

Inside this Edition :

INVENTIONS THAT CHANGE HUMAN LIFE	2
INDO-FRENCH COLLABORATION	2
MUMBAI SEA-LINK	2
DAKSH—THE WAR ROBO OF IN-	3
MY SUCCESS & I	3
IRIS PEN 6	3
UPCOMING EVENTS	3
THE LEADER	3
HACK IT	4
ACHIEVEMENTS & ACHIEVERS	4
INVENTIONS IN MARCH	4
TEST YOUR BRAIN	4
HAVE A CLICK	4

## Are we safe...???

Few days ago, meteor streaked through the skies above Russia's Urals region before exploding with a flash and boom that shattered glass in buildings and left about 1,000 people hurt. The event once-in-100-year had explosion which was equivalent to 300,000 tons of TNT as said by space agency's official.

Earlier this month, a skyscraper-sized asteroid passed within 50,000 miles of Earth — a galactic hair's breadth separating the planet from an impact like one that flattened 800 square miles of Siberian tundra in 1908.



Meteors striking the Earth



For decades, people are been talking about the threats by NEAR EARTH OBJECT (NEOs), but these events has made the mankind to think again as if they are ready for For decades, people are been talking about the threats by NEAR EARTH OBJECT (NEOs), but these events has made the mankind to think again as if they are ready for any kind of "DOOMS DAY from the sky". An asteroid spotted in 2004 called 'Apothis' is expected to come back in 2036. There can be uncertainty but not reassuring. If Apothis missis, someday some other rock may be big enough to put a serious dent in Earth, wrapping up the whole living world. It's just a matter of time.

Instead of waiting for luck to run out, scientist and ENGINEERS have come up with plenty of ways to nudge an Earth-bound asteroid off-course, or failing that, obliterate it from its existence. Here are some of their ideas.

### Direct nuclear explosions.

As immortalized in the movie Armageddon, we could blow an asteroid out of the sky like so much interplanetary skeet. But there's a catch: The pieces could still hit Earth, and we might not have enough firepower to do serious damage. It's a last-minute, last-ditch option.



### Nearby nuclear explosions.

Rather than blowing it up, a nuclear explosion could reroute a space rock's trajectory clear of Earth. This would need to be done decades before the asteroid reached us. They are, after all, not easy to steer. But models suggest it could work.

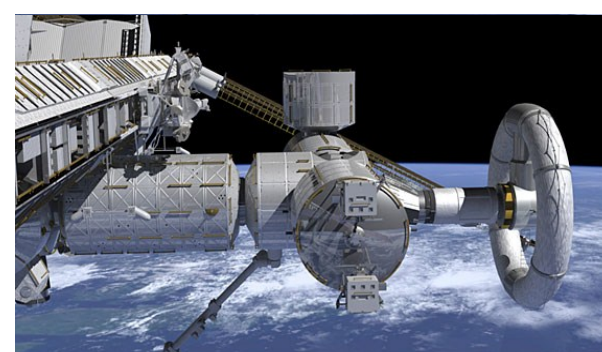
### Laser sublimation.

Several spacecraft could use machines that direct beams of concentrated sunlight to the surface of an appropriately icy asteroid. As it heats up, it'll spew a plume of debris and change course.



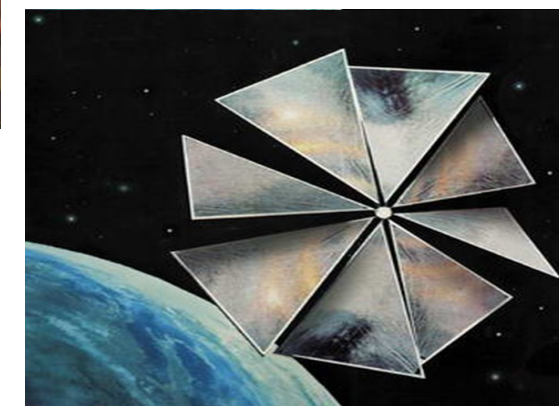
### Electric propulsion

To adjust course, land a spacecraft on an asteroid, fire up some rockets and push off. It's a potentially powerful approach, but controlling that push on a spinning rock will be difficult.



### Gravity tractor

Every object exerts a gravitational pull, including a single spacecraft. Merely by hovering above the asteroid, it could pull the rock off course. The approach could even be tried with the asteroid belt-exploring Dawn spacecraft, scheduled to finish its tasks by 2015. This is potentially much easier than electric propulsion, but not quite as powerful.

