

**II-Maths 'B',      PRINCIPLES OF INFORMATION TECHNOLOGY**  
**II-PHY**

**Two Mark Questions**

1. What is Computer?

A computer is a programmable machine or device that performs pre-defined or programmed computations or controls operations that are expressible in numerical or logical terms at high speed and with great accuracy.

2. What are the basic operations of Computer?

- It accepts data or instructions by way of input.
- It stores data.
- It can process data as required by the user.
- It gives results in the form of output.
- It controls all operations inside a computer.

3. What are the characteristic of a Computer?

- Speed
- Accuracy
- Automation
- Versatility
- Storage
- Cost Reduction

4. What is software?

Computer software or just software is a general term used to describe the role that computer programs, procedures and documentation in a computer system.

5. What is hardware?

Hardware includes not only the computer proper but also the cables, connectors, power supply units, and peripheral devices such as the keyboard, mouse, audio speakers, and printers.

6. Write any three uses of computer.

- Computer is used in many of the industries today performing variety of tasks.

## II-Maths 'B',      PRINCIPLES OF INFORMATION TECHNOLOGY

### II-PHY

- It is used to perform heavy calculations, to automate the tasks, to diagnose diseases. As you can do whatever you want to, just write the instructions to do so.

#### 7. What is MIDI.

- Musical Instrument Digital Interface
- It is a technical standard that describes a communications protocol, digital interface, and electrical connectors that connect a wide variety of electronic musical instruments, computers, and related audio devices for playing, editing and recording music.

#### 8. What is mean by Word Processing?

- A word processing 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.

#### 9. What is CAD and CAE.

- CAE is the abbreviation for computer-aided engineering, which is the analysis of the designed visualization.
- In short, the difference between CAD and CAE can be put this way: CAD is for designing a product and CAE is for testing and simulating it. CAD model of the Olympic Tower Munich uploaded into SimScale.

#### 10. Expand the EDVAC, EDSAC and UNIVAC.

- EDVAC – Electronic Discrete Variable Automatic Calculator.
- EDSAC – Electronic Delay Storage Automatic Calculator.
- UNIVAC – Universal Automatic Computer

#### 11. What are the various generations of computer?

- 1940 – 1956: First Generation – Vacuum Tubes.

## II-Maths 'B',      PRINCIPLES OF INFORMATION TECHNOLOGY

### II-PHY

- 1956 – 1963: Second Generation – Transistors. ...
- 1964 – 1971: Third Generation – Integrated Circuits. ...
- 1972 – 2010: Fourth Generation – Microprocessors.

12. Define personal computers?

- A small, relatively inexpensive computer designed for an individual user.
- In price, personal computers range anywhere from a few hundred dollars to thousands of dollars.

13. Define Mainframe computer?

Mainframes are computers used mainly by large organizations for critical applications, typically bulk data processing such as census, industry and consumer statistics, enterprise resource planning, and financial processing.

14. What are the components of the computer systems?

- Input Unit
- Central Processing Unit.
- Secondary Storage Unit.
- Output Unit.

15. Define

Pipelining.

Pipelining is a technique of decomposing a sequential process into sub operations with each subprocess being executed in a special dedicated segment that operates concurrently with all other segments.

16. What is RISC?

A reduced instruction set computer, or RISC, is a computer instruction which allows a computer's microprocessor to have fewer cycles per instruction (CPI) than a complex instruction set computer (CISC).

17. What is the function of ALU?

- An arithmetic logic unit (ALU) is a digital circuit used to perform arithmetic and logic operations.

## **II-Maths 'B', PRINCIPLES OF INFORMATION TECHNOLOGY**

### **II-PHY**

- It represents the fundamental building block of the central processing unit (CPU) of a computer. Most of the operations of a CPU are performed by one or more ALUs, which load data from input registers.

18. What is a Bus?

- A collection of wires that connects several devices is called a bus. When referring to a computer, the bus also known as the address bus, data bus, or local bus, is a data connection between two or more devices connected to the computer.
- For example, a bus enables a computer processor to communicate with the memory or a video card to with the memory.

