

# Inco Cent



**INSTITUTION OF INCORPORATED ENGINEERS**  
**SRI LANKA**  
**CENTRAL PROVINCIAL BRANCH**





# Inco Cent

Bimonthly News Magazine published by the Central Provincial Branch of Institution of Incorporated Engineers, Sri Lanka  
Volume 5- Jul 2021 (Date issued: 05-Jul-2021)

**Editor:** Eng. Chathurani Gunathilaka  
Niwunhella  
**Assistant Editor:** Eng. Ishanka  
Rathnayake

## Editorial Board

1. Dr. (Eng) WMD  
Walisundara
2. Eng. Sarath Walisundara
3. Eng. Manjula Rajapaksha
4. Eng. AWM Munas

No 529, Colombo Road,  
Pilimathalawa  
Tel. +94812234129  
Email: [ijesleditor@gmail.com](mailto:ijesleditor@gmail.com)

## Editorial

Welcome to the INCO CENT News Magazine. We are proud to present you the fifth issue of INCO CENT News Magazine featuring the writing skills of IIESL-CPB Members and Family Members. Presently, we are accepting limited number of non-members articles.

I've sought members who have a variety of interests, are involved in diverse academic and non-academic networks and are engaging in diversified industries.

I am excited and eager to help our writers to bring that expertise to new audiences and apply it in new directions.

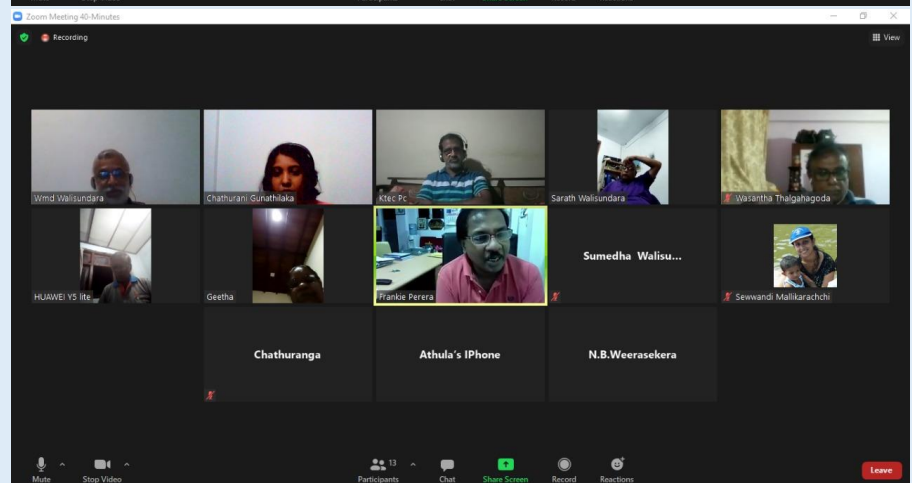
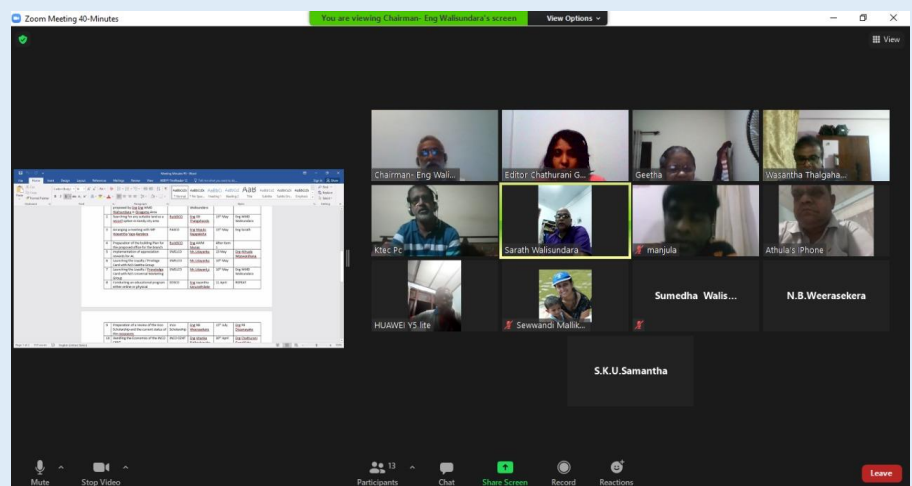
"If there's a book that you want to read, but it hasn't been written yet, then you must write it." "One day you will find the right words, and they will be simple." "Either write something worth reading or do something worth writing." "You never have to change anything you got up in the middle of the night to write."

