions such as word processing.
4. Hardware is constructed using physical materials or components.	4. Software is developed by writing instructions in programming language.
EXAMPLES:-mouse, printer and CPU	Application software, OS, VLC

9. Define the term "Operating System" in your Own words.

Ans. An operating system is a set of programs that manages all computer components and operations. A computer cannot work without operating system. Users interact with the computer through operating system, just like DOS, LINUX, UNIX

11. What do you understand by "SDLC"? Define its steps properly.

Ans. System development lifecycle (SDLC) is a process of information system (IS) development. Incrementally defined SDLC stages include requirement gathering, investigation, testing, design, installation, implementation, integration and maintenance.

The Seven Phases of the System-Development Life Cycle

- Preliminary Investigation Planning.
- Systems Analysis and Requirements. ...
- Systems Design. ...
- Development. ...
- Integration and Testing. ...
- Implementation. ...
- Operations and Maintenance.

From Punjab Board:

1. What is an information technology?
(BWP/G1-15) (FSD/G1-15), (GRW/G1-15),
(FSD/G1-17), (GRW/G1-16), (FSD/G1-16)
(D.G.K/G1-16), (MTN/G1-18) (SWL-19) (AJK-19)

Ans. Information technology is the technology that uses computing with high-speed communication links to spread information from one place to another. The interconnection of computers enables people to send and receive information. The world has become a global village due to information technology.

2. Convert 145 MB of memory in bytes.
(D.G.K/G1-15)

Ans. 145 MB = 14,50,00,000 bytes

3. Identify two 220 MB of memory into bytes.
(BWP/G1-16)

Ans. 220 MB = 220,000,000 bytes

4. Convert 128 bits into bytes. (AJK/G1-16)

Ans. $128/8 = 16$ bytes
Because 1 byte = 8 bits

5. Describe coding phase in SDLC. (GRW/G1-16)

Ans. It consists of a detailed plan describing how to develop, maintain and replace specific...
Implementation: The software engineers start writing the code according to the client's requirements. ...

6. What is operating system?
(RWP/G1-16) (BWP/G1-15)

Ans. An operating system is a set of programs that manages all computer components and operations. A computer cannot work without operating system. Users interact with the computer through operating system, just like DOS, LINUX, UNIX

7. What do you mean by implementation?
(RWP/G1-16)

Ans. In this phase, the system is implemented. It means that the developed system is installed for use to solve the problem. Users of the organization are also trained to operate the system

8. Why we need training of users for a new system?
(LHR/G1-18) (LHR-19)

Ans. When adopting or creating new software, training helps users adapt to changes in their be it roles, new team members, or vendors, while support helps end-users address issues they experience. Support enables evolution of the software to better meet the needs of the organization from identification of a need for enhancement or bug fixes.

9. Define computer. (FSD/G1-18) (D.G.K-19)

Ans. Computer is a combination of hardware and software. computer is an electronic device on a programmable machine that accepts data process it into useful information according to the instructions given to it and gives output. It can also store data on secondary storage devices for later use.

10. Why interviewing are conducted? (FSD/G1-18)

Ans. The interview is the primary technique for information gathering during the systems analysis phases of a development project. It is a skill which must be mastered by every analyst. The interviewing skills of the analyst determine what information is gathered, and the quality and depth of that information. Interviewing, observation, and research are the primary tools of the analyst.

11. Define System Maintenance Phase. (MTN/G1-16)

Ans. Maintenance is a process of upgrading the system to accommodate the new requirement of the users and to adjust the problems (if any) in the running system. Regular maintenance is essential for the betterment of the system or software.

12. Enlist any four data gathering techniques.

(AJK/G1-16)(LHR-19)

Ans. Any research is only as good as the data that drives it, so

1. Choosing the right technique of data collection
2. Observation
3. Questionnaire
4. Interview
5. Focus Group Session
6. Evaluate their suitability under different circumstances

13. What is logical design of a system? (SWL/G1-17)

Ans. Logical design describes the functional capabilities of the new system. It reviews the system requirements and considers the major system components. Physical design describes how the proposed system will deliver the capabilities specified in the logical design.

14. Why is it important to test a system before use.

(LHR/G1-17), (SGD/G1-18)

Ans. The testing phase of the software development lifecycle (SDLC) is where you focus on investigation and discovery. During the testing phase, developers find out whether their code and programming work according to customer requirements.

15. What is the use of utility program?

(FSD/G1-17) (FSD/G1-15), (FSD/G1-16)

Ans. Operating systems control the computer hardware and act as an interface with **application programs**. **Utility software** helps to manage, maintain and control computer resources. Examples of **utility programs** are antivirus software, backup software and disk tools.

16. Distinguish between hardware and software with examples. (FSD/G1-17), (SWL/G1-17)

(GRW/G1-16), (MTN/G1-16), (MTN/G1-18) (MTN-19)

Hardware	Software
1. Physical parts of the computer are called hardware.	1. A set of instructions given to the computer is called software.
2. You can touch, see and feel hardware on touched physically.	2. You cannot touch, see and feel software.
3. Hardware causes the input, output and processing operations of data.	3. Software cause the computer to perform desired functions such as word processing.
4. Hardware is constructed using physical materials or components.	4. Software is developed by writing instructions in programming language.
EXAMPLES:- mouse, printer and CPU	Application software, OS, VLC

17. Write the use of stylus. (SWL/G1-15)

Ans. A digitizer consist of a flat, rectangular based and an input device stylus or puck. A stylus is a pen like device with which user sketches an image. A puck is a copying device with which the user copies an image. Puck looks like a mouse. The stylus or puck is connected to the board / pad by a wire



Digitizer along with Stylus and Cursor or Puck.

Advantages

It is used for design maps and engineering drawings. Don't have to redraw graphics already created.

18. Define customized software. (RWP/G1-15)

Ans. The software that is developed for a particular customer or organization is called "**Custom-built Software**". It is also known as "**Customized Software**". The professional team of programmers depending on the requirements develops these programs.

Example: Patient information system, inventory system, college admission system, examination system are the examples.

19. Compare system software with application software.

(RWP/G1-15), (RWP/G1-16), (LHR/G1-15), (SWL/G1-15), (SGD/G1-18) (BWP-19)(SGD-19) (FSD-19)

Ans. System software is used for operating computer hardware. Application software is used by user to perform specific task. Systemsoftwares are installed on the computer when operating system is installed. Some examples of system softwares are Device Drivers, Language Processors, Anti Virus and Utility softwares. On the other side word processor, web browser, media player, vlc are examples of application softwares.

20. State the purpose of data gathering.

(D.G.K/G1-15)

Ans. Data collection is the process of gathering and measuring information on variables of interest, in an established systematic fashion that enables one to answer stated research questions, test hypotheses, and evaluate outcomes.

21. What is system? List different components of system.

(BWP/G1-15), (RWP/G1-15)

Ans. A computer system is a set of integrated devices that input, output, process, and store data and information. Computer systems are currently built around at least one digital processing device. There are five main hardware components in a computer system: Input, Processing, Storage, Output and Communication devices.

22. Define bit and byte. (FSD/G1-15), (LHR/G1-15), (FSD/G1-16), (GRW/G1-17), (SWL/G1-18)

Ans. Bit: A bit (short for "binary digit") is the smallest unit of measurement used to quantify computer data. ... While a single bit can define a boolean value of True (1) or False (0), an individual bit has little other use. Therefore, in computer storage, bits are often grouped together in 8-bit clusters called bytes

23. Differentiate between data and information.

(GRW/G1-15), (RWP/G1-16) (BWP/G1-17), (SWL/G1-18)

Ans. Data vs. Information - Differences in Meaning. Data are simply facts or figures — bits of information, but not information itself. When data are processed, interpreted, organized, structured or presented so as to make them meaningful or useful, they are called information. Information provides context for data.

24. List four basic units of data storage. (MTN-19)

Ans. The basic units of data storage are as follows:

Byte: A collection of eight bits is called byte. It is used to store single character.

Kilobyte: A kilobyte consists of 1024 bytes. It is denoted by KB.

Megabyte: A megabyte consists of 1024 kilobytes. It is denoted by MB.

Gigabyte: A gigabyte consists of 1024 megabytes.

25. Discuss concept of global village. (AJK-19)

Ans. The definition of a global village is the idea that people are connected by easy travel, mass media and electronic communications, and have become a single community. An example of the global village is all the combined societies throughout the world.

One easy example of the global village concept is through the internet. Having the internet on phones and access to free internet at libraries and so on....

26. Why does application software need operation system? (RWP-19)

Ans. Application software cannot run on its own; it requires system software and related supporting environments like software/libraries/run times (such as application server or JVM) to work properly. ... The most common system software is the computer's operating system (such as Windows, Linux, UNIX and OS X).

27. Enlist any four phases of SDLC.

(RWP-19) (FSD-19)

Ans. SDLC (Software Development Life Cycle) Phases, Methodologies, Process, and Models

#1) Requirement Gathering and Analysis.

#2) Design.

#3) Implementation or Coding.

#4) Testing.

#5) Deployment.

#6) Maintenance.

SECTION III

LONG QUESTIONS

- 1) Explain computer software and its categories.

(GRW-19)

- 2) Differentiate between Software and Hardware. Describe the different categories of Software.

(RWP/G1-16), (D.G.K/G1-16), (LHR/G1-17) (BWP-19) (SGD-19)



Chapter 2

Information Networks

SECTION I

MULTIPLE CHOICE QUESTIONS

From PTB Exercise:

1. A LAN is a combination of:
 - (a) Network adapter cards
 - (b) LAN cables
 - (c) LAN application software
 - (d) All
2. What layer of OSI model does data compression?
 - (a) Network
 - (b) Presentation
 - (c) Data Link
 - (d) Physical
3. Cabling on a linear Bus topology can be extended using which of the following?
 - (a) Terminator
 - (b) Barrel connector
 - (c) Network Adapter Card
 - (d) Medium
4. The Media Access Control sub layer resides in which layer? (D.G.K-19)(FSD-19)
 - (a) Physical
 - (b) Data Link
 - (c) Network
 - (d) Transport
5. FDDI is a: (A.K-GI-16)
 - (a) Ring network
 - (b) Star network
 - (c) Mesh Network
 - (d) Multiple
6. How many pairs of computers can simultaneously communicate on Ethernet LAN? (LHR-GI-15)
 - (a) 1
 - (b) 2
 - (c) 3
 - (d) Multiple
7. One or more computers connected to hub computer is a(n): (RWP/GI-15)
 - (a) Ring network
 - (b) Node
 - (c) Information utility
 - (d) Star network
8. Protocol 802 defines standards for which layers of the OSI model?
 - (a) Application and Presentation layers
 - (b) Physical and Data Link layers
 - (c) Transport and Network
 - (d) Network and Data Link layers

From Punjab Board:

1. Layer that is responsible for transferring frames in OSI model is: (SWL/GI-18)
 - (a) application layer
 - (b) data link layer
 - (c) presentation layer
 - (d) session layer
2. All physical media deals with: (LHR/GI-17)
 - (a) Application layer
 - (b) Transport layer
 - (c) Presentation layer
 - (d) Physical layer
3. The physical layout of a Network is known as: (BWP/GI-17), (GRW/GI-16) (BWP-19)
 - (a) Topology
 - (b) Session
 - (c) Link
 - (d) Style
4. OSI model was created by: (SWL/GI-17)
 - (a) ISO
 - (b) ANSI
 - (c) IBM
 - (d) NESPAK
5. The layer of OSI model that establishes connection of user maintains it and terminates it: (SWL/GI-16)
 - (a) presentation
 - (b) application
 - (c) transport
 - (d) session
6. Which layer of OSI model does data compression? (FSD/GI-16), (LHR/GI-15), (GRW/GI-15)
 - (a) Physical layer
 - (b) Network layer
 - (c) Session layer
 - (d) Presentation layer
7. The top most layer of OSI model is: (GRW/GI-16)
 - (a) transport
 - (b) session
 - (c) network
 - (d) application
8. The layer that is responsible for flow control is called: (BWP/GI-15)
 - (a) Application
 - (b) Session
 - (c) Physical
 - (d) Transport
9. Terminators are used in _____ topology. (SWL/GI-18)
 - (a) bus
 - (b) star
 - (c) ring
 - (d) mesh
10. Which is not communication device? (FSD/GI-18)
 - (a) USB
 - (b) UTP
 - (c) Router
 - (d) Ethernet
11. DSL stands for: (RWP-GI-18), (GRW/GI-17), (D.G.K/GI-16), (RWP/GI-16)
 - (a) Direct Service Lease
 - (b) Domain Server Link
 - (c) Distance Service Line
 - (d) Digital Subscriber Line
12. Which of the following is not a type of Network? (RWP-GI-18), (RWP/GI-16), (FSD/GI-17)
 - (a) WAN
 - (b) NAN
 - (c) LAN
 - (d) MAN
13. The topology used for a small number of computer is called: (GRW/GI-18)
 - (a) star
 - (b) tree
 - (c) mesh
 - (d) ring

14. Each computer on a network is called:

(LHR/G1-18), (RWP/G1-17) (SGD-19)

- (a) Link (b) Code
(c) Node (d) Mode

15. Identify the LAN protocol: (D.G.K/G1-17)

- (a) IEEE (b) BELL LAB
(c) American (d) none

16. A connection for similar networks uses:

(RWP/G1-15), (SGD/G1-17)

- (a) NIC (b) Bridge
(c) Gateway (d) Router

17. MAN stands for: (FSD/G11-17), (FSD/G11-17)

- (a) Metropolitan Area Network
(b) Marked Area Network
(c) Metropolitan Area Network
(d) Manufactured Arrangement of Network

18. What type of Network is in Internet: (GRW/G1-15), (BWP/G1-17)

- (a) LAN (b) MAN
(c) WAN (d) PAN

19. A network that places all nodes on a single cable is called: (RWP/G1-17)

- (a) star (b) mesh
(c) ring (d) bus

20. Two different networks can be joined by:

(GRW/G1-17)

- (a) gateway (b) bridge
(c) network interface card
(d) cables

21. Identify LAN's protocol: (LHR/G1-16)

- (a) TCP / IP (b) UDP
(c) Ethernet (d) HTTP

22. The set of rules to exchange data in a communication network is called: (RWP/G1-16)

- (a) Gateway (b) Procedure
(c) Protocol (d) Token

23. Which is an example of De facto standard;

(AJK/G1-16), (LHR-09, 10) (SWL-19)

- (a) ANSI (b) ISO
(c) SNA (d) IEEE

24. The bottom layer of OSI model is:

(D.G.K/G1-16) (SWL-19)

- (a) Application (b) Physical
(c) Transport (d) Presentation

25. Which device does physical connection of each computer to a network? (LHR/G1-16), (FSD/G1-16)

- (a) Network interface card
(b) Bridge
(c) Router (d) Gateway

26. De-Jure means: (GRW/G1-16), (FSD/G1-18)

- (a) according to law (b) existing facts
(c) historical event (d) by nature

27. Which of the following is not a type of protocol?

(GRW/G1-16)

- (a) Ethernet (b) CCITT
(c) ARCnet (d) FTP

28. One or more computers connected to a hub is:

(RWP/G1-15)

- (a) Ring network (b) Bus network
(c) Star network (d) Mesh network

29. Total No. of layers in OSI model is : (SWL/G1-15)

- (a) 6 (b) 9
(c) 7 (d) 8

30. People on LAN can share EXCEPT. (SWL/G1-15)

- (a) Monitor (b) Printer
(c) Modem (d) CD-ROM

SECTION II

SHORT QUESTIONS ANSWERS

From PTB Exercise:

1. What is the difference between LAN and WAN (Wide Area Network)?

Ans. A LAN (local area network) is a group of computers and network devices connected together, usually within the same building. ... A WAN connects several LANs, and may be limited to an enterprise (a corporation or an organization) or accessible to the public. The technology is high speed and relatively expensive.

2. What method does an Ethernet network use to control access to the network?

Ans. Media Access Control: Because Ethernet is an imparted media and all gadgets can transmit whenever, media access is controlled by a system called Carrier Sense Multiple Access with Collision Detection (CSMA/CD) when working down the middle duplex mode. Ethernet LAN typically uses coaxial cable or special grades of twisted pair wires. Ethernet is also used in wireless LANs. Ethernet uses the CSMA/CD access method to handle simultaneous demands. The most commonly installed Ethernet systems are called 10BASE-T and provide transmission speeds up to 10 Mbps.

5. Describe the OSI Model and types of layers of OSI Model.

Ans. The International Standards Organization (ISO) developed the Open Systems Interconnection (OSI) model. It divides network communication into seven layers. Layers 1-4 are considered the lower layers, and mostly concern themselves with moving data around. Layers 5-7, the upper layers, contain application-level data

8. Define the gateway and router.

Ans. Gateways regulate traffic between two dissimilar networks, while routers regulate traffic between similar networks. The easiest way to illustrate this point is through an example. ... Because TCP/IP is also the primary protocol of the Internet, you could use a router to connect your network to the Internet.

From Punjab Board:

1) Write the purpose of Gateway.

(BWP/G1-15), (BWP/G1-16) (LHR-19)

Ans. A gateway is an electronic device. It is used to connect to or more different types of networks. It translates data from one format to the other. Different networks may have different types of data and different formats. Different networks may have different formats. Gateways receive data packet from one type of network. It reads networks where data packet is to be sent. It converts the data packet into a format that the destination computer can understand.

2) What is Bus Topology and Why terminators are used in bus topology? (AJK/G1-16) (RWP/G1-16)

Ans. Bus topology is a network setup in which each computer and network device are connected to a single cable or backbone. The purpose of the terminator is to absorb signals so that they do not reflect back down the line. Ethernet networks require a terminator at both ends of the bus.

3) Describe the task of session layer. (GRW/G1-16)

Ans. As a functional part of the OSI model, the session layer establishes, controls, and ends sessions occurring between communicative applications. Primarily, the goal for the session layer is to coordinate active applications on various hosts using assigned protocols.

4) Write down two differences between ISDN and DSL.

(AJK/G1-16), (MTN/G1-16), (GRW/G1-16),

(D.G.K/G1-15), (LHR/G1-15) (MTN-19) (LHR-19)

Ans. DSL is the abbreviation for Digital Subscriber Line. The connection to the internet is established via the telephone line, whereby a DSL splitter (broadband connection unit) is usually the interface for both connections.

DSL and fiber optics as high-speed broadband connections. With a speed of up to 16 Mbps, DSL is around 250 times faster than ISDN.

ISDN

ISDN stands for Integrated Services Digital Network. This is a digital communication network in which analog exchanges have been replaced by digital technology. The data transmission rate for an ISDN connection in Germany is 64 kbps, the average bit rate is up to 160 kbps.

Integrated Services Digital Network (ISDN): ISDN is a digital transmission system, which is used to transmit voice and data through copper telephone wires. In other words, it's a circuit-switched data transmission system that is used for voice and data transmission over the wire.

Differences

As far as the differences between ISDN and DSL transmission system are concerned, there are several differences one can find:

In terms of speed, DSL is faster than ISDN. DSL sends data packets with speeds ranging from 128Kbps to over 100 Mbps using latest DSL standards such as VDSLv2. On the other hand, ISDN comes in two different speeds i.e., 64Kbps and 128Kbps.

In terms of price, ISDN is somewhat more expensive than DSL.

ISDN and DSL are both distance sensitive. To get either service, your place should not be more than 18,000 feet away from the central office.

5) What is (workgroup computing / Collaborative computing) or why we use? (RWP/G1-16),

(RWP/G1-15), (D.G.K/G1-16), (SWL/G1-15)

(LHR/G1-16), (GRW/G1-18),

(RWP/G1-18) (LHR-19) (GRW-19)

Ans. The process of sharing information among various members of workgroup through computer network is called workgroup computing. The workgroup computing is also known as collaborative computing. *Microsoft Windows workgroups organize PCs as peer-to-peer local networks that facilitate easier sharing of files, internet access, printers, and other local network resources. ...*

Windows workgroups can contain many computers but work best with 15 computers or less.

6) Write two uses of bridge in network.

(FSD/G1-16) (MTN/G1-16)

Ans. A bridge is an electronic device. It is used to connect two similar network segments. It also controls the data flow between them. When a bridge receives a message, it reads addresses of both the sender and receiver. If sender and receiver are in the same network segment, the bridge does not pass the message to the other network segment. The message is directly sent to receiver.

7) Write the function of Physical layer of OSI Model.

(BWP/G1-17) (MTN/G1-18)

Ans. The Physical layer of OSI model is the bottom-most layer. This layer is related to the transmission media for data transmission. This layer controls and co-ordinates the transmission of data in the form of bit stream over a physical medium. It also defines the rules by which the bits are passed from one node in the network to the next.

8) What is the function of presentation layer in OSI model? (LHR/G1-18)

Ans. The presentation layer works to transform data into the form that the application layer can accept. The Presentation layer of OSI model performs data transformations to provide a common interface for user applications. It means that data is translated between the formats the network requires and the format the computers of the end-users expect.

- 9) Which two topologies are combined to make tree topology?

How tree topology is constructed?

(LHR/GI-18) (MTN-19)

Ans. A tree network, or (star-bus network topology), is a hybrid network topology in which star networks are interconnected via bus networks. Tree networks are hierarchical, and each node can have an arbitrary number of child nodes.

- 10) List any two benefits of computer networks.

(D.G.K/GI-15) (RWP/GI-16), (BWP/GI-16),
(MTN/GI-16), (FSD/GI-16), (D.G.K/GI-16),
(FSD/GI-15), (GRW/GI-15), (SWL/GI-17),
(BWP/GI-17), (SGD/GI-18), (GRW/GI-18),
(MTN/GI-18)

Ans. Data Security
Communication
Sharing Resources
Sharing Software
Data Sharing
Cost Reduction

- 11) What is the purpose of transport layer?

(FSD/GI-18)

Ans. The Transport layer of OSI model provides a mechanism for the exchange of data between source and destination. It controls flow of data and ensures complete data transfer

- 12) How De-jure standard is differ from de-facto standard?

(GRW/GI-17), (RWP/GI-17),
(SWL/GI-15), (GRW/GI-16), (SGD/GI-17),
(FSD/GI-18) (SGD-19) (FSD-19)

Ans. De-Jure means "according to law or regulation". These standards are properly researched, developed and approved by some networks. These organization are. ANSI, IEEE, ISO, ITU-T, EIA

De-facto means "by tradition" or "by facts". These standards are developed informally and came into existence after historical development. These standards are used by organizations worldwide SNA (system network architecture) is an example of De-facto standard.

- 13) Why repeater is used?

(AJK/GI-16),
(SWL/GI-18), (FSD/GI-18) (BWP-19)

Ans. A network device used to regenerate or replicate a signal. Repeaters are used in transmission systems to regenerate analog or digital signals distorted by transmission loss. Analog repeaters frequently can only amplify the signal while digital repeaters can reconstruct a signal to near its original quality.

- 14) Define Network Topology. (LHR/GI-16)
(D.G.K/GI-17)(AJK-19) (SWL-19)

Ans. There are many ways in which computers can be connected together in a computer network. The way in which nodes are connected in a network is called "Network Topology". OR Arrangement of computer nodes in a computer network is called "Topology". Just Like Bus Topology, Ring Topology, Star Topology, Tree Topology and Mesh Topology

- 15) Write purpose of Metropolitan Area Network (MAN). (RWP/GI-17)

Ans. A metropolitan area network (MAN) is a communication network system. It covers area of a single city. Usually, MAN connects two or more LANs in a city or town. It covers a "smaller geographical area than a WAN. Mobile phones (cellular) systems often use MAN e.g TV cable.

- 16) What is the form of data on network layer of OSI?
(SWL/GI-17), (SWL/GI-17),
(LHR/GI-17), (SGD/GI-18)

Ans. The Network layer of OSI model makes routing decisions to transfer data between source and destination. In larger networks, there may be several intermediate networks between source and destination computers. The network layer makes it possible to route data to destination computer. It determines a logical path between source computer and destination computer

- 17) Write basic purpose of terminal. (GRW/GI-17)

Ans. A personal computer in a network is called terminal, it is also called a node.

- 18) State the purpose of Router. (SWL/GI-16),
(GRW/GI-16), (MTN/GI-17) (D.G.K-19)

Ans. The main purpose of a router is to connect multiple networks and forward packets destined either for its own networks or other networks. A router is considered a layer-3 device because its primary forwarding decision is based on the information in the layer-3 IP packet, specifically the destination IP address.

- 19) Distinguish between LAN and WAN.

(MTN/GI-17)

LAN	WAN
1. Covers small geographical area.	1. Cover large geographical area
2. Computer and devices are directly connected through physical cables for data transmission	2. Computer may or may not be physically connected. Telephone line or microwave system for data transmission.
3. Data speed is very high in LAN.	3. Data speed is slow in WAN.

LAN	WAN
4. LAN requires very low cost equipment.	4. WAN require very expensive and sensitive equipment.
5. LAN is primarily uses to share resources like internet, printer and file servers.	5. WAN is used to share information, browsing web and sending emails.
6. Ethernet card is used in LAN.	6. Modem is used in WAN.
7. In LAN, computers can be connected at only one place.	7. In WAN, computers can be connected anywhere in the world.
8. In LAN, normally problems occurs due to cable disturbance.	8. In WAN, normally problems occur due to telephone line or other wireless medium etc.