19. What is an Auxiliary Storage device?

Auxiliary storage, secondary storage or external storage are devices that external storage are devices that store noncritical system data like documents, multimedia and programs, which are used whenever they are required.

20. What are the different types of keyboards?

- USB / Wired Keyboards
- Numeric Keypads
- Wireless Keyboards
- Bluetooth Keyboards
- Magic Keyboards
- Backlit Keyboards

21. What is Optical Mark Recognition?

- Optical mark recognition (also called optical mark reading and OMR) is the process of capturing human-marked data from document forms such as surveys and tests.
- They are used to read questionnaires, multiple choice examination paper in the form of lines or shaded areas.

22. What are the different kinds of input devices?

## II-Maths 'B',      PRINCIPLES OF INFORMATION TECHNOLOGY

### II-PHY

- Audio conversion device
- Barcode reader
- Biometrics (e.g., fingerprint scanner)
- Business card reader
- Digital camera and digital camcorder
- EEG (electroencephalography)
- Finger (with touch screen or Windows Touch)
- Gamepad, joystick

23. What are the different point devices available?

- Keyboard
- Mouse
- Joystick
- Light Pen
- Track Ball
- Scanner
- Digitizer
- Microphone

24. What is Output devices?

- An output device is any device used to send data from a computer to another device or user.
- Most computer data output that is meant for humans is in the form of audio or video. Thus, most output devices used by humans are in these categories. Examples include monitors, projectors, speakers, headphones and printers.

25. What are the different types of printers?

- 3D printer
- AIO (all-in-one) printer
- Dot matrix printer
- Inkjet printer
- Laser printer

## **II-Maths 'B',      PRINCIPLES OF INFORMATION TECHNOLOGY**

### **II-PHY**

- LED printer
- MFP (multifunction printer)
- Plotter

### **UNIT-II**

#### 1. What is computer software?

Computer software, or simply software, is a collection of data or computer instructions that tell the computer how to work. This is in contrast to physical hardware, from which the system is built and actually performs the work. In computer science and software engineering, computer software is all information processed by computer systems, programs and data.

#### 2. What are the different types of software?

There are two main types of software: systems software and application software. Systems software includes the programs that are dedicated to managing the computer itself, such as the operating system, file management utilities, and disk operating system (or DOS).

#### 3. What is system software?

System software is a type of computer program that is designed to run a computer's hardware and application programs. If we think of the computer system as a layered model, the system software is the interface between the hardware and user applications.

#### 4. What is Word Processor?

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.

#### 5. What is a database management system?

A database management system (DBMS) is a software package designed to define, manipulate, retrieve and manage data in a database. A DBMS generally

## **II-Maths 'B',      PRINCIPLES OF INFORMATION TECHNOLOGY**

### **II-PHY**

manipulates the data itself, the data format, field names, record structure and file structure. It also defines rules to validate and manipulate this data.

6. What is a Operating system?

An operating system (OS) is the program that, after being initially loaded into the computer by a boot program, manages all of the other application programs in a computer. The application programs make use of the operating system by making requests for services through a defined application program interface (API).

7. What are the different types of operating systems?

- Simple Batch System.
- Multiprogramming Batch System.
- Multiprocessor System.
- Desktop System.
- Distributed Operating System.
- Clustered System.
- Realtime Operating System.
- Handheld System.

8. What is multitasking?

Multitasking, in an operating system, is allowing a user to perform more than one computer task (such as the operation of an application program) at a time. The operating system is able to keep track of where you are in these tasks and go from one to the other without losing information.

9. What is multithreading?

- It allows different parts of a single program to run concurrently.
- Multithreading is the ability of an

10. What is multiprocessing?

Multiprocessing is the use of two or more central processing units (CPUs) within a single computer system. The term also refers to the ability of a system to support more than one processor or the ability to allocate tasks between them.

## **II-Maths 'B',      PRINCIPLES OF INFORMATION TECHNOLOGY**

### **II-PHY**

11. What is programming language?

A programming language is a vocabulary and set of grammatical rules for instructing a computer or computing device to perform specific tasks. The term programming language usually refers to high-level languages, such as BASIC, C, C++, COBOL, Java, FORTRAN, Ada, and Pascal.

