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HATS OFF ! YOU HAVE DONE IT !!

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* GOLD MEDALIST

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RADIO WAVES

Radio waves belong to the family of electromagnetic waves, which owe their existence to moving electrons. The existence of radiowaves was first predicted by James Clerk Maxwell in 1860., but it was not until 1887 that Heinrich Hertz succeeded in producing them experimentally". Wireless telegraphy was first demonstrated by Sir Oliver Lodge in 1894 and it was Guglielmo Marconi, the Italian scientist, who could first successfully transmitted long distance transmission in 1900 with the help of radiowaves.

It is through radio waves that sound from the broadcasting stations will reach the radios. This use is also made to transmit the variety of programmes. Radio waves work as a carrier for communication signals. The message is modulated with radio waves and transmitted with the help of a transmitter. The modulated signal is received by the radio receiver and then decoded. Radio waves are also used to keep in contact with the flying planes. With the help these waves they are properly guided and controlled during flights thus avoiding accidents.

Radio waves are in fact invisible electromagnetic waves traveling with the speed of light, i.e. at 300,000km per second. Satellite and spacecraft's keep in the contact with the earth stations with the help of these waves. Live communication with the satellites and astronauts has become possible only due to radio waves. These waves can travel both through the air and the vacuum. They can even travel in water and underground to a distance of a few metres. Communication is established between the ships with the help of these waves. Every ship is equipped with the Radio transmitters and receivers.

To study the radio waves originating from the heavenly bodies, scientists make use of radio telescopes with the help of these telescopes; it has now become possible to identify the planets and stars, which generate the radio waves.

Police also uses radio waves. They have the equipment's by which they can send and receive messages from moving vehicles. Fire brigades are also used of radio waves while providing help in accidents. These waves are also used to control traffic. Today we have the instruments, which can measure the speed of a moving vehicle from the control room itself.

In a nutshell, we can say that the world has shrunk due to these radio waves.

S Anusha,
II B.Sc. (CS) 'A'.

ADDRESS RESOLUTION PROTOCOL (ARP)

The address resolution protocol used by the Internet Protocol (IP), specifically Ipv4, to map IP network addresses to the hardware addresses used by the data link protocol. The Protocol operates below the network layer as a part of the interface between the OSI network and OSI link layer. It is used when Ipv4 is used over Ethernet.

The term address resolution refers to the process of finding an address of a computer in a network. The address is “resolved” using a protocol in which a piece of information is sent by a client process executing on the local computer to a server process executing on a remote computer. The information received by the server allows the server to uniquely identify the network system for which the address was required and therefore to provide the required address. The address resolution procedure is completed when the client receives a response from the server containing the required address.

An Ethernet network uses two hardware addresses, which identify the source and destination of each frame sent by the Ethernet. The destination address (all 1’s) may also identify a broadcast packet (to be sending to all connected computers). The hardware address is known as the Medium Access Control (MAC) address, in reference to the standards, which define Ethernet. Each computer network interface card is allocated to globally uniquely 6-byte link address when the factory manufactures the card (stored in PROM). This is the normal link source address in the destination field or one (or more) pre-selected broadcast/multicast address.

The Ethernet address is a link layer address and is dependent on the interface card, which is used. IP operates at the network layer and is concerned with the link address of individual nodes, which are to be used. The address resolution protocol (ARP) is therefore used to translate between the two types of address. The ARP client and server processes operate on all computers using IP over Ethernet. The processes are normally implemented as part of the software driver that drives the network interface card.

There are four types of ARP messages that may be sent by the ARP protocol. These are identified by four values in the “operation” field of an ARP message. The types of messages are:

1. ARP request
2. ARP replies.
3. RARP request. (Reverse ARP)
4. RARP reply.

R B Arun Kumar,
II B Sc (CS) - ‘B’.

BABY GATES

For the first time in, a decade, something from Microsoft shipped on time: Jennifer Katharine Gates, weighed 8 pounds 6 ounces when she was downloaded, born on Friday, April 26 at 6: 11pm.

And what do Baby Gates and Daddy's products have in common?

1. Neither can stand on its own two feet without a LOT of third party support.
2. Both barf all over themselves regularly.
3. Regardless of the problem, calling Microsoft Tech Support won't help.
4. As they mature, we pray that they will be better than that which preceded them.
5. At first release they're relatively compact, but they seem to grow and grow and grow with each passing year.
6. Although announced with great fanfare, pretty much anyone could have produced one.
7. They arrive in shaky condition with inadequate documentation.
8. No matter what, it takes several months between the announcement and the actual Release.
9. Bill gets the credit but someone else did most of the work.

M Rajesh Kumar,
II – B C A.

CAN YOU HELP ME?

A man is flying in a hot air balloon and realizes he is lost. He reduces height and spots a man down below. He lowers the balloon further and shouts:

'Excuse me, can you tell me where I am?'

The man below says: 'yes'. You're in a hot air balloon, hovering 30 feet above this field. '

'You must work in Information Technology' says the balloonist.

'I do' replies the man. 'How did you know?'

'Well' says the balloonist, 'Everything you have told me is technically correct, but it's no use to anyone. '

The man below says, 'you must work in business. '

'I do' replies the balloonist, 'but how did you know?'

'Well, ' says the man, 'You don't know where you are, or where you're going, but you expect me to be able to help. You're in the same position you were before we met, but now it's my fault. '

M Rajesh Kumar,
II – B C A.

E-COMMERCE

21st century is referred as the information age. The information age is characterized by the extensive use of global communication networks, which is called, as INTERNET. Information age is the knowledge based industrial revolution. The globalization of business and accessing the global information has given a new dimension to the concept of information. The Internet has changed the way in which the world conducts the business. The free flow of information without any geographic and national Internet enables barriers.

E-Commerce means selling and buying products and services through web storefronts. E-Commerce is the powerful business environment that gets created when you connect directly to Customers, vendors and business partners by using Internet. Today that means conducting business over the Internet. E-commerce provides open and global electronic market place. It is the paperless exchange of business information. In E-Commerce business information is exchanged by using EDI, E-mail, Electronic bulletin boards and electronic funds transfer. E-commerce is a modern business Methodology. It addresses the needs of organizations, merchants and consumers to cut cost and to improve the quality of goods and remote education. Generally digital products are traded such as news, audio and knowledge-based products etc. In this way E-commerce helps the organization to move towards a fully electronic environment.

