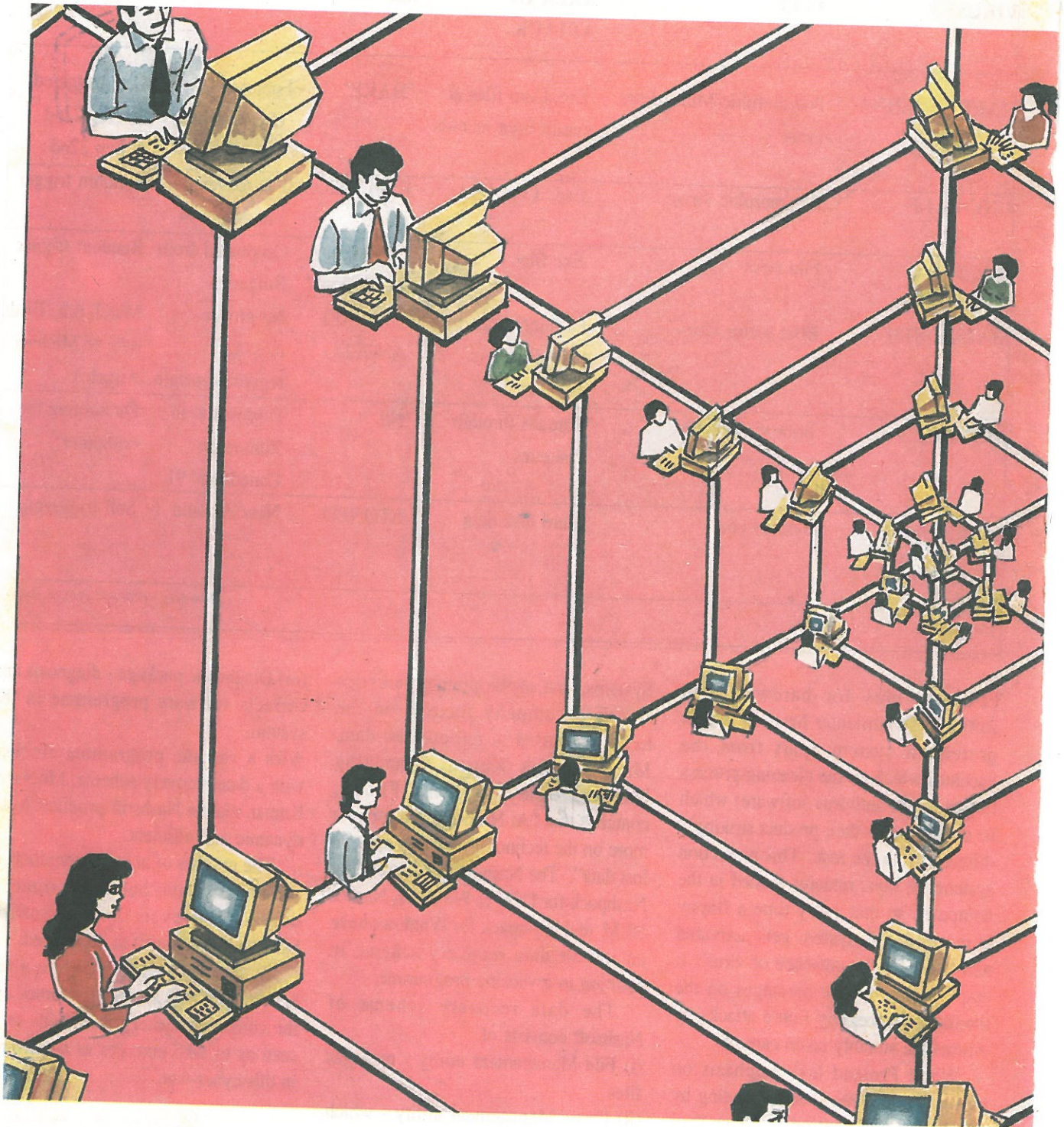
