UNIT 17
INFORMATION AND COMMUNICATION TECHNOLOGY

Are Computers the Last Tool Humans will be Able to Make?

Computers are the most versatile machines ever invented.
Computers are used in many different ways:
- to do mathematical calculations
- to do word processing
- to do data processing
- to do business calculations
- to do scientific calculations
- to do computer aided design (CAD)
- to do computer aided manufacture (CAM)
- to do computer aided learning (CAL)
- to do computer aided testing (CAT)
- to do computer aided instruction (CAI)
- to do computer aided training (CAT)
- to do computer aided translation (CAT)
- to do computer aided composition (CAC)
- to do computer aided publishing (CAP)
- to do computer aided composition and publishing (CACP)
- to do computer aided composition and publishing (CACP)

1. What do you understand by information and communication technology?

Answer:
Information and communication technology (ICT) is an extensive term for information technology (IT) and communication technology. It stands for all technology used to handle telecommunications, broadcast media, intelligent building management systems, audio and video processing, all types of computers and software, and the various services and functions associated with them, such as videoconferencing and distance learning.

2. Computer is an electronic machine. Explain the statement.

Answer:
A computer is an electronic machine capable of accepting data, performing operations on it, and producing the results of those operations. It is a machine that can be programmed to do a variety of tasks. It can be programmed to do a variety of tasks. It can be programmed to do a variety of tasks. It

MULTIPLE CHOICE QUESTIONS

Choose the correct answer from the following choices:

i) In computer terminology information means:
a) any data
b) raw data
c) processed data
d) large data

ii) Which is the most suitable means of reliable continuous communication between an orbiting satellite and Earth?
a) microwaves
b) radio waves
c) sound waves
d) any light wave

iii) The basic operations performed by a computer are:
a) arithmetic operations
b) non-arithmetic operations
c) logical operations
d) both (a) and (c)

iv) The brain of any computer system is:
a) monitor
b) memory
c) CPU
d) control unit

v) Which of the following is not processing?
a) arranging
b) manipulating
c) calculating
d) gathering

vi) From which of the following you can get information almost about everything?
a) book
b) teacher
c) computer
d) internet

vii) What does the term e-mail stand for?
a) emergency mail
b) electronic mail
c) extra mail
d) external mail

Answers

i) c) processed data

ii) b) radio waves

iii) c) logical operations

iv) c) CPU

v) b) manipulating

vi) d) Internet

vii) b) electronic mail

CONCEPTUAL QUESTIONS

17.1 Why optical fibre is more useful tool for the communication process?

Answer

In optical fibre, the signals are transmitted in the form of light pulses with a speed of light. So very fast communication is possible through optical fibre which is not possible in copper wires.

17.2 Which is more reliable floppy disk or a hard disk?

Answer

Hard disk is more reliable than floppy. (For detail, please see the topic).

17.3 What is the difference between RAM and ROM memories?

Answer

RAM (Random access memory) is an integrated circuit which vanishes when computer is switched off.

ROM (Read only memory) is also an integrated circuit which does not vanish when computer is switched off.

OBJECTIVE TYPE QUESTIONS & ANSWERS

Q2. Give Short Answers.

1 Define information technology.

Answer

The scientific method of dealing, arranging information's for proper use and to communicate them to others is called the information technology (IT).

2. What is telecommunication?

Answer

The method that is used to communicate information to far off places instantly is called Telecommunication.

3. Name some important means of telecommunication.

Answer

Some important means of telecommunication are:

- Telegraph + Telephone+ Mobile phone + Telex, machine
- Fax machine + Television

4. Who transmitted the first signal through air?

Answer

Marconi is the distinction that he transmitted the first radio signal in the air.

5 What is the telegraph?

Answer

Telegraph was the sole form of telecommunication through which a transmitter completed messages of information into electric pulses.

6. What is the working principle of a telephone?

Answer

The working principle of a telephone is similar to telegraph. Direct conversation can be processed by the telephone.