E Kishore,
I – B C A.

C2C-PLUS C-COMPILER

The C2C-plus compiler produces assembly code for Microchip or Scenix micro controller from a number of given C files. This code is written into an assembly file. The compiler also has a built-in assembler for Scenix and SX-Bllts hardware support.

Features supported by C2C-compiler

- An assembly include file can be specified.
- The start address used by the compiler memory can be specified.
- A default interrupt handler can be generated.
- Local C variables can share the same address space.
- C source code can be inserted into the generated assembly file.
- The compiler can produce and consume libraries.
- The compiler can skip the code for the non-called functions.
- The code for the *, / and % operations can be generated inline or as separate functions.
- Consists of number of built-in functions and variables.
- Built-in RS232, BCD conversion, memory banks.

C2C – compiler supports C language subsets

- If, else, for, return, break, continue, extern, switch, case, default, goto, labels.
- Char, short, int., long, voids.
- #Include, #define, #undef, #ifdef, #ifndef, #else, #endif.
- One-dimensional array, constant character parameter.
- Function with no/one/many parameters.

P Shyamala,
III – B Sc (CS) .

COMPUTER VIRUSES

A Virus is basically an information disorder.

Virus

VIRUS (Vital Information Resource under Siege) are programs that have the capability to self-replicate by attaching themselves to another program or execute code. A virus is made up of two stages. The first (per-Trigger) stage will let the system run normally till a given time. This stage is not found in many of the PC viruses. In the second (Trigger) stage, the virus monitors the activities of the system and when a predefined event occurs it triggers off.

Bombs

Programs that do not have any pre-trigger phase are known as Bombs. These do not infect other programs instead they “Explode” on execution without any delay.

Damage from such programs is direct and immediate.

Trojans

The programs that contain some harmful code along with the regular code required for normal execution.

Worms

‘Worms’ code is harmless and is used mainly to play tricks on co-workers. It spreads by duplicating itself.

General virus removal procedure

The first step is to make backup copies of the data files. For viruses that become memory resident, do cold booting (i. e) switching the machine off, waiting for a minute and putting it on again. Using a detector program, identify the files that are infected by the virus. Now overwrite the infected files with clean copies of the files from their original write protected disks.

If clean copies of the files do not exist, use a virus-removing program to clean the files. If you do not have the proper programs to clean up the files, at least delete the files from the disk.

Examples

Common Viruses: Brain, 15years, 4-Aetc
Boot Sector Viruses: ABCD, Alameda, ANTHRAX-B etc
Parasitic Viruses: 1330.com, 1330.exe, 1385-groove etc
Macro Viruses: A97m-amg, A97m-JARING etc
File Viruses: 0-comp 164, 1-xc1066, 100813 etc

R Chandra Mohan,
I – B Sc (CS) 'B'.

CLASSIFICATION OF COMPUTERS

The most widely used computer is called personal computers, which typically fit on a desktop. Depending on the type of activity a computer can perform we can classify the computer as:

1. Analog computers
2. Digital computers
3. Hybrid computers

Analog computers

These are computers that measure physical quantities. Example; Temperature, quantity, pressure, etc and converse them to numerical values. Analog computers are used for scientific and engineering purpose.

Digital computers

These are computers that manipulate digital data and perform arithmetic and logical operation on such data. Digital Computers can be used in different application of data and instruction.

Types of digital computers

Computers of today vary in size from large computers to fill entire rooms to small ones smaller than a tiny notebook. Depending on their size and thus their speed, storage capacity etc. computer can be classified as,

1. Super computers
2. Mainframe computers
3. Mini computers
4. Micro computers

V Rathish Kumar,
I - B C A.

EXPANSIONS IN A NUT SHELL !

- PART - II

1.	CPM	Critical Path Method
2.	CR	Carriage Return
3.	CRC	Cyclic Redundancy Check
4.	CS	Chip Select
5.	CSI	Computer Society of India
6.	COE	Computer Using Educators
7.	CMI	Computer Managed Instructions
8.	CML	Circuit Mode Logic
9.	COBOL	Common Business Oriented Language
10.	COM	Computer Outcome Micro-film
11.	COMAL	Common Algorithms Language
12.	EOB	End Of Block
13.	EOF	End Of File
14.	EOJ	End Of Job
15.	EOM	End Of Message
16.	EOT	End Of Transmission
17.	EPO	Emergency Power Off
18.	EPROM	Electrically Programmable Read Only Memory
19.	FACES	Face Analysis Comparison and Elimination System
20.	FDM	Frequency Division Multiplexing
21.	FEA	Finite Element Analysis
22.	FEI	Federation of Electronic Industries
23.	GKS	Graphic Kernel System
24.	GNC	Graphical Numerical Control
25.	HOLMES	Home Office Large Major System
26.	HMS	Hotel Management Systems
27.	IAL	International Algorithmic Language
28.	IAS	Institute for Advanced Studies
29.	IBG	Inter Block Gap
30.	IBM	International Business Machine
31.	IC	Integrated Circuit
32.	IR	Instruction Register
33.	IRG	Inter Record Gap
34.	KBS	Kilo-Byte per Second (1024 bytes/sec)
35.	KEE	Knowledge Engineering Environment
36.	KES	Knowledge Engineering System
37.	Kilobit	2^{10} or 1024 bits
38.	Kilobyte	2^{10} or 1024 bytes
39.	KIPS	Kilo Instruction Per Second
40.	LAP	Link Access Protocol

41.	LCD	Liquid Crystal Display
42.	LDL	Language Description Language
43.	LPM	Lines Per Minute
44.	LSB	Least Significant Bit
45.	LSC	Least Significant Character
46.	LSD	Least Significant Digit
47.	LSI	Larger Scale Integration
48.	MAC	Machine Aided Cognition
49.	MAR	Memory Address Register
50.	MARGIB	Memory Analysis Response Generation In English
51.	MOS	Metallic Oxide Semi-Conductor
52.	MSI	Medium Scale Integration
53.	NBS	National Bureau of Standards (USA)
54.	NC	Numeric Control
55.	NCC	National Computer Conference
56.	NECC	National Educational Computing Conference
57.	NRZ	Non-Return to Zero
58.	NS	Nano Second
59.	OEM	Originally Equipment Manufacturer
60.	OCR	Optical Character Recognition
61.	OMR	Optical Magnetic Recognition
62.	OLQ	One Line Query
63.	PAL	Phase Alternation Line
64.	PAM	Plan Applier Mechanism
65.	PIN	Personal Identification Number

P Bala Thilakar,
I B Sc (CS) – 'B'.