20) Write the names of three LAN protocols.

(MTN/G1-17), (D.G.K/G1-16) (SGD-19)

Ans. The name are given below:

- (i) Token Ring
- (ii) Ethernet
- (iii) ARC Net

21) Which transmission media is used in LAN?

(FSD/G11-17)

Ans. There are three major forms of transmission media used for LANs: **twisted pair**: two insulated copper wires twisted together in a regular spiral pattern; one pair establishes one communication link; it transmits electromagnetic signals.

22) Define the token taken in topology. (LHR/G1-16)

Ans. A token is a special electronic signal. It consists of a series of bits. It is like a ticket. Only one token is available on the network. When a node on the network wants to transmit data, it first gets the token, and then it can transmit data. When the node has sent its message, it releases the token back to the network.

23) What is network interface card?

(LHR/G1-15) (MTN-19)

Ans. A network interface card (NIC) is used to connect a computer to local area network. It is a circuit board. It is installed in expansion slot on motherboard. The NIC has a socket where the network cable is connected. The most popular network interface card is Ethernet card. It is also called LAN card.

24) State CSMA/CD.

(D.G.K/G1-15)

Ans. CSMA / CD stands for carrier sense multiple access with collision detection. CSMA / CD can access the network at any time. Before transmitting data. CSMA / CD station listens to the network to determine whether it is already in use. If it is then it must wait. If the network is not in use the station transmits. When two stations transmit data simultaneously then the data collision occurs, CSMA/CD station can detect collision, a special message is sent to the network to indicate that it is jammed.

25) Define ARCnet protocol.

(BWP/G1-15)

Ans. ARC net stands for Attached Resource Computer network. It is a LAN protocol. It uses twisted pair wire or coaxial cable media, and star topology.

26) Enlist different layers of OSI model.

(BWP/G1-15)

Ans. The seven layers of OSI models are:

- Physical
- Data Link
- Network
- Transport
- Session
- Presentation
- Application

27) Define star topology.

(GRW/G1-15)

Ans. In a star network, all computers or nodes are directly connected to a central device. The central device is called Hub/Switch. A larger network may consist of many hubs/switches. All the hubs or switches in the network are connected to each other. Different computers or nodes are connected to each hub. Usually, the nodes are connected to the Hub with unshielded twisted pair (UTP). Star topology is most commonly used in LAN. This form of network shape looks like a Star.

28) Enlist different components of LAN / Information System.

(D.G.K/G1-17), (RWP/G1-18), (FSD/G1-15),

(RWP/G1-15), (FSD/G1-16) (BWP-19)

Ans. The important components are as follows:

- (i) Communication Media
- (ii) Network-Interface Card (NIC)
- (iii) Bridge (iv) Gateway (v) Router

29) Distinguish between Frame and Packet. (BWP-19)

Ans. A packet is the protocol data unit used in the network layer. Frames are formed in data link layer of the OSI whereas Packets are formed in Network layer. Framing includes the source and destination MAC addresses (i.e., the physical address of the machine)

SECTION III**LONG QUESTIONS**

- 1) Write at least eight difference between LAN and WAN. (MTN/G1-16), (AJK/G1-16)
- 2) Define Network and explain its types in detail. (SWL/G1-18)
- 3) What is LAN? Where is it used? Discuss its uses and advantages. (SWL/G1-15)
- 4) What LAN's protocols? Explain three types of networking protocols. (FSD/G1-15), (LHR/G1-15), (FSD/G1-16) (RWP-19) (SWL-19)
- 5) What is computer network? Discuss different network models. (RWP/G1-16), (FSD/G1-17), (D.G.K/G1-15), (GRW/G1-16), (RWP-19) (FSD/G1-18), (GRW/G1-18), (MTN/G1-18) (RWP-19) (LHR-19)
- 6) Describe any three network topologies in detail. (FSD-19)
- 7) What is Bus Topology? Explain its working advantages and disadvantages with diagram. (BWP/G1-15), (RWP/G1-15), (GRW/G1-16), (BWP/G1-17), (LHR/G1-17), (LHR/G1-18) (SGD-19)
- 8) Define star topology. Explain its working with diagrams. Also discuss its two disadvantages. (LHR/G1-16), (BWP/G1-16), (SWL/G1-16), (SGD/G1-17) (RWP/G1-17) (GRW-19)
- 9) Define network Topology. Also explain Ring Topology with diagram. Write its two advantages and two disadvantages. (MTN/G1-17), (D.G.K/G1-16), (SWL/G1-17), (SGD/G1-18), (RWP-19) (FSD/G1-16) (MTN-19)
- 10) Explain any four components of Local Area Network. (GRW/G1-17), (RWP/G1-16) (D.G.K-19) (AJK-19)
- 11) What is Network Standard? Explain its types. (BWP-19)


**Chapter
3**
Data Communications**SECTION I****MULTIPLE CHOICE QUESTIONS****From PTB Exercise:**

1. Microwave transmission, coaxial cables, and fiber optics are examples of:
 - (a) Modems.
 - (b) Communication media,
 - (c) Gateways
 - (d) Ring network.
2. Data communication requires:
 - (a) Sender
 - (b) Receiver
 - (c) Transmission Medium
 - (d) All
5. The _____ is the physical path over which a message travels.
 - (a) Protocol
 - (b) Medium.
 - (c) Single
 - (d) All

From Punjab Board:

1. Most of data transmitted over telephone lines user: (SGD/G1-17)
 - (a) Serial Transmission
 - (b) Parallel Transmission
 - (c) Digital Transmission
 - (d) Hybrid Transmission
2. Start and stop Bits are not required in this type of transmission: (LHR-19)(BWP/G1-17)
 - (a) Asynchronous
 - (b) Synchronous
 - (c) Synchronous
 - (d) Monochronous
3. Analog signals is measured in: (RWP/G1-17), (D.G.K/G1-16), (SWL/G1-15) (SWL-19)
 - (a) voltage
 - (b) Hertz
 - (c) Digits
 - (d) Walt
4. The electromagnetic or light waves that represent data are: (GRW/G1-17), (LHR-12)
 - (a) pulse
 - (b) information
 - (c) wave
 - (d) signal
5. An important property of fiber optics cable is: (GRW/G1-16)(FSD/G1-16)
 - (a) noise
 - (b)refraction
 - (c) interference
 - (d)attenuation

6. A type of communication that sends data using flow control to synchronize data between sender and receiver: (LHR/G1-16)
- Asynchronous transmission
 - Synchronous transmission
 - Isochronous transmission
 - Monochronous Transmission
7. The songs and speeches represent: (LHR/G1-15)
- Image
 - Text
 - Numeric
 - Audio
8. Digital signals are commonly known as: (FSD/G1-18), (LHR/G1-16), (LHR/G1-16)
- Baseband
 - Broadband
 - Band
 - Narrowband
9. Which communication medium requires line-of-sight? (GRW/G1-17), (GRW/G1-18)
- microwave
 - fibres-optic
 - twisted pair
 - coaxial
10. Which of the following technique uses modulation? (GRW/G1-18)
- bandwidth
 - broadband
 - baseband
 - bitband
11. The process of converting digital signals into analog signals by a modem is: (GRW/G1-16), (LHR/G1-18) (BWP-19)
- Demodulation
 - Modulation
 - Merging
 - Mixing
12. The Modem's data transfer rate is measured: (SGD/G1-17)
- Kbps
 - Mbps
 - MBps
 - GBps
13. Data is transmitted block by block in transmission. (FSD/G1-17)
- Synchronous
 - Asynchronous
 - Digital
 - Analog
14. Amplitude is the characteristic of: (LHR/G1-17)
- Digital signal
 - Analog signal
 - Parallel signal
 - Serial transmission
15. The device that receives data: (LHR/G1-17)
- Source
 - Sink
 - Transmitted
 - Encoder
16. The music and speech represent: (GRW/G1-16), (BWP/G1-17)
- Image
 - Text
 - Numeric
 - Audio
17. Which of the following types of data is used to display actions and movement? (RWP/G1-17)
- audio
 - video
 - image
 - Text
18. A collection of raw fact and figure is called: (BWP-19)
- Data
 - Information
 - Processing
 - Procedure
19. Select unguided media from the following: (AJK/G1-16), (SWL/G1-17) (RWP-19)
- twisted pair
 - coaxial
 - fiber optic
 - satellite
20. Physical path that connects the source and receiver is known as: (SWL/G1-16)
- communication channel
 - decoder
 - encoder
 - self testing
21. Data communication requires only a: (RWP/G1-15)
- Sender
 - Receiver
 - Medium
 - All of these
22. A communication technique to transmit large volume of data over long distance is. (GRW/G1-15)
- Base band
 - Broad band
 - Bandwidth
 - Cable
23. The diameter of a fiber-optic cable is. (GRW/G1-15)
- 62.5 cm
 - 62.5 mm
 - 62.5 nm
 - 62.5 microns
24. A signal is the representation of: (AJK-19)
- Light wave
 - Heat wave
 - Sun wave
 - Full wave
25. The height of wave within the given period of time is called: (AJK-19)
- Frequency
 - Amplitude
 - Signal
 - Light
26. Frequency is measured in: (MTN-19)
- Sec
 - Bps
 - Volt
 - Hertz

SECTION II

SHORT QUESTIONS ANSWERS

From PTB Exercise:

- What is data Communication? Define the basic component of communication network. (FSD-G1-15), (GRW-G1-16), (FSD-G1-16), (RWP-G1-16)
- Ans. The process of transferring information from one location to another location electronically is called Data Communication. In this process, data is transmitted from one location to another by using transmission media and communication devices. The process of transferring information from one location to another location electronically is called Data Communication. In this process, data is transmitted from one location to another by using transmission media and communication devices.

2. Define the modem and its types.

Ans. Modem stands for modulation and demodulation. It is an electronic device. It converts digital signals into analog signals and vice versa. It is used to send and receive data between two computers through telephone line. Both computers must have modems.

Types Of Modem

External Modem

Internal Modem

Wireless Modem

3. Differentiate between Asynchronous and Synchronous.

(SWL/G1-15), (LHR/G1-15),
(BWP/G1-17), (FSD/G1-17), (MTN/G1-17),
(RWP/G1-17), (SWL/G1-18), (RWP/G1-18)
(SGD-19) (RWP-19) (BWP-19) (FSD-19)

Ans.

Asynchronous Transmission	Synchronous Transmission
1. Data is transmitted character by character.	1. Data is transmitted block by block or word by word.
2. Data is not saved before transmitting.	2. Data is saved before transmitting.
3. Few characters can be transmitted at a time.	3. Large volume of data can be transmitted at a time.
4. This data transmission method is very slow.	4. This data transmission method is very fast.
5. The time interval between two characters is not fixed.	5. The time interval between two characters is same.
6. There may be gaps between characters being transmitted.	6. There are no gaps between characters being transmitted.
7. It use start and stop bits to schedule as control the transmission of information.	7. No start and stop bits are used, it uses clock signals to schedule or control the transmission of information.
8. It is used in large organization.	8. It is useful in small office.
9. Today it is not commonly used.	9. Today it is commonly used.

4. Briefly explain the various communication media.

Ans. A path through which data is transmitted from one place to another is known as communication media. It is also known as communication channel. The twisted pair wire, coaxial cable, fiber optic cable, microwave, satellite etc. are examples of communication channels.

5. Define the Modem.

Ans. Modem stands for modulation and demodulation. It is an electronic device. It converts digital signals into analog signals and vice versa. It is used to send and receive data between two computers through telephone line. Both computers must have modems.

6. What is bandwidth? Explain bandwidth briefly.

Ans. The amount of data that can be transmitted through the transmission media within the given period of time is called bandwidth. Different types of communication media (or channel) have different bandwidths. The bandwidth of analog signals is measured in Hertz (cycles per second). The bandwidth of digital signals is measured in bit per second (bps) or bytes per second.

7. Different between guided media and unguided media.

Ans. Guided Media: The type of communication media in which communication devices are directly linked with each other via cables or physical media is called guided media. The data signals are bounded to a cabling media. Therefore, guided media is also called bounded media. The names of guided or bounded media are twisted pair wire, coaxial cable, and fiber optic cable.

Unguided Media: The type of communication media in which communication devices sends and receives data signals through air or space is called unguided media. The data is communicated in the form of wave. Unguided media provides means to transmit data signals but does not guide them along a specific path. The data signals are not bounded to a cabling media. Therefore, unguided media is also called unbounded media. The names of unguided or unbounded media are microwave, satellite, and mobile communication systems.

From Punjab Board:**1. What is start signal? List its different states.**

(BWP/G1-15)

Ans. In telecommunication, a start signal is a signal that prepares a device to receive data or to perform a function. In asynchronous serial communication, start signals are used at the beginning of a character that prepares the receiving device for the reception of the code elements. there are two states

2. What is refraction? (D.G.K/G1-15), (MTN/G1-16), (SWL/G1-18)

Ans. Refraction occurs as light passes across the boundary between two media. Refraction is merely one of several possible boundary behaviors by which a light wave could behave when it encounters a new medium or an obstacle in its path. Refraction is the bending of a light or sound wave, or the way the light bends when entering the eye to form an image on the retina. An example of refraction is a bending of the sun's rays as they enter raindrops, forming a rainbow.

3. Define Text and Numeric data.

(SWL/G1-17), (SWL/G1-17)

Ans. Numerical data is data that is measurable, such as time, height, weight, amount, and so on. You can help yourself identify numerical data by seeing if you can average or order the data in either ascending or descending order. They are typically used to represent words and text. Character and string types can store sequences of characters from a character set such as ... it is possible to have a numeric string, such as "1234".

4. State the purpose of telecommunication.

(FSD/G1-17), (FSD/G1-15) (FSD/G1-16), (SWL/G1-18) (RWP-19) (BWP-19) (SGD-19)

Ans. Telecommunication is the transmission of signs, signals, messages, words, writings, images and sounds or information of any nature by wire, radio, optical or electromagnetic systems.

Telecommunication occurs when the exchange of information between communication participants includes the use of technology.

5. How does FDM work? (FSD/G1-18)

Ans. Frequency-division multiplexing (FDM) is a scheme in which numerous signals are combined for transmission on a single communications line or channel. ... It accepts the input from each individual end user, and generates a signal on a different frequency for each of the inputs.

FDM (Frequency Division Multiplexing) technique is used. In which multiple signals can be transmitted at the same time.

6. What is the Role of sender in Data Communication?

(D.G.K/G1-16) (BWP-19)

Ans. A device that is used for sending messages (or data) is called sender. It is also called transmitter or source. The sender can be a computer, telephone, or a video camera etc. Usually, a computer is used as sender in data communication system.

7. How is data represented in Computer?

(MTN/G1-16), (GRW/G1-15), (BWP/G1-17), (MTN/G1-16), (MTN/G1-17), (SWL/G1-16), (SGD/G1-17) (LHR/G1-18) (D.G.K-19) (LHR-19)

Ans. Inside the computer, data is represented in binary form. Binary means two binary numbers consist of only two digits. There are '0' and '1'. Each binary digit is represented by an electrical pulse inside the computer. The digit '1' is represented by the presence of electrical pulse. The digit '0' is represented by the absence of a pulse. Each binary digit is called bit (which stands for binary digit). But is the smallest element of data. A collection of 8-bits is called byte. Typically a single character is represented by 8-bits (or one byte) inside the computer.

8. Write two names of unbounded media.

(RWP/G1-16)

Ans. The names of unguided or unbounded media are microwave, satellite, and mobile communication systems.

9. Distinguish between serial transmission and parallel transmission.

(GRW/G1-18), (MTN/G1-18), (BWP/G1-15), (GRW/G1-16) (BWP/G1-16), (AJK/G1-16), (FSD/G1-16), (FSD/G1-17), (SGD/G1-17), (FSD/G1-17), (BWP/G1-17) (AJK-19) (GRW-19) (D.G.K-19)

Ans. A type of data transmission in which a group of bits of data are transmitted at the same time over several parallel communication channels or lines is called parallel transmission. Each bit of data is transmitted over a separate communication line. It is very fast data transmission because multiple bits flow at a time.

A type of data transmission in which one bit of data is transmitted at a time, is called serial transmission. Data is sent sequentially one bit at a time over a single communication channel or line. Serial transmission is slower than parallel transmission.

10. Define signal.

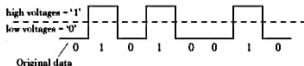
(RWP/G1-17), (SGD/G1-18), (FSD/G1-18)

Ans. Signals

An electromagnetic or light wave used to transmit data from one place to another is called a "signal" there are two types of signal.

1. Digital Signal

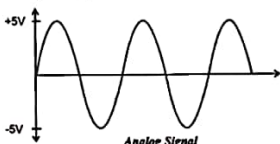
- An electrical pulse inside the computer represented by 1 and the absence of electrical pulse is represented by 0.



Digital Signal

2. Analog Signal

- These are continuous electrical signals in form of wave Or carries wave.
- There are two characteristics of analog signals. Frequency, Amplitude



11. Differentiate between baseband and broadband.

(LHR/G1-15) (D.G.K/G1-16), (AJK/G1-16), (RWP/G1-16), (RWP/G1-15), (SGD/G1-17), (SGD/G1-18), (SWL/G1-17), (LHR/G1-17), (MTN/G1-17) (RWP-19) (SWL-19) (MTN-19) (FSD-19)

Ans. Baseband is a communication technique in which digital signals are directly transmitted over transmission line without changing into analog signals (i.e. without using modulation technique). The digital signals are commonly called baseband signals.

Broadband is a communication technique in which large amount of data (such as voice and video) is transmitted over long distance. The data is sent by modulating each signal onto different frequency. For this purpose, FDM (Frequency Division Multiplexing) technique is used, in which multiple signals can be transmitted at the same time.

12. List (with short detail) types of Modems?

(FSD/G1-18) (SGD/G1-18), (SWL/G1-17), (GRW/G1-18)

Ans. Modem is a device that is used to convert analog signal to digital and vice versa. These are two major functions a modem performs modulation and demodulation.

Types Of Modem

1. External Modem External modem is attached with system unit as an external device. It is connected to computer using serial cable to COM1 or COM2 port or USB port. It also requires external power supply.

2. Internal Modem It is circuit board that is inserted in the expansion slot of the motherboard. It is not frequently removed from computer.

3. Wireless Modem Wireless modem transmits the data signals through air instead of using cable. These are also called radio frequency modems. This type of modem is used with cellular technology, and wireless local area networks.

13. List two features of Modem.

(BWP/G1-16), (LHR/G1-17)

Ans. Features Of Modem

Speed: The rate at which a modem converts the signals into analog form (and vice versa) and transmits over communication media is called modem speed. The speed of modem is measure in bits per second (bps). Today, the modems can send data at 56 kbps over the standard telephone lines.

Self Testing: Modem has the capacity to check the analog as well as digital connection automatically. It can also check its internal.

Voice over Data: Modems allow a voice conversation to take place while data is being transmitted. This requires the source and destination modems to have this feature.

Error Control: Modem use many different methods of controlling errors for transmitted data

14. What is Modulation and De-modulation in Modem? (D.G.K/G1-16), (MTN/G1-18) (RWP-19)

Ans. **Modulation** Process of conversation of digital signal to analog signal is called modulation.

Demodulation Process of conversation of analog signal to digital signal is called demodulation. Due to these two functions, the device is called "Modem", which is an abbreviation of modulation and demodulation

15. Compare Asynchronous and Synchronous Transmission. (SWL/G1-15), (LHR/G1-15), (BWP/G1-17), (FSD/G1-17), (MTN/G1-17), (RWP/G1-17), (SWL/G1-18), (RWP/G1-18) (SGD-19) (RWP-19) (BWP-19) (FSD-19)

Asynchronous Transmission	Synchronous Transmission
Data is transmitted character by character.	Data is transmitted block by block or word by word.
Data is not saved before transmitting.	Data is saved before transmitting.
Few characters can be transmitted at a time.	Large volume of data can be transmitted at a time.
This data transmission method is very slow.	This data transmission method is very fast.
The time interval between two characters is not fixed.	The time interval between two characters is same.
There may be gaps between characters being transmitted.	There are no gaps between characters being transmitted.
It use start and stop bits to schedule as control the transmission of information.	No start and stop bits are used. It uses clock signals to schedule or control the transmission of information.
It is used in large organization.	It is useful in small office.
Today it is not commonly used.	Today it is commonly used.

16. Give two advantages of fiber optics.

(SWL/G1-16), (AJK/G1-16), (RWP/G1-16)

Ans. Provide a high speed data rate. It is faster 26,000 times the transmission capacity of twisted pair media.

Covers long distance.

No electromagnetic interference.

Data transmission is more reliable.

17. How does microwave system work?

(LHR/G1-16), (D.G.K/G1-17)

Ans. Microwave transmission is very high speed transmission. In microwave transmission, data is transmitted through air or space (like radio signals), instead of through cables or wires. Microwaves are high frequency radio waves. Microwave uses line-of-sight transmission through space. The line-of-sight means that data signals (or waves) can only travel in straight lines and cannot bend.

18. Define mobile communication. (LHR/G1-16)

Ans. Mobile communication is a radio-based network. It sends and receives data to and from the mobile computers. The data is communicated through radio signals from one location to another. The computers can be connected to the network through wireless connections or through wires.

19. Write two characteristic of analog signals.

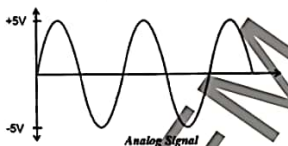
(GRW/G1-15), (FSD/G1-16), (FSD/G1-16), (RWP/G1-16), (SWL/G1-15), (D.G.K/G1-15), (FSD/G1-15), (BWP/G1-17), (LHR/G1-18), (GRW/G1-18), (MTN/G1-18), (LHR/G1-17)

Ans. Characteristics Of Analog Signal :

The analog signal has two characteristics.

Frequency The number of times a wave repeats during a specific time interval is called frequency. It is measured in Hertz (Hz).

Amplitude The height of a wave for a given period of time is called amplitude.



20. Define bandwidth (D.G.K/G1-15), (BWP/G1-17), (GRW/G1-16), (BWP/G1-16), (GRW/G1-16), (BWP/G1-16), (RWP/G1-18), (LHR/G1-18) (SGD-19)

Ans. It is the measure of transmission rate of communication channel. Different communication media has different transmission speed depending on band width i.e. if band width is higher then the transmission speed of communication channel is fast.

21. Define data communication.

(FSD/G1-15), (GRW/G1-16), (FSD/G1-16), (RWP/G1-16) (SWL-19)

Ans. The process of transferring information from one location to another location electronically is called Data Communication. In this process, data is transmitted from one location to another by using transmission media and communication devices.

22. What is meant by encoder? (BWP/G1-15),

(LHR/G1-16), (RWP/G1-17) (MTN-19)

Ans. The encoder is an electronic device. It receives data from sender in the form of digital signals. It converts digital signals into a form that can be transmitted through transmission medium.

23. What is communication media? (RWP/G1-15)

Ans. A path through which data is transmitted from one place to another is known as communication media. It is also known as communication channel. The twisted pair wire, coaxial cable, fiber optic cable, microwave, satellite etc. are examples of communication channels.

24. What is signal? (D.G.K-19)

Ans. A signal is an electrical or electromagnetic current that is used for carrying data from one device or network to another.

It is the key component behind virtually all:

- Communication
- Computing
- Networking
- Electronic devices

A signal can be either analog or digital.

25. Differentiate between Sender and Receiver elements of Data Communication System.

(BWP-19)

Ans. The basic components (Message, Sender, Receiver, Medium / communication channel, Encoder and decoder) for working of a communication system. The transmitter sends the message and the receiver receives the message. The medium is the channel over which the message is sent and the protocol is the set of rules that guides how the data is transmitted from encoding to decoding

List out types of data. (FSD-19)

Common data types include:

- INTEGERS.
- BOOLEAN.
- CHARACTERS.
- FLOATING-POINT NUMBERS.
- ALPHANUMERIC STRINGS.

26. Why fiber optic cable is so fast? (GRW-19)

Ans. As the name suggests, fibre optic technology uses pulses of light to carry data along strands of glass or plastic.

It's the technology of choice for the government's National Broadband Network (NBN), which promises to deliver speeds of at least 100Mbps. When we're talking about 'speed' were actually talking about throughput (or capacity) — the amount of data you can transfer per unit time. And fibre optics can definitely transfer more data at higher throughput over longer distances than copper wire. For example, a local area network using modern copper lines can carry 3000 telephone calls all at once, while a similar system using fibre optics can carry over 31,000.

