UNDER THE AEGIS OF VEDA....

XTRONICS

The Monthly Technical Magazine..

Issue No-II

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Scientist of the Month

Mokshagundam Visvesvarayya

Sir Mokshagundam Visvesvarayya was an eminent Indian engineer and statesman. He is a recipient of the Indian republic's highest honour, the Bharat Ratna, in 1955. He was also knighted by the British for his myriad contributions to the public good. Every year, 15th September is celebrated as the **Engineer's Day** in India in his memory. Sir M. Visvesvarayya was born on September 15, 1860 in Muddenahalli village in the Kolar district of the erstwhile princely state of Mysore (present day Karnataka) and he attended primary school at Chikballapur and high school at Bangalore.

Upon graduating as an engineer, Visvesvarayya took up a job with the Public Works Department (PWD) of Mumbai, and was later invited to join the Indian Irrigation Commission. He implemented an extremely intricate system of irrigation in the Deccan area. He also designed and patented a system of automatic weir water floodgates, which were first installed in 1903, at the Khadakvasla reservoir near Pune. These gates were employed to raise the flood supply level of storage in the reservoir to the highest level likely to be attained by its flood, without causing any damage to the dam. Based on the success of these gates, the same system was installed at the Tigra dam in Gwalior and the Krishna raja Sagara (KRS) dam in Mysore.

N Padmasree Saranya **2nd ECE-B**

Company profile

Hitachi

Type Public kabushikigaisha ("stock company")
Traded as TYO: 6501
Industry Conglomerate
Founded 1910 in Hitachi, Ibaraki, Japan
Founder(s) NamiheiOdaira
Headquarters Chiyoda, Tokyo, Japan
Area served Worldwide
Key people

- Takashi Kawamura (Chairman)
- Hiroaki Nakanishi (President)

Products

- Electronics
- Industrial machinery
- Telecommunications equipment
- Power plants
- Information systems
- Automotive components
- Materials
- Construction equipment

Services

- Consulting
- Financial services

Revenue 2012: ¥9.665 trillion[1]
Website www.hitachi.com

A Mounika Sri Harini, 3rd ECE-C

TECHNICAL ZONE
CHANDRAYAN

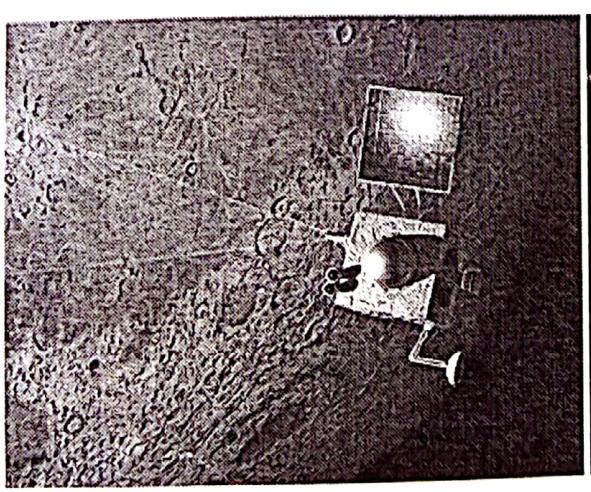
The chandrayan-I mission is aimed at high resolution remote sensing of the moon in visible, near infrared, low energy x-ray and high energy x-ray regions. It prepared a 3-dimensional atlas of both near and far side of the moon. It conducted chemical and mineralogical mapping of the entire lunar surface for distribution of elements such as magnesium, aluminium, silicon, calcium, iron and titanium with a special resolution of about 25km.

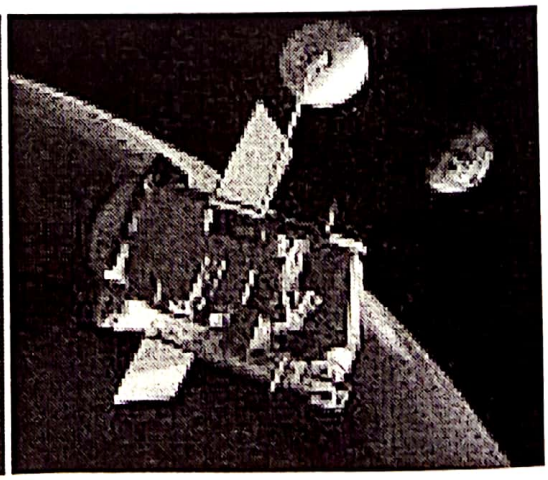
NEAR-IR SPECTROMETRE (SIR-2)

Objective: SIR-2 addresses the surface related aspects of lunar science in six broad categories.