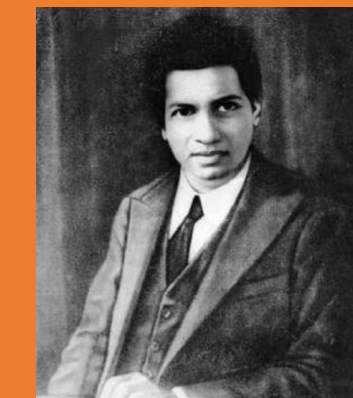


### Solar sails

Installing a photon-catching sail on an asteroid would be even harder than landing a ship, but it would certainly be prettier.



Shubham Jain



### SRINIVASA RAMANUJAM

(22 December 1887 – 26 April 1920)

"An equation for me has no meaning unless it expresses a thought of God."-  
RAMANUJAM

Born in a middle class family in small town of Tamil Nadu, he was one of India's greatest mathematical geniuses. He made contributions to the analytical theory of numbers, elliptic functions, continued fractions, and infinite series.

By age 11, he had exhausted the mathematical knowledge of two college students who were lodgers at his home. Turning 13, he mastered the book Advanced Trigonometry written by S. L. Loney.

He became the youngest member of London mathematical society, a

### Brain Teasers :

1. Which is correct to say, "The yolk of the egg is white" or "The yolk of the egg are white?"
2. Supposing three men were frozen, two of them died, how many left..??
3. There are three houses one is red one is blue and one is white. If the red house is to the left of the blue house and the blue house is to the right of red house. Where is the white house?
4. What demands an answer but asks no question?

4. A Telephone

3. White House is in WASHINGTON D.C.

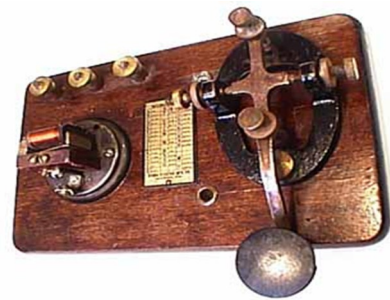
2. None. You were only supposing.

1. Neither. Egg yolks are yellow.

ANSWERS :

## Internet:

A service which has revolutionized the world by bringing the whole world together. Sharing information, completing task, running business, marketing, social communication and thousands of other thing, all can be accomplished from it.



## Wireless Telegraphy:

This method of communication has literally changed the way we live. We cannot imagine a day without using a wireless device. In fact, After all, who would think that you could contact a person from across the globe while sitting in a cafe across town, with no cost to either of you.

## Flying Machine:

The invention of the flying machine changed the way we travel and also made traveling very comfortable. It gave us the opportunity to explore different parts of the world and also tackling emergency situations like floods became much more easier.

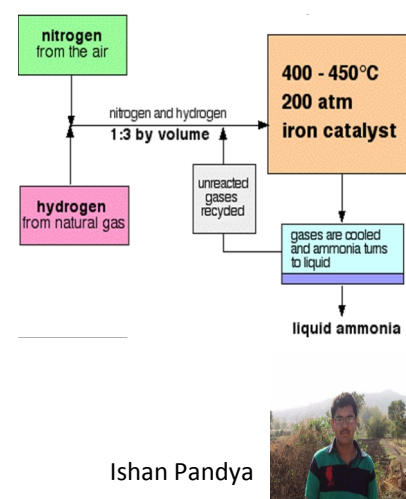


## Light bulb:

The light bulb, in particular, deeply changed human existence by illuminating the night and making it friendly to a wide range of human activity. The electric light, one of the everyday conveniences that most affects our lives evolved as an opportunity to engage

## Haber's process for production of ammonia:

One the most important technological invention of this century, the Haber-Bosch process enables the economical mass synthesis of ammonia (NH<sub>3</sub>) from nitrogen and hydrogen. Today, the Haber-Bosch process is used to produce more than 500 million tons (453 billion kilograms) of artificial fertilizer per year; roughly 1% of the world's energy is used for it, and it sustains about 40% of our planetary population.