*Think Positive!*

## Sixth EXCO Meeting

6<sup>th</sup> EXCO meeting of the Institution of Incorporated Engineers, Sri Lanka – Central Province Branch (IIESL-CPB) was held on 16<sup>th</sup> of May 2021 from 7.00 PM through an online platform which was hosted by Dr. (Eng) W.M.D Walisundara. Due to the prevailing situation in the country and the government imposed restrictions for gatherings, the Executive committee of the IIESL decided to hold the 7<sup>th</sup> EXCO Meeting of the IIESL-CPB through both physical and online platform.

Attended by 10 EXCO members of the institution, it was a successful event.





# Inco Cent

Bimonthly News Magazine published by the Central Provincial Branch of Institution of Incorporated Engineers, Sri Lanka  
Volume 5- Jul 2021 (Date issued: 05-Jul-2021)

## Seventh EXCO Meeting

7th EXCO meeting of the Institution of Incorporated Engineers, Sri Lanka –Central Province Branch (IIESL-CPB) was held on 19<sup>th</sup> of June 2021 from 7.00 PM through an online platform which was hosted by Dr. (Eng) W.M.D Walisundara. Due to the prevailing situation in the country and the government imposed restrictions for gatherings, the Executive committee of the IIESL decided to hold the 8<sup>th</sup> EXCO Meeting of the IIESL-CPB through an online meeting.

Attended by 12 EXCO members of the institution, it was a fruitful event.

The screenshot shows a Zoom meeting interface. The main window displays a Microsoft Word document titled "Meeting Minutes 16th May.docx". The document contains a table with the following content:

8	Conducting an educational program either online or physical	EDSCO	Eng Jayantha Karunathilake	15 <sup>th</sup> June	REPEAT
9	Preparation of a review of the Inco Scholarship and the current status of the recipients	Inco Scholarship	Eng N.B. Weerasekera	15 <sup>th</sup> July	Eng P.B. Dissanayake
10	Requesting higher educational opportunities from UICP	PASCO [REPEAT 2]	Eng Manjula Rajapaksa	15 <sup>th</sup> June	Eng Sarath Walisundara
14	Obtaining marking scheme details from various institutions for IIESL membership	PASCO	Eng Manjula Rajapaksa	REPEAT	Mr. Chathuranga
15	Contacting Dr. Jagath and Prof. Upul Dissanayake for item 13 and 14	PASCO	Eng Manjula Rajapaksa	REPEAT	1) Eng WMD Walisundara 2) Eng Sarath Walisundara
16	Submitting a progress report on Conducting the Membership Level Promotion workshop	MEMSCO	Eng Saratha Dissanayake	REPEAT	Mr. Upul Karunadasa

Below the table, there is a section titled "6. Suggestions and Comments" with the following text: "7. The next meeting will be held on 19<sup>th</sup> June, Sunday at 19.00 hrs. On Line which will be hosted by the".

The Zoom interface also shows a grid of participants on the right side, including Chaturani Gun..., Wmd Walisundara..., Ktec Pc, Samedha Walisu..., Sarath Walisundara..., Udayanka Wijaya..., Chaturanga..., Manjula Rajapak..., Galaxy A10s, and Wasantha Th... The bottom of the screen shows Zoom controls like Unmute, Start Video, Participants, Chat, Share Screen, Record, Reactions, and Leave.

This screenshot shows a Zoom meeting interface with a list of participants on the left and a grid of video thumbnails on the right. The participants list includes:

- Chaturani Gunathilake (M)
- Wmd Walisundara (Host)
- Sarath Walisundara
- Galaxy A10s
- Manjula Rajapaksa
- Udayanka Wijayarathne
- Chaturanga Domagamma
- Ktec Pc
- N.B. Weerasekera
- Samedha Walisundara
- Wasantha Thalgapoda

The video thumbnails show various participants, including Chaturani Gun..., Wmd Walisundara, Ktec Pc, Samedha Walisu..., Sarath Walisundara, Udayanka Wijayarathne, Chaturanga Domagamma, Manjula Rajapaksa, Galaxy A10s, N.B. Weerasekera, and Wasantha Thalgapoda. The bottom of the screen shows Zoom controls like Unmute, Start Video, Participants, Chat, Share Screen, Record, Reactions, and Leave.