SECTION III**LONG QUESTIONS**

- 1) What do you know about un-guided media? Explain micro-wave and satellite media in detail.
(D.G.K/G1-16), (AJK/G1-16), (FSD/G1-15), (FSD/G1-16), (SWL/G1-18) (SWL-19) (RWP-19)
- 2) What is Data Communications? Explain basic components of Communication Network.
(MTN/G1-17), (SWL/G1-17), (LHR/G1-18), (MTN/G1-18) (BWP-19)
- 3) What is meant by communication channel? Explain any two types in detail. (RWP/G1-16)
- 4) What is guided media? Discuss different guided media.
(RWP/G1-15), (BWP/G1-16), (FSD/G1-16), (RWP/G1-17), (GRW/G1-17), (GRW/G1-18) (SGD-19) (FSD-19) (LHR-19)

**Chapter****4****Applications and Uses of Computer****SECTION I****MULTIPLE CHOICE QUESTIONS****From PTB Exercise:**

1. CBT stands for: (GRW/G1-15) (MTN-19)
 - (a) Computer-based training
 - (b) Computer-based trailing
 - (c) Computer-based terminology
 - (d) Computer bus transmission
2. The benefit of CAD may be summed up as:
 - (a) Accuracy
 - (b) Repeatability
 - (c) Speed and flexibility
 - (d) All of above
3. Computer at home can be used for:
 - (a) Keeping records
 - (b) Making budgets
 - (c) Watching Movies
 - (d) All of the above
4. A word processor can be used to:
 - (a) Write text
 - (b) Edit text
 - (c) Print text
 - (d) All or the above

5. CAL stands for: (RWP/G1-15), (D.G.K/G1-17), (FSD/G1-17) (RWP-19) (AJK-19)
 - (a) Computer Aided Learning
 - (b) Computer Assist Learning
 - (c) Computer Added Learning
 - (d) None of the above
6. Typically, an ATM can be used to: (D.G.K/G1-16) (RWP-19)
 - (a) Keeping records
 - (b) Making budgets
 - (c) Watching Movies
 - (d) None of the above
7. Modern computer can perform calculations or process at high-speed.
 - (a) Per second.
 - (b) Per minute
 - (c) Nine second
 - (d) None of the above
8. CAT stands for:
 - (a) Computerized Axial Topography
 - (b) Computer Axial Topography
 - (c) Computer Aided Topography
 - (d) None of the above
9. Computer based weather forecasting depends on accurate collection of data form:
 - (a) Television
 - (b) Weather Station
 - (c) Radar
 - (d) Antenna
10. MICR stands for:
 - (a) Magic in Character Redo
 - (b) Magnetic Ink Character recognition
 - (c) Magnetic Ink
 - (d) None of the above

From Punjab Board:

1. SPARCO department give information about: (LHR/G1-17) (FSD-19)
 - (a) Robot
 - (b) Air line
 - (c) Chatting
 - (d) Weather
2. Which of the following is NOT an example of e-commerce? (GRW/G1-16) (BWP-19)
 - (a) electronic banking
 - (b) electronic shopping
 - (c) electronic distribution
 - (d) electronic mail
3. Which is not included in DMS? (GRW/G1-15), (BWP/G1-17)
 - (a) Word-processing
 - (b) Desktop publishing
 - (c) Reprographic
 - (d) E-shopping
4. The process of producing multiple copies of a document is called: (SWL/G1-18) (SGD-19)
 - (a) desktop publishing
 - (b) image processing
 - (c) data management
 - (d) reprographics

5. The software which is used to control all parts of manufacturing process is called: (RWP/G1-18)
(a) CAD (b) MICR
(c) CAM (d) ATM
6. Most applications of robotics are in which area? (RWP/G1-15), (SWL/G1-16) (GRW/G1-18)
(a) cooking (b) manufacturing
(c) teaching (d) farming
7. Electronic banking is also known as: (LHR/G1-18)
(a) Cyber banking (b) Offline banking
(c) Interactive banking (d) Global banking
8. CAL stands for: (RWP/G1-15), (D.G.K/G1-17), (FSD/G1-17) (RWP-19)
(a) Computer added leering
(b) Computer added learning
(c) Computer assistant learning
(d) none
9. The Fly-by-wire system is used in: (MTN/G1-17) (LHR-19)
(a) Education (b) Industry
(c) Medical (d) Airline
10. CBT software is used in: (LHR/G1-15), (RWP/G1-16), (RWP/G1-17) (SWL-19)
(a) Health (b) Education
(c) Manufacturing (d) Forecasting
11. Many banks provide the facility of: (LHR/G1-15), (GRW/G1-16), (SWL/G1-17)
(a) CAD (b) CAM
(c) ATM (d) CBT
12. Many industries are designing products by using: (GRW/G1-17)
(a) ATM (b) ROBOT
(c) CAD (d) CAM
13. Which one is an example of use of computer in education: (LHR/G1-16)
(a) CAM (b) CAD
(c) CAL (d) CAT
14. Computer based weather forecasting depends on accurate collection of data from: (SWL/G1-15), (RWP/G1-16)
(a) Radar (b) Weather stations
(c) Antenna (d) Television
15. Which of the following is related to business? (BWP/G1-15), (RWP/G1-16)
(a) Marketing (b) Stock exchange
(c) Banks (d) All
16. Typically, an ATM can be used to: (D.G.K/G1-16) (RWP-19)
(a) Keep records (b) Make budgets
(c) With draw money (d) Watch movies
17. The process of producing multiple copies of a document is called; (AJK/G1-16) (SWL/G1-18) (SGD-19) (SGD-19)
(a) Reprographics (b) Word processing
(c) Spread sheet (d) Image processing
18. Which one is an automatic programmable machine? (GRW/G1-16)
(a) radio (b) mouse
(c) keyboard (d) robot
19. Process of automating office tasks using computer is: (FSD/G1-16)
(a) Office support (b) Office automation
(c) Data management (d) Reprographics
20. CBT stands for. (GRW/G1-15) (MTN-19)
(a) Computer based trade
(b) Computer based training
(c) Certificate based training
(d) Computer basic training
21. Many products are designed by using: (SWL/G1-15)
(a) CAD (b) ROBOT
(c) CAM (d) ATM

SECTION II

SHORT QUESTIONS ANSWERS

From PTB Exercise:

1. Explain the term Computer Aided Manufacturing Process.

Ans. CAM stands for computer aided manufacturing. It is used to control manufacturing process. CAM system is used to control production machinery the design made by CAD system is used as input of CAM system are

- Production can be made very accurately and consistently.
- Around the clock production is very cheap.

Products design can be modified easily

2. What is meant by computer simulation?

(BWP/G1-15), (GRW/G1-16), (FSD/G1-16),
(FSD/G1-16), (BWP/G1-17), (FSD/G1-15),
(GRW/G1-15), (SWL/G1-16) (LHR/G1-17),
(GRW/G1-18) (FSD-19)

Ans. A computer simulation is a special type of computer model on program. It is used to represent the real world system in other words, computer simulation is an artificial system, which represents the working of an actual system. Simulations are often used to train the people or students when:

- It is impossible to build a system due to economical problems.
- Direct experimentation is impossible in real life due to dangerous system.
- System is not yet available.

Simulations are used in different fields of life. For example, a flight simulation is used to train a pilot. It will train the pilot to handle different situations that can arise during the flight.

3. What is an ATM ?

Ans. ATM stands for Automated teller Machine. It is installed in most of the banks. The customers can draw money through ATM card from any branch of that bank (or another bank) at any time of a day.

4. Explain how computer can be useful in business.

Ans. The use of computer in business is very important today, in global markets, it is impossible to run the business without the use of computers technology. Many business activities are performed very quickly and efficiently by using computers. The administrative paper work is also reduced by using computers. Many business use websites to sell their products and contact their customers.

5. Explain how computer can be useful in medical field.

Ans. Computer is playing very important role in medical fields nearly every area of the medical field uses computers. They are helping the doctors to diagnose diseases and for many other purposes computer is used in research laboratories, pharmacy, monitoring patients etc.

6. Define the role of E-Commerce in our daily life .

(RWP/G1-17), (RWP/G1-17), (LHR/G1-15),
(SWL/G1-15), (SWL/G1-18), (D.G.K/G1-15),
(BWP/G1-15) (LHR-19)

Ans.

- i. Electronic commerce is known as e-commerce.
- ii. It is a process of buying and selling of products or services over electronic systems such as the internet and other computer networks.
- iii. The amount of trade conducted electronically has grown dramatically since the wide introduction of the internet.
- iv. Modern electronic commerce typically uses the world wide web.
- v. A small percentage of electronic commerce is conducted entirely such as access to premium content on a website but most electronic commerce eventually involves physical items and their transportation in at least some way.

7. How computer can be useful in weather forecasting?

(MTN/G1-17), (D.G.K/G1-15), (FSD/G1-16),
(FSD/G1-15), (GRW/G1-15), (RWP/G1-18),
(MTN/G1-18) (RWP-19) (D.G.K-19)

Ans. Computer is also used in weather forecasting. For this purpose, computer-based weather forecasting systems or models are used. The weather forecasting depends upon the accurate calculations on metrological data. The data is collected from different weather stations and weather satellites etc. The collected data is given to the computer model which generates the weather forecast.

8. Define the CBT training.

Ans. Computer-Based Training (CBT) is also called Computer-Aided Instruction (CAT). In this method, computer is used as an aid to teach the students in the classroom. The lectures already recorded are delivered to the students in the classroom through computer.

9. Describe the online shopping and banking.

(SGD-19)

Ans. The shopping conducted through Internet is known as electronic shopping or e-shopping. Many business organizations have their websites on the Internet. These websites are used to sell goods and services. Customers place their orders through websites and make payments using credit cards And a service that allows an account holder to obtain account information and manage certain banking transactions through computer network is called electronic banking or e-banking. An electronic banking is also known as online banking or cyber-banking.

10. Define Videoconferencing

Ans. Video conferencing is a meeting between two or more people located at different places. It is conducted through computer network. It provides an environment of normal meeting. It enables participants to see and hear each other at the same time as if they are in the same room. Video conferencing saves time and costs of travel.

From Punjab Board:**1. What is the use of image processing system?**

(FSD/G1-16)

Ans. It is a type of signal dispensation in which input is image, like video frame or photograph and output may be image or characteristics associated with that image. Usually Image Processing system includes treating images as two dimensional signals while applying already set signal processing methods to them.

2. Write any two advantages of ATM using in banks.

(GRW/G1-16), (MTN/G1-16), (RWP/G1-16),
(RWP/G1-16), (LHR/G1-18), (BWP/G1-15),
(SWL/G1-15), (LHR/G1-16)

Ans. ATM stands for Automated teller Machine. It is installed in most of the banks. The customers can draw money through ATM card from any branch of that bank (or another bank) at any time of a day with saving time

3. How computer can be useful in marketing?

(LHR/G1-18), (RWP/G1-15) (SWL/G1-15),
(LHR/G1-15), (BWP/G1-16), (GRW/G1-16),
(RWP/G1-16), (RWP/G1-16) (BWP-19) (D.G.K-19)

Ans. In business, computer is very useful for the marketing of products of an organization. Many marketing applications are available that can be used to provide information about the products to the customers. Computer is also used for maintaining the record of products.

4. How computers can be used in Banks?

(MTN/G1-18)

Ans. Computers are widely used in banks. They are used in banks for record keeping and maintaining accounts of customers. The cheques of customers are processed through computer.

5. Write two benefits of computer aided learning.

(BWP/G1-16), (GRW/G1-18), (LHR/G1-18)

Ans. Computer Aided Learning (CAL) is the use of information technology to assist in the teaching and learning processes. A teacher prepares slides and delivers lecture to the student through computer. A special device called the multimedia projector is used for this purpose. It reduces time that is spent on preparing teaching materials.

6. How computer can be used in departmental stores? (FSD/G1-18), (LHR/G1-17), (SWL/G1-16)

Ans. The role of computer is very important in departmental stores. It is used to perform different operations. For example, the record of products for sale is maintained through computer. Similarly, the bill of customer is prepared through computer. All operations are performed very easily and quickly.

7. Give two role of E-commerce in our daily life.

(RWP/G1-17), (RWP/G1-17), (LHR/G1-15),
(SWL/G1-15), (SWL/G1-18), (D.G.K/G1-15),
(BWP/G1-15) (LHR-19)

Ans. E-commerce stands for electronic commerce. It is also known as e-trade or e-business. E-commerce is a financial business transaction conducted electronically between business partners over computer network. The users can buy, sell, and exchange products or services via computer network. Usually the payments are made using credit cards.

8. Write two benefits of computer in medical field?

(SWL/G1-17), (BWP/G1-17), (SWL/G1-18), (SGD/G1-18)

Ans. Computer is playing very important role in medical fields nearly every area of the medical field uses computers. They are helping the doctors to diagnose diseases and for many other purposes computer is used in research laboratories, pharmacy, monitoring patients etc.

Patient Monitoring

ICU (Intensive care Unit)

Patient Records

Hospital Management System

Record of patient history.

Diagnosis

9. What is computer based training?

(RWP/G1-16), (GRW/G1-17), (D.G.K/G1-15),
(SWL/G1-15), (RWP/G1-15) (FSD-19)

Ans. An interactive learning experience between the learner and computer in which the computer provides the majority of the stimulus, the learner must respond, and the computer analyses the response and provides feedback to the learner. Benefits of computer based training.

- Students can easily acquire new skills at their home. Their study time does not conflict with their work schedule.
- Training time can be reduced.
- Students can learn very easily.
- Their course material is easily available.

Students can acquire essential skills whenever and wherever they need.

10. What is online education?

(GRW/G1-16), (GRW/G1-15), (GRW/G1-16),
(MTN/G1-16), (RWP/G1-18), (SGD/G1-17),
(BWP/G1-17) (RWP-19)

Ans. The process of getting education through computer network is called online education. There are many websites that provide a lot of information about various topics. Online lectures are also available on different topics on the Internet.

11. List any two applications of computer in education (GRW/G1-17), (SGD/G1-18)

Ans. Classification of pupils, Preparing time-table, Maintenance of progress cards, Tutorial and dialogue, Immediate feedback, Problem-solving and creativity, Laboratory and practical work, Training through stimulate techniques, Education to handicapped, Repetition, Guidance.

12. Describe electronic banking. (GRW/G1-17),
(AJK/G1-16), (MTN/G1-17), (SGD-19) (SWL-19) (BWP-19) (MTN-19)(GRW/G1-16), (FSD/G1-18) (AJK-19)

Ans. A service that allows an account holder to obtain account information and manage certain banking transactions through computer network is called electronic banking or e-banking. An electronic banking is also known as online banking or cyber-banking.

13. Briefly describe about Weather Forecasting.
(MTN/G1-17), (D.G.K/G1-15), (FSD/G1-16),
(FSD/G1-15), (GRW/G1-15), (RWP/G1-18),
(MTN/G1-18) (RWP-19) (D.G.K-19) (GRW-19)

Ans. Weather forecasting is the application of science and technology to predict the conditions of the atmosphere for a given location and time. Human beings have attempted to predict the weather informally for millennia and formally since the 19th century.

14. Define Robots and how robots are used in the industry?
(D.G.K/G1-15), (FSD/G1-16),
(RWP/G1-16), (GRW/G1-16), (RWP/G1-16),
(RWP/G1-16), (RWP/G1-18), (MTN/G1-17),
(SWL/G1-17), (SWL/G1-18)

Ans. Robots can also be used in hundreds of applications such as:

- Assembling & spray-painting of cars.
- Lifting of heavy equipments, power cables etc.
- Testing blood samples.

Performing different activities in artificial satellites and radioactive environments etc.

15. Define reprographics.
(D.G.K/G1-15), (SWL/G1-15) (AJK-19)

Ans. It is used to produce different copies of same record. Reprographics is the process of reproducing graphics through electrical or mechanical means such as photography or xerography. Photography and printing services are the biggest examples of businesses and entities that make use of reprographic equipment.

16. What is computer simulation?
(BWP/G1-15), (GRW/G1-16), (FSD/G1-16), (FSD/G1-16),
(BWP/G1-17), (FSD/G1-15), (GRW/G1-15), (SWL/G1-16)
(LHR/G1-17), (GRW/G1-18) (FSD-19)

Ans. A computer simulation is a special type of computer model or program. It is used to represent the real world system. In other words, computer simulation is an artificial system, which represents the working of an actual system.

17. What is the use of computer in stock exchange?
(BWP/G1-15)

Ans. Stock exchanges are the important places for businessmen. Today, stock markets around the world are mostly computerized. Many stock markets launched the computerized systems. These systems make it possible for stockbrokers to do all their trading electronically.

18. How computer can be used in airline system?
(FSD/G1-15), (LHR/G1-15),
(FSD/G1-16), (SGD/G1-17) (SGD-19)

Ans. In airline system, computers are used to control passenger aircrafts and other vehicles. The modern aircrafts are controlled by sending signals to different parts (electronic devices) of the aircraft. The pilot controls all activities of the aircraft through a computerized system. The pilot also communicates with the control room during flight.

19. Define desktop publishing.
(RWP/G1-15), (RWP/G1-16), (BWP/G1-17), (GRW/G1-18)

Ans. Desktop publishing is a term coined after the development of a specific type of software. It's about using that software to combine and rearrange text and images and creating digital files for print, online viewing or websites.

20. Differentiate between CAD and CAM.
(SWL/G1-17), (RWP/G1-15), (GRW/G1-15), (SWL/G1-18),
(BWP/G1-17), (LHR/G1-15) (SGD/G1-18)

Ans. A system that enables engineers and architects to design models of the products, new car, aircraft, bridge, building and many other things is called Computer-Aided Design (CAD). It is a combination of hardware and software AND A system that is used to control the machine tools and related machinery in the manufacturing process of the product is called Computer-aided Manufacturing (CAM). It is a combination of hardware and software.

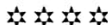
21. Write two uses of computers at home. (GRW-19)
Ans. Computer can be used at home in the following ways:

- > Home Budget. Computer can be used to manage the home budget. ...
- > Computer Games. An important use of computer at home is playing games. ...
- > Entertainment. ...
- > Information. ...
- > E-Mail. ...
- > Chatting / Instant Messaging. ...
- > Searching For Jobs. ...
- > Online Shopping.

SECTION III

LONG QUESTIONS

No long questions in this Chapter by Punjab Text Book Board.



Chapter 5

Computer Architecture

SECTION I

Multiple Choice Questions

From PTB Exercise:

- Data and program not being used by computer are stored in:
(a) Secondary Storage (b) Cache
(c) Primary Storage (d) Printer
- A set of instructions that run the computer are:
(a) Hardware (b) Document
(c) CPUs (d) Software
- The program that contains instruction to operate a device is called:
(a) Device driver (b) Device operator
(c) Device linking (d) Device System
- CPU is an example of:
(a) Software (b) A program
(c) Hardware (d) An output unit
- The address of instruction under the processor execution is contained within:
(a) Program Counter
(b) Current Instruction register
(c) Memory Address registers
(d) Memory Buffer register
- A computer drives basic its basic strength from:
(a) Speed (b) Memory
(c) Accuracy (d) All of above
- The arithmetic/logic unit performs the following actions:
(a) Control computer operations.
(b) Perform arithmetic function such as addition and subtraction etc.
(c) Perform logical comparisons such as equal, greater than less than
(d) Both B and C.

- Which is storage device?
(a) CPU (b) Clock
(c) Floppy disk (d) Bus
- Which component is responsible for comparing the contents of two pieces of data?
(a) ALU (b) Control Unit
(c) Memory (d) None
- Which one is faster?
(a) RAM (b) Cache
(c) Register (d) Hard disk

From Punjab Board:

- Type of language translator are: (D.G.K/G1-16), (RWP/G1-16), (FSD/G1-18), (GRW/G1-18)
(a) 2 (b) 3 (c) 4 (d) 5
- Which one is faster: (D.G.K/G1-16), (RWP/G1-16), (GRW/G1-18)
(a) Register (b) RAM
(c) Hard disk (d) Floppy disk
- Which of the following is not a type of bus in computer? (SWL/G1-15), (SWL/G1-18) (SWL-19)
(a) Data bus (b) Address bus
(c) Timer bus (d) Control bus
- RAM usually has _____ types. (SWL/G1-18)
(a) 2 (b) 3 (c) 4 (d) 5
- The output of the compiler is called: (GRW/G1-16), (GRW/G1-16), (BWP/G1-15), (FSD/G1-18)
(a) The program (b) Source code
(c) Linked code (d) Object code
- Which is a type of RAM? RWP-G1-18
(a) SRAM (b) CRAM
(c) ERAM (d) FRAM
- Which one is the fastest memory?
(LHR/G1-16), (RWP-G1-18) (FSD-19) (GRW-19)
(a) RAM (b) ROM
(c) Register (d) Cache
- The register holds the address of the next instruction to be fetched for execution:
(LHR/G1-18), (D.G.K/G1-17), (LHR/G1-16) (BWP-19)
(a) Program counter (b) Instruction register
(c) Counter register (d) Base register
- The idea of storing a program in memory was given by:
(D.G.K/G1-17) (SWL-19)
(a) John Von (b) Bill gates
(c) Dr. Abdul Salam (d) None

10. Memory management is function of: (D.G.K/G1-17)
(a) OS (b) CPU
(c) HDD (d) Cache
11. Modern computers can perform calculations or processes at: (BWP/G1-15), (SGD/G1-17)
(a) Per nano second (b) Per micro second
(c) Per second (d) Per minute
12. All are General purpose Registers Except: (SGD/G1-17)
(a) EBX (b) ECx
(c) EDx (d) EEx
13. Which Bus allows the processor to communicate with peripheral device: (SGD/G1-17)
(a) System Bus (b) Expansion Bus
(c) Data Bus (d) Control Bus
14. Which is also called secondary storage: (FSD/G11-17)
(a) RAM (b) ROM
(c) HARD DISK (d) Primary storage
15. CPU includes, except: (FSD/G11-17)(LHR-19)
(a) Primary memory (b) ALU
(c) Control unit (d) Register
16. CPU is also called: (LHR/G1-17)
(a) ALU (b) CU
(c) Processor (d) Bus
17. Extra segment register deals with: (LHR/G1-17)
(a) Stacks data (b) I/O units
(c) Mathematical data (d) variables
18. The component of Computer that executes the instruction is called: (BWP/G1-17)
(a) CPU (b) Cache Unit
(c) RAM (d) Mother board
19. A program syntax errors are detected by: (RWP/G1-16) (BWP/G1-17)
(a) Compiler (b) Linker
(c) Loader (d) Debugger
20. _____ is not a kind of Register: (MTN/G1-17)
(a) Flag (b) Segment
(c) Accumulator (d) Math-Co-Processor
21. Which of the following is a temporary memory? (RWP/G1-17)
(a) ROM (b) PROM
(c) RAM (d) EPROM
22. List of documents waiting to be printed on printer is called: (RWP/G1-17)
(a) Print list (b) Print Stack
(c) Print Queue (d) Print line
23. Which memory is used to speed up the computer processing? (GRW/G1-15), (RWP/G1-16), (SWL/G1-17)
(a) ROM (b) Cache
(c) BIOS (d) HDD
24. Expansion cards are inserted into: (SWL/G1-17)
(a) slots (b) plugs
(c) CPU (d) Buses
25. The size of segment register is: (GRW/G1-17)
(a) 1-byte (b) 2-bytes
(c) 4-bytes (d) 8-bytes
26. Electric path used of transfer data is called: (GRW/G1-17)
(a) computer architecture
(b) computer organization
(c) computer bus
(d) compute clock
27. If memory location is to be read, CPU places address in: (SWL/G1-16)
(a) MAR (b) MBR
(c) PC (d) Accumulator
28. The step that performs the actions given in the instructions is called: (SWL/G1-16)
(a) fetch (b) calculate
(c) decode (d) execute
29. Data can be erased using ultraviolet rays written on;
(a) RAM (b) EROM
(c) EPROM (d) EEPROM
30. The term that refers to all input, output and secondary storage devices is called: (RWP/G1-16)
(a) Central unit (b) Network point
(c) Peripheral (d) internal memory
31. Another name for main memory is; (AJK/G1-16)
(a) Secondary memory (b) Permanent memory
(c) Tape storage (d) Primary memory
32. RAM holds the data/instructions: (RWP/G1-16)
(a) Temporary (b) Permanent
(c) HDD (d) None of these
33. Which one is a signal? (FSD/G1-16)
(a) $\frac{1}{0}$ (b) DMA
(c) Interrupt (d) Memory
34. How many bits are carried by one line of data bus?
(a) 1 (b) 2 (c) 3 (d) 4
35. How many units ALU has? (GRW/G1-16)
(a) 2 (b) 4 (c) 8 (d) 16

36. Which one is NOT a type of ROM? (GRW/G1-16)
(a) PROM (b) EPROM
(c) FEPROM (d) EEPROM
37. A bus with 64 lines can carry data of:
(GRW/G1-15), (GRW/G1-16)
(a) 16 bits (b) 32 bits
(c) 48 bits (d) 64 bits
38. Temporary storage area within CPU is called:
(GRW/G1-16) (SGD-19)
(a) registers (b) ROM
(c) RAM (d) hard disk
39. Which component is used to connect different parts of the computer together: (BWP/G1-15)
(a) Bus interconnection (b) Control unit
(c) Main memory (d) None
40. Data and programs not being used by the computer is stored in: (BWP/G1-15)
(a) Secondary storage (b) Cache
(c) Primary storage (d) Printer
41. The address of instruction under the process of execution is contained in: (BWP/G1-15)
(a) Program counter
(b) Current instruction register
(c) Memory address register
(d) Memory buffer register
42. An important characteristic of RAM is: (BWP/G1-15)
(a) Read only (b) Write only
(c) Not volatile (d) Volatile
43. CPU provides enabling signal through: (RWP/G1-15)
(a) Control bus (b) Data bus
(c) Address bus (d) Ordinary bus
44. Which of the following register acts as counter register? (RWP/G1-15)
(a) Ax (b) Bx
(c) Dx (d) Cx
45. Which of the following is not the component of CPU? (RWP/G1-15)
(a) Primary memory (b) Register
(c) Control unit (d) ALU
46. Memory is made up of: (RWP/G1-15), (SWL/G1-15)
(a) Set of wires (b) Set of circuits
(c) Cells (d) BIOS
47. Example of numeric data is: (LHR/G1-15)
(a) 5.2 (b) 6.4
(c) 3456 (d) All of these
48. Who proposed a design of stored program computer: (GRW/G1-16), (LHR/G1-15)
(a) VAN Neumann (b) Blaise Pascal
(c) Babbage (d) Sir Rutherford
49. Which register contains the base location of the current program stack: (LHR/G1-15)
(a) ES (b) DS
(c) SS (d) CS
50. Registers that collect the results of computations are called: (GRW/G1-15)
(a) Instruction pointer (b) Storage
(c) Storage registers (d) Accumulator
51. Which of the following memory is temporary: (LHR/G1-15)
(a) ROM (b) RAM
(c) PROM (d) EPROM
52. Which component of CPU is responsible for interacting with primary memory? (GRW/G1-15)
(a) ALU (b) Control unit
(c) BUS (d) Register
53. Which of the following memory needs to refresh? (SWL/G1-15)
(a) DRAM (b) SRAM
(c) ROM (d) PROM
54. If memory location is to be read, CPU places address in: (SWL/G1-15)
(a) MBR (b) PC
(c) MAR (d) MCR
55. The brain of computer that executes a set of instructions is called: (SWL/G1-15) (RWP-19)
(a) Bus (b) CPU
(c) Monitor (d) Register
56. Which media can be used for backup? (D.G.K/G1-16)
(a) RAM (b) ROM
(c) CPU (d) Hard disk
57. Which one of the following handles the processor communication with its peripheral? (AJK-19)
(a) ALU (b) CU
(c) I/O unit (d) Bus Interconnection
58. All of the following are functions of operating system except: (AJK-19)
(a) Read data from input device
(b) Show result on the output devices
(c) Memory Management
(d) Conversion of source code into object code
59. Which SIM card and ATM card are examples of: (LHR-19)
(a) ROM (b) Cache memory
(c) BIOS (d) Hard disk
60. Mobile SIM card and ATM card are example of: (LHR-19)
(a) Video card (b) OMR card
(c) Smart card (d) Strip card

61. CU stand for: (MTN-19)
 (a) Control unit (b) Cache unit
 (c) Calculating unit (d) Com unit
62. ALU has _____ units: (MTN-19)
 (a) 1 (b) 2
 (c) 3 (d) 4
63. Which of the following memory needs to be refreshed periodically? (GRW-19)
 (a) DRAM (b) SRAM
 (c) FRAM (d) ROM
64. The order of stack is: (GRW-19)
 (a) FIFO (b) LIFO
 (c) GIGO (d) FIGO
65. The hardware components that permanently hold data and program is called: (GRW-19)
 (a) Primary storage (b) Secondary storage
 (c) Temporary storage (d) CPU

SECTION II

SHORT QUESTIONS ANSWERS

From PTB Exercise:

1. What is CPU ? Describe briefly.
Ans. The computer does its primary work in a part of the machine we cannot see, a control center that converts data input to information output. This control center, called the **central processing unit (CPU)**, is a highly complex, extensive set of electronic circuitry that executes stored program instructions.
2. Explain the architecture of computer system.
Ans. The main components in a typical computer system are the processor, memory, input/output devices, and the communication channels that connect them. The processor is the workhorse of the system; it is the component that executes a program by performing arithmetic and logical operations on data.
3. Differentiate between the following.