SUB KEV ATOM REFLECTING ANALYSER(SARA)

Objective: SARA images the moon surface using low energy neutral atoms as diagnostics in the energy range 10ev-2kev.





RADIATION DOSE MONITOR EXPERIMENT(RADOM)

Objective: RADOM qualitatively and quantitatively characterizes, in terms of particle flux, does rate and deposited energy spectrum, the radiation environment in near moon space.

MINIATURE SYNTHETIC APERTURE RADAR(Mini SAR)

Objective: It detects water ice in the permanently shadowed regions on the lunar poles up to a depth of a few meters.

Riddles

1) What starts with a T, ends with a T, and has "T" in it?

2) You saw me where I never was and where I could not be. And yet within that very place, my face you often see. What am I?

3) What is it that after you take away the whole, some still remains?

4) There once was a strange man who loved wordplay, he had a very important and successful business that would take insect shipments from all across the world and distribute them to zoos across the US.

What was the name of his company?

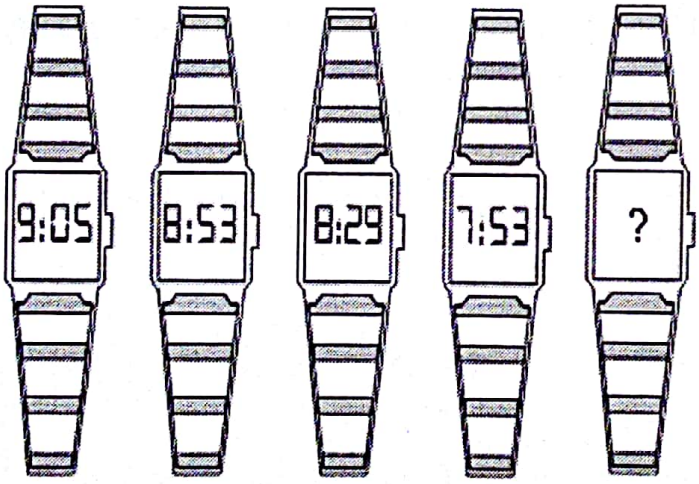
M Sravani, 2nd ECE-C

Puzzles

Which number replaces the question mark?

6	EJI	3
M F K		D P G
9	NRG	?

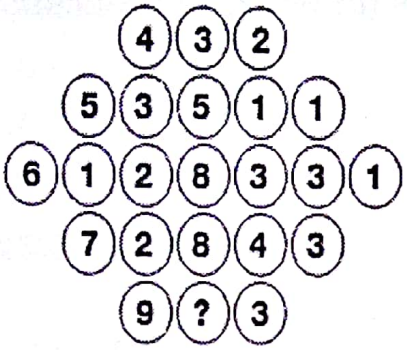
What time should the last watch show?



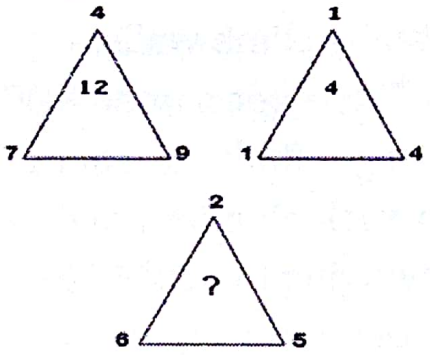
M Sravani, 2nd ECE-C

Puzzles

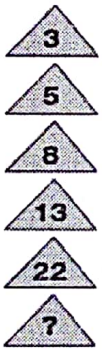
What number comes inside the circle?



Which number replaces the question mark?



Which number replaces the question mark?



Which number replaces the question mark?

7	3	6	2
2	8	5	4
1	1	2	4
4	2	1	?

Department of E C E

First e-mail in the world

- The first email in the world was sent in 1971.
- It is sent through ARPANET.
- It was created by an American engineer RAYTOMILSON.
- It was sent between two adjacent computers.
- The message was QUERTYUIOP.

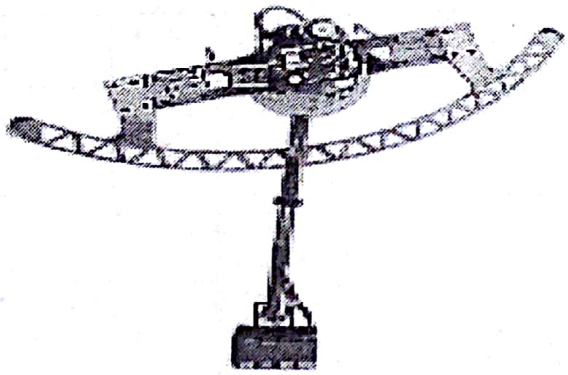
KOLLURI RAVINDRA MOHAN ***3rd ECE_B***

Wall Climbing Robot

Robotics makes interesting gadgets and new inventions. This new tech gadget is no exception because it can actually climb walls.