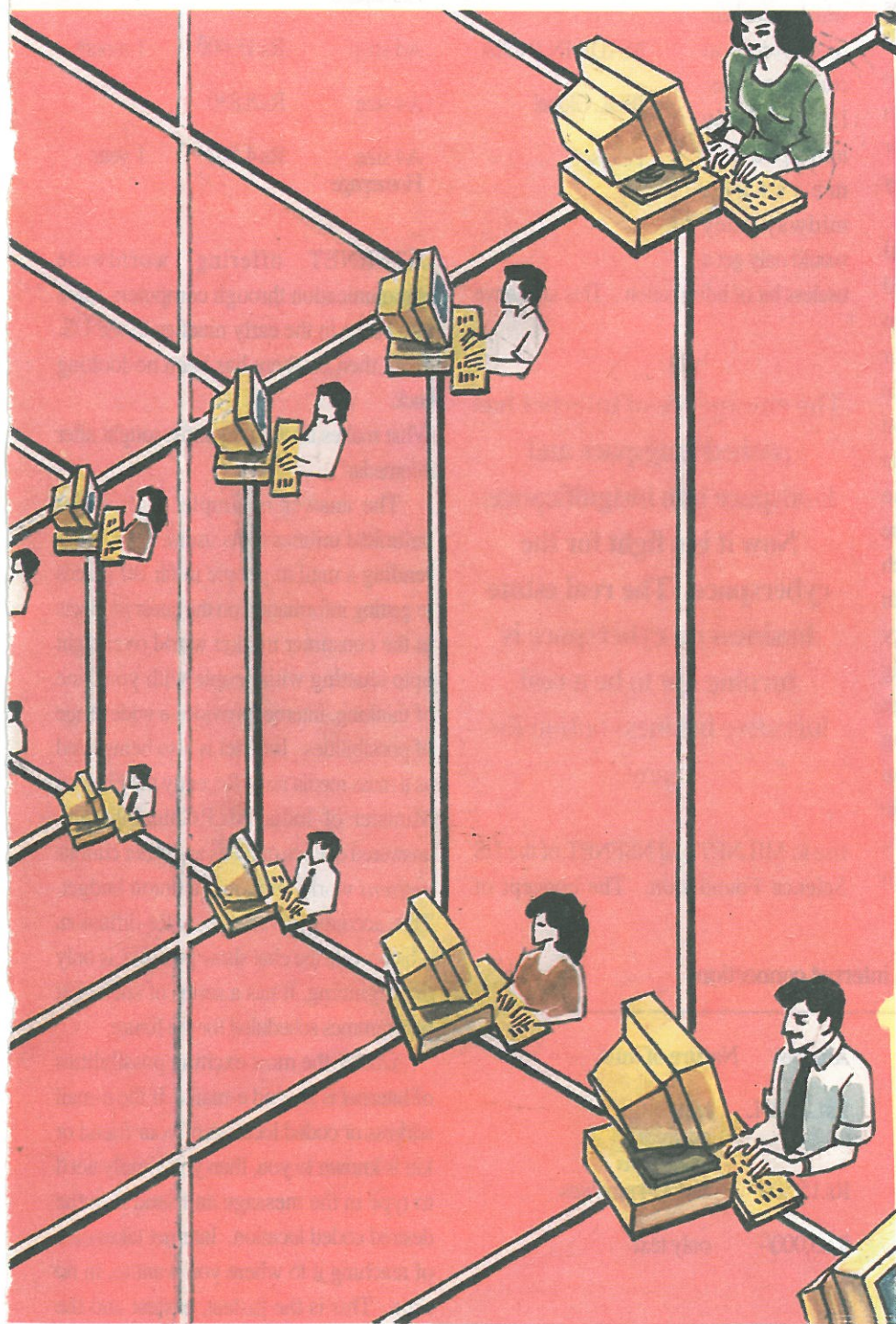