Ans.

PROM and EPROM:

The main difference between **PROM** and **EPROM** is that the **PROM** can be programmed just once means that it can be written only one time whereas **EPROM** is erasable; hence it can be reprogrammed or rewritten. Unlike **RAM**, in **ROM** to retain the bit value or data in the memory the power source is not needed.

Address Bus and Control Bus:

The **address bus** carries the address of the piece of memory or I/O device to be read from or written to. It is a **unidirectional bus**, which is to say that data travels only one way; from the CPU to memory. The number of lines on the bus determines the number of addressable memory elements.

A **control bus** is a computer bus that is 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.

Serial and Parallel Ports:

The main difference between a **serial port** and a **parallel port** is that a **serial port** transmits data one bit after another, while a **parallel port** transmits all 8 bits of a byte in **parallel**. ... Computers have both **serial and parallel ports** along with newer technology called a **USB (Universal Serial Bus) port**.

Linker and loader: (SWL-19)

The key difference between **linker** and **loader** is that the **linker** generates the **executable file** of a program whereas, the **loader** loads the executable file obtained from the **linker** into main memory for execution. ... On the other hands, **loader** allocates space to an executable module in main memory.

CPU and ALU:

ALU vs CU: Summary: Difference Between ALU and CU is that arithmetic logic unit, another component of the processor, performs arithmetic, comparison, and other operations. While **control unit** is the component of the processor that directs and coordinates most of the operations in the computer.

Differentiate b/w Compiler and interpreter.

(GRW/G1-15), (FSD/G1-15), (RWP/G1-15), (GRW/G1-16), (FSD/G1-16) (SWL-19) (GRW-19)

Ans.

Compiler	Interpreter
1. It translates as a whole	1. It translates line by line
2. It is fast	2. It is slow
3. It shows an error message, if there is an error and doesn't translate	3. It stops and displays an error message if there is an error

5. How to transfer data from CPU to memory explains in step ?

Ans. Steps:

1. CPU places a request through control unit.
2. It puts the address on address bus.
3. It puts the data on data bus.

CU transfers the data to memory.

6. Define the different types of RAM .

Ans. Different Types of RAM (Random Access Memory) **RAM** (Random Access Memory) is a part of computer's Main Memory which is directly accessible by CPU. ... Integrated **RAM** chips are available in two form: **SRAM** (Static **RAM**) **DRAM** (Dynamic **RAM**)

- i. **SRAM:**

Stands for static random access memory. Cells are made from digital gates and doesn't require refreshing.

- ii. **DRAM:**

Stands for dynamic random access memory. It constantly refreshes to keep its state.

7. Define the general-purpose registers.

Ans. General-purpose registers (GPRs) can store both data and addresses, i.e., they are combined data/address registers and rarely the register file is unified to include floating point as well. Status registers hold truth values often used to determine whether some instruction should or should not be executed.

a. Describe the Bus and its types.

The internal bus carries data within the motherboard. External buses carry data to peripherals and other devices attached to the motherboard. The lines or pins of a bus are of three types: Address - the components pass memory addresses to one another over the address bus data for passing data and control for passing control info.

b. Define the machine Instructions.

Machine code or machine language is a set of instructions executed directly by a computer's central processing unit (CPU). Each instruction performs a very specific task, such as a load, a jump, or an ALU operation on a unit of data in a CPU register or memory.

c. Differentiate between Fetch instruction and Decode instruction.

Four steps of Machine cycle

- Fetch - Retrieve an instruction from the memory.
- Decode - Translate the retrieved instruction into a series of computer commands.
- Execute - Execute the computer commands.
- Store - Send and write the results back in memory.

d. Differentiate between ROM and RAM.

There is one major difference between a read-only memory (ROM) and a random-access memory (RAM) chip: ROM can hold data without power and RAM cannot. Essentially, ROM is meant for permanent storage, and RAM is for temporary storage.

From Punjab Board:

1. Define port. (FSD/G1-18), (FSD/G1-16), (FSD/G1-15)

Ans. The peripheral devices are connected to the system unit through a special device called the port. It is an interface or connecting-socket. It provides a standard way of communication between the computer and its input and output devices.

2. Distinguish between serial and parallel port. (SWL/G1-17)(SWL/G1-18), (D.G.K/G1-16), (MTN/G1-16), (RWP/G1-16), (GRW/G1-16), (D.G.K/G1-16), (FSD/G1-16)

Ans. Serial ports provide connection for transmitting data one bit at a time. Serial ports are often referred to as communicating (COM) ports. The mouse, keyboard and modem are usually connected to the serial ports. A parallel port provides a connection for transmitting data 8 bits at a time. Therefore, it is eight times, faster than serial port. The printers and scanners are connected to the parallel ports. Parallel ports are often referred to as Line Printer Ports (LPT).

3. What do you mean by I/O read and I/O. Write command? (RWP/G1-16),

(D.G.K/G1-16), (GRW/G1-16)

Ans. For instance, a keyboard or computer mouse is an input device for a computer, while monitors and printers are output devices. In computer architecture, the combination of the CPU and main memory, to which the CPU can read or write directly using individual instructions, is considered the brain of a computer. These devices are designed to read information into or out of the memory unit upon command from the CPU and are considered to be the part of computer.

4. Describe DMA with respect to I/O unit and List out advantages of DMA. (AJK/G1-16),

(FSD/G1-16), (BWP/G1-15), (FSD/G1-15),

(RWP/G1-15), (LHR/G1-15),

(SWL/G1-16), (RWP/G1-16)

Ans. Direct memory access (DMA) is a method that allows an input/output (I/O) device to send or receive data directly to or from the main memory, bypassing the CPU to speed up memory operations. The process is managed by a chip known as a DMA controller (DMAC).

Advantages:

1. DMA saves lots of CPU time so that CPU can have more time to execute CPU-bound tasks.
2. Writing data to IO device is similar to reading, and DMA can reduce the CPU waiting time of both IO operations.
3. Devices that can use DMA are designed for low power consumption, making them perfect for laptops.
4. DMA-capable hard drives have much higher seek times than those drives that don't support DMA.
5. A device that supports DMA supports faster CPUs than those devices without DMA support.
6. A DMA-capable device can communicate directly with memory, bypassing the CPU.

5. What is the purpose of CPU (Central Processing Unit) registers? (BWP/G1-16), (D.G.K/G1-15), (MTN/G1-17), (FSD/G1-17)

Ans. A processor register (CPU register) is one of a small set of data holding places that are part of the computer processor. A register may hold an instruction, a storage address, or any kind of data (such as a bit sequence or individual characters). Some instructions specify registers as part of the instruction. There are various types of Registers those are used for various purpose. Some Mostly used Registers are Accumulator(AC), Data Register(DR), Address Register(AR), Program Counter(PC), Memory Data Register (MDR), Index Register(IR), Memory Buffer Register(MBR).

6. List name of four different address registers.

(FSD/G1-16)

Ans. Portion of computer memory that keeps track of the location in memory. Below is a listing of different address registers. MAR is short for Memory Address Register and is a parallel load register that contains the next memory address to be manipulated. For example, the next address to be read or written. There are various types of Registers those are used for various purpose. Some Mostly used Registers are Accumulator(AC), Data Register(DR), Address Register(AR), Program Counter(PC), Memory Data Register (MDR), Index Register(IR), Memory Buffer Register(MBR). Registers are used for performing the various operations.

7. What is the use of Memory Address Register?

(RWP/G1-16), (LHR/G1-18), (SWL/G1-18)

Ans. MAR stand for Memory Address Register. This register holds the memory addresses of data and instructions. This register is used to access data and instructions from memory during the execution phase of an instruction. Suppose CPU wants to store some data in the memory or to read the data from the memory. It places the address of the required memory location in the MAR.

8. Define system bus and List different types of system buses.

(RWP/G1-16), (FSD/G1-16)

(FSD/G1-15)(RWP/G1-15),(BWP/G1-15)(MTN-19)

Ans. The bus used to connect the main components of computer is called system bus. General purpose computers have a 70-100 line system. The system bus is divided into three main categories.

1. Data Bus
2. Address Bus
3. Control Bus

9. Write the use of expansion bus.

(LHR/G1-18)

Ans. Expansion Buses are also known as External Buses. These Buses connect the peripheral devices (or external devices) with the computer system. The peripheral devices include keyboard, mouse, modem, printer etc. Expansion Buses allow the processor to communicate with the peripherals.

10. Define bus interconnection.

(SWL/G1-15)(LHR-19) (MTN-19)

Ans. Bus interconnection is important component of computer architecture. It is a communication channel. It connects various components of computer to communicate with each other.

11. What is the use of control bus? (D.G.K/G1-15)

Ans. The control lines are used to control the access and the use of data and address buses. Since data and address lines are shared by all system components, these must be a means of controlling their use. For example if CPU wants to read data from main memory it will use the control bus to send memory read command to the main memory.

12. Write the use of Memory Buffer Register.

(RWP/G1-18)m (BWP/G1-15)

Ans. MBR stand for Memory Buffer Register. This register holds the contents of data or instruction read from, or written in memory. It means that this register is used to store data/instruction coming from the memory or going to the memory.

13. How does instruction pointer register work?

(MTN/G1-18)

Ans. The instruction pointer, also called program counter, is a special register in a processor. It holds the address of the next instruction to be executed. Control flow instructions such as jumps, conditional branches, and subroutine calls manipulate the instruction pointer.

14. List four general purpose registers.

(SGD/G1-18), (RWP/G1-17), (GRW/G1-18)

(MTN-19) (FSD-19) (LHR-19)

Ans. General purpose registers are used to store temporary data within the microprocessor. These registers are used along with other registers to perform arithmetic and logical operations. These registers are inside the computer. These registers are called EAX, EBX, ECX and EDX. Each register of this type is divided into higher and lower byte called AH, AL, BH, BL, CH, CL, DH, DL respectively. In the name of above registers.

1. AX (Accumulator Register): It is used for arithmetic and other data operations.
2. BX (Base Register): It is used to store memory addresses of data stored in main memory during arithmetic and data movement operations.
3. CX (Counter Register): It is used for counting purpose. It acts as counter for looping.
4. DX (Data Register): It is used to hold data during division and multiplication operations.

15. What is stack register? (FSD/G1-18), (SWL/G1-15), (LHR/G1-16), (GRW/G1-17), (RWP/G1-17), (LHR/G1-17), (GRW/G1-16), (MTN/G1-16)

Ans. A stack register is a computer central processor register whose purpose is to keep track of a call stack. On an accumulator-based architecture machine, this may be a dedicated register such as SP on an Intel x86 machine.

16. State the purpose of Data Segment Register and list the name.

(SGD/G1-17), (LHR/G1-17),

(AJK/G1-16), (RWP/G1-15), (SWL/G1-16)

Ans. Segment Register holds the upper 16 bits of the starting address of each of the segments. There are four segments used in 8086, code segment, data segment, stack segment and extra segment. Segment registers are used to contain the base addresses of the above mentioned segments. They are 16 bit registers. Four special-purpose registers, SP, BP, SI, and DI. Four segment registers, CS, DS, ES, and SS. The instruction pointer, IP (sometimes referred to as the program counter).

17. What is accumulator register? (SGD/G1-17)

Ans. An **accumulator** is a **register** for short-term, intermediate storage of arithmetic and logic data in a computer's CPU (central processing unit). ... In a modern computers, any **register** can function as an **accumulator**. The most elementary use for an **accumulator** is adding a sequence of numbers

18. What is FLAGS register? (LHR/G1-15)

Ans. The **FLAGS** register is the status register in Intel x86 microprocessors that contains the current state of the processor. ... Its successors, the **EFLAGS** and **RFLAGS** registers, are 32 bits and 64 bits wide, respectively. The wider registers retain compatibility with their smaller predecessors. Zero flag - Carry flag - Negative flag - Parity flag

19. Define Arithmetic Unit and Logic unit of CPU.

(SGD/G1-18), (SWL/G1-15), (GRW/G1-16),
(FSD/G1-16), (FSD/G1-17), (MTN/G1-17),
(GRW/G1-17) (AJK-19)

Ans. An **arithmetic-logic unit (ALU)** is the part of a computer **processor (CPU)** that carries out **arithmetic and logic** operations on the operands in **computer instruction words**. ... Some **processors** contain more than one **AU** - for example, one for fixed-point operations and another for floating-point operations.

20. Write the purpose of CPU. (MTN/G1-17), (FSD/G1-15), (MTN/G1-18), (MTN/G1-16), (FSD/G1-16)

Ans. (**C.P.U.**): The **purpose** of the Central Processing Unit (**CPU**) is to carry out program instructions. Each **CPU** is designed to execute a specific group of instructions, the instruction set. Processor. Your **central processing unit**, or **CPU**, is often referred to as the computer's **brain**. its major parts **ALU** and **CU**

21. Write down the size of AX and AL registers in bytes. (GRW/G1-16)

Ans. **AX** is the primary **accumulator**; it is used in input/output and most arithmetic instructions. For example, in multiplication operation, one operand is stored in **EAX** or **AX** or **AL** register according to the size of the operand. **BX** is known as the **base register**, as it could be used in indexed addressing.

For example, if **AX** contains the 16-bit number 1234h, then **AL** contains 34h and ... **DX** is the "data" register; it is used together with **AX** for the word-size **MUL** ... **DI** is the destination index, used as a pointer to the current character being written or ... can only contain addresses for memory within a range of 64K (=2¹⁶) bytes.

22. What is the use of instruction register?

(GRW/G1-16), (GRW/G1-17)

Ans. Once an instruction is fetched from main memory, it is stored in the **Instruction Register**. The control unit takes instruction from this register, decodes and executes it.

23. What is Computer Architecture?

(BWP/G1-16), (FSD/G1-18), (LHR-19), (AJK-19) (FSD-19)

Ans. The way in which various components of the computer system are connected with one another is called **computer architecture**. The most important components of computer architecture are **Control Unit**, **Arithmetic & Logic Unit (ALU)**, **Main Memory**, **I/O Unit**, and **Bus Interconnection**

24. Write one difference between Primary Memory and Cache Memory.

(BWP/G1-16), (GRW/G1-16),
(MTN/G1-16), (D.G.K/G1-16),
(MTN/G1-17), (LHR/G1-17), (SWL/G1-17),
(SWL/G1-17), (D.G.K/G1-15), (SWL/G1-16)

Ans. **Primary memory (RAM)** is placed on the motherboard and is connected to the CPU via the **Memory Bus**. ... **Speed**: Because cache is closer to the CPU, it is much faster than **RAM**. Each read access on the primary memory has to travel via the **Memory Bus** while the **CPU** cache is right there.

Primary memory (RAM) is external and is situation outside of the processor, usually as **DIMM** slots on your motherboard. It stores applications assets and code which are being executed.

Processor cache is located inside the processor core itself (**L1** and **L2**). **L3** cache is a last level cache located on the processor die but outside of the core. **L4** cache is found on the processor package as separate die. Caches stores both instructions and data and generally act as 'buffers' between **RAM** and processor/iGPU due to the difference in speed of said components.

25. What is motherboard? (FSD/G1-16), (FSD/G1-15), (LHR/G1-15)

Ans. **Motherboard** is a circuit board inside the system unit. It is the main board in the system unit. All devices of computer are connected to it. It is also known as system board.

26. Distinguish between source code and object code.

(FSD/G1-16), (SWL/G1-18), (D.G.K/G1-15),
(BWP/G1-15), (BWP/G1-17), (MTN/G1-17)

Ans. The program instructions written by user following the rules of any high-level language are known as **program source code**. The translated program into machine code is known as **object code**.

27. Describe computer program. (FSD/G1-16)

Ans. A **computer program** is a collection of instructions that performs a specific task when executed by a **computer**. A **computer** requires **programs** to function. A **computer program** is usually written by a **computer programmer** in a **programming language**.

28. Why does machine language program execute faster? (GRW/G1-18), (BWP/G1-17) (SWL-19)

Ans. Because must be close to the hardware and no need for language translators machine language execution is fastest

29. What is stored program computer?

(D.G.K/G1-15), (LHR/G1-16), (GRW/G1-15)

Ans. The stored program concept means that data and instructions are both logically the same and can both be stored in memory. The von Neumann architecture is built around this principle. It is important because the human does not have to execute instruction from without the machine.

30. Describe Assembly language. (RWP/G1-16)

Ans. Assembly language is low-level language. It is easy to learn than machine language. In this language, symbols (or English like words) are used to write program instructions, instead of binary code. These symbols or English like words are called mnemonics. For example, the add instruction is represented by ADD.

31. Which task is performed by language processor?

(GRW/G1-15), (RWP/G1-16)

Ans. A type of system software that is used to translate the program written in high-level language (or assembly language) into machine code is called language translator. The language translator is also known as language processor. Every language has its own language translator program.

32. Give two parts of instruction format.

(SWL/G1-16)

Ans. The instruction of two-address format uses two address fields. Each address field can specify either a register or a memory address. It is the most common format. Examples of this instruction are MOV, ADD, CMP and BIS.

33. What is zero-address instruction format?

(GRW/G1-15) (FSD-19)

Ans. In zero-address instruction format, an address field is absent in the instruction. A stack – organized computer does not use an address field for the instructions like ADD and MUL. However, the instructions such as push and POP require an address field to specify the operand that communicates with the stack.

34. Define stack pointer. (GRW/G1-18),

(SWL/G1-17), (SWL/G1-15), (LHR/G1-16) (MTN-19)

Ans. Stack pointer register is used to manage the stacks in memory. For example, undo and redo operations in different application software are managed by stack.

35. Define assembler. (D.G.K/G1-15), (BWP/G1-15)

Ans. The language translator program that translates the program written in assembly language into machine code is called assembler.

36. What is ROM?

(BWP/G1-15), (RWP/G1-15) (AJK-19)

Ans. ROM stands for Read Only Memory. It is type of internal memory. The data and instructions in ROM are stored by the manufacturer at the time of its manufacturing. This data and programs cannot be changed or deleted afterwards. The data or instructions stored in ROM can only be read but new data or instructions cannot be written into it. This is the reason why it is called Read Only Memory.

37. Define operating system. (BWP/G1-15) (FSD-19)

Ans. An operating system is a collection of system programs that controls and co-ordinates the overall operations of a computer system. A computer needs an operating system to do work. Without operating system, a computer is like a car with no fuel.

38. Differentiate between compiler and interpreter.

(GRW/G1-15), (FSD/G1-15),

(RWP/G1-15), (GRW/G1-16), (FSD/G1-16) (SWL-19) (GRW-19)

Compiler	Interpreter
1. It translates source code into object code as a whole.	1. It translates the source code into machine code statement by statement.
2. It creates an object file.	2. It does not create an object file.
3. Program execution is very fast.	3. Program execution is slow.
4. Translator program is not required to translate the program each time you want to run the program.	4. Translation program is required to translate the program each time you want to run the program.
5. It is not easier to correct the errors in the source code.	5. It is easier to correct the errors in source code.
6. Most of the high level programming languages have compiler program.	6. A few high-level programming languages have interpreter program.

39. What is the concept of memory address?

(GRW/G1-15), (LHR/G1-15),

(GRW/G1-16), (MTN/G1-18)

Ans. The memory consists of large number of memory cells. Each cell in the memory has a unique number assigned to it. This number is called the memory address.

40. What is RAM and Why is RAM called volatile memory? (D.G.K/G1-15), (SWL/G1-15),

(GRW/G1-15), (SWL/G1-17), (SGD/G1-18),

(LHR/G1-18), (A.K/G1-16)(RWP-19)

Ans. RAM stands for Random Access Memory. Another term used for main memory is RAM. It is called random access memory because data from RAM can be accessed directly. RAM is also known as primary storage. It is used to store data and instructions of a program while it is being executed. RAM is called volatile memory because data and programs stored in RAM are lost when the power is turned off. So RAM is used to store data and instructions temporarily.

41. Why RAM is used in computer? (LHR/G1-16)

Ans. The more RAM your CPU has access to, the easier its job becomes, which enables a faster computer. If you do not have a sufficient amount of RAM than your CPU has to work much, much harder to transfer data, which severely damages the computer's performance. Random access memory also helps your system support software.

How data is transferred from peripheral device to computer? (FSD/G1-18)

The more RAM your CPU has access to, the easier its job becomes, which enables a faster computer. If you do not have a sufficient amount of RAM than your CPU has to work much, much harder to transfer data, which severely damages the computer's performance. Random access memory also helps your system support software.

42. Write two activities performed by control unit?

(LHR/G1-15), (SWL/G1-16) (LHR/G1-16),

(FSD/G1-15), (GRW/G1-18), (SGD/G1-18),

(RWP-19) (GRW/G1-16), (MTN/G1-18)

Ans. The control unit (CU) is a component of a computer's central processing unit (CPU) that directs the operation of the processor. It tells the computer's memory, arithmetic/logic unit and input and output devices how to respond to a program's instructions.

43. Distinguish between low level and high level languages with examples. (LHR/G1-15),

(SWL/G1-15), (BWP/G1-17), (FSD/G1-17),

(SWL/G1-18), (GRW/G1-16), (MTN/G1-16),

(D.G.K/G1-16), (RWP/G1-16),

(RWP/G1-16), (MTN/G1-18)(AJK-19)

Ans. Low Level Languages are machine dependent programming languages such as Binary (Machine code) and Assembly language.

High Level Languages are the machine independent programming languages, which are easy to write, read, edit and understand. The languages like Java, .Net, Pascal, COBOL, C++, C, C# and other (which are very popular now to develop user end applications).

Speed Low Level language programs are faster than High Level language programs as they do not need to convert.

Easiness Low Level language programs are not as easy as High Level language. There are only two Low Level programming languages Binary and Assembly. Binary has only 0's, 1's, while Assembly has some difficult type symbols which are known as mnemonics. But, the High Level languages programs are easy to write, read, modify and understand.