12. What are the five generations of languages?

- First generation languages (1GL)
- Second generation languages (2GL)
- Third generation languages (3GL)
- Fourth generation languages (4GL)
- Fifth generation languages (5GL)

13. What is a machine language?

a computer programming language consisting of binary or hexadecimal instructions which a computer can respond to directly.

14. What is an assembly language?

An assembly language is a low-level programming language designed for a specific type of processor. It may be produced by compiling source code from a high-level programming language (such as C/C++) but can also be written from scratch. ... Since most compilers convert source code.

15. What are high level languages and their types?

16. What is the term groupware?

The term 'groupware' and 'collaborative computing' are often used interchangeably when in fact they are different.



**II-Maths 'B',      PRINCIPLES OF INFORMATION TECHNOLOGY**  
**II-PHY**

17. What is workflow?

A workflow consists of an orchestrated and repeatable pattern of activity, enabled by the systematic organization of resources into processes that transform materials, provide services, or process information.

18. What is a mail enabled application?

It the process through which email is gradually replacing many of the single purpose applications now used on personal computers.

19. What is natural language?

Natural language are still in the development stages, but they promise to have profound effect, particularly in the areas of artificial intelligence and expert systems.

20. What is a Web-Enabled Application?

Web enabling helps the user i may different ways.

Its use starts while the user is installing the application.

**Unit-III**

1. What is a database?

A database consists of data, relationships, Constraints and a Schema. Data are binary computer representations of stored logical entities.

2. What are the characteristics of data in a database?

Shared, Persistence, Validity, Security, Consistency, Non-redundancy, Independence.

3. What is a database management system?

It is a software that provides for accessing a database, while maintaining all the required features of the data.

4. What are the different types of database management system?

There are five database models are Hierarchical, Network, Relational, Object-oriented deductive.

5. What is data processing?

Data processing also known as information processing is defined as the processing of data to make it more usable and meaningful, thus transforming it into information.

6. What is file processing?

File processing consists of creating, storing, and/or retrieving the contents of a file from a recognizable medium. There are two types of file processing are sequential and direct access.

7. What is database processing?

- Data processing is a self describing collection of integrated records.
- It is self-describing because it contains, as part of itself, a directory, of its contents.

8. Define Database.

## **II-Maths 'B',      PRINCIPLES OF INFORMATION TECHNOLOGY**

### **II-PHY**

- A collection of interrelated data designed to be used by different people called database. A database consists of four elements-data, relationships, constraints and schema.

#### 2. Define DBMS.

- A DBMS is a collection of programs that manages the database structure and controls access to the data stored in the database. A database together with a database management system is the backbone of an efficient information system.

#### 3. Write short notes on data.

- Data are raw facts. Information is data that has been meaningful and useful context, and communicated to a recipient who uses it to make decisions.

#### 4. Write any three usages of data.

- i) Data constitutes the building blocks of information.
- ii) Information is produced by processing data
- iii) Information is used to reveal the meaning of the data.

#### 5. Define file based data management.

- The first computer applications focused on clerical tasks: order/entry processing, payroll, work scheduling etc. Such applications accessed data stored in computer files is called the file based data management.

#### 6. Write down the disadvantages of file based data management.

- i) Information compartmentalization, where each department of the organization will have its own data management system that is never available to or synchronized with other departments.
- ii) The file system dependant on the data and hence all data access programs are subject to change when any of the file's data characteristics change.
- iii) In a file system the same information is stored in more than one place.

#### 7. Why a database?

## II-Maths 'B', PRINCIPLES OF INFORMATION TECHNOLOGY

### II-PHY

- A database system provides the organization with centralized control of its data. The situation that prevails in many enterprises is that each application has its own private files in its own tapes and disks, so the data is widely dispersed and difficult to control.

8. Write down the advantages of database.

i) Redundancy can be reduced. ii) Inconsistency can be avoided. iii) Data can be shared iv) Standards can be enforced v) Security restrictions can be applied vi) Integrity can be maintained vii) Conflicting requirements can be balanced.