Ishan Pandya

## SARAL: An Indo-French Collaborated satellite



**PSLV - C20 launched SARAL with six commercial payloads on February 25, 2013 at 17:56 hrs (IST) from SDSC SHAR, SRI-HARIKOTA. SARAL ( Satellite with ARGOS and ALTIKA) is an ISRO-CNES (India-France) joint venture for oceanography studies.**

### What it is..??

- ◆ **IMS - 2 platform (small satellite bus) deloped by ISRO.**
- ◆ **CNSE-ISRO collaboration.**
- ◆ **Altimetric payload : An Altimeter - Radiometer (ALTIKA) , Doris and a Laser reflector for precise orbitography.**
- ◆ **ARGOS : ARGOS payload, ARGOS 3 indian instrument.**
- ◆ **Measurment of ocean, surface topography, surface wind speed, surface wave height.**
- ◆ **Contribution to ARGOS system continuity for collect and distribution of environmental data.**



SARAL satellite at clean room in SATISH DHAWAN SPACE CENTRE

- ◆ **High inclination orbit at 800 km altitude.**
- ◆ **Mission of lifetime : 5 years of ARGOS and 3 years of ALTIKA.**

- ◆ MASS : 340/400 kg platform ~ 200 kg pay module
- ◆ SIZE : 0.98m x 0.98m x 2.6m
- ◆ Solar panels : 1.2m x 1.4m (2x)



Ukshil Jain

## Steam Engine:

In the never-ending search for energy sources, the invention of the steam engine changed the face of the earth . It can easily be considered as one of the most important invention of the entire industrial revolution. There is not part of industry present in today's society that can be examined without coming across some type of reference or dependence upon the steam engine.



## Wheel:

Well, this one is the oldest and most remarkable invention of man. Without the wheel, the world simply wouldn't exist as we know it. The invention of the wheel was at the root of the Industrial Revolution, although it would take a long time to get there. This invention helped in the progress of the world's economy, industry, and technology.

## Mumbai Sea Link

The 5.6 kilometer Bandra Worli Sealink, which crosses the Arabian Sea, linking the Mumbai suburbs with south Mumbai, is viewed as an engineering marvel. This cable-stayed bridge (one that consists of one or more columns, with cables supporting the bridge deck) apparently contains steel wire equivalent to the circumference of the earth.



The bridge also weighs the same as 50,000 African elephants, and used 90,000 tonnes of cement -- enough to make five 10 storied buildings.

The Sealink hasn't been without controversy though. Delays, due to public litigation, doubled the amount of time it took to construct it from the estimated five years, to 10 years. The original cost estimate also increased from 6.6 billion rupees (\$119.46 million) to 16 billion rupees (\$289.6 million). The first four lanes were opened to the public on 30 June 2009. All eight lanes were opened on 24 March 2010.

The Bandra Worli Sealink starts near Bandra Reclamation (at the Western Express Highway) and ends at Abdul Gafar Khan Marg junction, Worli. The Taj Lands End hotel at Bandra Bandstand offers a birds eye view of it. Pedestrians and motorcycles aren't allowed on the Sealink.

After 10 years of expectations , delays and, of course, hardcore planning and labour, the spectacular Bandra-Worli Sea Link is set to open at midnight on Tuesday. Come Wednesday morning and a new day will dawn for Mumbai's rush-hour motorists, with the Rs 750-crore link offering a new route between the island city and the western suburbs. Till now, the Mahim Causeway was the only route.

### HEAVY-DUTY BEAUTY

Length of bridge (4.7km): 63 times the QutubMinar  
Weight of bridge (6.7L tonnes): 50,000 African elephants.

424 cables for main roadway: can support 900 tons each

Length of steel wire used (37,680km): Nearly the earth's circumference

Concrete used: 2.3 lakh cubic metres

Height of main towers (126m): 43-storey building  
Pile caps: Bridge rests on 135 pile caps, the largest being 55 m in length and 55 m in breadth (half a football field)



### A NORTH-SOUTH LINK

- ◆ Mahim Causeway is currently the only route that connects the western suburbs and island city.

The Bandra-Worli Sea Link will be the second major route

- ◆ An MSRDC survey revealed that motorists from the distant suburbs of Borivli, Dahisar, Kandivli and Malad would be more likely to use the sea link. Motorists from Andheri, Parel, Santa Cruz, Juhu and Bandra would be less likely

- ◆ During peak hours, around 7,000 to 8,000 cars are expected to use the sea link per hour

### MATTER OF MINUTES:

- ◆ Currently, it takes 35 to 38 minutes to go the 7.7-km distance between Mahim flyover and Love Grove Junction, Worli
- ◆ Transport experts estimate that travelling the link plus its approach and exit roads, which also measure about 7.7 km, will take at least 25 minutes
- ◆ The builders claim that travelling the 4.7-km main link will take just 6 minutes.