Performance Since, Low Level Languages programs are faster, so performance of Low Level languages programs are better than the High Level languages programs.

Translation Low Level language Binary does not need translation as Binary codes are Machine codes and computer understands them without any translations. Assembly needs an Assembler to translate an Assembly program to its equivalent Binary/Machine Code. High Level Languages are translated by the compilers or interpreters; sometimes (in case of some programming languages) both are required to get the Object/Binary file.

Flexibilities High Level languages are flexible to read, edit, debug, understand etc but Low Level Languages are not so easy to handle. High Level languages have huge libraries with a rich set of Data types, keywords, functions etc so these languages are really good to develop an application with many great features using less effort and resource.

Support Low Level languages have less support than High Level Languages. There may be lesser number of professionals (community) in support of Low Level languages as compared to High Level Language support.

Examples Two good examples of low-level languages are assembly and machine code

C/C++ and Java are popular examples of high-level languages.

44. What is Instruction set? (RWP/G1-18) (GRW-19)

Ans. An instruction set is a group of commands for a CPU in machine language. Instruction set is stored in the control unit. control unit is a hardware logic circuit which indeed is a silicon chip (semiconductor device), designed in such a way that it responds to certain inputs (memory instructions) to produce meaningful control signals for the other CPU components

45. What is the role of main memory in computer system? (MTN/G1-18), (FSD/G1-16)

(MTN/G1-17), (FSD/G1-15),

(LHR/G1-15) (LHR-19)

Ans. Primary storage, also known as main storage or memory, is the area in a computer in which data is stored for quick access by the computer's processor. The terms random access memory (RAM) and memory are often as synonyms for primary or main storage.

46. Why ALU is necessary for a computer system?

(LHR/G1-18)

Ans. An arithmetic logic unit (ALU) is a major component of the central processing unit of a computer system. It does all processes related to arithmetic and logic operations that need to be done on instruction words. In some microprocessor architectures, the ALU is divided into the arithmetic unit (AU) and the logic unit (LU).

- Logical Operations: These include AND, OR, NOT, XOR, NOR, NAND, etc.
- Bit-Shifting Operations: This pertains to shifting the positions of the bits by a certain number of places to the right or left, which is considered a multiplication operation.
- Arithmetic Operations: This refers to bit addition and subtraction. Although multiplication and division are sometimes used, these operations are more expensive to make. Addition can be used to substitute for multiplication and subtraction for division.

Simply: An arithmetic logic unit is also known as an integer unit (IU). The main functions of the ALU are to do arithmetic and logic operations, including bit shifting operations. These are essential processes that need to be done on almost any data that is being processed by the CPU.

47. State the purpose of execute instruction.

(RWP/G1-16)

Ans. It is the process by which a computer retrieves a program instruction from its memory, determines what actions the instruction describes, and then carries out those actions. This cycle is repeated continuously by a computer's central processing unit (CPU), from boot-up until the computer has shut down.

48. Define three-address instruction format.

(LHR/G1-18), (GRW/G1-16), (RWP/G1-16)

Ans. **Instruction Formats** (Zero, One, Two and Three Address Instruction) Computer perform task on the basis of instruction provided. An instruction in computer comprises of groups called fields.

In computer science, **three-address code** (often abbreviated to TAC or 3AC) is an intermediate code used by optimizing compilers to aid in the implementation of code-improving transformations. Each TAC instruction has at most three operands and is typically a combination of assignment and a binary operator.

49. What is interrupt?

(D.G.K/G1-15),

(GRW/G1-15), (SWL/G1-15), (LHR/G1-17),

(SWL/G1-17), (RWP/G1-18), (BWP/G1-16)

(LHR-19)

Ans. An interrupt is a signal from a device attached to a computer or from a program within the computer that requires the operating system to stop and figure out what to do next. ... The computer simply takes turns managing the programs that the user starts.

50. Describe print queue. (BWP/G1-15), (SWL/G1-15)

(GRW/G1-15), (GRW/G1-17), (RWP/G1-17), (LHR/G1-17).

Ans. A **print queue** is a list of printer output jobs held in a reserved memory area. It maintains the most current status of all active and pending print jobs.

51. Describe the function of input/output unit.

Ans. In computing, an input device is a piece of computer hardware equipment used to provide data and control signals to an information processing system such as a computer or information appliance. Examples of input devices include keyboards, mouse, scanners, digital cameras and joysticks. Output devices relay the response from the computer in the form of a visual response (**monitor**), sound (**speakers**) or media devices (CD or DVD drives). The purpose of these devices is to translate the machine's response to a usable form for the computer user.

Simply: The function of an input device is to provide data and control signals to an information processing system like a computer. There are several different kinds of input devices used in a computer. ...

Input Devices: Mouse, Keyboard, Touch-pad, Microphone, camera etc. **Output Devices:** LCD, LED, Printer, Speaker and so on.

52. What is the purpose of execute instruction?

(SWL/G1-18)

Ans. A program is made up of a set of **instructions**. When the program is **executed**, the **instructions** are loaded into the main memory. The **instructions** are fetched to the CPU based on the Program Counter (PC). ... **Execution of an instruction** refers to the events from instruction fetch to instruction commit. **Executing Instructions.** The word "execute" is often used to mean "perform the machine operation that an instruction asks for." So you can say that "execute the instruction 00000000 to stop the processor," or "billions of instructions execute per second."

53. Define operand code. (GRW/G1-17), (RWP/G1-17)

Ans. In computer programming, an **operand** is a term used to describe any object that is capable of being manipulated. For example, in "1 + 2" the "1" and "2" are the operands and the plus symbol is the operator.

54. Write in detail ways to transfer data from peripherals (Interrupts and DMA). (GRW/G1-18)

Ans. Peripherals connect to the processor hardware through the motherboard. External devices will connect to the motherboard via USB, FireWire or through a wireless connection such as Bluetooth.

Monitors normally connect through HDMI or VGA cables.

55. Differentiate between PROM and EPROM.

(SGD/G1-17), (FSD/G1-16), (FSD/G1-15) (SWL-19)

Ans. PROM stands for Programmable Read Only Memory. This form of ROM is initially blank. The user or manufacturer can write data/program on it by using special devices. However, once the program or data is written in PROM chip, it cannot be changed. If there is an error in writing instructions or data in PROM, the error cannot be erased. PROM chip becomes unusable. EPROM stands for Erasable Programmable Read Only Memory. This form of ROM is also initially blank. The user or manufacturer can write program or data on it by using special devices. Unlike PROM, the data written in EPROM chip can be erased by using special devices and ultraviolet rays.

56. Why does SRAM use less power than DRAM?

(SWL/G1-15), (RWP/G1-15), (SGD/G1-17), (SGD/G1-18)

Ans. SRAM stands for Static Random Access Memory. It does not have to be refreshed with electric charge again and again. It is faster than DRAM because CPU does not have to wait to access data from SRAM. So SRAM chips utilize less power. However, SRAM is more expensive than the DRAM.

57. What is DRAM and why does DRAM use more power?

(RWP/G1-16), (BWP/G1-15), (LHR/G1-15)

Ans. DRAM stands for Dynamic Random Access Memory. This type of RAM is used in most of the computers. In order to maintain data in DRAM, it is refreshed with electric charge again and again; otherwise data stored into it can be lost; It utilizes more power consume because, during refreshing process, CPU cannot write and read data to and from the DRAM. That is why it is slow.

58. How data is represented In Memory? (MTN-19)

Ans. RAM is the primary or main memory of computer. ... The total memory is organized into number of bytes and each byte is again divided into 8 bits. A bit is the smallest unit in the memory, these bits are the places where the data is stored as 1's and 0's called binary data

59. Define Computer bus. (ATK-19)

Ans. A bus is a subsystem that is used to connect computer components and transfer data between them. For example, an internal bus connects computer internals to the motherboard. ... Serial buses transmit data in bit-serial format.

60. List two components of CPU. (FSD-19)

Ans. The two typical components of a CPU include the following:

- The arithmetic logic unit (ALU), which performs arithmetic and logical operations.
- The control unit (CU), which extracts instructions from memory and decodes and executes them, calling on the ALU when necessary.

61. Describe role of memory management. (MTN-19)

In operating systems, memory management is the function responsible for managing the computer's primary memory. The memory management function keeps track of the status of each memory location, either allocated or free. ... It tracks when memory is freed or unallocated and updates the status.

62. Describe the role of I/O unit. (GRW-19)

Ans. The main purpose of this system is to help in the interaction of peripheral devices with the control units (CUs). Put simply, the I/O controller helps in the connection and control of various peripheral devices, which are input and output devices. It is usually installed on the motherboard of a computer.

63. What program register hold? (GRW-19)

Ans. A register may hold an instruction, a storage address, or any kind of data (such as a bit sequence or individual characters). Some instructions specify registers as part of the instruction. For example, an instruction may specify that the contents of two defined registers be added together and then placed in a specified register.

64. Differentiate between CX and DX register.

(GRW-19)

Ans. BX-base register, typically used to hold the address of a procedure or variable. CX – count register, typically used for looping. DX – data register, typically used for multiplication and division. All of the general purpose registers can be treated as a 16 bit quantity or as two 8 bit quantities.

SECTION III**LONG QUESTIONS****1) What is computer architecture? Explain different components of computer architecture.**

(FSD/G1-16) (FSD/G1-15), (SWL/G1-15) (SGD-19) (SWL-19)

2) What is Computer? Discuss primary components of computer system. (BWP/G1-17), (GRW/G1-17)

(RWP/G1-18) (MTN-19)

3) What is Random Access Memory (RAM)? Describe its two types.

(FSD/G1-15), (FSD/G1-16) (FSD-19)

4) Write in detail two ways to transfer data from peripherals (Interrupts and DMA). (GRW/G1-18)**5) What is ROM? Explain its different types in detail. (MTN/G1-17), (SWL/G1-17), (LHR/G1-18)****6) Define language processor / translator. Explain different types. (LHR/G1-15),**

(D.G.K/G1-16), (LHR/G1-17), (GRW/G1-17), (SWL/G1-18) (D.G.K-19) (BWP-19) (RWP-19)

- 7) Define bus. Explain different types of buses in detail.
(D.G.K/GI-15), (BWP/GI-15), (LHR/GI-16), (BWP/GI-16), (SWL/GI-16), (GRW/GI-16), (SGD/GI-17), (BWP/GI-17), (RWP/GI-17), (SGD/GI-18), (MTN/GI-18), (RWP-GI-18) (LHR-19) . (AJK-19) (MTN-19)
- 8) What are CPU registers? Briefly describe special purpose registers. (RWP/GI-16)
- 9) Explain the fetch-decode-execute cycle of CPU. Also draw its diagram.
(RWP/GI-15), (GRW/GI-16)
- 10) What is operating system? Write six functions of operating system.
(FSD/GI-17), (FSD/GI-18), (AJK/GI-16)
- 11) Define Van Neuman design of stored program computer with the help of diagram. Also write the function of each component briefly. (RWP/GI-16)
- 12) What are ports? Describe different types of ports.
(GRW-19)



Chapter 6

Security, Copy Right and "The Law"

SECTION I

MULTIPLE CHOICE QUESTIONS

From PTB Exercise:

- A virus program is usually hidden in:
 - The operating system only
 - An application program only
 - The disk drive
 - The operating system or application programs
- Most computer crimes are committed by: (AJK-19)
 - Hackers
 - International spies
 - Highly trained computer consultants
 - Company insiders who have no extraordinary technical ingenuity.
- Types of software that can be freely distributed without violating copyright laws are called:
 - Shareware
 - Public domain
 - Copy protected
 - (a) and (b)

- Information is:
 - A marketable commodity
 - Can be stolen while leaving the original behind.
 - Should be free, according to the original hacker ethic.
 - All of above.
- A virus that replicates itself is called a:
 - (LHR/GI-15), (AJK/GI-16), (GRW/GI-15), (SGD-19) (RWP-19) (BWP-19)
 - Bug
 - Worm
 - Vaccine
 - Bomb
- Another name for free software:
 - Encrypted software
 - Copy protected software
 - Public domain software
 - Shareware
- Another name for anti virus is:
 - Vaccine
 - Worm
 - Trojan horse
 - DES
- Security protection for personal computers includes:
 - Internal components
 - Locks and cables
 - Software
 - All of these
- A secret word or numbers to be typed in on a keyboard before any activity can take place are called: (SWL/GI-15), (D.G.K/GI-16), (FSD/GI-16), (BWP/GI-17), (RWP-GI-18) (RWP-19) (D.G.K-19) (MTN-19)
 - Biometric data
 - Data encryption
 - Password
 - Private word
- What is the most common computer crime of this listed below?
 - Extortion of bank funds
 - IRS database sabotage
 - Putting people on junk mailing lists.
 - Software piracy

From Punjab Board:

- Freely distributed software without violating copyright laws are called : (BWP/GI-15)
 - Share ware
 - Public domain
 - Copy protected
 - None
- Trojan Horse is a an: (RWP/GI-16), (SWL-GI-18), (BWP-GI-15) (SGD-19)
 - Antivirus
 - Virus
 - Software
 - Hardware
- A person who gains illegal access to a computer system is called: (FSD/GI-17), (SWL/GI-18) (LHR-19)
 - hacker
 - network controller
 - computer operator
 - computer consultant

4. Making illegal copies of copyrighted software is called: (FSD/G1-18), (FSD/G1-16), (GRW/G1-17), (GRW/G1-16), (GRW/G1-16)
- (a) Software hacking (b) Software browsing
(c) Software piracy (d) Software distribution
5. Which is not a biometric technique for person identification? (FSD/G1-18)
- (a) Badge (b) Retina
(c) Pam print (d) Face
6. Which of the following is an antivirus? (RWP/G1-18)
- (a) Redlof (b) Logic bomb
(c) NOD32 (d) Trojan Horse
7. Format C is an example of: (LHR/G1-17), (GRW/G1-18)
- (a) Trojan horse (b) Redlof
(c) Worm (d) Logic bomb
8. Which of the following is not an antivirus program? (GRW/G1-17), (GRW/G1-18)
- (a) Redlof (b) Norton
(c) Dr.Solman (d) McAfee
9. Another name for antivirus is: (LHR/G1-18), (RWP/G1-15), (SWL/G1-16), (SGD/G1-17), (GRW-16) (SWL-19) (D.G.K-19)
- (a) Vaccine (b) Worm
(c) Trojan Horse (d) DES
10. Software that is available free of cost for limited time period is called: (SGD/G1-17)
- (a) Freeware (b) Groupware
(c) Shareware (d) Demo
11. The virus which activated on a specific date and time is called: (D.G.K/G1-17)
- (a) Logic bomb (b) Redlof
(c) Worm (d) Chernobyl
12. Additional copy of your data is called: (FSD/G1-17), (SWL/G1-16)
- (a) back up of data (b) Taking of data
(c) Moving the data (d) Forwarding the data
13. A program that detects the viruses, called; (LHR/G1-17)
- (a) Virus (b) Groupware
(c) Anti-virus (d) Shareware
14. Which of the following is harmful for computers: (BWP/G1-17), (RWP/G1-17)
- (a) Antivirus (b) Virus
(c) Operating system (d) Device Driver
15. Which of the following media cannot be used as backup? (RWP/G1-17)
- (a) Hard disk (b) Floppy disk
(c) RAM (d) Zipdisk
16. McAfee is an example: (SWL/G1-17) (SWL-19) (GRW-19)
- (a) Virus (b) Antivirus
(c) Hacker (d) Worm
17. Which of the following is not a antivirus program? (GRW/G1-16)
- (a) Norton (b) McAfee
(c) Avast (d) Redlof
18. Which one is not a virus: (RWP/G1-16)
- (a) Trojan Horse (b) Logic bomb
(c) McAfee (d) Redlof
19. A right of person to keep his personal information away from the unauthorized access is called: (RWP/G1-16) (LHR-19)
- (a) Piracy (b) Privacy
(c) personal issue (d) Assets
20. The virus which deletes MS Office files and disk partition information is called: (LHR/G1-16)
- (a) Boot sector (b) Chernobal
(c) Logic bomb (d) Trojan horse
21. Who is responsible for security of online data: (LHR/G1-16)
- (a) User (b) LAN administrator
(c) Internet service provider
(d) Organization obtaining the date
22. A spare copy of data on a secondary storage device is called; (AJK/G1-16)
- (a) Store (b) Backup
(c) Reference (d) License
23. A virus that replicates itself is called; (LHR/G1-15), (AJK/G1-16), (GRW/G1-15) (SGD-19) (RWP-19) (BWP-19)
- (a) Bug (b) Worm
(c) Vaccine (d) Bomb
24. Which of the following is the most devastating loss to a company: (RWP/G1-15)
- (a) Loss of hardware (b) Loss of data
(c) Loss of software (d) Loss of printouts
25. The example of antivirus is: (LHR/G1-15), (GRW/G1-16)
- (a) McAfee (b) Trojan horse
(c) Worm (d) Logic bomb

26. The right to use the software on the computer is called. (GRW/G1-15) (FSD-19)
 (a) Software copyright (b) Site license
 (c) Software piracy (d) Software privacy
28. Which of the following is NOT antivirus program? (SWL/G1-15)
 (a) NOD 32 (b) Dr. Solman
 (c) MCA free (d) logic bomb
29. How a virus reaches from one computer to another? (RWP/G1-16)
 (a) Data exchanged between computer
 (b) Exchange of display screen
 (c) Exchange of keyboard
 (d) Exchange of printer
30. Which of the following is no cause of Virus: (BWP-19)
 (a) E-mail (b) Networks
 (c) Logic Bomb (d) Pirated Software
31. The right to use the software on the called computer is:
 (a) Software piracy
 (b) Software License
 (c) Intellectual property right
 (d) Software copyright
32. Which of the following viruses executes when starting the computer? (FSD-19)
 (a) Boot sector (b) Logic bomb
 (c) Trojan (d) Redlof
33. Checking a computer program for errors is called: (FSD-19)
 (a) Bugging (b) Debugging
 (c) Correcting (d) Running
34. Computer virus is a. (MTN-19)
 (a) Disease (b) Software
 (c) Hardware (d) Bacteria
35. A program that interferes normal working of a computer is called: (GRW-19)
 (a) Bacteria (b) Antivirus
 (c) Virus (d) Freeware
36. During transmission, the contents of the data are changed by using technique. (AJK-19)
 (a) Changing (b) Encryption
 (c) Size (d) Type
37. The right to use the software on the computer is called:
 (a) Software piracy
 (b) Software License
 (c) Intellectual property right
 (d) Software copyright
38. Which of the following viruses executes when starting the computer? (FSD-19)
 (a) Boot sector (b) Logic bomb
 (c) Trojan (d) Redlof
39. Checking a computer program for errors is called: (FSD-19)
 (a) Bugging (b) Debugging
 (c) Correcting (d) Running
40. Computer virus is a. (MTN-19)
 (a) Disease (b) Software
 (c) Hardware (d) Bacteria
41. A program that interferes normal working of a computer is called: (GRW-19)
 (a) Bacteria (b) Antivirus
 (c) Virus (d) Freeware

SECTION II

SHORT QUESTION ANSWERS

From PTB Exercise:

1. What is computer virus? (SGD-19)

Ans. A computer virus is one type of malware that inserts its virus code to multiply itself by altering the programs and applications. The computer gets infected through the replication of malicious code. Computer viruses come in different forms to infect the system in different ways.

2. Define the anti-virus software.

Ans. Antivirus software is a type of program designed and developed to protect computers from malware like viruses, computer worms, spyware, botnets, rootkits, keyloggers and such. Antivirus programs function to scan, detect and remove viruses from our computer. Just like Norton, Avast & McAfee,

3. How viruses may damage computer system?

(BWP-19)

Ans. Virus Damage. There are many different types of viruses and all of these behave in slightly different ways. They will all affect our computer differently. Viruses commonly cause our computer to slow down and can also result in the loss of important files.

4. Define the types of virus.

Ans. Types Of Computer Viruses:

1. Browser Hijacker. Imagine typing in an internet address and automatically bouncing through several different sites. ...
2. File Infector. One of the most common types of computer viruses is a file infector. ...
3. Macro Virus. ...
4. Polymorphic Virus. ...
5. Multipartite Virus. ...
6. Direct Action Virus. ...
7. Boot Sector Virus. ...
8. Web Scripting Virus.
9. Trojan horse
10. Red loof
11. Logic bomb
12. Chernobyl virus

5. What is a password?

Ans. A password is a word or string of characters used for user authentication to prove identity or access approval to gain access to a resource (example: an access code is a type of password), which is to be kept secret from those not allowed access.

Examples of strong passwords:

ePYHc~dS*)8S+V.' , qzRIC(6rXN3N)RgL ,
zhfUMZPE6'FC%)sZ.

6. Write the names and define briefly the anti-virus.

Ans. The special programs that are used to detect and remove the viruses from the computer are called **antivirus programs**. Antivirus programs can also prevent new viruses from getting to the computer a large no of antivirus programs are available. These programs contain a list of known viruses. They also contain method for removing the known viruses from infected files or disc. However, there no single antivirus software, which can remove all viruses. Since, many new viruses are written and spread. The commonly use antivirus programs are

McAfee antivirus program, Avast &
Norton antivirus program

From Punjab Board:

1) Give two Biometric methods to prove your identity to log on a system.

(BWP/G1-16),(BWP/G1-15),(FSD/G1-15), (SWL/G1-15),
(FSD/G1-17), (LHR/G1-18),(RWP/G1-16), (FSD/G1-16),
(RWP/G1-16) (LHR-19)

Ans. Biometric sensors or access control systems are classified into two types such as Physiological Biometrics and Behavioral Biometrics. The physiological biometrics mainly include face recognition, fingerprint, hand geometry, Iris recognition and DNA.

2) What is Privacy Issue? (BWP/G1-16)

Ans. Privacy Issue means that any person has the right to see his personal data. He can make a request to view data at any time. He also has the right to stop the processing of data. He also has rights to claim compensation from an organization for disclosing such kind of data. No person is allowed to disclose data collected by the organization. Using the data of an organization without permission is crime.

3) Define security. (GRW/G1-16) (SGD-19)

Ans. Security is freedom from, or resilience against, potential harm (or other unwanted coercive change) from external forces.

4) What do you mean by data protection?

(GRW/G1-16) (MTN-19)

Ans. Data protection is a process of data hiding from others. A data belongs to one person or an organization should be kept hidden from other person or organization.

5) How does a boot sector virus work?

(D.G.K/G1-16), (LHR/G1-16) (SWL-19)

Ans. The boot sector virus modifies the information program in the boot sector and is loaded into computer memory whenever computer starts. This virus attaches with executable files like .exe, .com and .dll. Whenever these files are executed virus also execute itself and corrupt the computer files.

6) What is basic function of antivirus and write names of different antivirus program.

(D.G.K/G1-15) (FSD/G1-15),(GRW/G1-16),
(AJK/G1-16),(RWP/G1-16), (FSD/G1-16),
(MTN/G1-18), (GRW/G1-15),
(FSD/G1-16) (MTN-19) (GRW-19)

Ans. The special programs that are used to detect and remove the viruses from the computer are called **antivirus programs**. Antivirus programs can also prevent new viruses from getting to the computer a large no of antivirus programs are available. These programs contain a list of known viruses. They also contain method for removing the known viruses from infected files or disc. However, there no single antivirus software, which can remove all viruses. Since, many new viruses are written and spread. The commonly use antivirus programs are

McAfee antivirus program Avast &
Norton antivirus program

7) What is backup and Why is backup important?

(RWP/G1-18), (RWP/G1-17),(GRW/G1-15),
(BWP/G1-15),(SWL/G1-16), (BWP/G1-17),
(GRW/G1-16), (MTN/G1-16)

Ans. Data is the most important aspect of our computer. Computer hardware can fail, data can be corrupted, computers can be lost, stolen, or destroyed. ... Data **backup** software can help us protect and restore our data when something goes wrong.

8) Write about Password briefly. (MTN/G1-17), (LHR/G1-15), (MTN/G1-16)

Ans. A password is a string of characters used to verify the identity of a user during the authentication process. ... Passwords can vary in length and can contain letters, numbers and special characters.

9) How does virus spread through email?

(SWL/G1-17)

Ans. Computers are infected due to receiving of emails containing virus programs. When a user opens such messages, the virus is also loaded into the memory and attaches itself with other programs. In this way many other program files inside the computer are infected. This virus is also transferred to other computers when email messages are sent from the infected computer to them.

10) Identify the meaning of privacy issue.

(GRW/G1-17), (LJIR/G1-17), (LJIR/G1-15), (BWP/G1-16)

Ans. Privacy Issue means that any person has the right to see his personal data. He can make a request to view data at any time. He also has the right to stop the processing of data. He also has rights to claim compensation from an organization for disclosing such kind of data. No person is allowed to disclose data collected by the organization. Using the data of an organization without permission is crime.

11) Who is a hacker?

(LHR/G1-16), (FSD/G1-18) (RWP-19) (SWL-19)

Ans. A Hacker is a person who finds and exploits the weakness in computer systems and/or networks to gain access. Hackers are usually skilled computer programmers with knowledge of computer security. ... Cracker (Black hat): A hacker who gains unauthorized access to computer systems for personal gain.