The Cyberian



Exploration



It has transformed the living rooms of people into treasure houses of unlimited information and knowledge. It has offered the perfect medium to capture and disseminate every bit of today's information explosion. It is the latest buzzword in the infomarket. And it has given rise to a new breed of mortals called NETIZENS.

On the whole, Internet - the all pervading global network of computers has transformed the way we live, forever. The single major gain of internet to humanity has been its bringing together all the people of the world under one web.

G.P. Vinayababu provides a bird's eyview of how the internet works and what it offers to humanity.



The 20th century has seen unprecedented growth in the fields of science and technology. There is so much happening in this world and so many developments taking place, that it has become virtually impossible for people to be in touch with the latest. And with the advent of computers there has been a virtual explosion of information. Need for a global media that could be shared by everyone became an absolute necessity.

Internet - a network of several computers or computer networks connected together through an interconnecting medium such as coaxial cables, telephone lines or satellites, has fulfilled this need. Internet is not owned by anybody nor is it controlled by anyone. It is the universally accessible information source. Internet is the successor of ARPANET of the US defence department. ARPANET (Advance Research Projects Agency NET) was established in 1964 to remain in constant touch with every other defence base under US control during the cold war situation. It was a huge computer network that had no controlling centre. This ensured that in the event of an attack on any one defence unit all valuable data wouldn't be lost. The Arpanet used a technology wherein messages were sent in

the form of packets through different telephone lines which were later to converge at computer nodes. If anybody intercepted these messages midway they would only get a

useless bit of information. This later gave

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rise to MILNET and NSFNET of the US Science Foundation. The concept of

Internet Service Provider	Description	Ad tariff	Period
INDIAWORLD	3 A-4 sheets Homepage	Rs.15,000	1 year
MADE IN INDIA	Ad strip	Rs.15,000	1 month
ISDL Global	A4 size	Rs.8,850	-
Pearlsoft	A4 size Homepage	Rs.4,500	1 year

INTERNET offering worldwide communication through computers came into being in the early nineties in the US. From then on there has been no looking back.

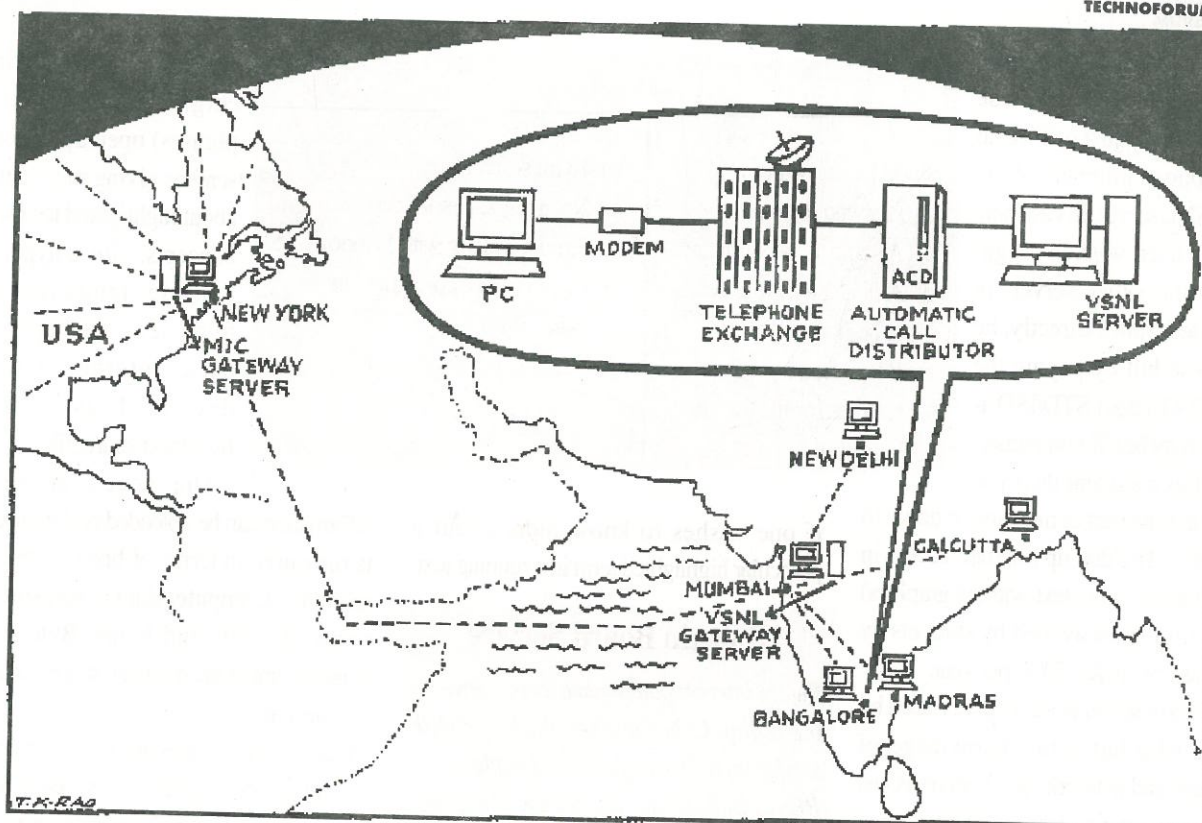
What makes internet the most sought after infomedia?