9. Write short notes on data dictionary and metadata.

- Data dictionary is a file that defines the basic organization of a database. A data dictionary contains a list of all files in the database, the number of records in each file, and the names and types of each field.
- In database management systems, data files are the files that store the database information, whereas other files, such as index files and data dictionaries, store administrative information known as metadata.

10. Define schema.

- The schema defines various views of the database for the use of the components of the database management system and for the applications security. A schema separates the physical aspects of data storage from the logical aspects of data representation.

11. Write down any three characteristics of data in a database.

i) **Shared-** Data in a database are shared among different users and applications.

ii) **Persistence-** Data in a database exists permanently in the sense that the data can live beyond the scope of the process that created it.

iii) **Security-** Data should be protected from unauthorized access.

12. List out the functions of DBMS.

## II-Maths 'B', PRINCIPLES OF INFORMATION TECHNOLOGY

### II-PHY

i) Transaction management ii) Concurrency control iii) Recovery management iv) Security management v) Language interface vi) Storage management vii) Data catalog management.

13. Expand i) ANSI ii) SPARC.

i) **ANSI** – American National Standards Institute

ii) **SPARC**- Standards Planning and Requirements Committee

14. Define external schema.

- The external schema is the view that the individual user of the database has. This view is often a restricted view of the database and the same database may provide a number of different views for different classes of users.

15. What is conceptual schema?

- The conceptual schema is the information model of the enterprise and contains the view of the whole enterprise without any concern for the physical implementation.

16. Define DDL and DML.

- **Data Definition Language**- The DDL is a machine and DBMS independent language used to create the conceptual and external schemas.
- **Data Manipulation Language**- The DML is used to query the database.

17. What is database design?

- Database design provides a means to represent the real-world entities in a form that can be processed by the computer. Database models present a process of abstracting real-world entities into computer representations.

**II-Maths 'B',      PRINCIPLES OF INFORMATION TECHNOLOGY**  
**II-PHY**

**Unit –IV**

1. Define Telecommunication.

- Telecommunication refers to all types of data transmission, from voice to video. Telecommunications is the sending of information in any form from one place to another using electronic or light emitting media.

2. What is modulation?

- For transmission purposes, a high frequency carrier wave is used to carry the audio signals. The process of changing some characteristics of a carrier wave in accordance with the intensity of the signal is known as modulation. Modulation means to change.

3. List out the modulation types.

i)Amplitude Modulation

ii)Frequency Modulation

iii) Phase Modulation

4. Define amplitude Modulation.

- The amplitude of the high frequency carrier wave is changed in accordance with the intensity of the signal it is called amplitude modulation.In amplitude modulation,only the amplitude of the carrier wave is changed.

5. Define frequency modulation.

- The frequency of the carrier wave is changed in accordance with the intensity of the signal it is called frequency modulation.In frequency modulation, only the frequency of the carrier wave is changed.

6.What is phase modulation?

- Phase modulation is a change in the carrier phase angle.The phase angle cannot change without affecting a change in frequency.Therefore phase modulation is in reality a second form of frequency modulation.

## II-Maths 'B',      PRINCIPLES OF INFORMATION TECHNOLOGY

### II-PHY

7. What is PAM?

- A multiplexer is a communication device that multiplexes several signals for transmission over a single medium. The output from a multiplexer is pulse amplitude modulation (PAM).

8. Expand the terms i) ASK ii) FSK iii) PSK

- ASK- Amplitude Shift Keying
- FSK- Frequency Shift Keying
- PSK- Phase Shift Keying

9. Define MODEM.

- The word modem stands for Modulator/DEModulator. A modem is a device, which translates data from binary code to analog data that can be transmitted over the telephone network.

10. Define communication network.

- A communication network is any arrangement where a sender transmits a message to a receiver over a channel consisting of some type of medium. The network consists of five basic components: terminals, telecommunication processors, telecommunication channels and media, computers and telecommunication software.

11. What is message switcher?

- A message switcher is a processor that receives data messages from terminals, determines their destination and routes them one at a time to the CPU. It distributes the messages coming from the CPU to the appropriate terminal.

12. What is communication media?

- Channels also called communications lines or links are the means by which data is transmitted between the sending and receiving devices in a network. A channel makes use of a media.