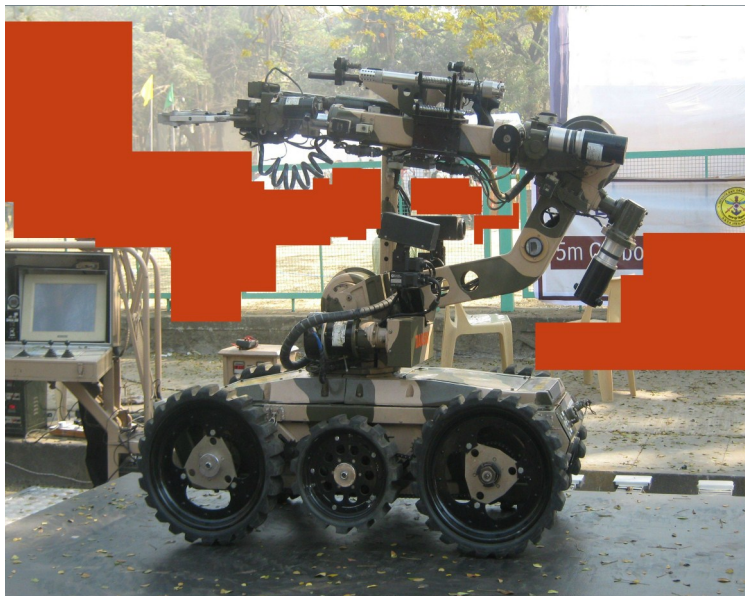


Dhruv Saidava

**DAKSH- THE WAR ROBOT OF INDIA**

**ROV Daksh**

Daksh is a battery-operated ROV (Remotely Operated Vehicle) for defusing bombs. Developed by Defence Research and Development Organization. It is fully automated and can neutralize Nuclear, Biological and Chemical weapons. It can climb staircases, negotiate steep slopes, navigate narrow corridors and tow vehicles to reach hazardous materials. Using its robotized arm, it can lift a suspect object and scan it using its portable X-Ray device. If the object is a bomb, Daksh can defuse it with its water jet disrupter. It has a shotgun, which can break open locked doors and it can scan cars for explosives. With a master control station, it can be remotely controlled over a range of 500 m in line of sight or within buildings. It also has radio frequency shield to jam remote signals for triggering a blast.



**Daksh is equipped with:**

- ◆ Robot manipulator arm having 6 degree of freedom
- ◆ Ability to handle suspected objects up to 20 kg 2.5 m and 9 kg at 4 m.
- ◆ Special batteries that allows continuous operation for 3 hours
- ◆ Multiple switchable cameras on board
- ◆ Motorized pan-tilt platform with zoom and focus controls.

*My Success & I*

Many people have fail because they could not handle their success. Many celebrities have succumbed to various forms of intoxication because they were unable to handle the magnitude of their success. Few fall to rise many rise to fall.

Success should never feed your ego, but must always feed your sense of responsibility. Success is not a status, its a responsibility. With every rung you scale on the ladder of success, you are also scaling rungs on the ladders of responsibility. Aspiring to be successful, in essence, is aspiring to be more responsible.

**A Leader : Former President of India APJ Abdul Kalam : 'A Leader Should Know How to Manage Failure'**

*Kalam: Let me tell you about my experience. In 1973 I became the project director of India's satellite launch vehicle program, commonly called the SLV-3. Our goal was to put India's "Robini" satellite into orbit by 1980. I was given funds and human resources -- but was told clearly that by 1980 we had to launch the satellite into space. Thousands of people worked together in scientific and technical teams towards that goal. By 1979 -- I think the month was August -- we thought we were ready. As the project director, I went to the control center for the launch. At four minutes before the satellite launch, the computer began to go through the checklist of items that needed to be checked. One minute later, the computer program put the launch on hold; the display showed that some control components were not in order. My experts -- I had four or five of them with me -- told me not to worry; they had done their calculations and there was enough reserve fuel. So I bypassed the computer, switched to manual mode, and launched the rocket. In the first stage, everything worked fine. In the second stage, a problem developed. Instead of the satellite going into orbit, the whole rocket system plunged into the Bay of Bengal. It was a big failure. That day, the chairman of the Indian Space Research Organization, Prof. Satish Dhawan, had called a press conference. The launch was at 7:00 am,*