The answer is simple. It provides unlimited utilities to its users. Right from sending a mail to people in far off places to getting information on the latest products in the consumer market world over right upto chatting with people with your line of thinking, internet provides a wide range of possibilities. Internet is also being used as a mass media now. Recently the Finance Minister of India, Mr.P.Chidambaram, answered queries of NRIs and other curious *netizens* world over on the union budget. This, according to ad agency Re-diffusion, which made the chat show possible, is only the beginning. It has a series of such chat programmes scheduled for the future.

One of the most exciting possibilities of internet is to send e-mails. If the e-mail address or coded location of your friend or kin is known to you, then you simply need to type in the message and send it to the desired coded location. Internet takes care of reaching it to where you want to, in no time. This is the fastest, easiest and the cheapest way of sending messages to your

Cost of getting an internet connection

Connection	Duration	Amount	Nature of info.
Lease line	1 year	Rs1.25-25L	text, graphics & animations
TCP/IP	500 hrs	Rs.15,500/-	text & 4 graphics
Shell mode	500 hrs	Rs.5,000/-	only text



near and dear ones.

The emergence of internet has also pushed lungspace and landspace into insignificance. Now it is a fight for the cyberspace. The real estate business on cyberspace is turning out to be a real lucrative business option for many. 'Pearlsoft' - a Bangalore based company (in association with Microland), is one of the many companies who have jumped into the fray of sharing their part of the cyberspace with others. Pearlsoft which has obtained a website for itself in one of the web servers in the United States (which incidentally has the highest number of servers in the world) has offered to advertise products of Indian companies on the worldwide web. Pearlsoft is only one of the companies which have entered the bandwagon of space sellers recently on the net. The advertising on the web is fast emerging as the best way

to reach out to a worldwide audience which is not possible with any other media. Especially to most Indian companies, reaching out their products to potential NRIs can best be achieved only through internet.

World at your doorstep

How can one get access to internet?

If you want to have an internet connection for yourself, all you need to have is a personal computer and a telephone line. Of course along with it a small electronic device called the MODEM (MODulator DEModulator) is essential for you to get connected to worldwide web. VSNL - Videsh Sanchar Nigam Limited is the government organisation which opens the doors for you to get hooked on to the global net. Once you get yourself registered as an internet user by paying the service charges, depending upon the nature of

connection you intend to have (see box item for details), you are given an identity code, password and an user ID. This is unique for an internet user. The internet user simply needs to type in the telephone number of the location where local VSNL server is situated. This will provide access to the VSNL server which is in direct connection with the gateway server in Bombay as shown in the figure. VSNL servers are located in 6 major cities in India. This includes the four metros consisting of New Delhi, Madras, Bombay, Calcutta and two upcoming cities- Bangalore and Pune. As the name itself suggests the gateway server is virtually a gateway to the internet servers throughout the world. The gateway server in Bombay is in direct connection with the gateway server in New York which is handled by one of the service providers in the United States - MIC.