# Inco Cent

Bimonthly News Magazine published by the Central Provincial Branch of Institution of Incorporated Engineers, Sri Lanka  
Volume 5- Jul 2021 (Date issued: 05-Jul-2021)

## Articles

- 06 **THE GOLDEN WRISTWATCH**
- 07 **Legal Systems in Ancient Sri Lanka**
- 10 *LED Part - 2*
- 15 **THE TALLEST BUILDING IN THE WORLD 2020**
- 16 *Smart Home*
- 19 *රුකඩ කලාකාරයෝ*
- 23 **Analog Transmission Vs Digital Transmission**
- 32 **TRAVEL DESTINATION-3**
- 34 *අමිල පිත්ත (ගැස්ට්‍රයිටිස්) සහ හෘදයාබාධ*
- 38 *Trawling in the Deep*
- 40 **නිවන් සැප ලැබේවා!**
- 42 **POETRY**
- 43 **Quotes of the Inco Cent (Understanding Effective Leadership)42**
- 44 **ANSWERS FOR THE CROSSWORD PUZZLE # 2**





DYNAMIC  
CONS.

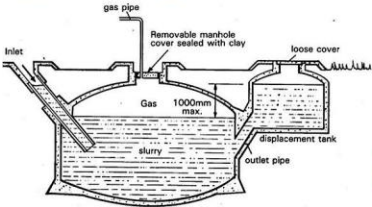
# DYNAMIC CONSTRUCTIONS INTERNATIONAL (PVT) LTD

Civil Engineers, Designers, Contractors, & Importers



## Architectural & Structural Designing & Construction of Buildings, Roads, Bridges and Consultancy Services

CONSTRUCTION EXCELLENCE WINNER 2016-2017  
CENTRAL PROVINCE- NATIONAL CONSTRUCTION ASSOCIATION



**Designing & Construction of Bio Gas Plants  
to manage your garbage by your own.  
Septic Tank & Soakage Pit are REPLACED  
with this Unit at Cheaper Cost**

**LIFE TIME FREE BIO GAS & FERTILIZER!!**



## Importing and Distributing of Construction Tools, Measuring Devices Equipment & Small Machinery



## Designing & Installation of Solar Systems

for Net Metering, Net Accounting &  
Net Plus. We are registered  
Service Provider under  
"Soorva Bala Sangramaya"



**Electric Car (Nissan Leaf, Outlander)  
Fast Charging with Automated 90 A Machine  
& Nissan Leaf Scanning Services**

529, Colombo Road , Pilimathalawa (20450) Sri Lanka  
Phone /Fax : 0815631627/0812579433, Mfax: 071-9378581  
Mobile : 077 3408370 /0714045081

Web: [www.walisundaraholdings.lk](http://www.walisundaraholdings.lk) E mail: [dynamic.cons@gmail.com](mailto:dynamic.cons@gmail.com)



## THE GOLDEN WRISTWATCH

A true story based on an own experience by Eng. Sarath Walisundara.  
General Secretary-IIESL-CPB

One fine morning I was travelling by one of my friends in his car to meet a client for some consultation on an Automation Project. We had many things to talk about, gossip, politics, boys 'secrets and business.

As we were passing Nugegoda junction, he showed me his wristwatch and said, can you guess the price? I bought this in Singapore.



It was a gold colour wristwatch with a gold colour belt. My first impression was that it didn't match his dark complexion. It was quartz with a Golden colour dial and arms so that reading the time wasn't easy, maybe it was the reason for his usual non-punctuality.

I managed to guess with difficulty because I am a man who wears a wristwatch only to read the time but not for its price. I said the price would be Rs. 3,500.00.