*and the press conference -- where journalists from around the world were present -- was at 7:45 am at ISRO's satellite launch range in Sriharikota [in Andhra Pradesh in southern India]. Prof. Dhawan, the leader of the organization, conducted the press conference himself. He took responsibility for the failure -- he said that the team had worked very hard, but that it needed more technological support. He assured the media that in another year, the team would definitely succeed. Now, I was the project director, and it was my failure, but instead, he took responsibility for the failure as chairman of the organization. The next year, in July 1980, we tried again to launch the satellite -- and this time we succeeded. The whole nation was jubilant. Again, there was a press conference. Prof. Dhawan called me aside and told me, "You conduct the press conference today." I learned a very important lesson that day. When failure occurred, the leader of the organization owned that failure. When success came, he gave it to his team. The best management lesson I have learned did not come to me from reading a book, it came from that experience.*

- ◆ Specially designed solid rubber wheel to withstand blasts and traverse rugged terrain.

**The operations include:**

- ◆ Safe handling and removal of hazardous objects
- ◆ In-situ scanning of suspected objects
- ◆ Water Jet Disrupter to diffuse the IED.
- ◆ Capability to lift, drag, tow suspected objects from field

**X-Ray Scanner:** X-ray scanning in horizontal and vehicle planes. Real-time imaging facility with zoom in/out. Multiple auto snapshot creation facility

**WATER JET DISRUPTER:** Water Jet Penetration capability through half-inch plywood at 3m distance. Diode Laser pointer based precision aiming for remote firing.

**NUCLEAR BIOLOGICAL CHEMICAL RECONNAISSANCE :** Daksh is designed to monitor the contamination level in a NBC affected environment through its Radiation Measurement and Automatic Control Unit (RADMAC) & Portable Gas Chromatograph (PGC)

**RADIATION MEASUREMENT & AUTOMATIC CONTROL UNIT ( RADMAC )**

The RADMAC is portable radiation intensity measuring instrument which can detect X rays and gamma rays.

**PORTABLE GAS CHROMATOGRAPH (PGC):**

Can detect presence of gas and the concentration level and displays the results in numeric as well as graphical format.

**Its MASTER CONTROL STATION (MCS):**

MCS enables remote control of Daksh by a single operator. It has easy-to-use and intuitive interface and controls for handling of the multiple functions Daksh. It has high mobility in the field as it is a wheeled, trolley-based independently for both command and control as well as image transmission and display on real-time.

The MCS combines membrane keypad, touch-screen and joysticks to enable the operator to control Daksh without much training.

**CARRIER VEHICLE**

An ergonomically designed vehicle to carry Daksh, MCS, Bomb Disposal stores and crew for hazardous missions. The carrier vehicle is designed for real-life field operations keeping in mind the aspects of combating insurgency, safety, security, and comfort of the team.



Jimit Vyas



Shubham Jain

The IRISPen may be the biggest sensation in computer land since the mouse!

As efficient as computers are, you have to encode your data first. If you've ever rekeyed text, you know how boring and time-consuming it can be. The IRISPen, a unique product for every computer user, offers instantaneous text retrieval at your fingertips. Text recognition where you want it, when you want it.

The IRISPen consists of two components: a unique greyscale pen-sized OCR scanner and the powerful PCR-II ("Pen Character Recognition") text recognition technology.

The basic principle could hardly be easier: slide the IRISPen over a line of text and it is entered into your application instantly, Cut from paper, paste to Windows@: can you imagine a simpler way of entering text.



**Key Features :**

- ◆ Retype information 30 times faster than manually.
  - ◆ Capture words, sentences, paragraphs, from any printed material into your computer.
  - ◆ Excel, Word, PowerPoint, Outlook, ... you name it! If you can type it in, you can scan it in with the IRISPen™
  - ◆ Extensive 128 foreign language support enables it to accurately recognize an incredibly vast number of foreign languages.
  - ◆ Logos, signatures, and any small graphics are quickly scanned into your document!
  - ◆ Reads 16 types of barcode
- Price : 149\$ to 200\$