The robot named ROCR (pronounced "rocker") is an oscillating climbing robot that mimics the motion of human rock climbers and combines it with the motion of apes swinging through trees.

Details of this new tech gadget were published in the journal of Transactions and Mechantronics.



How It Works

The upper body has two steel hand-claws that grip a wall and a tail that swings.

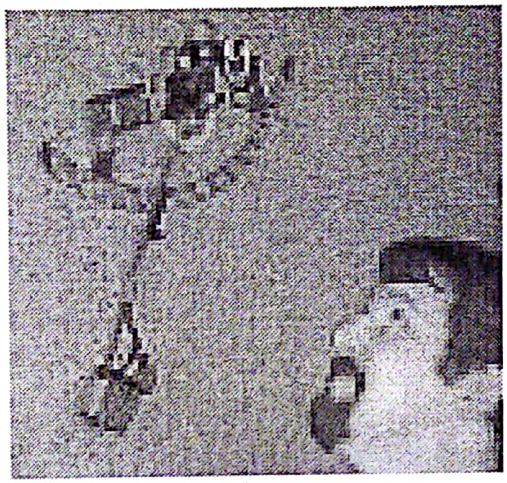
As the tail swings the from side to side the hand-claws reach up, one hand at a time, pulling the body upwards.

When the tail swings it causes a shift in the center of gravity that raises the robots free hand, which then grips the climbing surface.

The ROCR is powered by four 9-volt batteries that are attached to the tail.

"It mimics a gibbon swinging through the trees and a grandfather clock's pendulum, both of which are extremely efficient," says inventor William Provancher, an assistant professor of mechanical engineering at the University of Utah.

Future Use



There are gadgets and new inventions used for inspection, surveillance and even maintenance but Provancher believes the ROCR is be a better alternative.

"Climbing robots have focused on issues such as speed, adhering to the wall, and deciding how and where to move, but ROCR is the first to focus on climbing efficiently," says Provancher.

Sensors and cameras could be mounted on the robot to provide live feeds of inspections. It could look for things like failures in the concrete on dams, buildings and bridges.

G Navya, 3rd ECE-A

Fun with Numbers

1 x 8 + 1 = 9

12 x 8 + 2 = 98

123 x 8 + 3 = 987

1234 x 8 + 4 = 9876

12345 x 8 + 5 = 98765

123456 x 8 + 6 = 987654

1234567 x 8 + 7 = 9876543

12345678 x 8 + 8 = 98765432

123456789 x 8 + 9 = 987654321

1 x 9 + 2 = 11

12 x 9 + 3 = 111

123 x 9 + 4 = 1111

1234 x 9 + 5 = 11111

12345 x 9 + 6 = 111111

123456 x 9 + 7 = 1111111

1234567 x 9 + 8 = 11111111

12345678 x 9 + 9 = 111111111

123456789 x 9 +10= 1111111111

1 x 1 = 1

11 x 11 = 121

111 x 111 = 12321

1111 x 1111 = 1234321

11111 x 11111 = 123454321

111111 x 111111 = 12345654321

1111111 x 1111111 = 1234567654321

11111111 x 11111111 = 123456787654321

111111111 x 111111111=123456789 87654321

9 x 9 + 7 = 88

98 x 9 + 6 = 888

987 x 9 + 5 = 8888

9876 x 9 + 4 = 88888

98765 x 9 + 3 = 888888

987654 x 9 + 2 = 8888888

9876543 x 9 + 1 = 88888888

Brilliant, isn't it?

ALAM PURNA KALI PRASAD, *4th ECE-A*

Get your mobile devices protected

Mobile devices such as laptops, smart phones and tablets have been much more powerful and can hold so much more information than ever before. Nowadays, we've become accustomed to having access to the Internet just about anywhere. What sometimes we forget is how vulnerable that makes us to security threats.

Fortunately, a combination of plain old common sense and some technology can protect our devices, quickly and fairly easily. In order to try to keep your mobile devices and your data secured we provide you some tips that will be of great assistance:

1. It is crucial to make sure that all your software is up to date. It is always a good idea to check often the products' website to see if there are any updates available. The installation of the latest updates is of high importance and you should never forget to have your software up to date.