He roared, what? Are you Mad.? Don't be funny. It was a chain of words to show his disappointment over my "poor ability" of valuing things. He went onto say that he bought it for Rs. 15,000.00 in Singapore but had he bought it locally it would have cost him Rs. 45,000.00. He had a prepared list of big tycoons who wear the same brand, to hint me that I should rank him in the same platform. His directions of the Judge to prove me that my estimate was wrong was so long and boring. I wanted to end this wristwatch case.

So asked him "what is the time, now?" He replied at 11.15 while looking proudly at his Golden Wristwatch. Then I looked at mine that had cost only Rs. 900.00. It too showed the time as 11.15. I told him "Hey look, both our wristwatches show the same time. "

Then, the long boring speaking on the Golden Wristwatch ended,



***Here I have convinced that striving for being Luxury, only brings Frustration.***

**Whatever the cost you pay for a wristwatch or a clock, there are only 24 hours for a day. All the clocks in the world is run at the same speed. None get any extra time for a higher price.**

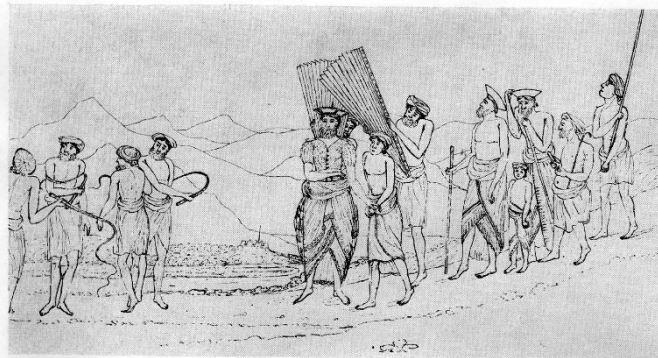
***What is important is Work for Time, simply be Punctual.***





## Legal Systems in Ancient Sri Lanka

Eng. E.M.R. Ekanayake,  
NDT (Civil), Dip. in Public Proc. & Cont. Admin.,  
PGD in Const. Law & Disp. Resolution, MBA,  
MIIE(SL).



### Introduction

Sri Lanka has a very long history. According to the *Mahavamsa*<sup>1</sup>, Sinhalese are descendants of Prince Vijaya and his seven hundred followers who landed on the west coast of the island around the 5<sup>th</sup> century BC. Even when they arrive in Sri Lanka, some kind of civilized population lived in the country. Kuweni, the Yaksha princess who married Vijaya afterwards, was weaving some clothes when they first met. They were Yaksha devotees. It establishes that there was some form of civilized society.

In a somewhat civilized society, surely there should have been some form of administration of civil and judicial matters. We do not have written confirmations about the legal systems that prevailed during those days. But, we have pieces of evidence to prove that the kings who ruled afterwards maintained law and order and followed some forms of hierarchical judicial systems.

### The Pre-colonial Period

Several works of literature have mentioned elements of judicial systems in early Ceylonese history. During the time of Queen Kalyanawathi (1202 – 1208), a military commander named Ayasmantha compiled a book on law<sup>2</sup>. Kamalika Pieris says that inscriptions such as the Aturupolaya Gama pillar inscription and Kondavattavan inscription of King Dappula IV., Timbirivava pillar inscription of King Kassapa IV, Kirigallava inscription of King Udaya II, and Vevalketiya

<sup>1</sup> <http://mahavamsa.org/mahavamsa/original-version/07-consecrating-vijaya/>

<sup>2</sup> Consice mahawamsa p110



# Inco Cent

Bimonthly News Magazine published by the Central Provincial Branch of Institution of Incorporated Engineers, Sri Lanka  
Volume 5- Jul 2021 (Date issued: 05-Jul-2021)

inscription of King Mahinda IV speak of prohibited behaviour and the punishments attached to them<sup>3</sup>. For example, the Kondavattavan inscription has ten taboos such as දියපත්තායම් නහංවිය, භූදිය නහංවිය, මඩකඳු නහංවිය for improved water management. It can be considered as the penal code in those periods.

In the keynote address<sup>4</sup> by High Court Judge R.T. Vigna Raja, at an orientation program to the law students cited Dr. A.R.B. Amarasingha's "The Legal Heritage of Sri Lanka" and said, "Ceylonese monarch followed an elaborate system of administration of justice spreading to different levels of hearings".