INDIAN GEMS

The answers have a common identity! All are Indians!

1. Who is the co-founder of sun microsystem?
2. Who is the creator of pentium chip?
3. Who is the third richest man in the world?
4. Who is the founder & creator of Hotmail?
5. Who is the President of AT&T labs?
6. Who is GM of Hewlett packward?
7. Who is MTD of windows 2000?
8. Who is chief executive of citibank?

Answers @ P. No:35

CAREER++

SUCCESS IN A GROUP DISCUSSION

A group discussion is an evaluation of the total personality of a candidate, his skills in communication, his knowledge and his ability to succeed in a group. Very often young candidates think that the one who talks the most or the one who speaks vociferously or the one who prevails over the discussion by hook or by crook gets selected in a group discussion. This is a misconception. Some points that may help you stand out in a group discussion are discussed below.

1. Be Assertive:

Assertiveness is different from unassertiveness and aggressiveness. An Assertive person is direct and honest and careful about not hurting others' self-respect. In contrast, an aggressive person may humiliate others and unassertiveness man may elicit either pity or scorn. Assertive behavior is generally most effective when it integrates a number of verbal and nonverbal components. Eye contact is a means of expressing sincerity, while an erect posture and direct body position may increase the impact of the message. Appropriate gestures, facial expressions, and a strong but modulated voice are convincing.

These qualities cannot be developed all at a once. They need to be cultivated gradually. Meeting and talking to many people from different walks of life helps your behavior become natural in course of time.

2. A Passion Listener:

According to modern psychology, man's greatest desire is to be liked. Listening to another person is one way of showing appreciation. A group discussion is, in fact, an exercise both in speaking and listening. Listen to good speakers, good debaters and enlightened speakers.

3. Right Language:

Words can make friends and foes of men. It is possible to disagree without sounding rude or losing one's temper. If an interruption is necessary while another candidate is speaking, it can be done politely. Right words at the right time make for the best results.

4. Be Analytical and Fact-Oriented:

It is necessary to make relevant points, which can be supported with facts and analyzed logically. Vague arguments do not hold well in-group discussion. Arguments that cannot be explained, illustrated or substantiated should not be put forward. To develop this ability one should read newspapers and magazines to radio and TV news discussion. You could also prepare a file of information on current topics so that you are aware of the current position of problems and with updates of news. Exact facts and figures and references impress people and help elicit a favorable response.

5. Accept Criticism:

If any member of the group criticizes or disapproves of a point, it is unwise to get upset or reach sharply. The criticism must be viewed positively and if it carries weight, the person making the point must be appreciated and thanked. In case the criticism is flimsy, the same can be pointed out politely.

6. Maximize Participation:

While it is true that one who speaks the most in group discussion is not necessarily the best candidate, it cannot be denied that to leave a good impression some amount participation is required. In this case silence is not golden. Silence may indicate lack of initiative, information, and communication skills. Thus one must try to contribute fully, vigorously, and steadily throughout the discussion.

This ability can be developed through the discussions in a small group of friends. Regular discussion, which can be tape recorded, will sharpen your debating skills and impart a readiness and liveliness to your arguments. Repeated exercise will also help you build up new strategies.

7. Respect Other Speakers:

It is impossible to laugh at another participants and comment on their ignorance and inability. A good candidate always encourages the other members of his group without making fun of their failings. Contradicting another member of the group with facts and figures will make him realize the flaw in his arguments and appreciate your point. It is necessary to make other members aware that differences of opinion do not signify inferiority or superiority of any kind.

8. Show Leadership Ability:

A group discussion also evaluates your leadership qualities. Leadership is the ability to persuade others to seek defined objectives enthusiastically. It is the human factor that binds a group together and motivates it towards a goal. Leadership transforms the potential into real.

To develop leadership skills one should take part in-group activities like picnics, excursions, and sports, and shoulder the responsibilities of organizing them.

9. Be Precise:

A group discussion takes place in given time. Therefore, it is important to express yourself precisely and exactly without beating about bush or being verbose.

- Editorial Release

GLASS OF MILK

Somebody left a glass of milk to the keyboard.

Reactions:

Pascal Programmers:	Well, What type of milk is it?
C Programmer:	No thanks. I drink straight from the jug.
Assembly Programmers:	No thanks, I drink straight from the cow.

BASIC Programmers: No thanks, I am still feeding on my own.
Windows User: Where's my straw?
Security Consultant: Where'd the rest of milk go?
Copy Protection Crazyies: Somebody drank half of my milk and didn't pay for it.

S Thenmozhi,
III – B Sc(CS).

LINUX - FAQ'S

What is LINUX?

The word LINUX represents many things. The popular version is that Linux is an Operating System. But this is technically incorrect. The LINUX is an actually the kernel, which can be to the engine of a car in the operating system. However by releasing this kernel as open service, Lines Torvalds paved the way for the different application and utilities to be put together to make a complete operating system.

What is GNU/LINUX?

In 1983, even before LINUX was created Richard Stallman had a movement called GNU. The GNU movement strived for freedom of software. According to the free software foundation, the correct name for LINUX should be GNU/LINUX.

Can I install LINUX on a PC that already has windows in one partition?

Installation isn't too difficult. Since you have already partitioned your harddisk, you can do the installation straight away.

How much space and system requirement does LINUX need?

This depends upon your requirement. If you want to run X server, play games, listen to music, burn CDs, or watch DVDs you need to get a PII 600 MHz onwards system with at least 128MB RAM and 6GB of hard disk space.

M Gunaseelan,
I – B Sc (CS).

HOW THE INTERNET WORKS?

TCP / IP (Transmission Control Protocol / Internet Protocol)

The standard for the communicating on the Internet is called TCP/IP, which is short for Transmission, control protocol/Internet protocol. The key concept of TCP/IP is to recognize all the other computers and exchange data. TCP/ IP transfers information in chunks called packets. These packets are reassembled at the other end into one file and saved in the destination computer.