7. What the main function of a microphone?

Answer

The microphone is fitted in telephone handset. It changes vibrations produced by conversation into electric signal, which are transmitted along a wire to the receiver.

8. What is mobile phone?

Answer

Mobile technology is used in a mobile phone. It is type of radio, which has two ways communication.

9. What is the nature of radio waves?

Answer

Radio waves are electromagnetic in nature.

10. How sound waves are sent to a far away distance?

Answer

The speed of sound in air is 340 meters per hour which cannot go far away from its source. Therefore, it is converted into electromagnetic waves so that they can be sent over to far off places with the speed of light.

11. What is main difference between telephone and cellular phone?

Answer

In case of a telephone, sound is converted to electric signals that travel via wires to the other telephone where an electromagnet and a diaphragm convert these signals to sound. On the other hand, a cellular phone has a radio transmitter and receiver. When someone calls, the cellular phone sends out a radio signal, which the network receives by its cells in turn. These radio signals are then converted to sound by the receiver in the receiving phone. Thus, a telephone communicates through electric signals and a cellular phone communicates through radio waves.

12. What is a videophone?

Answer

Videophone is the latest form of the telephone. It also collect photo phone. It is a telephone with a video screen, which allows the caller to see the face of the height of electronic telecommunication that the distant speakers feel acquainted with the physical existence of each other.

13 Write some characteristics of radio waves.

Answer

- Radio waves are electromagnetic waves.
- They travel with the speed of

14. What is telex machine?

Answer

Tele printer and exchange machine send the documents through telephone cables by electrical signals to the other telex machine where original print is received.

15. What is a fax machine?

Answer

Accurate copy of unalterable importance are sent from one place to the other through the fax machine using telephone line.

16. How fax machine works?

Answer

The fax machine first gets the reflection of the documents like photostat machine, which changes it into electronic signal and then transmit it via telephone line. The message when reaches the receiving fax machine, it reproduces the signal in an image print on a paper again.

17. What is the function of tuning circuit in a radio?

Answer

Tuning circuit fitted in the radio selects the station verses of the choice and strengthens them.

18. What is television?

Answer

Pictures and sound reach us via radio waves or cable or a television.

19. Why cable TV preferred?

Answer

The TV signals received with the help of cables are slight. They are received by using optical fibers. Thus it very they give better results.

20. What is a computer?

Answer

Computer is an electronic machine, which after analysing and arranging the given information, present it in a way and interest of time.

21. Name three important parts of a computer. Answer

- Input devices
- Central processing unit
- Output devices

22. How colour pictures are obtained in colour TV set? Answer.

There are three tubes in electron gun in the colour television set. One of them makes red, second makes green and the third makes the blue picture. These are three primary colours of light. All other colours are obtained by mixing these. Colours and the complete picture is formed on the screen.

23. Differentiate between input and output devices. Answer

- The devices used to feed information and algorithms into computer are called input devices.
- Devices, which enable a computer to transfer information to humans or other machines, are called output devices.

24 Name some input devices. Answer

Some input devices are keyboard, mouse, joystick, scanner, keyboard and digital camera.

25 Name some output devices. Answer

Some output devices are monitor and printer.

26. What is super computer?

Answer

The most powerful and swift computer, which can send information in one thousand billionth of a second, is called super computer. It contains many processors.

27 Give some main features of computer. Answer

Some main features of computer are:

- Fast working
- Accurate solution of the given information
- Large memory
- Capability of derived results.

28. What is the main function of CPU in the computer?

Answer

It is a type of a brain of the computer, which performs the whole job. This part comprises of a control unit and a memory unit.

29 What is Internet?

Answer

The system through which we can know the global conditions within no time is called Internet.

30. Name such inventions, which have evolved the concept of portable work place for business.

Answer

Computer, Fax machine, mobile phone network and E-mail are such inventions, which have evolved the concept of portable work place for business.

31. What is the role of protocol in Internet?

Answer

Internet is actually a process using which people can contact each other through computer. The contact is made via telephone line or cable. All computers linked with Internet use uniform communication' process and same code. In the Internet terminology, it is called protocol whose name is TCP / IP (transmission control protocol / internet protocol).