The King had original jurisdiction, and at times sat in judgment hearing even simple cases<sup>5</sup>. Often the kings' judicial authority was exercised by officials to whom he had delegated such powers. However, the king himself heard disputes involving the members of the royal family or high dignitaries of the state. The king alone could impose a sentence of death.

In exercising the judicial powers, the king consulted his chiefs and obtained their opinion. In the early days, Rajasabha or the king's court and during the Kandyan period Maha Naduwa advised the king on the highest judicial matters. This court consisted of the Adikaramas, Disavas, Lekams, and Muhandirums who were distinguished for their ability and judgment.

Gamsabhava was the lowest court and probably the earliest tribunal in the judicial hierarchy of the Sinhalese. However, no record gives an account of the judges of this court or the legal proceedings<sup>6</sup>.

Ratasabha composed of a delegation from each village in a Korale or Pattu was another court. The delegates were from the principal citizens and officials such as Mohottalas (Scribes), Liyanarala (Clerks), Badderalas (tax collectors), and Undiralas (collector of royal revenue). These tribunals adjudicated matters affecting caste, marriage, and social status. Thus it is clear that from the very early days of Sri Lankan history, a hierarchy of courts from village level Gamsabhava through district-level Ratasabhava to Mahanaduwa existed in the island.

In history, there were only a few occasions that the island was under one king. Most of the time, there were several kingdoms in early Sri Lanka. Those kings and princes who ruled separate kingdoms governed more or less independently. Most of the Sinhala kings ruled north central, southern, and central regions. After the fall of the Anuradhapura kingdom, there were some Chola and Tamil rulers in the northern territory of Sri Lanka. And there were Arab traders all over the country doing their businesses. These factors influenced to have several indigenous laws to be practiced in several parts of Ceylon. But most of these were not in written form. These continued through an oral tradition.

<sup>3</sup> <http://www.island.lk/2009/01/10/satmag4.html>

<sup>4</sup> <http://www.highbeam.com/doc/1P3-1668250921.html>

<sup>5</sup> EZ vol 1 pp 35 37

<sup>6</sup> Geiger 1960





# Inco Cent

Bimonthly News Magazine published by the Central Provincial Branch of Institution of Incorporated Engineers, Sri Lanka  
Volume 5- Jul 2021 (Date issued: 05-Jul-2021)

When the first European power who invaded Ceylon, the Portuguese, came to the island, several laws prevailed in the country. The majority of Sinhalese who occupied the interior, southern and western areas of the country followed the Sinhalese law, popularly known as Kandyan law. This law was linked to the times of the early Sinhala kingdom through a continuous oral tradition. Robert Knox said "There are no laws but the will of the king. Whatsoever proceeds out of his mouth is immutable law. Nevertheless, they have certain usages and customs that do prevail and are observed as laws"<sup>7</sup>. But Hayley's comment is "The Sinhala law, as enforced in the Kandyan territories in the eighteenth and nineteenth centuries was in no sense a personal law. Originating in the customs of the Sinhalese it had long since become the law of a country administered by the King in respect of all cases alike"<sup>8</sup>.

The Tamils, who lived mostly in northern areas, whose religion was Hindu were governed by the Law of Tesawalamai. The then Dutch Commander of the Jaffna has mentioned native customs of the Jaffna people regarding their dispute settlements. These customs were later codified as the "Law of Tesawalamai". Of course, the law of the Muslim community was the Muslim law. This Muslim community was descendants of Muslims who came to the island as traders or who migrated from India. Their Code of Muslim law also codified during the Dutch period. Also, there were other minor systems of laws such as the Law of Mukkuvars, and the system of laws for Chetties, Parsees, and Paravars<sup>9</sup>.

These facts above establish that before the colonization, we had laws, customs, and judiciary, which was unique to our country.