URL's and Domain names:

To send information between the computers, one has to identify the computer. This also called as a URL 'Uniform Resource Locator'. In Internet, the computer is

assigned 12 digits numbers called 255, 255, 255, 255 which allows 4 billion computers to have Internet address. This is called as a domain numbers. It is divided into 3 parts.

1. The user or computer name
2. The mid-level domain name
3. The top-level name

Internet Service Provider (ISP)

To access the Internet one needs an Internet Service Provider (ISP). This ISP is connected to the Internet backbone, which is permanent cabling of the Internet. This may consist of copper wire, microwave and even satellite connections between any 2 points. One can connect oneself to Internet by 2 ways.

1. Dialing Internet Service Provider computer.
2. Direct connection to Internet Service Provider.

The difference is mainly in the speed and cost. In India, Internet Service is provided by the Videsh Sanchar Nigam Limited (VSNL).

M. Pardeep Miller,
I – B Sc (CS).

MEMORY IN COMPUTER

Memory

A place where data & instructions are stored is called memory. The unit of memory is Byte.

- 1 Byte = 8 Bits
- 1 kilo Byte (KB) = 1024 Bytes
- 1 mega Byte (MB) = 1024 kilo Bytes

Types of memory

1. Primary or Main memory
2. Secondary memory

1.Primary memory

The two types of Primary memory are as follows,

- ROM - Read Only Memory
- RAM - Random Access Memory

Read only memory

Instructions in ROM are executed every time when computer is switched on.

Random access memory:

RAM is also known as Temporary or Volatile memory. Instructions stored in RAM can be modified, hence it is called as 'Programmable memory'.

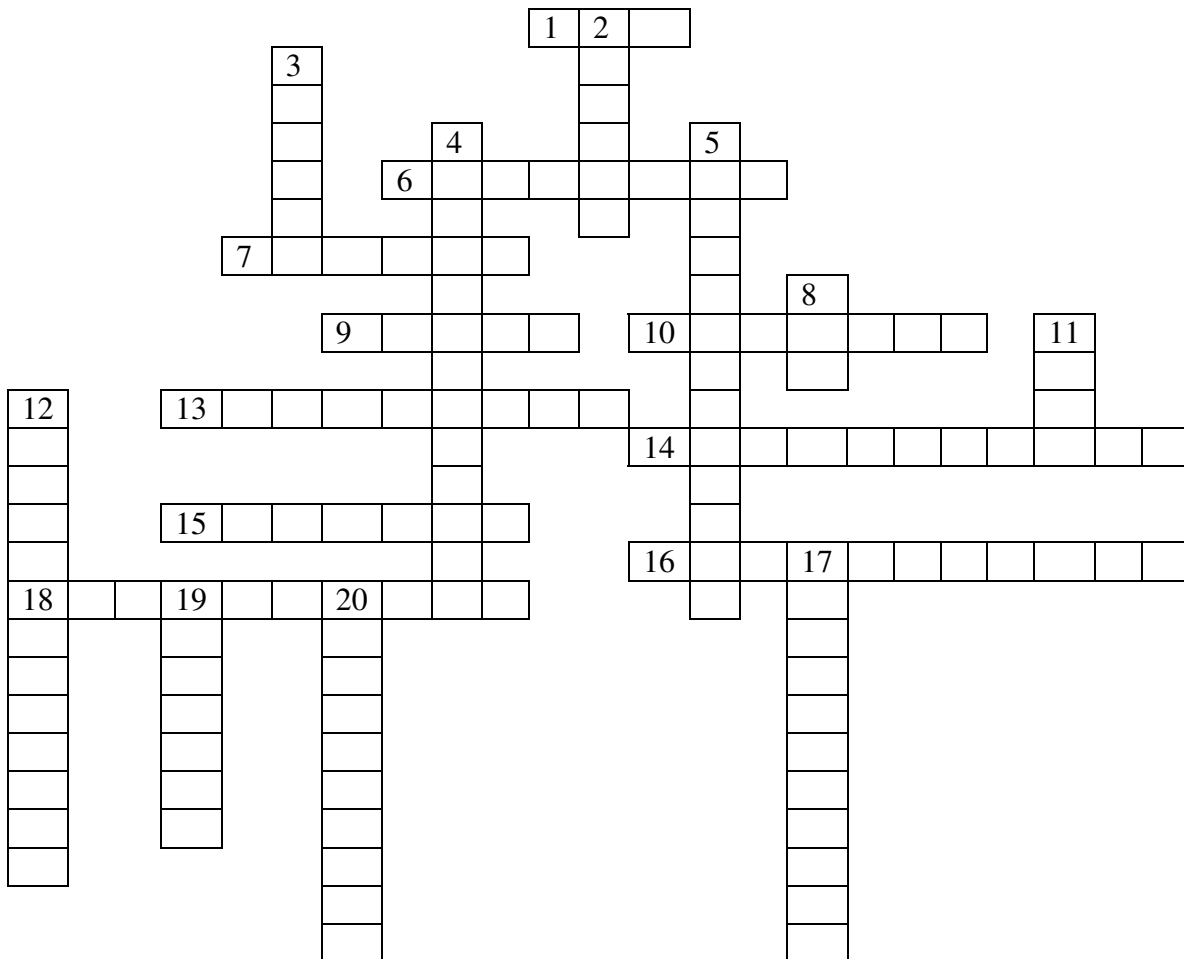
2.Secondary memory

Commonly used secondary memories are Floppy disk, Hard disk, Magnetic Tapes, CD, etc. It is also known as 'Auxiliary memory'.

G Gokul,
I – B C A.

CROSSWORD PUZZLE!

Solve the following crossword by using the clues given below!



ACROSS

1. Wireless Application Protocol
6. Communications rule
7. Japanese cultural term for wireless devices
9. Beeper
10. Transducer used to convert RF into AC or vice versa
13. Wireless receiver launched by rocket
14. Leaving mark on side walk to indicate free Wi-Fi

15. Java based open source transcoding platform
16. Achieved by overlapping repeater coverage zones (2 words)
18. Driving around looking for free Wi-Fi

DOWN

2. Form of sine waves
3. Transmit microprocessor
4. Used to pinpoint user's geographic position
5. Personal _____ Services (PCS)
8. Wireless security protocol
11. Wireless LAN technology
12. Short-distance wireless with ultra-high bandwidth (2 words)
17. Combination transmitter/receiver
19. Process data in terms of two states: positive and non-positive
20. Audio-visual communication device

Answers @ P. No:35

PUT THE GLASS DOWN TODAY!