2. Always use strong passwords. A strong password is not less than 10 characters and it includes a combination of letters, symbols and numbers. Actually, a strong password looks more like a sentence than a word! You should always avoid using dictionary words and standard phrases, because most of them are included in most dictionaries for hacking, so you should create your own passwords.

with the security settings.

3. You should know that most of the default settings of a browser are adequately configured in order to provide the higher level of security, so you should choose not to mess with the security settings.

4. Most of the public available Wi-Fi networks are not encrypted and should be totally avoided. If you try to connect to an unencrypted public wireless network, you will be lucky if a hacker won't access your data.

5. In case you're willing to access a website in order to make a purchase, or access your banking account, make sure that the website is encrypted and the URL starts with HTTPS. The letter "S" refers to the encrypted protocol which means that the user is more secured than in an unencrypted website.

6. You could always use a VPN if of course you have access to one. A VPN provides secure access to an organization's network and allows you to get online behind a secure layer that protects your information.

7. In case that the mobile device that you use automatically enters passwords and login information into websites you often visit, you should turn that feature off.

8. Everyone is using free apps which are really tempting to get because there are actually free. A user should always be selective about the applications that he/she downloads particularly with developers you don't now.

M Satya Sri, 2nd ECE-A

Riddles

1. What starts with a T, ends with a T, and has "T" in it?
2. You saw me where I never was and where I could not be. And yet within that very place, my face you often see. What am I?
3. What is it that after you take away the whole, some still remains?
4. There once was a strange man who loved wordplay, he had a very important and successful business that would take insect shipments from all across the world and distribute them to zoos across the US. What was the name of his company?
5. What question can you never honestly answer yes to?
6. The more you take, the more you leave behind.
7. I am a word of 5 letters and people eat me. If you remove the first letter I become a form of energy. Remove the first two and I'm needed to live. Scramble the last 3 and you can drink me. What am I?
8. The more you have of it, the less you see. What is it?

V V S S Sarvani, 3rd ECE-A

Solutions

Puzzles

1. The dish will be full at 12:44.

2. Clocks can measure time even when they do not show the right time. You just have to wind the clock up and... We have to suppose that the journey to the friend and back lasts exactly the same time and the friend has a clock (showing the correct time) - it would be too easy if mentioned in the riddle. Now there is no problem to figure out the solution, is there?

3.You can hang the iron rods on a string and watch which one turns to the north (or hang just one rod).
Gardner gives one more solution: take one rod and touch with its end the middle of the second rod. If they get closer, then you have a magnet in your hand.
The real magnet will have a magnetic field at its poles, but not at its centre. So as previously mentioned, if you take the iron bar and touch its tip to the magnet's centre, the iron bar will not be attracted. This is assuming that the magnet's poles are at its ends. If the poles run through the length of the magnet, then it would be much harder to use this method.
In that case, rotate one rod around its axis while holding an end of the other to its middle. If the rotating rod is the magnet, the force will fluctuate as the rod rotates. If the rotating rod is not magnetic, the force is constant (provided you can keep their positions steady).

4. Throw the ball straight up in the air.

Ch. Hemanth , 4th ECE-B

Factronics

1. "Wearing headphones for just an hour will increase the bacteria in your ear by 700 times"
2. "The "sixth sick sheik's sixth sheep's sick" is said to be the toughest tongue twister in the English language."
3. "The electric chair was invented by a dentist."
4. "The dot over the letter "i" is called a tittle."
5. "Honey is the only food that doesn't spoil."
6. "Hot water will turn into ice faster than cold water."
7. "The strongest muscle in the body is the tongue."
8. "Minus 40 degrees Celsius is exactly the same as minus 40 degrees Fahrenheit."
9. "The original name for butterfly was flutterby."
10. "The shortest English word that contains the letters A, B, C, D, E, and F is "feedback."
11. "The longest single-syllable word in the English language is "screeched."
12. "A snail can sleep for three years."

Boyi Aditya Reddy, 2nd ECE-C

3. You can hang the iron rods on a string and watch which one turns to the north (or hang just one rod).

4. Throw the ball straight up in the air.

5. The wise man told them to switch camels.

Riddles-II

1. Teapot
2. A reflection
3. Wholesome
4. ImportANT
5. Are you asleep? (or dead)
6. Footsteps
7. wheat
   heat
   eat
   tea

VEDA

Department of E C E

SRI VASAVI ENGINEERING COLLEGE

Pedatadepalli, Tadepalligudem

Mail your articles to: xtronics.team@gmail.com