So any internet user in India can get access to worldwide information by just calling up the telephone numbers of the local VSNL server. In case, any internet user wishes to get hooked onto other servers in the United States directly, he may do so but by paying the regular P&T rates (STD/ISD as the case may be). If you register yourself as a student then you can get the internet connection at down to earth rates. The dial up internet access in the shell mode (only text without graphics) to students can be availed by students by paying as low as Rs. 500/- per year.

The term server is easily understood by anyone who has a fair knowledge of computers and networking. A server is just another computer system which has a large hard disk space to store data. This will serve as a storehouse of information which can be accessed by anyone. With partition of this hard disk space, websites can be created which could be used by owners of these websites to either beam in information of their own or allow other companies to publish their *homepages* at a cost. In that case, why can't all systems act as servers? True, any computer system can act as a server. But the system should be switched on 24 hrs a day and 365 days a year and should have a dedicated co-axial cable or twisted cable connection which can upload information at a rapid speed. Of course the system should have a powerful processor.

Homepages or HTML pages are nothing but screens developed on computers using HTML (Hypertext Markup language) with hyperlink. Hypertext is a new computer concept which allows toggling between computer screens,

NETSCAPE NAVIGATOR	INTERNET EXPLORER
a) 32 bit software	a) 16 bit software
b) Highend software	b) Not a highend software
c) A stand alone software	c) Provided along with Windows 95
d) A dialler software needs to be installed	d) Dialler can be configured in Windows 95
e) Better functions & features for file and mail retrieval	e) Features not as advanced

if one wishes to know more about a particular highlighted term in a running text.

Bulletin Board Service

Before internet could make its presence in the Indian Cyber market, the homebred service in the form of BBS had made it big. BBS or Bulletin board service works on the same lines as an internet. It provides interactive forums for those who are members of that BBS to chat and discuss topics of their interest. It also offers facility to send e-mails. The first BBS to be introduced in India was by Atul Chitnis of Bangalore, in the year 1989. Even to this day Mr. Atul Chitnis' BBS remains one of the most popular service as far as India is concerned. After that, several other BBS service providers have emerged in India. Though BBS has lost some of its charm after the internet's entry it still remains a useful information source for computer buffs free of cost. Mr.K.Sudhindra, a software engineer in one of the leading software companies in Bangalore, who uses both internet and Atul Chitnis' BBS, says that he loves to log into BBS in preference to internet for the simple reason that it gives him the option to interact with people whose line of thinking is same as his.

Clicking on hyperlinks (highlighted words or phrases) open up different screens giving more details about highlighted terms and concepts. Since hypertext markup language and hypertext concepts are used, internet is often described as a huge hypertext sourcefile.

The speed at which information can be uploaded or downloaded is measured in terms of bps (i.e. bits per second). Computer data is measured in terms of bits and bytes. Byte is the smallest unit of the memory space occupied by the data in a computer. Eight bytes added together makes one bit. So, more the bits per second, greater is the speed at which info is displayed on the screen and better is the downloading speed. The access speed can be anything between 9600 bps to 128.8 Kbps. 64.4 Kbps and 128.8 Kbps info download is possible only with a dedicated leased line (co-axial line like the one used by cable operators).