13. List out the types of networks.

## II-Maths 'B',      PRINCIPLES OF INFORMATION TECHNOLOGY

### II-PHY

- There are many types of networks. However from an end users point of view there are two basic types:  
=>Local-area networks (LANs)- The computers are geographically close together

=>Wide area networks (WANs)- The computers are farther apart and are connected by telephone lines or radio waves.

14. Define network topology.

- A topology refers to the manner in which the cable is run to individual workstations on the network. The dictionary defines topology as the configurations formed by the connections between devices on a local area network or between two or more LANs.

15. What is network protocol?

- A network protocol is a set of rules followed by the network. Network protocols are formal standards and policies made up of rules, procedures and formats that define communication between two or more devices over a network.

16. Define RADAR.

- The name 'radar' is the acronym of Radio Detecting and Ranging. It denotes the method of scanning the surrounding space by means of high frequency radio waves, which are sent out from a powerful transmitter and are reflected by any objects, which they encounter.

17. Expand the terms i)ISDN ii)ADSL

=>ISDN- Integrated services digital network

=>ADSL- Asymmetric digital subscriber line



**Unit-V**

1. What are the requirements of web design?

- Web page design requires conceptualizing, planning, modeling, and executing electronic media content and its delivery via the Internet using technologies suitable for rendering and presentation by web browsers or other web-based graphical user interface.

2. What is the intent of the web design?

- The intent of web design is to create a website that presents content to the end user in the form of web pages upon request.

3. List out the classification of web pages.

=>Static: Static pages do not change content and layout with every request.

=>Dynamic: Dynamic pages adapt their content and/ or appearance depending on the end users input or interaction in the computing environment.

4. Define website.

- A website is a collection of information about a particular topic or subject. Designing a website is defined as the arrangement and creation of web pages that in turn make up a website.

5. Define multimedia.

- A multimedia system is a system capable of processing multimedia data and applications. A multimedia system is characterized by the processing, storage, generation, manipulation and rendition of multimedia information.

6. What is multimedia?

- Multimedia is typically used to mean the combination of text, sound, and/or motion video. Multimedia has entered the mainstream because of its capability to attract people and to hold their attention.

7. List out the characteristics of multimedia system.

## II-Maths 'B',      PRINCIPLES OF INFORMATION TECHNOLOGY

### II-PHY

A multimedia system has four basic characteristics:

=>Multimedia systems must be computer controlled.

=>Multimedia systems are integrated.

=>The information they handle must be represented digitally.

=>The interface to the final presentation of media is usually interactive.

8. Write down the multimedia elements.

Text, Graphics, Images, Animation, Audio, Video

9. What is virtual reality?

- Virtual reality is an artificial environment that is created with software and presented to the user in such a way that the user suspends belief and accepts it as a real environment.

10. Describe any four software for creating virtual reality.

- Bryce, Extreme 3D, Ray Dream, Studio,trueSpace,3D Studio MAX and virtual reality.

11. Define VRML.

- The Virtual Reality modeling Language(VRML) allows the creator to specify images and the rules for their display and interaction using textual language statements.

12. Define data warehouse.

- Data warehouse is a collection of data designed to support management decision-making.Data warehouses contain a wide variety of data that present a coherent picture of business conditions at a single point in time.

13. What is the primary goal of data warehouse?

=>Provide access to the data of an organization

=>Data consistency

## **II-Maths 'B',      PRINCIPLES OF INFORMATION TECHNOLOGY**

### **II-PHY**

=>Capacity to separate and combine data

=>Inclusion of tools set to query, analyze and present information

=>Publish used data

=>Drive business re-engineering

14. List out the components of datawarehouse.

=>Summarized data

=>Operational systems of record

=>Integration/Transformation programs

=>Current detail

=>Data warehouse architecture or Meta data

15. What are the advantages of data warehouse?

=>More cost-effective decision making

=>Better enterprise intelligence

=>Enhanced customer service

=>Business re-engineering

=>Information system re-engineering

16. Define data mart.

- A data mart stores only that information which is needed to address a particular subject area and this can be translated as supporting the needs of a specific group of users.