12) What is redlof? (SWL/G1-15)

Ans. It is a polymorphic virus which has no destructive on the computer data it automatically executes itself and creates its copies in the computer. This virus is written in VB script only effects Microsoft Windows. When it executes it infects the Floder. htt file and infects this file. It searches this file in computer hard drive and infects the all the files of floder.htt type.

13) What is logic bomb? (LHR/G1-15)

Ans. Logic Bomb is a different virus from the other viruses because they are set to activate on a certain date and time. Famous logic virus is Friday 13

14) Explain virus activation in computers.

(GRW/G1-15), (RWP/G1-15), (SGD/G1-17)

Ans. When a virus performs its actions it is called **activation of virus**. Different company's virus is activated in different ways. For example, some viruses are activated on a fix date, usually these viruses are the part of the application program. (Or operating systems) When the application program is run on the computer, it checks the system date. If the system date matches the activation date of the virus, the virus is activated.

15) What do you mean by security violations?

(D.G.K/G1-15)

Ans. A **security breach** is any incident that results in unauthorized access of data, applications, services, networks and/or devices by bypassing their underlying security mechanisms. Or **Security violation** is any knowing, willing or negligent action that could reasonably be expected to result in an unauthorized disclosure of classified information.

16) Give three suggestions to protect your computer form virus. (D.G.K/G1-15), (BWP/G1-15)**Ans.**

- Never open unknown emails
- Scan all emails even if you know the sender.
- Minimize the data translate from one computer to another through removable media.
- Avoid downloading freeware program without checking it for virus.
- Always install a good **antivirus** like Norton, McAfee, and Kaspersky, to delete and detect the virus from your computer. Always keep antivirus program updated to make it more secure.
- Another way to secure your data from virus is to take regular backups of important data.
- Pirated software should not be installed on computer. Always use licensed software.

17) Define data security. (FSD/G1-15),

(SWL/G1-15), (SWL/G1-15),

(SWL/G1-15), (FSD/G1-16)(LHR-19) (GRW-19)

Ans. Security is a system of safety measures taken by an organization to protect computer and its (data from unauthorized access and accidental damages. Securing data from unauthorized access or virus attacks is called Data Security

18) How pirated software spread viruses?

(RWP/G1-16), (RWP/G1-16),

(RWP/G1-15)(D.G.K-19)

Ans. The virus can also infect your computer by the use of pirated software. The software without license is called pirated software. Some companies may intentionally attach some virus program into their software. This program will only activate when it does not find licensed file on the computer.

19) List down any two causes of virus.

(AJK-19) (FSD-19)

Here are some of the primary causes of computer virus infections

- Suspicious Email Attachments. It's pretty self-explanatory. ...
- Removable storage devices afflicted by **computer virus infections**. ...
- Unsecured Internet sources. ...
- Pirated software's

20) What is meant by encryption? (AJK-19)**Ans.**

Encryption is the conversion of information into an cryptographic encoding that can't be read without a key. **Encrypted** data looks meaningless and is extremely difficult for unauthorized parties to decrypt without the correct key. The following are common examples of **encryption**.

21) What is intellectual property? (FSD-19)**Ans.**

Intellectual property (IP) refers to creations of the mind, such as inventions; literary and artistic works; designs; and symbols, names and images used in commerce. **Intellectual property examples** would include books, music, inventions and more.

SECTION III**LONG QUESTIONS**

- 1) Define virus? Also write different ways / causes of spreading virus.
(D.G.K/G1-15), (LHR/G1-15), (SWL/G1-15),
(SWL/G1-16), (RWP/G1-16), (FSD/G1-17),
(RWP/G1-17), (SWL/G1-18), (GRW/G1-18),
(MTN/G1-18), (RWP-G1-18), (FSD/G1-16),
(D.G.K/G1-16) (SGD-19)(GRW-19)
- 2) Explain different types of viruses.
(BWP/G1-15), (BWP/G1-16), (GRW/G1-16),
(MTN/G1-17), (LHR/G1-17), (SGD/G1-18)
(SWL-19) (BWP-19) (LHR-19)
- 3) Define data security. Discuss any three ways of data security violation.
(AJK/G1-16), (GRW/G1-17), (SWL/G1-17)
- 4) What is a computer virus? How can it damage computer?
(FSD/G1-15), (FSD/G1-16)
- 5) Discuss different security threats to data security. What are solutions of these threats or violations?
(RWP/G1-15), (FSD/G1-15), (LHR/G1-16), (GRW/G1-16), (SGD/G1-17), (BWP/G1-17), (RWP/G1-16), (SWL/G1-16) (D.G.K-19) (RWP-19) (AJK-19)
- 6) What is backup of data and its purpose? Also discuss different types of data backup.
(MTN-19) (FSD-19)

Chapter**7****Windows Operating System****SECTION I****MULTIPLE CHOICE QUESTIONS****From PTB Exercise:**

1. An operating system is a: (RWP/G1-15)(FSD/G1-18)
(GRW/G1-18) (BWP-19)
(a) System Utility (b) Application Software
(c) System Software (d) Software Package
2. **Ctrl + Alt + Del** are:
(a) An invalid key combination
(b) Recognized by Windows only
(c) Used to close the active window
(d) Both b and c
3. As compared to command line operating system, a GUI operating system is: (D.G.K-19)
(a) More efficient (b) Easier to use
(c) More reliable (d) All of the above
4. The maximum number of primary partitions that can be created on a disk is:
(a) Two (b) Three
(c) Four (d) None of the above
5. Windows Explorer is used to:
(a) Access the Internet
(b) Explorer system resources
(c) Perform maintenance on the hard disk
(d) Navigate files and folders on the computer

From Punjab Board:

1. The object of windows operating system used to perform system management tasks is: (LHR/G1-16)
(a) Desktop (b) My Computer
(c) Control Panel (d) Windows explorer
2. The devices that are automatically detected by Windows are called. (SWL/G1-18)(GRW-19)
(a) automatic devices (b) installed devices
(c) plug and play devices (d) serial devices
3. The operating system based on NT technology is:
(SWL/G1-15), (RWP-G1-18)
(a) Windows 95 (b) Windows 97
(c) Windows 98 (d) Windows 2000
4. GUI stands for: (LHR/G1-18)(SWL-19)
(a) General User Interface
(b) Graphical User Icons
(c) Graphical User Interface
(d) Graphical Usage Interface

5. Software / hardware can be removed /installed through: (SWL/G1-16), (SGD/G1-17)
- (a) Control panel (b) Recycle Bin
(c) My Documents (d) My Computer
6. Small image representing program file etc. is called: (FSD/G1-17), (BWP/G1-17)
- (a) Menu (b) GUI
(c) Command (d) Icon
7. The deleted files are stored in: (LHR/G1-17), (GRW/G1-16)
- (a) My documents (b) Internet explorer
(c) Windows explorer (d) Recycle bin
8. Computer cannot boot if it does not have: (RWP/G1-17), (RWP/G1-16), (RWP/G1-15)
- (a) Compiler (b) Linker
(c) Interpreter (d) Operating system
9. The extension of an executable file is: (SWL/G1-17)
- (a) .xls (b) .doc
(c) .ext (d) .exe
10. The work area on which windows, Icons, menus and dialog box appears is called: (GRW/G1-16)
- (a) screen (b) desktop
(c) working area (d) Icon
11. The maximum number of primary partitions that can be created on the system are; (AJK/G1-16), (LHR/G1-15), (BWP/G1-15)
- (a) 2 (b) 3 (c) 4 (d) 5
12. Windows is the most popular product of: (D.G.K/G1-16)
- (a) Microsoft (b) Sun system
(c) ANSI (d) Hewlett
13. Add new hardware option exists in: (FSD-19)
- (a) main menu (b) status bar
(c) taskbar (d) control panel
14. In Microsoft Windows, files are recognized through their. (AJK-19)
- (a) Name (b) Extension
(c) Size (d) Type
15. Windows operating system was developed by: (MTN-19)
- (a) Sun system (b) Microsoft
(c) Hewlett (d) JAVA

SECTION II

Short Question Answer

From PTB Exercise:

1. Define operating system and discuss their types. (RWP/G1-15) (BWP/G1-17), (RWP/G1-18), (RWP/G1-16), (FSD/G1-16) (FSD-19)
- Ans. Operating System is Graphical user Interface (GUI):-
Examples:
Examples of GUI operating system are Windows, Linux and solaris. Today windows are commonly used in PCs. In windows, mouse is used as input device.
▪ Command Line Operating System{CLI}
Examples:
Examples of command line operating systems are DOS (Disk Operating System) and Unix etc.
2. Give a comparison between Command Line operating system and Graphical User Interface. (SGD-19)

Ans.

Command Line OS	GUI OS
"EASE"	
1. It is difficult to remember its commands. It is also difficult to type commands for different tasks.	1. It is easy to use. It is very easy to remember different sequence of activities to perform certain task.
"SPEED"	
2. As command line has no graphics there is better speed. It is faster than GUI to perform different tasks.	2. Due to graphics and images GUI operating systems are slow to perform different tasks.
"CONTROL"	
3. Provides better control of file system and better security as well users have excellent control on the file system.	3. Users have better control of file system. But in some cases they need to use the command line interface to complete a task.
"MULTITASKING"	
4. Many command line interfaces are multitasking but they ability to display multiple tasks on the screen at the same time.	4. In GUI multitasks can be performed at the same time these tasks are also displayed on the screen. GUI operating systems are faster in multitasking.

"INTERFACING"

- | | |
|---|--|
| 5. It provides a command prompt on the computer screen. The user gives commands to computer by typing on the keyboard. The users have to memorize commands and rules of writing these commands. Usually keyboard is used for interfacing with computer. | 5. It provides commands in graphical form on the computer screen. The user gives commands to computer by clicking with mouse on the icon. The users have not to memorize commands usually mouse is used for interfacing with computer. |
|---|--|

"SCRIPTING"

- | | |
|---|---|
| 6. In command line operating system a user can write the commands in a sequence and use them to perform a certain task. | 6. GUI operating system provides shortcuts to perform task fast, but it doesn't come close in comparison to what is available through a command line. |
|---|---|

3. Discuss different features of Windows 2000 operating system.**Ans.** Some important features of Windows are:

- 1: Multitasking
- 2: Multiprocessing
- 3: Multi-User Operating System
- 4: Plug and Play
- 5: Networking

4. What do you mean by Plug and Play? Does Windows 2000 provide this feature?

(GRW/G1-17),(FSD/G1-15),(LHR/G1-15),
(FSD/G1-16),(GRW/G1-16)(SWL-19)

Ans. Some operating systems automatically detect and configure new devices when they are connected to the computer. This capability of an operating system is called plug and play. Windows has the feature of plug and play. It automatically detects a new hardware device and installs an appropriate driver for it. Yes window provide this feature 2000.

5. Define Partitioning. Briefly describe primary and extended partitioning.

(BWP/G1-15),(RWP/G1-16),(AJK/G1-16),(MTN/G1-18),
(SWL/G1-17),(FSD/G1-18),(LHR/G1-18)(GRW/G1-18)
(GRW/G1-16)(MTN-19)

Ans. **Partitioning :-**

A process of dividing storage space of a hard disk drive into separate data areas is known as disk partitioning. A partition is a portion of physical disk. It is logically treated as separate disk drive.

Primary :-

A primary partition is one that can be used as system partition. Windows and other operating systems can start from a primary partition. You can create maximum four primary partitions on a hard disk. Primary partitions can be created only on hard disk and cannot be sub partitioned.

Extended :-

A type of disk partition that can further be divided into sub-partitions is called extended partition. In this way, a number of logical hard disk drives can be created. Each logical disk drive is assigned a unique letter such as C, D, E, and so on. In Windows, maximum four primary partitions can be created on hard disk. However, a hard disk can have only one extended partition.

6. Differentiate the Following:

- Multitasking and Multiprocessing
- File Management and Disk Management
- Single-User operating system and Multi-User operating system

Ans. Multitasking and Multiprocessing:

Multitasking:- Loading multiple programs into memory and executing them at the same time is called multitasking. Windows is a multitasking operating system. A user can execute multiple tasks at the same time.

Multiprocessing:- In multiprocessing, multiple programs are executed on different processors at the same time. Some operating systems have features of multiprocessing. Windows operating system also supports multiprocessing. In multiprocessing, operating system divides the work between different processors. The processors work on different tasks in parallel.

File Management and Disk Management

File Management:- A process of maintaining and organizing files and folders in the computer is called file management. Data and program instruction are stored in files on disk. A folder holds files and sub folders. In Microsoft Windows Operating system files are recognized by their extensions. Extensions are the characters usually three or four letters such as .doc, .txt, or .html that follow the period at the end of a file name. Windows check the file extensions against a database of registered files. From this database of registered files it is determined that which program will be used to open or edit a file. If windows encounter a new file type which is not already registered it will open a dialog to let you choose a program of your choice to open the file.

In disk management Windows operating system has strong disk management capabilities. The disk management utility provides a graphical interface to user. By using this interface, the user can view status of disk drives and perform maintenance on these drives. The user can also divide the disk into multiple partitions.

Single-User operating system and Multi-User operating system:

A multi-user operating system allows multiple users to use the same computer at the same time (or at different times). A single-user operating system allows only single user to use the computer at a time.

From Punjab Board:

1. Define event. Name some events of keyboard.

(SWL/G1-15)(FSD/G1-15),
(MTN/G1-17)(FSD/G1-16), (SWL-18),
(SWL-18), (LHR-17, 18), (GRW-16)

Ans. Following are the most common events triggered With a keyboard:

Key Down: This event triggers when you press any key of the keyboard.

Key Up: This event triggers when you release an already pressed key of the keyboard.

2. Write down two names of popular operating systems.
(GRW/G1-16),

(AJK/G1-16), (LHR/G1-16)

Ans. Popular and commonly used operating systems Windows, Unix, Linux, Solaris, and DOS.

3. List at least two events of Mouse. (BWP/G1-16)

Ans. Mouse events are the actions that can be performed by using the mouse. The most common events of mouse are as follows.

- Left Click
- Right Click
- Drag
- Double Click

1: Left Click:

This event occurs is the act of pressing and releasing the left mouse button one time. When you click on an item, you are selecting it. Click on the desktop. Your icon should now be highlighted.

2: Right Click:

This event triggers when we press right click button of the mouse. Windows perform certain tasks against this action e.g. it is used to display the context menu about a particular object on which our mouse pointer lies. Another example can be to view the properties of an object right click option is used.

3: Double Click:

Double Click is event occurs by pressing and releasing the left (or right) mouse button twice in a rapid succession. When you double click on an item, Windows select and execute the command associated with the item. For example, you may double click on a program icon to start the program.

4: Drag:

Select an item, press the left click button and drag it to from one location to another while keeping the left mouse button pressed. This facility is available only in GUI environment mouse is the best device used to perform such tasks.

4. State the purpose of My Computer object in Ms-Windows. (MTN/G1-16), (GRW/G1-18)

Ans. My Computer is a special icon on the desktop. It is very important object used for interfacing with computer. It enables user to see easily what is in his computer. The user can access everything in his computer such as hardware devices, disk drives and files & folders etc.

5. List out four objects of windows operating system. (RWP/G1-16)

Ans. The important basic objects of Windows Operating System are:

- Desktop
- My Computer
- Recycle Bin
- My Documents
- Windows Explorer
- Internet Explorer
- The Window
- Control Panel
- Start Button

6. Why do a computer needs an operating system?

(RWP/G1-16)(FSD-19)

Ans. An operating system is a collection of system programs that controls and co-ordinates the overall operations of a computer system. It provides an interface for the user to interact with the computer. A computer needs an operating system to do work.

7. Define Graphical user interface with example.

(RWP/G1-15) (BWP/G1-17),
(RWP/G1-18), (RWP/G1-16), (FSD/G1-16)(FSD-19)

Ans. Graphical User Interface (GUI) operating system presents commands in graphical form. For example, application programs, commands, disk drives, files etc. are presented in the form of icons. Usually a command is given to the computer by clicking with mouse on the icon. Windows is an example of GUI operating system.

8. Differentiate between multitasking and multiprocessing operating system.

(LHR/GI-18),(MTN/GI-16),(FSD/GI-16),
(SWL/GI-18),(LHR/GI-17),(SGD/GI-17),
(FSD/GI-17),(FSD/GI-15),(FSD/GI-16),
(RWP/GI-15),(LHR/GI-16)(GRW-19)(LHR-19)

Ans. In multiprocessing system, a computer uses more than one CPU at a time. Multitasking - Multitasking is the ability of an operating system to execute more than one task simultaneously on single processor machine, these multiple tasks share common resources such as CPU and memory.

9. How we can manage files and folders?

(GRW/GI-18),(D.G.K/GI-15),
(BWP/GI-15), (SGD/GI-17)

Ans. File management is organizing and keeping track of files and folders, helping Us stay organized, so information is easily located. ... Windows allows us to organize folders and files in a file hierarchy, imitating the way you store paper documents in real folders.

10. Describe the purpose of control panel.

(FSD/GI-18), (SWL/GI-18), (SGD/GI-18),
(SWL/GI-15),(FSD/GI-16)

Ans. The Control Panel is a special folder that contains the Administrative Tools (system software) used to perform system management tasks such as installing/uninstalling hardware devices, managing system resources, sharing printers, and setting up date and time etc.

11. What is authorized access to Computer System.

(SGD/GI-18)

Ans. Definition: Authorization is a security mechanism to determine access levels or user/client privileges related to system resources including files, services, computer programs, data and application features.

12. Write any two differences between single user and multi user operating system.

(SGD/GI-18), (RWP/GI-17),(D.G.K/GI-16)

Ans. Difference between various operating systems on the basis of single user, multiuser and network user. 1. ... It Provides a platform for only one user at a time. A multi-user operating system allows many different users to take advantage of the computer's resources simultaneously.

13. Define print queue. (RWP/GI-17)

Ans. When multiple documents are sent to the printer for printing, they are added in a queue in an order in which they are sent to the printer. This list of documents waiting to be printed on the printer is called print queue.

14. Define plug and play feature of window.

(SWL/GI-17), (D.G.K/GI-15) (GRW/GI-17), (FSD/GI-15),
(LHR/GI-15), (FSD/GI-16), (GRW/GI-16) (SWL-19)

Ans. Plug and Play (PnP) is a capability developed by Microsoft for its Windows 95 and later operating systems that gives users the ability to plug a device into a computer and have the computer recognize that the device is there. ... Microsoft made Plug and Play a selling point for its Windows operating systems. Those devices are not required device drivers that is called plug and play just like mouse and monitors

15. What is my document folder? (GRW/GI-17),

(FSD/GI-15), (LHR/GI-15), (FSD/GI-16),
(GRW/GI-16) (SWL-19)

Ans. My Documents is also a special folder on the desktop. It is automatically created when Windows is installed. Many Windows-based applications use 'My Documents' folder as default folder for storing files. These applications may include: Ms-Word, Ms-Excel, Ms-Access etc.

16. Name any four components of windows operating system. (BWP/GI-17)

Ans. List of Microsoft Windows components

- 1 Configuration and maintenance.
- 2 User interface.
- 3 Applications and utilities.
- 4 Windows Server components.
- 5 File systems.
- 6 Core components.
- 7 Services.
- 8 DirectX.

17. How can you use Multiple Operating System on a Disk? (MTN/GI-17)

Ans. In this case, we divide the computer's hard drive into multiple "partitions," then install different operating systems in each partition. ... Since all RAM is used by only one OS at a time, speed is maximized. This is a common way to get started with multiple operating systems on one computer.

18. What is the purpose of Recycle Bin?

(SGD/GI-17), (GRW/GI-15),(RWP/GI-15), (LHR/GI-15),
(MTN/GI-18), (BWP/GI-16) (SGD-19)(AJK-19)

Ans. The Recycle Bin is a special folder of Windows on the hard disk. It has an icon on desktop. It contains files and folders that are deleted from the hard disk. Any files and folders you delete from the hard disk are transferred to the Recycle Bin. These files or folders can be restored from the Recycle Bin to their original location if required for use.

19. Define Document Management System, Name four applications of document management system.

(LHR/G1-16) (LHR-19)

Ans. Document management, often referred to as Document Management Systems (DMS), is the use of a computer system and software to store, manage and track electronic documents and electronic images of paper based information captured through the use of a document scanner.

Examples in category "Document management systems"

- AccuSystems.
- Agorum core.
- Aiki Framework.
- Alfresco (software)
- Ametys CMS.
- Ansarada.
- ApexKB.
- Archivist
- Benefits of Document Management Systems
- Reduced Storage Space.
- Enhanced Security.
- Improved Regulatory Compliance.
- Easier Retrieval.
- Better Collaboration.
- Better Backup and Disaster Recovery.
- And the "Intangibles"

20. Define user interface. (LHR/G1-16)

Ans. A user interface, also called a "UI" or simply an "interface," is the means in which a person controls a software application or hardware device. ... Nearly all software programs have a graphical user interface, or GUI. This means the program includes graphical controls, which the user can select using a mouse or keyboard.

21. Define command line operating system.

(RWP/G1-15) (GRW/G1-15), (SWL/G1-15)

Ans. A command line operating system provides a command prompt on the computer screen. The commands are given to the computer by typing on the keyboard. The commands are typed according to the predefined format. It is not an easy way to interact with the computer. Examples of Command line operating system are DOS (Disk Operating System), and Unix etc.

22. What is partition, and How many Primary and Extended Partitions can be created on basic disk?

(BWP/G1-15), (RWP/G1-16), (AJK/G1-16), (MTN/G1-18), (SWL/G1-17) (FSD/G1-18) (LHR/G1-18) (GRW/G1-18) (GRW/G1-16)

(MTN-19) (FSD-19) (LHR-19)

Ans. Computer hard drive, a disk partition or partition is a section of the hard drive that is separated from other segments. Partitions help enable users to divide a computer hard drive into different drives or different portions for a number of reasons. Primary partition only can be created four maximum, this need to use extended partition to break the limitation of 4 partitions. In an Extended Partition you can create unlimited logical drives. You can store data in the logical partitions similar with primary partition, but the extended partition is not used to store data, because the Extended Partition is used to hold logical partitions, at the same time, there can only be one extended partition on a single disk.

23. Why start button is used in windows?

(RWP/G1-18), (MTN/G1-18),

(GRW/G 1-17), (SWL/G1-16),

(GRW/G1-16). (D.G.K/G1-16)

Ans. The Start button is located at the left most side of the taskbar. Start button is the gateway of accessing most of the programs installed on the computer. When Start button is clicked, a menu known as Start menu appears on the desktop.

SECTION I

LONG QUESTIONS

- 1) Define different types of operating system on the basis of user interface. Also write four comparisons between them. (FSD/G1-18)
- 2) Define Graphical User Interface and command Line Interface Operating Systems. Give any four comparisons between them. (LHR/G1-18)



Chapter 8

Word Processing

SECTION I

MULTIPLE CHOICE QUESTIONS

From PTB Exercise:

- Which of the following is a Word processor?
(a) Adobe Acrobat (b) Photo Express
(c) MS Excel (d) MS Word
- Which of the following keyboard shortcuts is used to change the case? (LHR/G1-18) (SWL-19)
(a) Ctrl+F3 (b) Shift+F3
(c) Alt+F3 (d) Ctrl + Shift+F3

From Punjab Board:

- Which function key is used for checking spelling and grammar is MS-word?
(D.G.K/G1-16), (FSD/G1-18) (D.G.K-19)
(a) F1 (b) F2
(c) F4 (d) F7
- Common font size used in business document is:
(RWP-G1-18)
(a) 10-points (b) 12-points
(c) 14-points (d) 16-point
- The extension of Ms-Word file is:
(AJK/G1-16) (SGD/G1-17)
(a) .txt (b) .xls
(c) .doc (d) .rtx
- When creating MS-Words Document the default name of Document is: (BWP/G1-17)
(a) File 1 (b) Word 1
(c) Document1 (d) .Doc1
- Which shortcut key for making character bold?
(RWP/G1-17)
(a) Alt+B (b) CTRL+B
(c) Shift+B (d) Alt+B
- Header and footer option can be used from which menu? (SWL/G1-17)
(a) Tools (b) Insert
(c) Edit (d) View

- When MS Word is opened, the name of default document or file is?
(GRW-19)
(a) Document1 (b) File 1
(c) Word 1 (d) MS-Word II
- Shortcut key to save a file in MS-Word is: (MTN-19)
(a) Ctrl + S (b) Alt + S
(c) Ctrl + F (d) Alt + F
- Short cut key for paste is: (RWP-19)
(a) Ctrl+ C (b) Ctrl+ V
(c) Ctrl+ A (d) Ctrl+ P

SECTION I

SHORT QUESTION ANSWERS

From PTB Exercise:

- What is a text editor? Describe its basic features.
(MTN-19)

Ans. A text editor processor that provides only the basic features for creating and editing document is called text editor. A text editor is also called simple word processor. It is used for creating and editing simple word documents. In windows operating, word pad" notepad are example of text editors on simple word processors.

1. Basic features of text editor:

Basic features of text editor on simple word processors are as follow.

2. Insert text:

This feature allows you to enter text in the document.