A professor began his class by holding up a glass with some water in it .He held it up for all to see & asked the students, 'How much do you think this glass weighs?'

50gms! '100gms!'...'125gms'...the students answered.

'I really don't know unless I weight it', said the professor. But my question is: 'what would happen if I held it up like this for a few minutes?'

Nothing the students said.

'Okay, what would happen if I held it up like this for an hour?' the professor asked.

'Your arm would begin to ache', said one of the students.

'You're right. Now what would happen if I held it for a day?'

'Your arm could go numb, you might have severe muscle stress and paralysis and have to go to hospital for sure', ventured another student and all the students laughed.

'Very good. But during all this did the weight of the glass change?' the professor asked.

'No'

'Then what caused the arm aches and muscles stress?', asked the professor.

The students were puzzled.

‘Put the glass down!’ said one of the students.

‘Exactly!’, said the professor. ‘ Life problems are something like this ’.

Hold it for a few minutes in your head & they seem ok. Think of them for a long time & they begin to ache. Hold it even longer & they begin to paralyze you. You will not able to do anything.

It’s important to think of the challenges (problems) in your life, but EVEN MORE IMPORTANT to ‘put them down’ at the end of every day before you go to sleep. That way, you are not stressed, you wake up every day fresh, strong & can handle any issue, any challenge that comes your way !

So, as it becomes time for you to leave office today, remember to ‘put the glass down today’

-Editorial Release.

SHORTCUT KEYS

General Shortcuts

1. Alt + F4 – To exit from the program and shut down.
2. Alt + Tab – It shows various program icons we are working.
3. Ctrl + Esc – Start menu.

File & Desktop Shortcuts

1. While inserting the CD, to stop the auto run in it, press the Shift key and insert the CD.
2. After selecting a file:
 - i) If you press Ctrl key, that file will be copied.
 - ii) If Ctrl + Shift is pressed, shortcut will be created.
 - iii) If Shift + Del key is pressed, that file will be deleted without going to Recycle Bin.
 - iv) Alt + Enter shows the file’s properties.
3. By pressing F2, We can give a new name to the file.

My Computer Shortcuts

- | | | |
|-------------------|---|---|
| Backspace | – | To move one level up in the folder. |
| Alt + Right arrow | – | Goes to previously visited part. |
| Alt + Left arrow | – | Goes back from previously visited part. |

Internet Explorer & Netscape Navigator

- | | | |
|----------|---|--|
| Ctrl + H | – | To see the previously visited web sites. |
| Ctrl + R | – | To see the current site from first. |

Alt + Left arrow	–	To view the previous page.
Alt + Right arrow	–	To view the next page.
Esc	–	To stop the action.
Alt + Home	–	To go to the home page.
End	–	To go to the end of page.
Home	–	To go to the beginning of the page.
Ctrl + N	–	To open a window.
Ctrl + W	–	To close the window.
F11	–	To view full page.
/-	–	To arrange the favorite web sites in a proper way.
Ctrl + P	–	To print the viewing page.
Ctrl + B	–	To arrange the bookmark in a proper way.
Alt + Space + X	–	To enlarge the window.
Alt + Space + N	–	To minimize the window.
Ctrl + D	–	To add the currently viewing web site to favorites.

Only in Internet Explorer

Ctrl + I	–	To open the favorite sites.
Alt + D	–	To select the text in the address bar.
Ctrl + 5	–	To make necessary reload (not in case memory).

Only in Netscape

F9	–	To close the side bar panel.
Ctrl + L	–	To select the text in the location bar.
Ctrl + Shift + R	–	To reload.
* + Ctrl + -	–	To make the small letters big.
Ctrl ++	–	To enlarge the text.
Win key + E	–	To open the explorer page.
Win key + M	–	To minimize all windows.
Win key + D	–	Shows the minimized program.
Win key + Tab	–	Shows the things in taskbar rotately.

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OOPS TERMS & THEIR DEFINITIONS

A Summary of OOPS Definitions

Term	Definition
1. ABSTRACT CLASS	– A Class without any instance, but the subclass will have instance.
2. ABSTRACT METHOD	– Class Methods that are not fully

specified. These methods provide a shell, and subclass fill in the particulars.

- 3. CLASS – A Structure used to create multiple objects with similar behavior.
- 4. CLASS INHERITANCE – The Creation of new Subclass by way of modifying a super class.
- 5. CLASS METHODS – Methods that are associated with entire class, not with any particular instance of class.
- 6. CLIENT OBJECT – An object requesting information, data manipulation, or other type of service.
- 7. DYNAMIC BINDING – Selecting Data and a corresponding method to perform a function on that data after the client request is issued. Also called late binding.
- 8. ENCAPSULATION – This has two main characteristics
 - 1. Related Data and methods are packed together forming an object.
 - 2. This packing is often used, by way of class definition, to protect (or hide) data from external methods.
- 9. IMPLEMENTATION – Definitions to provide the necessary information for the creation of objects.
- 10. INSTANCE METHOD – Methods that are associated with a particular instance of class but not with the entire class.
- 11. LINK – A relationship between two objects.
- 12. METHODS – Functions associated with class that action instance variable of that class.
- 13. MULTIPLE INHERITANCE – Occurs when a sub class has more than one super class. Some oops language support this, but Java does not.

- 14.OBJECT – A combination of a state, a behavior and an identity. An object is an instance of a class.
- 15.POLYMORPHISM – A characteristics of oops languages that allows a function to be have a specify way in a given object.
- 16.PROTECTION – The ability of client objects to restrict which requested function is invoked.
- 17.SERVER OBJECT – An object giving a response for a requested service. This is usually contrasted with a client object.

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GENERAL ABBREVIATIONS

- ADO – ActiveX Data Objects.
- API – Application Programming Interface.
- COM – Component Object Model.
- DAO – Data Access Objects.
- DLL – Dynamic Link Library.
- IDE – Integrated Development Environment.
- MDI – Multiple Document Interface.
- ODBC – Open Database Connectivity.
- SDI – Single Document Interface.
- RDO – Remote Data Objects.