## BIBLIOGRAPHY

1. Anthonisz, R.G., "*The Dutch in Ceylon; An Account of Their Early Visits to the Island*", Reprint (2003), Asian Educational Services, Delhi.
2. Cooray, A., "*Oriental and Occidental Laws in Harmonious Co-existence: The Case of Trusts in Sri Lanka*", Electronic Journal of Comparative Law, vol. 12.1 (May 2008), <http://www.ejcl.org>
3. De Silva, M.U., "*Emergence of Two Legal Cultures in the Sri Lanka and the Growth of a Litigious Nation Under Western Powers*", (Thesis, University of Ruhuna, Sri Lanka), [http://www.ruh.ac.lk/research/academic\\_sessions/2003\\_mergepdf/36-48.PDF](http://www.ruh.ac.lk/research/academic_sessions/2003_mergepdf/36-48.PDF)
4. Geiger, W., "*The Mahawamsa or The Great Chronicle of Ceylon*", 1912, Oxford University Press
5. Karunathilaka, H., "*The Discussion at Malwana*", <http://www.sundaytimes.lk/120923/funday-times/the-discussion-at-malwana-13017.html>
6. Nadaraja, T., "*The Legal System of Ceylon in its Historical Settings*", (Brill Archive, 1975)
7. Pieris, K., "*Crime and Punishment in Ancient and Medieval Sri Lanka*", <http://www.island.lk/2009/01/10/satmag4.html>
8. Rajapakse, R., "*Consice Mahawamsa*", 1<sup>st</sup> ed
9. Skeen, W., "*A Collection of Legislative Acts of the Ceylon Government from 1796*", vol 1

<sup>7</sup> Knox Robert, *An historical Relation of Ceylon*. (1958) reprint p 161.

<sup>8</sup> Haylet p 25

<sup>9</sup> CJM Cooray, an introduction to the legal systems of Sri Lanka, p 3



## LED Part - 2

Mr. P. Chathuranga Domagammana (AM-1985)  
Member of Professional Affairs Subcommittee (PASCO)  
Managing Director-Nipun Higher Education Institute.

In Volume – 4, I have explained about LED working principle, LED colors and varieties. As well as LED types.

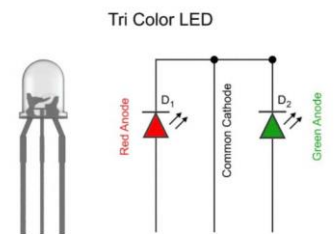
<https://iiesl.lk/inco-cent-2021-bimonthly-news-magazine-vol-4/>

In this part-2, continue the other types of LEDs.

### Tricolor LED

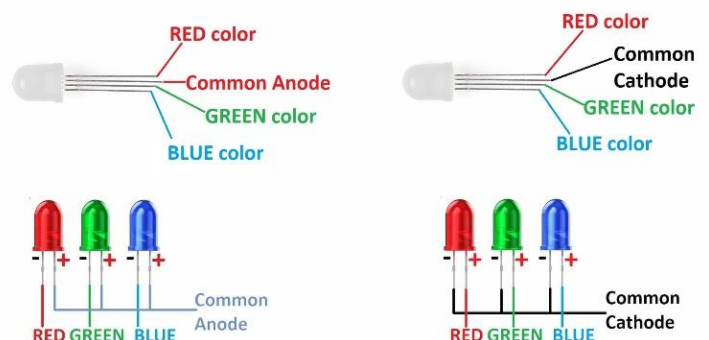
As the name implies there are three colours in the LED. An LED It has three terminals. One Terminal is common. When power supplied to the common pin and another pin, it emits a particular colour. When power is supplied to the common pin and both other pins, it emits the combination of two colours.

In a simple modification, a tricolour LED can be turned into a Multicolor LED. The brightness of a LED can be changed by varying the current applied to its terminals. Normally the current change is not good for a LED. But these types of LEDs are made to withstand the effects of current changes.



### RGB LEDs

In the RGB LED, Red, Green and Blue LEDs are in one very small package. Can you Imagine that One RGB LED can emit 16 million different colours? When each and every positive terminal connected, it is called common Anode and negative terminals are connected, it is called the common cathode. Therefore, this LED has four terminals.



RGB LEDs emit various colours according to the current level through their terminals. It can give 256 current levels to each and every LED.



As an example, 0 take as the 0 Amps and the maximum current level is 32 mA. When this range is divided from 256.  $32\text{mA}/256 = 0.125\text{mA}$ , that means the minimum current level is 0.125mA (Level -1). The level 2 current will be  $2 \times 0.125\text{mA} = 0.250\text{mA}$ . likewise, the 100 level will be  $100 \times 0.125\text{mA} = 12.5\text{mA}$ . The maximum current level is  $256 \times 0.125\text{mA} = 32\text{mA}$ .