Once you have an internet connection for yourself, and if it is a TCP/IP (Transfer communication protocol internet protocol) connection it is essential to have an internet browser to get easy access to the topic of your interest. Since internet provides an ocean of information it is essential to have a pathfinder to take you to the place where you want to. This is done by the browsers. The well known net browser in the market is the Netscape Navigator. Brought out by Netscape communications, headed by Andresseen, who is billed as the second Bill Gates, this browser software provides you the option to get instant access to the topic of your



TECHNOWINDOW

Modems

Doesn't it amaze you if internet is described as just an extended utility of your telephone line? But it is true. This wouldn't have been possible without a small palm sized electronic device the MODEM. This which provides you with unlimited info access at the click of a button. Whatever text, graphics and sound we generate on the computer are essentially digital in nature (i.e., a collection of ones and zeroes). Internet communicates this digital data to PCs world over. But how? There is no connecting media to carry digital signals. And the presently adopted communication media (telephone lines) for internet can only carry analog signals. So, a Modem acts as an interface or transformation device to convert digital signals to analog and vice-versa. This conversion of digital to analogue is called as modulation. And the conversion of analog back to digital is called as demodulation. Since modem does both these it is named as MODulator DEModulator or simply MODEM. Modems are classified based on their compatibility and speed.

The modems are classified on the speed at which data can be received or sent. This is measured in terms of Bits (or Bauds) Per Second. Modems classified on this basis are 9600 bps, 14.4 Kbps, 28.8 Kbps, 64 Kbps, 128 Kbps. But the speed at which information can be accessed in India through Modems is generally at 14.4 Kbps. Even though 28.8 Kbps modems are available in the market, it is highly unlikely one can access information those speeds. But the internet users might have realised that it is painfully slow to access information using 14.4 Kbps modem speed. The best way would be to have the digital medium all the way which is being carried out by ISDN - Integrated Services Digital Networks. The other solutions would be to send and receive data using TV cables. As we are able to get sound & picture signals through cables, this can as well be extended to PCs to access information on internet. Tests have shown that the cable network can offer modem speeds of 30 MBPS downstream, and 10 MBPS in the reverse direction.

interest in the most colourful form. The other famous browsers include Mosaic, Inferno, and the internet explorer from the Microsoft.

Hits and misses

The business community across the globe who till recently hadn't considered internet to be a viable option to enhance their business, have started to acknowledge the immense potential of internet in furthering their business prospects. Unlike the other mass media like print media and television, wherein one is not sure whether the products advertised by them are seen or not, feedback on how many netusers have actually seen their product ads is available on the internet. If a netuser visits a particular website, it is counted as a *hit*. If the particular website has the option to register the name and e-mail address of the

user who visits their site, then it is double confirmation to the website owners.

THE FUTURE

Internet has been regarded as the best way to reach out to a wide cross section of

In India where the internet is 1 year old, there are 50,000 users now and is expected to reach 1,00,000 by the year end. With nearly 6,00,000 servers and millions of homepages worldover, your home PC with internet connection has turned out to be a virtual pandora's box.

people because of valid reasons. An analysis of the way in which people spend their time with various modes of mass media conducted by 'The Week', revealed that an internet user spends about five hours online a week, compared with a TV watcher (watching a popular TV channel) who spends three hours and an Economic Times reader who spends just 2 hours. This very well describes the exposure the companies get by advertising on-line.

But it is a myth that internet is only useful to businessmen and the elite class. It is as much a useful information source as it is to a businessman. Internet is helpful even to the farmers wherein they can get latest and worldwide information on the new methods in farming and cultivation. This should be utilised to the maximum extent.

Worldwide, the internet currently has 50 million users - 20 million in America alone - and their rate is growing rapidly. In India where the internet is one year old, there are 50,000 users now and are expected to reach 1,00,000 by the year end. With nearly 6,00,000 servers and millions of homepages worldover, your home PC with internet connection has turned out to be a virtual pandora's box. Internet with all its goodies throws up with it some undesirable stuff in the form of pornography too. But for all the good things the internet provides, this shouldn't be a hurdle. Getting to advertise and catch the attention of the netizens is turning out to be a herculean task as well as big money for service providers and advertisers. The advertisers are pumping in huge money in the form of gifts and lucrative schemes to attract net users towards their sites. Whatever be the case the average man is the beneficiary in this big cybertussle.