Ukshil Jain

**Upcoming Events this Month**

Date	Event	Venue
1/3	Talaash	SOCET , Ahmedabad
5/3	Optimistix	VIT , Bharuch
6/3	Vyeg	Saffrony , Ahmedbad
7/3	Prakust	S.R.Patel, Mehsana
13/3	Vijayant	L.E.College, Morbi
14/3	Technoplanet	R.K.University, Rajkot
15/3	Xenisis	LDRP Gandhinagar
16/3	Technofest	V.V.P. Rajkot
22/3	Salcon	SAL, Ahmedabad

**HA IT**

**Unhide the virus effected Hidden files.**

- Steps 1**
1. Go to **Start > Run >** type **cmd**
  2. Dos will open type **cd \**
  3. Now type the drive letter in which you want to Unhide the files lets suppose in my case its **E:** this will open the E: drive
  4. If you want to see all hidden files and folders type **E:\>dir/ah**
  5. Now type **attrib \*. -h -s /s /d**
  6. Now close cmd using **exit** command



Dhruv Saidava

**Steps 2 (folder by folder)**

1. Go to **Start > Run >** type **cmd**
2. Dos will open type **cd \**
3. Now type the drive letter in which you want to Unhide the files lets suppose in my case its **E:** this will open the E: drive
4. If you want to see all hidden files and folders type **E:\>dir/ah** (\*you will now see the files/folders with hidden attributes )
5. Type **"attrib [name of file/folder] -r -a -s -h"** if you're going to unhide files, you should type the whole name plus the extension (example: **attrib banner.psd -r -a -s -h**)
6. Now check you drive.. it should be there



Umang, Rishit & Darshit Runner up @ Nu-Tech 13 | Nirma

**Achievements &**

**Achievers**

Keval Kelawala as a audience judge in BHARAT KI SHAN 2.,



Purvash Dodia and Vijay Ode, Students of our college have developed the B.O.C. machine which reduces the cost of manpower upto 70 to 80% and can improve the quality of Bearing .



3<sup>rd</sup> year Civil students Industrial visit to NEPL at Naroda



Dhruv, Jimit, Parth Patel, Darshit, Mayank, Krunal, Umang. have made Hat-trick at Nirma University.

Contech '12 | Scientilla '12 | Nu-tech '13

♦ Siddhrath Panchal got 7th in all over india Sabarmati Cy-clathon 2013.



Dr. Saurin Shah, Principal of our Institute receiving "Pedogogical Innovation Award 2013" for his continuing efforts towards Innovation Pedagogiesat at various levels. The certificate has been conferred to him to recognize the active contribution towards setting an India- centric University based Innovation eco system in Gujarat. The award ceremony was held at Paryavaran Mandir on 14<sup>th</sup> February



**What happens in 60 seconds..??**



**STUDENTS PLACED IN CAMPUS PLACEMENT THIS YEAR**

Student name	Company name
♦ Rushab shah	Sarjen sysytem
♦ Saloni trivedi	Universal hunt
♦ Shyam nair	Universal hunt
♦ Jaini doshi	Universal hunt
♦ Akshar soni	Universal hunt
♦ Shilpa gunathilaka	Universal hunt
♦ Manisha aarya	Universal hunt
♦ Dhruvan patel	Universal hunt
♦ Jehul khamar	Coke india
♦ krishna desai	Coke india
♦ Harikrushna limbasyia	Coke india
♦ Dhruv jigar	Coke india
♦ Purvash dodyia	Coke india
♦ Jayesh gupta	Coke india
♦ Bhavsar yash	Coke india
♦ Pandya dhaval	Coke india
♦ Bagadyia devang	Coke india

**Companies visited COLLEGE campus in 2013**

- ♦ E-infochip
- ♦ Drc sysytem
- ♦ Ramboll india
- ♦ Hindustan coca cola
- ♦ Sarjen system
- ♦ E-clinical works
- ♦ Universal hunt
- ♦ Webquikr It facillator
- ♦ Squad technologies