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DOGS AND COMPUTERS

Method used to end undesirable behavior

- Dogs: hit with rolled up newspaper
- Computers: hit control-alt-delete

After destruction of personal property

Dogs: dog not found
Computers: file not found

Favorite trick

Dogs: roll over
Computers: play dead

Consequence of virus

Dogs: replace valuable carpeting
Computers: replace valuable data

Method of marking territory

Dogs: lifting leg
Computers: "Designed for Windows 95"

Unique behavior

Dogs: lick and drag
Computers: click-and-drag

Estimated life span

Dogs: 12 years
Computers: 12 months

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THE KEYPAL CLUB

Since the exchange of emails is fast becoming the most usual form of written communication in the world, teaching email writing has come to be more and more important in the English language classroom.

Electronic communication, written using keyboards and read on computer screens, often reads as if it were being spoken. Hence Internet English is developing its own conventions, such as emoticons and acronyms for describing the e-mailer's feeling or physical characteristics.

Following Mario Rinvoluceri's experiment in stimulating creative writing, based on the Herbert Kohl technique, it is found that a keypal activity in the classroom

motivates intermediate students to jot down their opinions and experiences without worrying about mistakes, to exchange emails with students during the English course, making member of a keypal club.

Email Language

Emoticons (rotate the page right)

:~)	–	Smile
8~)	–	Smile with glasses
:~{}	–	Moustache and Smile
:~{)}	–	Moustache, Beard and Smile
:~D	–	Laugh
;~)	–	Wink
:~0	–	Amazed
3:~0	–	Cow
<:~0	–	Scared
:~(–	Sad
l~0	–	Bored
>~(–	Angry
:~w	–	Forked Tongue
<:~)	–	Stupid Question
:~)	–	Spitting
;~(*)	–	Vomiting
:~)	–	Must Blow Nose
8~#	–	Dead
#~)	–	What a Night
:~9	–	Yum, Yum
@}~>	–	A Rose
=:~)	–	Punk
<:3)~~~	–	Mouse
#!^&~)	–	Schizophrenic

Acronyms

AFAIK	–	As Far As I Know
AFK	–	Way From Keyboard
ASAP	–	As Soon As Possible
B4	–	Before
BAK	–	Back At Keyboard
BBL	–	Be Back Later
BF	–	Boyfriend
BRB	–	Be Right Back
BSF	–	But Seriously Folks.
BTW	–	By The Way

CUL	–	See U Later.
FYI	–	For Your Information.
GF	–	Girlfriend
H&K	–	Hugs & Kisses
IC	–	I See
IDK	–	I Don't Know.
IMHO	–	In My Humble Opinion
IWALY	–	I Will Always Love U.
JK	–	Just Kidding
KIT	–	Keep In Touch
L8R	–	Later.
LOL	–	Laughing Out Loud.
TTYL	–	Talk To U Later.

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ANDREW KINSEY'S TOP TEN

Andrew is the webmaster for Voelcker Science and provided these gems for perusal.

- Keep it simple – the point-and-click nature of the web means that people are likely to click on other links or cancel if the page takes more than about 30 seconds to download.
- Avoid frames unless they are absolutely necessary, because they can make navigation difficult.
- Use tables to assist with page layout.
- For interactive parts of a web site, use server-side scripting, such as Perl, wherever possible. It is faster than client-side technologies such as Java and will be available to many more browsers.
- Offer a mailing list for surfers to subscribe to. This will enable you to capture their details and send them reminders about your web sites.
- Have content worth looking at and make sure the material is current. Omit dates if you don't plan to update the site on a regular basis.
- Make use of web statistics to discover more about the users of your web sites. Give less popular pages more prominence.
- Make sure advertising is unobtrusive. Don't use pop up boxes for adverts– they're annoying.
- Provide a site map and/or search facility to aid navigation.
- Specify an easy-to-read font such as Verdana. Remember to include alternatives for platforms other than the PC.

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MEMORY OF COMPUTER

Memory:

A place where Data & Interactions are stored is called memory.

Unit of memory is BYTE.

1 BYTE = 8Bits

1 kilo Byte (KB) = 1024 Bytes

1 mega Byte (MB) = 1024 kilo Bytes

Types of memory:

1. Primary(or)Main memory
2. Secondary memory

1. Primary (or) Main memory:

There are two types in main memory

- a) ROM (Read only memory)
- b) RAM'(Random access memory)

a) ROM:

Interactions in ROM are executed every time when computer is switched on.

b) RAM:

RAM also known as temporary (or) volatile memory. Instructions in RAM can be modified. So, it is also called 'Programmable memory'.

2. Secondary memory:

Commonly used in secondary memories is floppy, Hard disk, Magnetic Tapes, CD, etc. It's also known as 'Auxiliary memory'.

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MALE OR FEMALE

A language instructor was explaining to her class that French nouns, unlike their English counterparts, are grammatically designated as masculine or feminine. Things like 'chalk' or 'pencil,' she described, would have a gender association although in English these words were neutral. Puzzled, one student raised his hand and asked, 'What gender is a computer?'

The teacher wasn't certain, which it was and so divided the class into two groups and

asked them to decide if a computer should be masculine or feminine. One group was made up of the women in the class, and the other, of men. Both groups were asked to give four reasons for their recommendation.

The group of women concluded that computers should be referred to in the masculine gender because:

1. In order to get their attention, you have to turn them on.
2. They have a lot of data but are still clueless.
3. They are supposed to help you solve your problems, but half the time they ARE the problem.
4. As soon as you commit to one, you realize that, if you had waited a little longer, you might have had a better model.

The men, on the other hand, decided that computers should definitely be referred to in the feminine gender because:

1. No one but their creator understands their internal logic.
2. The native language they use to communicate with other computers is incomprehensible to everyone else.
3. Even your smallest mistakes are stored in long-term memory for later retrieval.
4. As soon as you make a commitment to one, you find yourself spending half your paycheck on accessories for it.