Delete text:

Cut:

Copy:

Paste:

Page size and margin:

Find and replace:

Word wrap:

Print:

Save:

1. Describe features of a full-featured word processor.
(MTN/G1-16), (FSD/G1-16),
(GRW/G1-16), (RWP/G1-16), (BWP/G1-16),
(GRW/G1-16), (LHR/G1-16), (SWL/G1-17),
(BWP/G1-17), (BWP/G1-17), (GRW/G1-15),
(FSD/G1-15), (LHR/G1-15), (SWL/G1-16), (FSD/G1-18)

3.

Ans. Font Specifications

Footnotes and Cross-references

Graphics

Headers, Footers and Page Numbering

Layout

Macros

Mail Merges

Spell Checkers

Thesaurus

Document Window

From Punjab Board:

1. Explain "SAVE" and "SAVE AS" commands.
(MTN/G1-17), (SGD/G1-17),
(BWP/G1-17), (LHR/G1-17)

Ans. This is a common problem when one is first learning to use a computer. first time when you *save* the document you can use both options to save document. *save* is used to save the changes made in document. *save as* is used to create the copy of currently open document with another name.

2. Describe "Undo" and "Redo" commands.
(GRW/G1-15), (GRW/G1-18), (SWL/G1-18),
(RWP/G1-16), (LHR/G1-16), (FSD/G1-17),
(SGD/G1-17), (BWP/G1-16), (LHR/G1-15)

Ans. To reverse your last action, press CTRL+Z. To reverse your last Undo, press CTRL+Y. You can reverse more than one action that has been undone. You can use Redo command only after Undo command.

3. How the text is made bold in MS-Word?

(GRW/G1-16)

Ans. To make text bold, select and highlight the text first. Then hold down Ctrl (the control key) on the keyboard and press B on the keyboard. To make text italic, select and highlight the text first. Then hold down Ctrl (the control key) on the keyboard and then press the I on the keyboard.

4. Differentiate between font size and font style in MS Word.
(D.G.K/G1-16), (AJK/G1-16),
(SGD/G1-18), (GRW/G1-17), (MTN/G1-17),
(FSD/G1-16) (AJK-19)

Ans. Click the increase or decrease font size buttons. Font Styles and Effects. Font styles are predefined formatting options that are used to emphasize text. They include: Bold, Italic, and Underline. A font is typically measured in points (pt). Points dictate the height of the lettering. There are approximately 72 (72.272) points in one inch or 2.54 cm.

In Microsoft Word, a user can change the properties of any text including font type, size, color, as well as making it bold, italic or underlined. The following picture is a graphic illustration of the Microsoft Format bar, as well as a description of each of the tools contained within it.

5. Define Line and Paragraph Spacing in MS-Word.
(MTN/G1-18), (SWL/G1-17), (MTN/G1-16)

Ans. About line spacing. Line spacing is the space between each line in a paragraph. Word allows you to customize the line spacing to be single spaced (one line high), double spaced (two lines high), or any other amount you want. The default spacing in Word is 1.08 lines, which is slightly larger than single spaced.

6. How Macro in MS-Word is helpful for us?
(MTN/G1-18), (RWP/G1-18),
(D.G.K/G1-15)

Ans. In Word, you can automate frequently used tasks by creating and running macros. A macro is a series of commands and instructions that you group together as a single command to accomplish a task automatically.

7. How do you make the selected text italic in MS-Word?
(GRW/G1-18)

Ans. Holding Ctrl and hitting I will allow you to italicize any highlighted word

8. Define header and footer in Msword.
(RWP/G1-15), (SWL/G1-18),
(SGD/G1-17)

Ans. The header is a section of the document that appears in the top margin, while the footer is a section of the document that appears in the bottom margin. Headers and footers generally contain information such as the page number, date, and document name.

9. Define word processor and full-featured word processors.
(MTN/G1-16), (FSD/G1-16),
(GRW/G1-16), (RWP/G1-16), (BWP/G1-16),
(GRW/G1-16), (LHR/G1-16), (SWL/G1-17),
(BWP/G1-17), (BWP/G1-17), (GRW/G1-15),
(FSD/G1-15), (LHR/G1-15), (SWL/G1-16),
(SWL-19) (BWP-19) (FSD/G1-18) (MTN-19)

Ans. A word processor is a computer program or device that provides for input, editing, formatting and output of text, often plus other features. Early word processors were stand-alone devices dedicated to the function, but current word processors are word processor programs running on general purpose computers.

Or

A **word processor** is software or a device that allows users to create, edit, and print documents. It enables you to **write** text, store it electronically, display it on a screen, modify it by entering commands and characters from the keyboard, and print it. Of all computer applications, **word processing** is the most common.

10. What is meant by character formatting?

(SWL/G1-17), (RWP/G1-17),
(BWP/G1-16)

Ans. Character Formatting. Character formatting in Word has to do with applying formatting properties to enhance the appearance of individual text characters. Character formats can be applied to a single character, word, sentence or a line of text, without such formatting affecting the entire current paragraph.

A character style is a collection of character formatting attributes that can be applied to text in a single step. A paragraph style includes both character and paragraph formatting attributes, and can be applied to a paragraph or range of paragraphs. Paragraph styles and character styles are found on separate panels.

11. Write any two differences in cut and copy option with shortcut keys. (FSD/G1-16), (SWL/G1-15),

(BWP/G1-17) (SWL-19)

Ans. When using applications such as MS word, the user can perform activities related to document creation. It provides various options for the user to accomplish different tasks. Cut and Copy are two of them. Cut helps to remove the selected section of data from the original position. On the other hand, Copy helps to create duplicate content. Both of them keep the selected data in a temporary storage tool called the clipboard. Later, these saved data can be inserted into the same document or some other document using the paste option ctrl and V.

Simply:-In Cut Paste, to cut, the user should press ctrl and X keys together in the keyboard and to paste, the user should press ctrl and V keys together. In Copy Paste, to perform copy, the user should press ctrl and C keys together in the keyboard and, for paste, ctrl and V keys together.

Shortcut Keys	Description
Shift+Del	Cut selected item.
Ctrl+C	Copy selected item.
Ctrl+Ins	Copy selected item
Ctrl+V	Paste

12. What is WYSIWYG? (RWP/G1-18)(LHR-19)

Ans. WYSIWYG is an acronym for **What You See Is What You Get**. WYSIWYG is a way of designing electronic documents so that content such as text and graphics is displayed on screen during editing in a way that corresponds exactly to its appearance when printed or displayed as a finished product.

Simply: A WYSIWYG (pronounced "wiz-ee-wig") editor or program is one that allows a developer to see what the end result will look like while the interface or document is being created. WYSIWYG is an acronym for "what you see is what you get".

13. What is meant by page orientation? (FSD/G1-18) (LHR/G1-17), (RWP/G1-15) (RWP-19)

Ans. Page Orientation. Page orientation is the direction in which a document is displayed or printed. The two basic types of page orientation are portrait (vertical) and landscape (horizontal). Most monitors have a landscape display, while most documents are printed in portrait mode.

14. State purpose of mail merge.

(RWP/G1-17), (GRW/G1-17)

Ans. With this feature user can merge data of another file in a document. This helps in generating different files containing same format and data. For example you can mailing many letters containing same body with different addressing labels.

15. Define Text Editor and list any two features of text editor. (LHR/G1-17), (MTN/G1-17), (SWL/G1-16),

(GRW/G1-16), (RWP/G1-16) (MTN-19)

Ans. A word processor that provides only the basic features for creating and editing document is called text editor. A text editor is also called simple word processor. It is used for creating and editing simple word documents. In windows operating, word pad" notepad are example of text editors on simple word processors.

3. Basic features of text editor:

Basic features of text editor are as follow.

- Insert text:** This feature allows you to enter text in the document.
- Delete text:** Entered text can be deleting as per requirement you can erase characters. Spaces, words, complete sentence, paragraph and even pages easily.
- Cut:** This feature allows the user to remove (cut) the selected text into clipboard. The selected texts are removed from the document. This feature is used if you want to remove the text from one place in a document to another.
- Copy:** It will create the copy of selected text for duplication.

8. **Paste:** This feature allows the user to paste (insert) the text on item from the clipboard in to the specified location of document.
9. **Page size and margin:** This helps in managing the size of page and set it margins. Word processor will automatically read just text according to the page size and margins.
10. **Find and replace:** This feature is used to find a piece of text, portion of a word or phrase. It also allows replacing the found text with another piece of text.
11. **Word wrap:** The word processor automatically moves to the next line when you have filled one line with text and it will read just text if you change the margins.
12. **Print:** User can print the text into a hard copy.
13. **Save:** This feature allows the user to store the document permanently on the click for later use.

16. List two advantages of word processor over typewriter. (MTN-19)

Ans. Typewriters only have one standard template whereas word processors have multiple templates. On word processors, templates can be used for letters, essays, articles, brochures, etc. Even if you would like to add color to your work, this feature is only available with word processors.

17. Differentiate between undo and Redo Commands. (RWP-19)

Ans. Undo is a command in many computer programs. It erases the last change done to the document reverting it to an older state. In all Macintosh applications, the Undo command is activated by pressing Command-Z. The common command for Redo on Microsoft Windows systems is Ctrl+Y or Ctrl+Shift+Z.

18. What are headers and footers in Microsoft Word? (D.G.K-19)

Ans. The header is a section of the document that appears in the top margin, while the footer is a section of the document that appears in the bottom margin. Headers and footers generally contain information such as the page number, date, and document name.

19. Write down names of two simple text editors? (SGD-19)

Ans. The term editor is commonly used to refer to a text editor, which is a software program that allows users to create or manipulate plain text computer files. They are often used in the field of computer programming. Notepad and WordPad are examples of word processors.

SECTION III

LONG QUESTIONS

No long questions in this Chapter by Punjab Text Book Board.



Chapter 9

Spread Sheet Processing

SECTION I

MULTIPLE CHOICE QUESTIONS

From PTB Exercise:

1. Which of the following is a spreadsheet?
 - (a) MS Word
 - (b) MS Excel
 - (c) MS PowerPoint
 - (d) Both a & b
2. The actual working area in Microsoft Excel is: (D.G.K-19)
 - (a) Workbook
 - (b) Worksheet
 - (c) Spreadsheet
 - (d) Note sheet
3. Which of the following in an absolute addresses
 - (a) A1
 - (b) A1\$
 - (c) A\$1\$
 - (d) None of above
4. Formulas can only be applied on:
 - (a) Values
 - (b) Labels
 - (c) Unmerged cell
 - (d) None of above
5. Which of the following functions is used to get the current date? (AJK-19)
 - (a) Exact ()
 - (b) Today ()
 - (c) Month ()
 - (d) Year ()

From Punjab Board:

1. The number of argument in SQRT () function in MS-Excel is / are: (SWL/G1-18)
 - (a) one
 - (b) two
 - (c) equal to range
 - (d) equal to column number
2. Which of the following is an absolute address: (SGD/G1-17)
 - (a) A1
 - (b) \$A1
 - (c) A\$1
 - (d) \$A\$1

3. The vertical dimension of spread sheet is called:

(RWP/G1-17)

- (a) Field (b) Record
(c) Row (d) Column

4. The default number format assigned to a cell is:

(GRW/G1-17)

- (a) currency (b) number
(c) text (d) general

5. The cell range from A3 to G3 should be written as;

(AJK/G1-16)

- (a) A3 – G3 (b) A3 : G3
(c) A3 . G3 (d) A3 to G3

6. Absolute reference is created by adding sign of:

(GRW/G1-16)

- (a) # (b) =
(c) \$ (d) @

7. Which of the following is a correct cell address:

(SWL/G1-16), (LHR/G1-17), (BWP/G1-17) (BWP-19)

- (a) AA (b) 25
(c) 3 B (d) C 5

8. The function that is used to get the maximum value in MS-Excel is called:

(FSD/G1-18)

- (a) MAX () (b) HIGHEST ()
(c) GREATER () (d) MAXIMUM ()

9. In MS-Excel, formula begins with:

(D.G.K/G1-16), (FSD/G1-17),

(RWP/G1-18)

- (a) > (b) <
(c) = (d) ==

10. How many worksheets are contained in a workbook by default? (SWL/G1-17), (GRW/G1-18) (MTN-19)

- (a) 3 (b) 4
(c) 5 (d) 6

11. Formula can only be applied on:

(LHR/G1-18) (FSD-19)

- (a) Values (b) Labels
(c) Unmerged cells (d) Title

12. Which of the following function is used to get current data in MS-Excel:

(D.G.K/G1-17)

- (a) new() (b) date()
(c) date & year() (d) none

13. Calling a cell in MS Excel by just their address (like A1, B1) is called:

(LHR/G1-16)

- (a) Named ranges (b) Labeling
(c) Relative referencing (d) Absolute referencing

14. The function in MS-Excel is used to get the smallest value is called:

(RWP/G1-16)

- (a) MAX (b) MIN
(c) Minimum (d) Smallest

15. A workbook is a group of: (FSD/G1-16)

- (a) Tables (b) Formulas
(c) Sheets (d) Functions

16. A collection of related worksheets form a: (LHR-19)

- (a) Website (b) Workbook
(c) WorkArt (d) Spreadsheet

17. The intersection of row and column is called.

(GRW-19)

- (a) Intersection (b) Cell
(c) Field (d) Address

18. Absolute reference are create by adding (SGD-19)

- (a) # sign (b) % sign
(c) @ sign (d) \$ sign

19. A cell at second column and 15th row has a cell address:

(SWL-19)

- (a) 15 A (b) 15 B
(c) B 15 (d) A 15

20. A formula in MS-Excel is always begin with:

(RWP-19)

- (a) > (b) =
(c) == (d) >

SECTION II

SHORT QUESTION ANSWERS

From PTB Exercise:

1. Define spreadsheet and discuss its basic features.

Ans. A spreadsheet is an application program. It provides worksheets to enter and process data. In a worksheet, data is arranged into rows and columns just like a table. Ms-Excel is an example of spreadsheet program.

2. The basic features of spreadsheet program are as follows:

- Ans. (i) Grid of Rows and Columns
(ii) Formulas
(iii) Functions
(iv) Commands
(v) Text Manipulation
(vi) Creating Chart in Excel
(vii) Printing

3. Differentiate the following:

Ans. Workbook and Worksheet

A worksheet consists of rows and columns. Data is entered in Worksheet. A Workbook is a file of document. It is a collection of worksheets.

Active Cell and Spreadsheet

The currently selected cell where data can be entered or edited is called the Active Cell. When another cell is selected or cell pointer is moved to another cell, then that cell becomes the Active Cell.

Function and formula

A formula is a mathematical expression that is combination of numbers, constants, cell addresses (or cell references) and arithmetic operators. It is written by user. A function is a built-in predefined formula that is used to perform specific calculation.

4. Labels and Values: (FSD-19)

The main differences between labels and values are as follows.

Labels	Values
1) A label is a text entry into a cell of worksheet such as "My Name", "Total Marks" etc.	1) A value can be a number, a date, a formula or a formula's result.
2) Mathematical operations cannot be performed on labels.	2) Mathematical operations can be performed on values.

5. What do you understand by the term named ranges? Can it be helpful in simplifying the worksheet?

(SGD-19)

Ans. Find named ranges:

1. The Go to popup window shows named ranges on every worksheet in our workbook.
2. To go to a range of unnamed cells, press Ctrl+G, enter the range in the Reference box, and then press Enter (or click OK).
6. What are the advantage of using a spreadsheet program?

Ans. Spelling and grammar check facility

Table and graphics
Bullets and numbering
Drawings
Document printing
Recalculation
Quick calculation
charts

From Punjab Board:

- 1) Write function that totals cells B3 through B 10.

(SWL/G1-16), (LHR/G1-16)

Ans. =sum(B3:B10)

- 2) Define the absolute cell referencing in MS-Excel.

(MTN/G1-16), (FSD/G1-17)

Ans. Unlike relative references, absolute references do not change when copied or filled. You can use an absolute reference to keep a row and/or column constant. An absolute reference is designated in a formula by the addition of a dollar sign (\$). It can precede the column reference, the row reference, or both.(or)

ACR is a spreadsheet cell that remains the same and does not change regardless if it is copied or moved.

- 3) Define cell and how it is identified?

(RWP/G1-16), (RWP/G1-16), (GRW/G1-16), (GRW/G1-18), (SWL/G1-18), (FSD/G1-18)

Ans. The data is usually text, a numeric value, or a formula. The entire spreadsheet is composed of rows and columns of cells. A spreadsheet cell is analogous to a field in database management systems. ... Each cell is identified by a unique set of numbers. Cell identified with its address. Address consists of a column indicator and a row number, e.g. cell D14 is the cell in column D, row 14.

- 4) Write any two differences between active cell and passive cell in MS-Excel.

(FSD/G1-16), (BWP/G1-16), (D.G.K/G1-15), (GRW/G1-17), (MTN/G1-18) (SGD-19)

Ans. There are two states of a cell, i.e. active and passive. The currently selected cell where data can be entered or edited is called the active cell. When another cell is selected or cell pointer is moved to another cell, that cell becomes the active cell. Actually, at a time a single is active and other cells of worksheet are inactive. The inactive cells are known as passive cells.

- 5) State two features / advantages of Spreadsheet Software.

(MTN/G1-17), (LHR/G1-16), (SWL/G1-16), (RWP/G1-17), (BWP/G1-16)

Ans. The basic features of spreadsheet program are as follows:

- (i) Grid of Rows and Columns
- (ii) Formulas
- (iii) Functions
- (iv) Commands
- (v) Text Manipulation
- (vi) Creating Chart in Excel
- (vii) Printing

6) Write the use of spreadsheet program.

(GRW/G1-18)

Ans. Spreadsheet: A spreadsheet is an interactive computer application for organization, analysis and storage of data in tabular form. Spreadsheets are developed as computerized simulations of paper accounting worksheets. The program operates on data entered in cells of a table.

7) What is merge and center option in excel?

(GRW/G1-16) (LHR/G1-15)

Ans. To merge a group of cells: Highlight or select a range of cells. Right-click on the highlighted cells and select Format Cells.... Click the Alignment tab and place a checkmark in the checkbox labeled Merge cells.

8) What is 3-D sheet? (GRW/G1-15)

Ans. A 3-D spreadsheet is a spreadsheet that has multiple interacting sheets and 3-D functions to carry out organization, analysis, computation and storage of data. ... A 3-D spreadsheet is also known as a multidimensional spreadsheet.

9) Write function of worksheet in MS-Excel.

(AJK/G1-16), (GRW/G1-16), (AJK/G1-16)

Ans. A formula is an expression which calculates the value of a cell. Functions are predefined formulas and are already available in Excel. For example, cell A3 below contains a formula which adds the value of cell A2 to the value of cell A1 just like $\text{max}(\text{min}(), \text{date}())$

10) What do you understand by named range?

(RWP/G1-16), (D.G.K/G1-16)

Ans. Find named ranges:

We can use a group of cells simply by defining their range. This is called named range. For e.g.,

1. The Go to popup window shows named ranges on every worksheet in our workbook.
2. To go to a range of unnamed cells, press Ctrl+G, enter the range in the Reference box, and then press Enter (or click OK).

11) Explain relative address with example in MS-Excel. (ESD/G1-16), (BWP/G1-15), (SGD/G1-17)

Ans. Definition of: relative address. relative address. A memory address that represents some distance from a starting point (base address), such as the first byte of a program or table. The absolute address is derived by adding it to the base address. (or) Relative address means an address specified by indicating its distance from another address, called the base address. For example, a relative address might be B+15, B being the base address and 15 the distance (called the offset).

12) Differentiate between workbook and worksheet.

(SWL/G1-17), (SWL/G1-18), (GRW/G1-17), (SGD/G1-18), (D.G.K/G1-15), (RWP/G1-16) (MTN-19) (SWL-19) (BWP-19) (D.G.K-19)

Ans. A worksheet or sheet is a single page in a file created with an electronic spreadsheet program such as Excel or Google Sheets. A workbook is the name given to an Excel file and contains one or more worksheets.

13) Explain # symbol in custom format.

(FSD/G1-17)

Ans. Microsoft Excel has declared that if we want to provide our own formatting to numbers we can create it using 0 (zero). # (Symbol): - # symbol is used to format a number. A # symbol is used to place it instead of a number while using a custom format. , (comma): - (comma) is used to separate the thousands in the number.

14) Name two types of Chart used in MS. Excel?

(BWP/G1-17), (LHR/G1-18)

Ans. Excel Charts - Types

- Column Chart.
- Line Chart.
- Pie Chart.
- Doughnut Chart.
- Bar Chart.
- Area Chart.
- XY (Scatter) Chart.
- Bubble Chart.

15) Explain the difference between Labels and Values in Excel (SGD/G1-17) (FSD-19)

Ans. Entering data into a spreadsheet is just like typing in a word processing program, but you have to first click the cell in which you want the data to be placed before typing the data. All words describing the values (numbers) are called labels. The numbers, which can later be used in s, are called values.

16) Define sum and average function. (LHR/G1-15)

Ans. Returns the average (arithmetic mean) of the arguments. For example, if the range A1:A20 contains numbers, the formula =AVERAGE (A1:A20) returns the average of those numbers.

If we need to sum a column or row of numbers, let Excel do the math for us. Select a cell next to the numbers we want to sum, click AutoSum on the Home tab, press Enter, and we're done. When we click AutoSum, Excel automatically enters a formula (that uses the SUM function) to sum the numbers.

17) Write formula for Calculating Average of three numbers. (D.G.K/G1-16)

Ans. $= (a1 + b1 + c1) / 3$

18) Differentiate between formula and function.

(LHR/G1-18), (LHR/G1-18), (RWP/G1-18),
(FSD/G1-18), (BWP/G1-15), (GRW/G1-15), (MTN/G1-17),
(BWP/G1-17), (LHR/G1-17), (SGD/G1-18), (RWP/G1-17),
(GRW/G1-16) (D.G.K-19) (LHR-19) (BWP-19)

Ans. The difference is that a **function** is a built-in calculation, while a **formula** is a user-defined calculation. A **formula** could just use a single **function**. For example, if you enter `=AVERAGE(A1:A56)`, that is a **formula**, using the **AVERAGE function**.

19) Enlist four functions used in MS Excel. (RWP-19)

Microsoft Excel Function List

Listing of the most useful **Microsoft Excel functions**. Explanations on how to write each function in Excel and examples of its use are provided.

Mathematical Functions

- **SUM** - Adds up all the values in a range
- **SUMIF** - Adds all the values in a range that meet specific criteria
- **SUMIFS** - Adds values in a range based on multiple criteria
- **FLOOR** - Round a number down to a multiple of significance

Statistical Functions

- **COUNT** - Counts all the values in a range
- **AVERAGE** - Calculates the average number from a range of values
- **MAX** - Finds the maximum value in a range
- **MIN** - Finds the minimum value in a range
- **COUNTA** - Counts all non-empty cells in a range
- **COUNTBLANK** - Counts all blank cells in a range
- **COUNTIF** - Counts all the cells in a range that meet specific criteria
- **COUNTIFS** - Counts all the cells in a range that meet multiple criteria
- **AVERAGEIF** - Calculates the average of a range of values that meet specific criteria
- **AVERAGEIFS** - Calculates the average of a range of values that meet multiple criteria
- **RANK** - Returns the rank or position of a number within a range of numbers

20) What is Chart? (RWP-19)

In **Microsoft Excel**, a **chart** is often called a graph. ... A **chart** is a powerful tool that allows you to visually display data in a variety of different **chart** formats such as Bar, Column, Pie, Line, Area, Doughnut, Scatter, Surface, or Radar charts. With **Excel**, it is easy to create a **chart**.

21) Write the formula to calculate the average of cells A2 to F2. (GRW-19)

`=AVERAGE(A2:C2)`

22) What is the most powerful feature of worksheet and why? (GRW-19)

The most powerful feature of a **spreadsheet** is that it automatically recalculates the result of mathematical formulas if the source data changes. A **spreadsheet** can help us quickly record and manipulate a large amount of numerical information and share it with others in a wide variety of forms

23) Write the formula to calculate percentage having total and obtain marks in A2 and B6 respectively.

(FSD-19)

24) State the advantages of Named Ranges? (LHR-19)

Advantages to Naming Cells and Ranges

Using names for cells and ranges offers the following advantages:

- A meaningful range name (such as Income) is much easier to remember than a range address (such as A1:A21).
- After you select a named cell or range, its name appears in the name box.
- You can quickly move to a named area of your worksheet by choosing a name in the name box.
- Creating formulas is easier, because you can paste a cell or range name into a formula.
- Names make your formulas more understandable and easier to use. For example, `=Income-Taxes` is more intuitive than `=D20-D40`.

SECTION III**LONG QUESTIONS**

No long questions in this Chapter by Punjab Text Book Board.