**CONGRATULATIONS...!!**

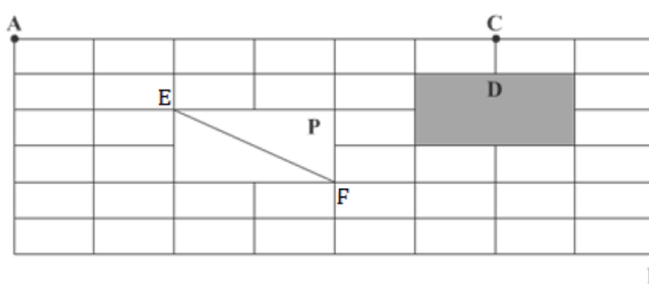
**INVENTIONS IN MARCH**

- ♦ **March 4, 1955** The first radio **facsimile** or fax transmission was sent across the continent.
- ♦ **March 6, 1899** Felix Hoffmann patented "**Aspirin**". Which proves to be very useful in pain relief.
- ♦ **March 7, 1876** Alexander Graham Bell was granted a patent in for the **telephone**.
- ♦ **March 10, 1862** The first United States paper **money** was issued. The denominations were \$5, \$10, and \$20.
- ♦ 1891 **Almon Strowger** was issued a patent for the automatic telephone exchange.
- ♦ **March 12, 1996** Michael Vost patented a **mailbox** signalling device.
- ♦ **March 14, 1879** **Albert Einstein** was born.
- ♦ 1845 The first **rubber band** was patented by Stephen Perry of London.
- ♦ **March 19, 1850** Phineas Quimby was issued a patent for a steering machine.
- ♦ **March 22, 1960** Schawlow and Townes were issued a patent for the **laser**.
- ♦ **March 24, 1959** Charles Townes was granted a patent for the **maser**, the precursor to the laser. The maser was a big hit, being used to amplify radio signals and as an ultrasensitive detector for space research.
- ♦ **March 25, 1902** Irving W Colburn patented the **sheet glass** drawing machine, making the mass production of glass for windows possible.
- ♦ **March 26, 1895** **Charles Jenkins** patented a motion picture machine.
- ♦ **March 27, 1790** The first **shoelaces** were invented.
- ♦ 1990 Harold Osrow and Zvi Bleier received a patent for a portable **ice cream** machine.
- ♦ **March 28, 1899** William Fleming received a patent for a **player piano** using electricity.



Yash Lalchandani

**QUE 1.** The figure below shows the plan of a town. The streets are at right angles to each other. A rectangular park (P) is situated inside the town with a diagonal road running through it. There is also a prohibited region (D) in the town.



1. Neelam rides her bicycle from her house at A to her office at B, taking the shortest path. Then the number of possible shortest paths that she can choose is  
(1) 60 (2) 75 (3) 45 (4) 90 (5) 72
2. Neelam rides her bicycle from her house at A to her club at C, via B taking the shortest path. Then the number of possible shortest paths that she can choose is  
(1) 1170 (2) 630 (3) 792 (4) 1200 (5) 936

**QUE 2.** The number of common terms in the two sequences 17, 21, 25... 417 and 16, 21, 26, ... , 466 is  
(1) 78 (2) 19 (3) 20 (4) 77 (5) 22

**QUE 3.** What are the last two digits of  $7^{2008}$ ?  
(1) 21 (2) 61 (3) 01 (4) 41 (5) 81

**QUE 4.** The integers 1, 2... 40 are written on a blackboard. The following operation is then repeated 39 times: In each repetition, any two numbers, say *a* and *b*, currently on the blackboard

are erased and a new number  $a + b - 1$  is written. What will be the number left on the board at the end?

- (1) 820 (2) 821 (3) 781 (4) 819 (5) 780

**QUE 5.** A shop stores *x* kg of rice. The first customer buys half this amount plus half a kg of rice. The second customer buys half the remaining amount plus half a kg of rice. Then the third customer also buys half the remaining amount plus half a kg of rice. Thereafter, no rice is left in the shop. Which of the following best describes the value of *x*?

- (1)  $2 \leq x \leq 6$  (2)  $5 \leq x \leq 8$  (3)  $9 \leq x \leq 12$  (4)  $11 \leq x \leq 14$  (5)  $13 \leq x \leq 18$

**Have a CLICK :**

1. [www.dopdf.com](http://www.dopdf.com)
2. [www.edudemic.com](http://www.edudemic.com)
3. [www.electronics.howstuffworks.com](http://www.electronics.howstuffworks.com)

**SOTWARE of the month :**

ABBY Fine Reader - OCR software  
By the help of this software user can convert Image to type so it make easy to read or type the text image to type.

**Suggestion Box :**

Refrences can be found on SOCET corner. Your suggestions are most welcome. If any achivments of yours has been left out, then please contact us so that we can publish the same in next edition. For any quires and submitting your article in next edition, contact us at SOCET corner.