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INTEL PROCESSOR HISTORY

Pentium I

In 1993, Intel brought the PC to a new level with the Pentium processor. The first Pentium processor ran at an astounding 60 Mhz, had 3.3 million transistors, and performed 100 Million Instructions Per Second (MIPS). Although no one today refers to the first Pentium processor as a Pentium 1, it is the original of 4 types of Pentium processors developed by Intel.

The Pentium II and the Celeron

Once the first Pentium processor technology became obsolete, the Pentium 2 was introduced. Starting at 233 MHz, the Pentium 2 took over its sibling's footsteps and was designed to run from 233 MHz to 450 Mhz. At about the same time, the Intel Celeron processor was presented; it was identical to the Pentium 2 except it was considered a "lower end" processor because of two main differences: a smaller cache and a slower bus speed, also known as the Front Side Bus or FSB speed rating*.

The Pentium III

Not too long after the introduction of the Celeron, the first Pentium 3 processor replaced the Pentium 2 and ran at 450 MHz. The Pentium 3 bus was first rated at 100 MHz but then increased to 133 MHz beginning with the 500 MHz model processor -- also known as the "500EB" model.

The Pentium IV

The Pentium 3 ended its reign at 1400 MHz (or 1.4 GHz) and has been replaced by its bigger brother, the Pentium 4. The Intel Celeron processors are still in production today, reaching speeds up to 2200 MHz and beyond (December, 2002), with an amazing 400 MHz Front Side Bus. The current Pentium 4 processor breaks the 3000 MHz (or 3 GHz) barrier and has an impressive Front Side Bus of 533 MHz.

(FSB) Front Side Bus

- Cache memory is a special part of the processor, which helps to process frequently, used information faster. FSB is the speed that the processor communicates with all other peripherals inside the computer. FSB speed can have a profound influence on the overall speed of a computer. For example: Pentium 2 processors ran a 100 MHz Front Side Bus, compared to lower-end Celerons which operated at 66 MHz.

AMD PROCESSOR HISTORY

The AMD Athlon Processor

Even though AMD has been around for quite some time, AMD's popularity did not come into the spotlight until the introduction of the Athlon processor. At around the same time that Intel introduced their 600 MHz Pentium 3 processors, AMD wowed the world with the Athlon processor.

The Athlon processor not only ran programs just as well as the Intel Pentium 3 and its predecessors, but its bus speed also ran twice as fast as the Pentium 3. AMD's

groundbreaking technology utilized a dual front side bus, even though the raw processing speed (or MHz rating) was the same as Intel's Pentium 3 or Celeron processors.

The AMD Duron

AMD became a success story with the Athlon processor and, like Intel, began producing a lower cost processor -- the AMD Duron -- which also had less cache.

At this time, the Celeron's FSB ran at a mere 66 MHz while the Duron boasted a 200 MHz bus. This gave consumers an excellent value for their money, considering that the Duron was much cheaper than a Celeron.

The Duron processor is set to cease production in 2003, when it will be replaced by a newer model, called the Opteron.

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COMPUTER TERMINOLOGY

ANTI VIRUS SOFTWARE:

A Program that detects whether certain viruses are present in a computer system and then destroys them.

ATM:

A Machine, which does the work of a cashier in a bank such as withdrawing and depositing money etc., ATM stands for Automatic Teller Machine.

BUS:

A set of wires used by the CPU to access memory and exchange data with input or output devices.

DIGITAL CAMERA:

The images captured by this camera can be directly sent to the computer. It can make use of a roll of film for photo finishing outlets.

DVD:

A storage medium, one could store a lot of data having the same diameter and thickness of a CD, it stores twice of it. DVD stands for Digital Versatile Disk.

DTP:

Usage of computer for creating text, graphs and images using suitable software. DTP stands for DeskTop Publishers.

INTERNET PHONE:

One can sit in front of the computer connected to the Internet and speak over the microphone. It is possible only if the other person to whom you wanted to talk have a similar connection.

SMART CARD:

A Plastic Card similar to a credit card, with an embedded microprocessor and memory for storing information related to banking etc.,

VIRUS:

A Computer virus is a program, which interferes with the normal functioning of the computer, by residing in computer memory. It destroys the information used by other computer programs.

WIRELESS LAN:

LAN stands for Local Area Network. Wireless LAN means without wires, but using radio links.

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COMPUTER VIRUS

What are Computer Viruses?

Computer Viruses are a type of software program that, like a biological virus, reproduces and spreads itself. As in case of the biological virus, with the computer virus too, many times the damage takes place before the victims are aware of its existence.

What are the Symptoms?

When your PC gets a computer virus, it can show symptoms depending on the type of virus the typical symptoms are:

1. You see strange messages on the screen; e.g.: 'your PC is stoned' or 'Happy Birthday Ravi'. Sometimes these messages appear on a particular date.
2. Letters look like they are to the bottom of the screen/
3. Programs suddenly take too long to load or execute, or they stop working.
4. The Computer system becomes slow.
5. The size of program and system files (e.g. COMMAND.COM) keeps changing.
6. The size of available memory reduces.
7. Hard disk runs out of space.
8. Strange files appear with strange names on your hard disk.

9. Unable to access Hard disk or Floppy disk.
10. Hard disk or Floppy disk lights keeps on flashing when no disk activity is taken place.
11. Programs or Directories disappear from the hard disk or the floppy disk.
12. The Computer does not boot.
13. Program or data files get damaged (corrupted).
14. Clicking noise from the keyboard.

Major types of Computer Viruses:

Today, there are about 10,000 different viruses in circulation and about six or seven new ones appear daily.

These are classified into eight major types:

1. boot-sector
2. file
3. multi-partite
4. trojan horse
5. file overwrite
6. polymorphic
7. stealth
8. Macro.

Prevention and Cure:

1. If you use a floppy disk to boot your PC, write protect it. Even if you do not use the floppy to boot your PC, create a bootable floppy disk and keep it in a safe place. You may need it when your PC gets infected and you need to boot from a clean (uninfected) floppy.
2. Always write protect floppy disks when you need to take a file to another computer on floppy disks.
3. If you normally boot from hard disk, setup the system options to bypass drive A and boot directly from drive C.
4. Make backups of your important files at regular interval.
5. Once you have scanned all floppy disks, always scan any new floppy that you get from any source.
6. If your PC is connected on a network, you need to install a good network anti-virus program on your network.
7. As new viruses are detected almost daily, try to get updates of the anti-virus program or the updated virus patterns (signatures).