17. Define data mining.

- Data mining, the extraction of hidden predictive information from large databases, is a powerful new technology with great potential to help

## **II-Maths 'B',      PRINCIPLES OF INFORMATION TECHNOLOGY**

### **II-PHY**

companies focus on the most important information in their data warehouses.

18. Define GIS.

- A Geographic Information System is a computer based tool for mapping and analyzing things that exist and events that happen on earth.

19. What is GPS?

- The Global Positioning System is a U.S owned utility that provides users with positioning, navigation and timing services. GPS provides accurate location and time information for an unlimited number of people in all weather, day and night, anywhere in the world.

20. Define office automation.

Office automation is defined as using computer and communications technology to help people better use and manage information. Office automation technology includes all types of computers, telephones, electronic mail and office machines that use microprocessors.

21. List out the primary technologies used in office automation.

- The five primary technologies used in managing in office automation are text, data, graphics, audio and video.

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DEPARTMENT OF COMPUTER SCIENCE AND APPLICATIONS

PRINCIPLES OF INFORMATION TECHNOLOGY

SUB.CODE:

CLASS:II-PHY

UNIT-I

5 MARK:

- 1) Briefly explain about the classification of digital computer systems.
- 2) List out the characteristic of a CISC design.
- 3) Explain about the characteristics of a RISC design.
- 4) Briefly explain the advantages of RISC.

10 MARK:

- 5) Explain about the computer architecture with neat diagram.
- 6) Discuss about the advantages and disadvantages of CISC.
- 7) Elaborate in detail about the memory units.
- 8) Explain about the secondary storage devices.
- 9) Explain in detail about the input devices.
- 10) Explain in detail about the output devices.

UNIT-II

5 MARK:

- 1) Briefly explain the functions of an operating system.
- 2) List out the classification of operating system.
- 3) List out and explain the general software features and trends.

10 MARK:

- 4) Explain about the computer software and its types.
- 5) Explain the five levels of language.

6) Elaborate in detail about the types of high level languages.

### UNIT-III

5 MARK:

- 1) What is file processing? And explain the problems in file processing.
- 2) Explain the quality of information.
- 3) What is the advantage of having data in a database?
- 4) List out the characteristics of data in a database.
- 5) Briefly explain the services provided by DBMS.
- 6) List out the three levels of database services and explain it.
- 7) Explain the benefits of database design.
- 8) Discuss the relationships in database.

10 MARK:

- 9) Explain in detail about the types of database management systems.
- 10) Elaborate the three levels of normalization.

### UNIT-IV

5 MARK:

- 1) Briefly explain the Analog and Digital signals.
- 2) Explain about Digital modulation.
- 3) Explain about MODEM.
- 4) Briefly explain communication media.
- 5) Discuss about the telecommunication software.
- 6) Briefly explain about the network architecture.
- 7) List out and explain the components of a picture tube.
- 8) List out and explain the components of a satellite.
- 9) Explain about RADAR.

10) What is fiber optics? And discuss the advantages and disadvantages of it.

11) List out and explain the characteristics and advantages of intranets.

10 MARK:

12) Explain in detail about the types of modulation.

13) Explain the types of networks.

14) Elaborate in detail about the network topologies.

15) Explain in detail about ISDN.

16) Discuss the advantages and disadvantages of distributed systems.

17) Explain in detail about the internet protocols.

18) Elaborate in detail about the internet addressing.

#### UNIT-V

5 MARK:

1) Briefly explain about MIDI.

2) How to build and maintain the virtual shop?

3) List out and explain the advantages of data warehouse.

4) Explain the structure of a data warehouse.

5) List out and explain the uses of a data warehouse.

6) Explain the technologies used in data mining.

7) List out the advantages of data mining.

8) Explain the components of a GIS.

9) Briefly explain GIS and related technologies.

10) Explain about office automation systems.

11) List out and explain business applications at home.

12) Explain about virtual schools.

10 MARK:

13) Elaborate in detail about graphic effects and techniques in multimedia.

14) Discuss the present uses of virtual reality.

15) Explain about the data warehouse components.

16) Discuss computers in education and training.