32 Which type of language is used in Internet?

Answer

The language is used in the Internet web is International web by all the computer linked with it and this language is called HTML (Hypertext Markup Language).

33. In Internet terminology, what is meant by protocol?

Answer

Computers linked with Internet use uniform communication process and same code. In the Internet terminology, it is called protocol.

34. Write some applications of Internet?

Answer

- Internet is an important and fastest medium of information.
- Students and teachers having contact with the Internet can get information.
- Businessmen can advertise their products via it.
- Doctors can exchange latest information about medical problems.
- Important messages are sent through it also.

35 What is the main function of the remote control system?

Answer

It is an instrument through which the television and some other electronic machines can be controlled from a large distance without any cable connection.

36. Name some information storage devices.

Answer

The following are some of the information storage devices:

1. Audio-Video tapes
2. Compact disc (CDs)

3. Laser disc
4. Floppy disc
5. Hard disc

37. On what principle the storage devices work?

Answer

The storage devices can store a huge amount of information in a very small space. Usually the storage devices work on the principle of magnetism whereas laser technology is used in CD's.

38. How sound is stored in magnetic tapes?

Answer

Microphone changes sound waves into electric pulses, which are made to an electric field. This field is made to move in a magnet. The sound is moved through the head of an electromagnetic pulse towards the sound.

39 How sound is reproduced in magnetic tapes?

Answer

To produce the sound aim the tape is moved in front of the pole producer alternating current signal in the coil wrapped on the head. These signals are then amplified and sent to the loudspeakers, which reproduce the recorded sound.

40 Can the sound recorded on the tape be wiped off?

Answer

Yes, the sound recorded on the tape can be erased out by demagnetization and the same tape can be used over and over again.

41. Differentiate between audio and videotape.

Answer

- In audiotape are the sound can be recorded.
- In videotape the pictures are recorded along with the sound.

42. What is CD?

Answer

Compact disc commonly known as CD is an information storage device. It is digital disc. Instead of wave grooves, a pit pattern is formed on it. This pattern comprises of billions of bit of varying lengths and spaces.

43 What is nearby 'upto CD'

Answer

The disc uses between two pits is called a flat. A laser beam can see this pattern.

44. Give some advantages of CD. Answer

- Computer data is also stored in the CD's.
- Its storage capacity is many times greater than the floppy disc.
- CD is prevent to stay so that environmental pollution may not affect it.

- Movies can also be stored in CD's.

45. What's floppy disc?

Answer

The floppy disc is very one disc. It is an extremely popular storage medium, particularly when used in conjunction with microcomputer system such as personal computer.

46. How we can protect a floppy disc from damage?

Answer

It is essential to save floppy disc from heat, magnet and water whenever the stored data can't put up damaged.

47. Write some important functions of hard disc.

Answer

- Hard disc is installed inside the system unit.
- It is made of Aluminum.
- It is not flexible.
- It has higher speed and large capacity.
- It is also called the storage disc.

48. Differentiate between floppy disc and hard disc.

Answer

Difference between hard disc and floppy disc

Hard Disc	Floppy Disc
1. The most important difference is that the storage medium in the aluminum plates coated with a ferromagnetic material.	1. Just as a floppy disc, it is a flexible disc coated with a ferromagnetic compound that stores data.
2. It has several aluminum plates.	2 This only one plastic surface for storage.
3. Two aluminum plates are not flexible.	3. The storage medium is flexible.
4. It is built in the system unit.	4. It can slide easily to 1 slot.
5. It is installed inside the system unit.	5. It is removable storage device.

49. Differentiate between hard disc and floppy disc on the basis of CD. Answer

- Free CD is known as hard, there is a collection disc.
- If the CD is made of soft elastic material then it is called floppy disc.

50. Why compact disc and hard disc are housed in jacket? Answer

The compact disc and hard disc are housed in a jacket to save them from external pollution.

Objective Type Questions

Q1. Each question is followed by four options encircle the correct option.