Chapter 10

Fundamentals of the Internet

SECTION I

MULTIPLE CHOICE QUESTIONS

From PTB Exercise:

- 1) A computer can be linked to the Internet through:
 - (a) A phone-line modem (b) DSL
 - (c) Cable modem (d) All of the above
- 2) Which of the following is an e-mail client?
 - (a) Internet Explorer (b) Outlook Explorer
 - (c) Google (d) None of these
- 3) Which of the following protocols is used to access web pages on the World Wide Web? (D.G.K-19)
 - (a) TCP/IP (b) Gopher
 - (c) HTTP (d) HTML
- 4) Which of the following is used to find information on World Wide Web?
 - (a) Web browser (b) Web site
 - (c) Search Engine (d) Web server
- 5) The length of IP address is: (LHR-19)
 - (a) 8 bit (b) 16 bit
 - (c) 32 bit (d) 64 bit

From Punjab Board:

1. How many types of addressing scheme are there? (SWL/G1-15), (RWP-G1-18) (BWP-19)
 - (a) 2 (b) 3
 - (c) 4 (d) 5
2. .com, .edu and .gov are examples of: (GRW/G1-18)
 - (a) top level domain (b) tag
 - (c) protocol (d) e-mail
3. World Wide Web was established in: (LHR/G1-18)
 - (a) 1980 (b) 1985
 - (c) 1989 (d) 1992
4. A connection of related web-pages is called: (SGD/G1-17)
 - (a) WWW (b) Web portal
 - (c) Website (d) Web server

5. A standard IP address is composed/ length of: (GRW/G1-16), (SGD/G1-17), (LHR/G1-15), (D.G.K/G1-17), (BWP/G1-15)
 - (a) 4-bits (b) 16-bits
 - (c) 32-bits (d) 64-bits
6. Who is owner of the internet? (GRW/G1-17)
 - (a) US Government (b) Pak Telecom
 - (c) United Nations (d) none of these
7. Which is a top level domain? (GRW/G1-15)
 - (a) HTTP (b) .com
 - (c) HTML (d) URL
8. Which one contain permanent IP address: (LHR/G1-16)
 - (a) Client (b) Server
 - (c) User (d) NIC
9. ISP stands for: (FSD/G11-17)
 - (a) International service provider
 - (b) Internet service provider
 - (c) Interlink service provision
 - (d) Internet service party
10. FTCL is a: (LHR/G1-17)
 - (a) Internet (b) ISP
 - (c) Web browser (d) search engine
11. Webpages are written in: (RWP/G1-17), (AJK/G1-16), (BWP/G1-17), (SWL/G1-18)
 - (a) HTML (b) Assembly
 - (c) HTTP (d) C++
12. Web pages are connected to one another using: (SWL/G1-16) (SWL/G1-17) (FSD-19)
 - (a) Interlink (b) HTTP
 - (c) Hyperlinks (d) Multimedia
13. Internet explorer is used to: (RWP/G1-16)
 - (a) Access the internet
 - (b) Explorer the system resources
 - (c) Perform maintenance on the Hard Disk
 - (d) Navigate file and folders on the computer
14. A computer can be linked to the internet through: (RWP/G1-16)
 - (a) A phone-line modem (b) DSL
 - (c) Cable Modem (d) All
15. Which of the following is used to find information on world wide web? (RWP/G1-15)
 - (a) Web browser (b) Website
 - (c) Search engine (d) Web server

16. Software that is used to view and search pages on internet is: (BWP/G1-15), (FSD/G1-16)
(a) Webserver (b) Web browser
(c) Website (d) Webpage
17. A collection of related web pages is called: (GRW/G1-16), (D.G.K/G1-16)
(a) web site (b) web link
(c) web hosting (d) web publishing
18. Internet differentiates one computer from another by: (RWP/G1-16)
(a) Architecture (b) Manufacturer
(c) IP address (d) Brand Name
19. Web pages are connected to one another using: (SWL/G1-16)(SWL/G1-17)(FSD-19)
(a) Hyperlinks (b) HTTP
(c) Interlink (d) Multimedia
20. Transferring information from computer to internet is called: (SWL/G1-16)
(a) downloading (b) uploading
(c) pasting (d) transferring
21. Mobile phone (Cellular) system often use (SGD-19)
(a) MAN (b) WAN
(c) LAN (d) PAN
22. A collection of computers connected together is called : (RWP-19)
(a) Processing (b) Network
(c) Chatting (d) Centralized system
23. Which of the following is not a networking topology? (RWP-19)
(a) Bus (b) Band
(c) Star (d) Ring
24. Cabling on a linear bus topology can be extended using which of following. (D.G.K-19)
(a) Terminator
(b) Barrel connector
(c) Network Adaptor Card
(d) Medium Attachment
25. A computer network is which all computers have equal status and no one have control over there: (BWP-19) (GRW-19)
(a) Peer to Peer (b) Clint Server
(c) Dedicated (d) Client to Client
26. Which of the following is Internet protocol? (MTN-19)
(a) TCP / IP (b) IEEE
(c) MAC (d) SNA
27. Internal network of an organization that uses Internet and web techniques is called: (LHR-19)
(a) Intranet (b) Extranet
(c) Uploading (d) Downloading
28. Each computer on a computer network is called: (MTN-19)
(a) Link (b) Code
(c) Node (d) Mode
29. Which is communication device: (MTN-19)
(a) Router (b) USB
(c) CD (d) Ethernet
30. In which of the topology, if central device failed, the entire network breakdown: (AJK-19)
(a) Star (b) Mesh
(c) Tree (d) Bus
31. The flow control and error control is the responsibility of: (AJK-19)
(a) Transport layer (b) Network layer
(c) Data link layer (d) Physical layer
32. A device that connect multiple network using similar or different protocol is: (LHR-19)
(a) Router (b) NIC
(c) Bridge (d) Modem
33. A domain name is the text version of (SGD-19)(FSD-19)
(a) IP address (b) Hyperlink
(c) Hypertext (d) HTML
34. Which of the following is e-mail client software? (SWL-19)
(a) IE (b) Google. Com
(c) Outlook express (d) MS Word
35. Which of the following is an Internet Protocol: (RWP-19)
(a) Ethernet (b) ARC net
(c) TC/IP (d) MAC
36. Which portion of URL is domain name? (GRW-19)
(a) Microsoft.com (b) www
(c) http (d) //
37. In 32-bit IP addressing scheme, the value of address ranging from: (AJK-19)
(a) 0 to 31 (b) 0 to 127
(c) 0 to 255 (d) Unlimited
38. Which program is used to connect to a remote computer to the Internet? (FSD-19)
(a) WWW (b) Email
(c) FTP (d) Telnet

SECTION II

SHORT QUESTION ANSWERS

From PTB Exercise:

1. Briefly describe the history of the internet.

Ans. The work to develop a communication system was started in 1960 during the cold war between the USA and Russia. In 1957, Russia launched Sputnik, the first artificial earth satellite. In response to the launching of Sputnik, the Americans established the Advance Research Projects Agency (ARPA) in 1958. ARPA was given the task to develop a communication system.

In 1969, ARPA established a small computer network. It was named as ARPANET. ARPA stand for Advance Research Projects Agency. ARPANET was a network of four computers.

The idea of computer networking soon becomes popular. During 1970s and 1980s several universities & research organization developed their own computer networks. Similarly, many other networks for military use were developed. In 1986, The National Science foundation (NSF) was established. Another federal agency of USA established a network and named as NSFNET. It was established for academic purpose. It was accessible by everyone. Later, it was expended all over the country. A large number of networks of universities and research centers were connected to this network, so that they could share information. This large network of computer network was named as Internet.

2. Write a note on World Wide Web.

Ans. Sir Tim Berners-Lee created a new markup language called HTML. Websites are composed of pages linked by hypertext links. They are all written in HTML. The World Wide Web is used to describe HTML webpages that are part of the Internet.

3. What do we mean by Addressing schemes?

Ans. Every computer connected to an internet has a unique address. A computer is accessed by its address. The addresses are assigned to the computer according to a set of rules. These rules are called addressing schemes.

4. How many types of addressing is used on the Internet? Discuss briefly.

Ans. On the internet, two types of addressing schemes are used. These are:

- 1) IP Addressing
- 2) DNS Addressing

Detail

IP Addressing

IP stand for internet Protocol. It is a unique identifier that is assigned to a computer on the internet. It is a numerical address with four numbers separated with dots. The value of each number is between 0 and 255. These numbers are called octets. An example of IP address is: 216.27.61.137.

Every computer on the internet has a unique IP address. A server has a static IP address that does not change. When a user's computer connects to the ISP, it is assigned an IP address by ISP. This IP address is unique for that session. It is not static. When the same computer will be connected next time, a different IP address will be assigned to it.

DNS Addressing

(RWP/GI-16) (BWP-19) (GRW-19) (LHR-19)

DNS stands for Domain Name System. IP addresses are difficult to remember by the users. Every server (or host) on the internet also has a unique name. The human-readable name assigned to the computer (server) on the internet is called the **domain name**. It is a common and unique text name and is alternative to an IP address. For example, "hotmail.com" is a permanent human-readable name. It is easier to remember than an IP Address.

The domain name has two parts, a host name and domain. The domain is also known as **top-level domain (TLD)**. The top-level domain specifies the type of domain such as type of organization. It comes at the end of host name separated with dot (.). The commonly used top level domains are:

Domain	Type of Institution
.com	Business (commercial)
.edu	Educational institutes
.gov	Government organizations
.org	other organizations

A way of assigned domain names to IP addresses is called **Domain Name System (DNS)**. DNS server is used to domain names and their corresponding IP addresses. The DNS server translates the domain name in to the corresponding IP addresses.

5. What do you know about Email? Discuss briefly.

(D.G.K-19) (RWP-19)

Ans. E-mail is sent and received with reference to e-mail address. A user must have an e-mail account on any e-mail server, to send and receive e-mails.

The general format of an e-mail address is:

Where

Username: Specifies the name of user or organization.

Domain_name: Specifies the name of server of ISP (or DNS address) to which it's belonging. For example, pak786@hotmail.com is e-mail address. The "pak786" is the name of user and "hotmail.com" is the name of server. You must type the correct e-mail address to send an e-mail. Otherwise it is returned back. When someone sends e-mail to your e-mail address it is stored in your mailbox.

6. Write a note on the following:

Ans. Newsgroups: (FSD/G11-17), (LHR/G1-17) (SWL-19)

News Groups are discussion groups or forums. They provide the services to exchange messages on the Internet about a particular subject. Newsgroups are classified according to different subjects. For example, Health, hobbies, celebrities, and cultural events etc. are the subjects of many newsgroups.

Search Engine:- Search engines are the special websites. These websites provide facility to Internet users to search different information on the Internet. Search engines have become very popular all over the world. Millions of people use search engines to search information on various topics. The most popular search engine is "GOOGLE".

TCP/IP: TCP/IP stands for Transmission Control Protocol / Internet Protocol. It is the communication protocol used for Internet and similar networks such as Intranet and Extranet. It controls and manages the data transmission over the Internet. It also defines a mechanism through which every computer on the Internet is identified separately. Every computer on the Internet must have this protocol.

8. How the use of Internet is affecting our society? Give your comments.

Ans. Bullying, trolls, stalkers, and crime. ...

Exploitation and pornography and violent images. ...

Addiction, time waster, and causes distractions. ...

Never being able to disconnect. ...

Identity theft, hacking, viruses, and cheating. ...

Spam and advertising. ...

Affects focus and patience. ...

Depression, loneliness, and social isolation.

From Punjab Board:

1) Define Search Engine with example.

(BWP/G1-16), (FSD/G1-16)

(RWP/G1-18), (FSD/G1-15),

(RWP/G1-15), (LHR/G1-15),

(SWL/G1-16), (RWP/G1-17)

Ans. Search engines are the special websites. These websites provide facility to Internet users to search different information on the Internet. Search engines have become very popular all over the world. Millions of people use search engines to search information on various topics. The most popular search engines and their URL addresses are:

YAHOO <http://www.yahoo.com>

ALTA VISTA <http://www.altavista.com>

ASK <http://www.ask.com>

GOOGLE <http://www.google.com>

2) What do you know about TELNET?

(GRW/G1-16)

Ans. Telnet is an abbreviation for Terminal Network. It is software. It is used to connect to a remote or host computer for accessing information. Through this service, the user can also access information on the Internet.

3) What is DNS addressing?

(RWP/G1-16)(BWP-19) (GRW-19)

Ans. DNS stands for Domain Name System. IP addresses are difficult to remember by the users. Every server (or host) on the internet also has a unique name. The human-readable name assigned to the computer (server) on the internet is called the **domain name**. It is a common and unique text name and is alternative to an IP address. For example, "**hotmail.com**" is a permanent human-readable name. It is easier to remember than an IP Address.

The domain name has two parts, a host name and domain. The domain is also known as **top-level domain (TLD)**. The top-level domain specifies the type of domain such as type of organization. It comes at the end of host name separated with dot (.). The commonly used top level domains are:

Domain Type of Institution

.com Business (commercial)

.edu Educational institutes

.gov Government organizations

.org other organizations

4) Why domain name is used? (FSD/G1-18)

Ans. DNS stands for Domain Name Server. IP addresses are difficult to remember by the users. Every server (or host) on the Internet also has a unique name. The human-readable name assigned to the computer (server) on the Internet is called the domain name. It is a common and unique text name and is alternative to an IP address.

5) How does TCP/IP transmit data?

(SGD/G1-18) (D.G.K-19)

Ans. TCP/IP stands for Transmission Control Protocol / Internet Protocol. It is the communication protocol used for Internet and similar networks such as Intranet and Extranet. It controls and manages the data transmission over the Internet. It also defines a mechanism through which every computer on the Internet is identified separately. Every computer on the Internet must have this protocol.

6) What is an ISP? Name some ISPs in Pakistan.

(D.G.K/G1-15), (LHR/G1-15), (SGD/G1-18)

(MTN-19) (FSD-19) (SGD-19)

Ans. ISP stands for Internet Service Provider. It is a company that provides the Internet connections to the users. There are many ISP companies in each country of the world. You have to get an Internet connection from any ISP company of your local city to connect to the Internet. E.g. PTCL, fiberlink, storm fiber etc.

7) Differentiate between internet and www.

(GRW/G1-16), (BWP/G1-15),

(RWP/G1-15) (GRW/G1-18) (D.G.K-19)

Ans. Internet is a network of networks and WWW stands for World Wide Web. The World Wide Web is commonly known as web. It is a network of web servers that stores web pages. The web pages are connected to each other using hyperlinks. The user can jump from one page to another by clicking the hyperlinks. The web pages are accessed using web browsers. The HTTP protocol is used for communication between browsers and web servers.

8) Write two facilities provided by Internet.

(BWP/G1-16)

Ans. The main services provided by Internet are:

- (i) World Wide Web (ii) E-Mail
- (iii) Telnet
- (iv) File Transfer Protocol (FTP)
- (v) Gopher (vi) Chat Groups

9) List all addressing schemes used for identifying computers on internet.

(MTN/G1-16),

(RWP/G1-18), (MTN/G1-18)

Ans. Every computer connected to an internet has a unique address. A computer is accessed by its address. The addresses are assigned to the computer according to a set of rules. These rules are called addressing schemes.

On the internet, two types of addressing schemes are used. These are:

- 3) IP Addressing
- 4) DNS Addressing

10) What is meant by IP addressing or why it is used?

(LHR/G1-16), (MTN/G1-17) (AJK-19) (BWP-19)

Ans. IP stands for Internet Protocol. It is a unique identifier that is assigned to a computer on the Internet. It is a numerical address with four numbers separated with dots. The value of each number is between 0 and 255. These numbers are called octets. An example of IP address is: 216.27.61.137.

11) Define video conferencing also Write four benefits of video conferencing.

(MTN/G1-18), (FSD/G1-18), (SGD/G1-18), (LHR/G1-17), (FSD/G1-17), (RWP/G1-15),

(LHR/G1-15), (AJK/G1-16), (MTN-19)

(D.G.K/G1-16), (FSD/G1-16) (SWL-19)

Ans. A video conference is a live, visual connection between two or more people residing in separate locations for the purpose of communication. ... At its most sophisticated, it provides transmission of full-motion video images and high-quality audio between multiple locations.

Video Conferencing Benefits

- Reduced Travel Time and Costs. The oldest recognised benefit of video conferencing is reduced travel time and expenses. ...
- Optimised Attendance. ...
- Structured Meetings with Improved Communications. ...
- Increased Productivity. ...
- Employee Retention. ...
- Sustained Competitive Advantage.

12) Differentiate between Website and Web page.

(MTN/G1-16) (FSD/G1-16) (D.G.K-19) (GRW-19)

Ans. The difference between a website and a web page is that a website is a collection of web pages with information on a subject, and a web page is a smaller part of a larger website usually containing more specific information. If a website were a book, then a webpage would be a chapter in that book.

A web page (also written as webpage) is a document that is suitable for the World Wide Web and web browsers. A web browser displays a web page on a monitor or mobile device. ... The web server may restrict access to a private network such as a corporate intranet.

13) Differentiate between URL and Website.

(SWL/G1-18), (GRW/G1-17), (GRW/G1-15),

(SWL/G1-15), (BWP/G1-17), (D.G.K/G1-15),

(BWP/G1-15), (FSD/G1-15), (FSD/G1-16)

Ans. URL is an abbreviation of Uniform Resource Locator, the global address of documents and other resources on the World Wide Web. ... Web Address or website address is just a layman's term for URL, which is the technical term. URL = Uniform Resource Locator.

14) Difference Between URL and Web Address.

(SWL-19) (AJK-19)

URL stands for Uniform Resource Locator. A URL is the address of a particular website, audio stream or document available on the Web. URLs consist of the Internet protocol needed to access the item you wish to locate on the host computer.

15) Define the term "ARPANET".

(SWL/G1-17)

Ans. During cold WAR America developed network named Arpanet it was developed for advance research project. It was used to send information to armed forces at long distances.

16) What is basic function and uses of email?

(RWP/G1-17), (SGD/G1-17),

(AJK/G1-16), (RWP/G1-16)

Ans. An email is a digital message sent electronically from one computer to one or more other computers. Emails are flexible and can be used for giving instructions, serving as documentation, providing confirmation, communicating rules and procedures, making recommendations, providing a status update, making an inquiry.

Electronic mail (or e-mail or email) is an Internet service that allows people who have an e-mail address (accounts) to send and receive electronic letters. Those are much like postal letters, except that they are delivered much faster than snail mail when sending over long distances, and are usually free.

17) What is uploading and downloading of data?

(FSD/G1-16), (AJK/G1-16), (FSD/G1-16),

(MTN/G1-18), (SWL/G1-17), (FSD/G1-17) (SWL-19)

Ans. Uploading means data is being sent from your computer to the Internet. Downloading means your computer is receiving data from the Internet. Examples of downloading include opening a web page, receiving email, purchasing music files and watching online videos.

18) Briefly describe web surfing / browsing / Internet explorer .

(AJK/G1-16) (RWP/G1-16), (GRW/G1-16), (D.G.K/G1-16)(GRW-19)

Ans. A web browser (commonly referred to as a browser) is a software application for accessing information on the World Wide Web. Each individual web page, image, and video is identified by a distinct URL, enabling browsers to retrieve and display them on the user's device. A web browser is not the same thing as a search engine, though the two are often confused. For a user, a search engine is just a website, such as google.com, that stores searchable data about other websites. But in order to connect to and display websites on their device, a user needs to have a web browser installed. The most popular web browsers are Chrome, Firefox, Safari, Internet Explorer, and Edge.

19) Describe web publishing.

(RWP/G1-16), (MTN/G1-18), (SWL/G1-16),

(FSD/G1-18) (RWP-19)

Ans. Web publishing is the process of publishing original content on the Internet. The process includes building and uploading websites, updating the associated webpages, and posting content to these webpages online. Web publishing comprises of personal, business, and community websites in addition to e-books and blogs.

20) How Web pages are created? (LHR/G1-18)

Ans. A web page is stored in a special kind of file, called a "html file". html files can be created in almost any program that can be used to edit text files. There are also some programs that help you create html files. ... You don't have to learn more than 10 tags to be able to create a simple web page.

21) Differentiate between Web Server and Web Browser. (BWP/G1-17), (GRW/G1-15),

(RWP/G1-15), (SWL/G1-18)

Ans. A web server is a program on a server computer, somewhere out on the Internet, that delivers web pages to web browsers. The term web server also refers to an actual, physical computer that is running web server software. Web server is a program or a computer that can provide services to other programs called clients. The main difference between a Web browser and a Web server is that Web browser requests for the document and services, and act as an interface between a client and a server which displays the web content.

22) What is Web hosting? (SGD/G1-17) (FSD-19)

Ans. A web host, or web hosting service provider, is a business that provides the technologies and services needed for the website or webpage to be viewed in the Internet. Websites are hosted, or stored, on special computers called servers. ... If you do not have a domain, the hosting companies will help you purchase one.

23) Distinguish between HTTP and HTML.

(MTN/G1-17)

Ans. HTTP stands for Hypertext Transfer Protocol. HTTP is the underlying protocol used by the World Wide Web. HTTP defines how messages are formatted and transmitted, and what actions Web servers and browsers should take in response to various commands. For example, when you enter a URL in your browser, this actually sends an HTTP command to the Web server directing it to fetch and transmit the requested Web page. HTML stands for Hypertext Markup Language. This is a markup language (not a programming language). It is used to create web pages. It is used in almost all of the websites. It is the basic tool to design pages. The code written in HTML and other related tools when run on any browser, it forms a web page. So HTTP is a protocol, that manages how text, images, sound etc. are shared between client and server. HTTP uses Hypertext to share this information.

24) What is the use of HTML for WWW?

(GRW/G1-16), (BWP/G1-15), (RWP/G1-15)

(GRW/G1-18) (D.G.K-19)

Ans. Hypertext Markup Language (HTML) is the standard markup language for creating web pages and web applications. With Cascading Style Sheets (CSS) and JavaScript, it forms a triad of cornerstone technologies for the World Wide Web. ... HTML elements are delineated by tags, written using angle brackets.

- 25) Distinguish between HTTP and FTP.
(LHR/GI-18), (GRW/GI-18),
(LHR/GI-15), (RWP/GI-17)

Basis for Comparison	HTTP	FTP
Basic	HTTP is used to access websites.	FTP transfers file from one one host to another.
Connection	HTTP establishes data connection only.	FTP establishes two connection one for data and one for the control connection.
TCP ports	HTTP uses TCP's port number 80.	FTP uses TCP's port number 20 and 21.
URL	If you are using HTTP, http will appear in URL.	If you are using FTP, ftp will appear in URL.
Efficient	HTTP is efficient in transferring smaller files like web pages.	FTP is efficient in transferring larger files.
Authentication	HTTP does not require authentication.	FTP requires a password.
Data	The content transferred to a device using HTTP is not saved to the memory of that device.	The file transferred to the host device using FTP is saved in the memory of that host device.

- 26) Which types of files can be attached to E-mail messages?(GRW/GI-17), (GRW/GI-18) (MTN-19)

Ans. An email attachment is a file that is attached to an email message. For example, you may attach a graphic, a spreadsheet, or a word processing document. Sending attachments can be a good way to transfer a copy of a file if the sender and recipient have agreed on a format.

- 27) Who is the owner of internet? (SGD/GI-18)

Ans. No one actually owns the Internet, and no single person or organization controls the Internet in its entirety. The Internet is more of a concept than an actual tangible entity, and it relies on a physical infrastructure that connects networks to other networks.

- 28) State any two negative impacts of internet on society. (LHR/GI-17), (LHR/GI-16)

Ans. Addiction. With ease of use and availability comes a deadly side effect-addiction. ...
Reduction in physical activity. While spending hours at a stretch on the internet, youngsters are left with little time for other tasks, especially healthy physical activity. ...
Cyber Crime. ...
Psychological Blocks.

- 29) Why newsgroups are created on internet?

(FSD/GI-17), (LHR/GI-17) (SWL-19)

Ans. Because newsgroup is an Internet-based discussion around an individual, entity, organization or topic. Newsgroups enable remotely connected users to share, discuss and learn about their topic of interest by exchanging text messages, images, videos and other forms of digital content.

- 30) Define Telecommunication. (BWP-19)

Ans. **Telecommunication** is the transmission of signs, signals, messages, words, writings, images and sounds or information of any nature by wire, radio, optical or other electromagnetic systems. **Telecommunication** occurs when the exchange of information between communication participants includes the use of technology. OR **Telecommunication** is communication at a distance using electrical signals or electromagnetic waves. Examples of telecommunications systems are the telephone network, the radio broadcasting system, computer networks and the Internet.

- 31) What is network protocol? (RWP-19)

Ans. A **network protocol** defines rules and conventions for communication between **network** devices. **Network protocols** include mechanisms for devices to identify and make connections with each other, as well as formatting rules that specify how data is packaged into sent and received messages.

- 32) Define computer network. (GRW-19)

Ans. A **computer network** is a set of **computers** connected together for the purpose of sharing resources. The most common resource shared today is connection to the **Internet**. Other shared resources can include a printer or a file server. The **Internet** itself can be considered a **computer network**.

- 33) What is server computer? (GRW-19)

Ans. A **server** is a computer or system that provides resources, data, services, or programs to other computers, known as clients, over a network. ... There are many types of servers, including web servers, mail servers, and virtual servers.

- 34) Write any three uses of the Internet. (SGD-19)

Based on a recent survey of Internet traffic, the 10 most popular uses of the Internet in descending order of use are:

- > Electronic mail. ...
- > Research.
- > Downloading files.
- > Discussion groups. ...
- > Interactive games. ...
- > Education and self-improvement. ...
- > Friendship and dating. ...
- > Electronic newspapers and magazines.

SECTION III

Long Questions

No long questions in this Chapter by Punjab Text Book Board.