The following is the list of commonly used anti-virus program:

- ✓ Dr. Solomon's antivirus 2.0
- ✓ MC Afee Virus Scan 3.0
- ✓ IBM Anti-Virus 3.0

- ✓ Symantec Norton Anti-Virus 4.0
- ✓ F-Port professional
- ✓ Inoculan Anti-Virus 5.0 for windows
- ✓ Nashshot and Thunder Byte Anti-Virus Utilities 8.0.3.

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RANDOM ACCESS MEMORY

Definition

The term 'Random access' means that any word in the memory can be accessed, without having to go through all the other words to get to it.

Advantages

This memory, being monolithic (i.e., being contained in an integrated-circuit chip), is much more suitable to the microprocessor. The power requirement for these memory chips is very similar to that of the microprocessor itself. The signal level necessary to write into this memory is relatively small.

Drawbacks

The only drawback of RAM memory is that it is a volatile form of memory. This means that when the power is removed from the chip, all the memory content is lost. When the power is returned, the content of memory will be unknown.

On the other hand, the power consumption of these memory chips is so small that it is feasible to leave them "powered up" all the time. The only eventuality to contend with them would be the occasional power failure or brown out that might cause the loss of the content of memory.

RAM can be of two types as,

1. Dynamic RAM(DRAM)
2. Static RAM(SRAM)

Storage cell circuits

The storage cell circuits in dynamic RAM chips contains,

- A transistor that acts in much the same way as a mechanical on-off light switch &
- A capacitor that is capable of storing an electric charge.

Dynamic RAM

Depending on the switching action of the transistor, the capacitor either contains no charge ('0' bit) or does hold a charge ('1' bit). Since the charge on the capacitor tends to 'leak off', provision is made to periodically 'regenerate' or refresh the storage charge. The cell must be refreshed every 2 milliseconds.

A dynamic RAM chip thus provides volatile storage i.e., the data stored are lost in the event of a power failure.

Static RAM

Static RAM chips is also a volatile storage devices, but as long as they are supplied with power, they need no special regenerator circuits to retain the stored data. Since it takes more transistors and other devices to store a bit in a static RAM, thus chips are more complicated and take up more space for a given storage capacity than do dynamic RAM. Static RAM is thus used in specialized applications, while dynamic RAM is used in the primary storage sections of most computers.

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MAIN FRAME

Definition for Mainframe:

Mainframe is a largest computer used for many applications since it supports more users and extensive large volume of data that can be stored and processed.

The Volume of data processed is sometimes referred to as the number of transactions per a given unit of time.

“MAINFRAME was first introduced by IBM CORPORATION so it is named as IBM MAINFRAME”.

E.g.

- It is used for on-line real time applications like
- * Banking Transactions.
 - * Airline Reservation.
 - * Railway Reservation.
 - * ATM card Method.
 - * Insurance, Finance, Transport and Health-Care.

SERVER AVAILABLE IN MAINFRAME:

SERVER NAME	YEAR
1. S / 360	1964.
2. S / 370	Mid of 1970.
3. S / 390	after 1990.
4. Z / OS	Latest Server.

FEATURES OF MAINFRAME:

1. Supports for both systems / 370 and 390 Extended architecture / 64 K high speed buffer in each central processor, improved compute intensive operators.

2. Channel controller with individual microprocessor for each channel.
3. Processor storage hierarchy with optional expanded storage, reliability, availability and service ability improvements.

MODULES AVAILABLE IN MAINFRAME:

- MVS
- Z/OS
- COBOL
- TCL
- VSAM
- CICS
- DB2
- IMS.

DEFINITION FOR MODULES:

- >MVS → [Multiple virtual storage]
→ Operating system that handles all the Mainframe operations.
- >Z/OS → Server type in mainframe.
- >COBOL → Application programming language in mainframe.
- >JCL → Interface between the program and the operating system.
- >VSAM → Technique of moving data between direct access storage device[DASD] and main storage.
- >CICS → General purpose data communication system supports a network of many terminals,provides environment of executing on-line application,it acrrts as interface between os and DB products,written using teleprocessing monitors.
- >DB2 → [Relational database management system]
→ Provides a relational DM,data is defined and accessed in terms of tables,consists of rows and columns,provides full data protection,it includes data intergrity and recovery function.
- >IMS → Same as DB2,but used for report preparation.

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ONLINE FREE COMPUTER BOOKS

1. 10 Minute guide to lotus notes mail 4.5:
<http://www.parsian.net/set1252/pages/books.htm>
2. 10 Minute guide to Microsoft Exchange 5.0:
<http://www.parsian.net/set1252/pages/books.htm>
3. 10 Minute guide to MS Outlook 97:
<http://www.parsian.net/set1252/pages/books.htm>
4. Borland C++ builder unleashed:
<http://www.parsian.net/set1252/pages/books.htm>
5. Building an Intranet with Windows NT 4.0:
<http://www.emu.edu.tr/english/facilitiesservices/computercenter/books/ib>
6. C programming language:
<http://book.onairweb.net/computer/pi/c/the-c-programming-language-by-KIR/>
7. C programming / Holmes, Steven:
<http://www.oopweb.com>
8. Client / Server computing, 2nd edition:
<http://www.parsian.net/set1252/pages/books.htm>
9. Compilers and Compiler generators: an introduction with C++ Terry & P.D:
<http://www.oopweb.com>
10. Crystal Reports .NET:
<http://www.crystalreportsbook.com/chapters.asp>

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ANSWERS PAGE:

Answer for Crossword:

ACROSS	DOWN
1.WAP	2.Analog
6.Protocol	3.Crusoe
7.Keitai	4.Triangulation
9.Pager	5.Personal communications services
10.antenna	8.WEP
13.satellite	11.WiFi
14.warchalking	12.ultrawideband
15.Morphis	17.transceiver
16.soft handoff	19.digital
18.war driving	20.videophone

Answer for Indian Gem:

1. A.Vinod Khosala.
2. A.Vinod Dahm.
3. Aziz premji.
4. A.Sabeer Bhatia,
5. A.Arun Netravalli.
6. A.Rajir Gupta.
7. A.Sanjay Tejwrika
8. A.Victor Meneher.