1) Who transmitted the first radio signal in the air?
a. Addision b. Graham Bell
c. Marconi d. Lavoisier

2) Which of the following is the earlier device for telecommunication?
a. Telegraph b. Internet
c. Telephone d. Fax machine

3) Which of the following converts electric signals to sound?
a. Microphone b. Electromagnet + diaphragm
c. Telegraph d. Fax Machine

4) What is the speed of sound in air?
a. 5000 m/sec b. 3000 km/hr
c. 1246 km/hr d. None of these

5) What happens when electromagnetic waves carrying radio transmission strike the aerial of a radio?
a. Sound waves are produced
b. A weak alternating current with a different frequency is generated
c. A weak alternating current with the same frequency as that of the waves is generated
d. None of these

6) Which of the following circuits sets the frequency of our choice in a radio?
a. Tuning circuit b. Amplifying circuit
c. Integrated circuit. d. None of these

7) Which of the following are the primary colours of light?
a. Red b. Yellow
c. Green d. Blue
e. All except 'b'

8) A computer works on a set of instructions called a:
a. Memory b. Programme
c. Central Processing Unit d. None of these

9) Which of the following (are) input devices?
a. Mouse b. Printer
c. Joy stick d. Monitor

10) The number of people using the facility of Internet worldwide is approximately:
a. One million b. 10 million
c. 50 million d. 200 million

11) The language of the Internet is:
a. HTML b. C++
c. FORTRAN d. None of these

12) Which oxide is coated on ferric tapes?
a. Iron oxide b. Chromium oxide
c. Nickel oxide d. Aluminium oxide

13) Floppy disks, hard disks, compact disks and RAM are all devices.
a. Input b. Output
c. Processing d. Storage devices

14) A compact disk is formed of:
a. Wavy grooves b. Pits
c. Flats d. Both '13' and 'c'

15) How much is the capacity of compact disk?
a. 1.4 MB b. 128 MB
c. 650 MB d. 20 GB

16) Which of the following is different from others?
a. Floppy disc b. Compact disc
c. Audio cassette d. Video cassette

17) Identify the one that is different from others.
a. Monitor b. Keyboard
c. Printer d. Speaker

18) Which of the following has the highest capacity to store data?
a. Compact disk b. Floppy disc
c. Hard disc d. Videotape

19) The process of drawing pictures on the computer screen using mouse or keyboard is called:
a. Graphic designing b. Word processing
c. Data managing d. None of these

20) Which type of technology is used in mobile phone?

a. Laser b. Radio
c. Modem d. None

21) The working principle of a telephone is similar to:
a. Radio b. Internet
c. Telex machine e. Telegraph

22) Important documents can be sent from one place to the other through using telephone line?
a. Telex b. Fax machine
c. Telegraph d. None

23) Radio is source of telecommunication in which message is transmitted by:
a. Mechanical waves b. Electromagnetic
c. Electrical pulses d. waves
e. None

24) Which one is mean of telecommunication?
a. Telegraph b. Television
c. Telephone d. All of these

25) Which one is the earliest form of telecommunication?
a. Telegraph b. Television
c. Telephone d. None of these

26) Which one is the part of a computer?
a. Input devices b. Output devices
c. CPU d. All of these

27) The different functions of the are controlled by a special instrument called
a. Printer b. Monitor
c. Keyboard d. None of these

28) What are the methods to feed information into the computer?
a. Floppy disks b. CD
c. Both a & b d. None

29) Which one is brain of computer?
a. Keyboard b. Monitor
c. CPU d. None

30) Which one is not an input device?
a. Mouse b. Joystick

c. Scanner d. Monitor

31) Which one is not a storage device?
a. Monitor b. CD's
c. Hard disk d. Floppy discs

32) If the CD is made of soft elastic material then it is called?
a. Monitor b. CD's
c. Hard disk d. Floppy discs

33) In the internet terminology, it is called protocol whose name is:
a. PTCL b. TCP
c. IT d. TCP/IP