These 256 current levels are given by one LED. That means there are 256 colours in one LED. Similarly, there are 3 LEDs in the package. As a result, the color combination will be  $256 \times 256 \times 256 = 16,777,216$  (about 16 Million).

For an example, (The combination is Red, Green, Blue = 256,256,256)

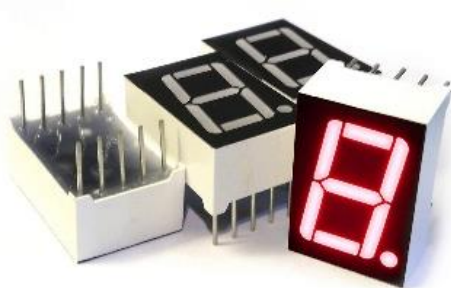
When we give 256, 0, 0 (32mA, 0mA, 0mA) – it will be emitting pure Red, (Remember, there are 4 terminals in the LED, one terminal is a common pin) Also, 256, 256, 0 (32mA, 32mA, 0mA) will emit pure Yellow. 256, 256, 256, will be White and 0, 0, 0 will be black. Collectively it can emit more than 16 million colours.

This current controlling part is not possible with a simple circuit. Thus, it should do through a microcontroller. Then the LED emits various colours according to the program in the microcontroller.

## Flashing LED

This LED doesn't emit continuous light. When the LED power-up, flashing occurs. There are single colour LEDs, as well as multicolor LEDs. LED flashing is processed by a multi-vibrate circuit inbuilt in the LED itself. These LEDs are commonly used in decorations, especially vehicle decorations, Building Decorations, Banquet Hall Decorations.

## 7 Segments & Starburst



Seven segments is a device that can display numbers from 0 to 9. It displays numbers by illuminating 7 LEDs. That is the reason it named "Seven Segment" It has 8 Terminals. There is a common pin and another 7 pins for each and every LED. Bellow picture shows the internal arrangement of a seven-segment.



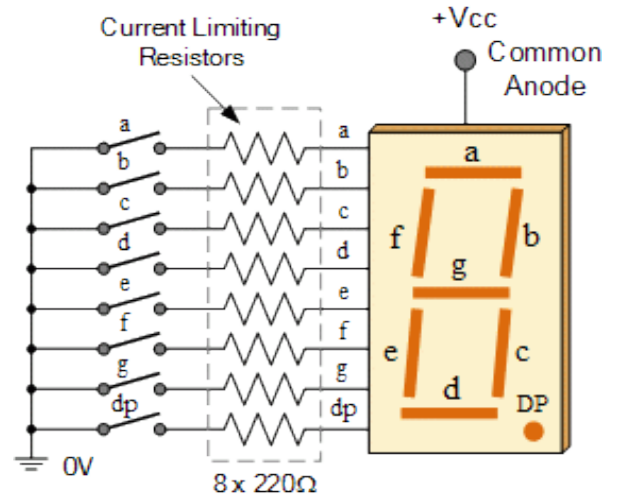


# Inco Cent

Bimonthly News Magazine published by the Central Provincial Branch of Institution of Incorporated Engineers, Sri Lanka  
Volume 5- Jul 2021 (Date issued: 05-Jul-2021)

In this picture, a, b, c, d, e, f, g are LEDs. When we want to display no 1, b and c LED should illuminate. If we want to indicate no 8, all the LEDs should illuminate. As well as we can display some English letters. Not all alphabet. seven segments cannot operate manually. It should process by some kind of electronic circuit. There are special ICs' called the seven-segment driver, for this operation. 4511 BCD to 7 Segment Decoder is a commonly used IC.

Bellow table shows the number and the particular LED, that should illuminate in seven-segment.