34) Information technology is changing:
a. Slowly b. Silently
c. Speedily d. Sharply

35) What is fitted in the telephone hand set?
a. Magnet b. Micrometer
c. Microphone d. Transmitter

36) Latest form of the telephone is:
a. Video phone b. Mobile phone
c. Microphone d. None

37) EM waves are sent to a TV set via special wire called:
a. Television cable b. Cable
c. Picture cable d. None

38) All the work is done by the computer in the light of those instructions which are called a:
a. Monitor b. Programme
c. CPU d. Mouse

39) What is the system in which we can know the global conditions within no time?
a. Internet b. Floppy
c. Television d. Mobile phone

40) Which one is primary colour in the formation of TV picture?
a. Red b. Green
c. Blue d. All of these

41) Radio waves are
a. X rays b. Electromagnetic
c. Transverse d. None

42) A computer has made our work:
a. Very fast b. Very accurate
c. Large memory d. All of these

43) All computers linked with Internet use uniform communication process and some code- which in the internet terminology is called.
a. Protocol b. E-mail
c. Programme d. SMS

44) Which type of radiations is used to operate the remote control system?
a. Ultrasonic b. Infrared
c. Alpha d. Gamma

45) The storage capacity of floppy disc is about:
a. 1.44 MB b. 1.44 KB
c. 1.44 MB d. 0.14 MB

46) Floppy disc is made of flexible plastic, which is coated with ..... compound.
a. Diamagnetic b. Paramagnetic
c. Ferromagnetic d. Read and inverted

47) If the CD is made of metal, then it is called:
a. Hard disc b. Laser disc
c. Floppy disc d. None of these

48) The shiny area between two pits is called a:
a. Pattern b. Laser
c. Flat d. Hole

49) Which is an important and fastest medium of information.
a. Mobile b. Radio
c. Internet d. All of these

50) The devices used to feed information and algorithms into computer are called:
a. Input devices b. Output devices
c. Protocol d. Hardware

51) Which circuit fitted in the radio selects the station waves of the choice and strengthens them?
a. Internal b. External
c. Tuning d. None

52) It is type of radio, which has _____ ways communication.
a. Two b. Two or more
c. Three d. None

53) Hard disc is made of:
a. Carbon b. Silver
c. Semiconductor d. Aluminium

54) By the help of machine, we draw money at any time we want.
a. Fax b. ATM
c. Telex d. None

55) CD is _____ disc:
a. Laser b. Analogue
c. Digital d. None

56) The signal received by the decoder from a flat on a CD is:
a. 1 b. 0
c. 2 d. 8

57) The means of transmission of information to far off places is called:
a. Telecommunication b. Radio
c. IT d. None

58) The device with the help of which we can control an appliance from a distance without any wire is called a:
a. Radio b. Internet
c. Remote control d. Telegraph

59) In telegraph, the messages or informations are converted into by a transmitter.
a. Electrical pulses b. Digital signal
c. Analogue signal d. All of these

60) Which includes all the operations that can be carried out on a document.
a. Remote control b. Fax
c. Video Phone d. Word processing

ANSWERS

No.	Ans.	No.	Ans.	No.	Ans.	No.	Ans.
1	C	**2**	a	**3**	b	**4**	c
5	c	**6**	a	**7**	a	**8**	b
9	a, c	**10**	d	**11**	a	**12**	a
13	d	**14**	d	**15**	c	**16**	b
17	b	**18**	c	**19**	a	**20**	b
21	d	**22**	b	**23**	b	**24**	d
25	a	**26**	d	**27**	c	**28**	c
29	c	**30**	c	**31**	c	**32**	c
33	d	**34**	c	**35**	c	**36**	c
37	a	**38**	b	**39**	c	**40**	c
41	b	**42**	d	**43**	a	**44**	b
45	d	**46**	c	**47**	d	**48**	c
49	d	**50**	a	**51**	c	**52**	a
53	d	**54**	b	**55**	c	**56**	a
57	a	**58**	c	**59**	a	**60**	d