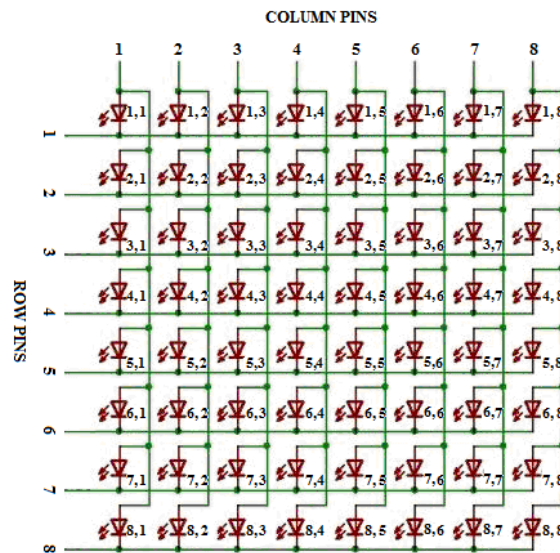
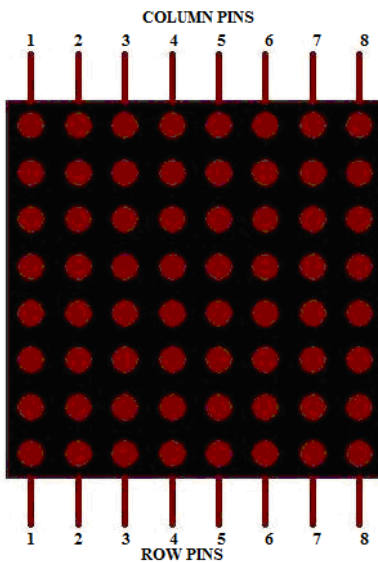
Digit	LED a	LED b	LED c	LED d	LED e	LED f	LED g
0	1	1	1	1	1	1	0
1	0	1	1	0	0	0	0
2	1	1	0	1	1	0	1
3	1	1	1	1	0	0	1
4	0	1	1	0	0	1	1
5	1	0	1	1	0	1	1
6	1	0	1	1	1	1	1
7	1	1	1	0	0	0	0
8	1	1	1	1	1	1	1
9	1	1	1	0	0	1	1



**Starburst** displays are manufactured to display numbers as well as the English alphabet. This is also the same as the seven segments but there are 16 segments in one package. This is also named Alphanumeric LED Display. This displays also a driver with a segment driver IC. We can use any number of displays and make a large display.



## LED Matrix Display



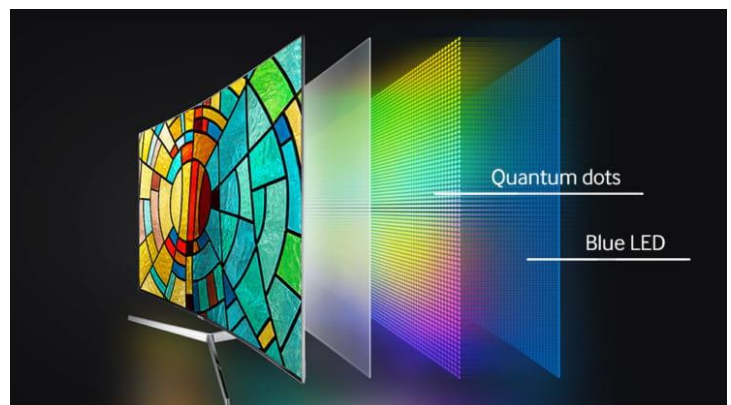
These displays can make different designs than starburst displays. They are also manufactured using small led segments. The entire segment is filled with small led. These led dots can illuminate individually and make any designs. LED Matrix can make any letters in any language in the world. This led dot also named a pixel. The

number of pixels in the display make a quality picture. This is known as the resolution of the panel. Higher the Resolution Higher the quality of the Picture.

Nowadays LED Displays manufactured with very small pixels, very small pixel contributes for high resolution. They can make millions of colours like TV screens. Therefore, these displays can make quality pictures than picture created by LCD. These panels use low electrical power. Being able to manufacture Large displays this pixel led display, is the most valuable thing at the moment.

## Organic LED (OLED)

Generally, LEDs are made of inorganic elements and compounds like Germanium, Silicon, Indium, Thulium, etc. But later, scientist invented organic compounds that show semiconductor characteristics. LEDs that manufacture using these organic semiconductors are named Organic LED (OLED). Nowadays most led displays are made of OLEDs. The function of the display is critical than a normal led display.



Here, an organic material layer place in between two electrodes. One electrode is transparent to send the light through it, which emits from the organic material. According to the requirement, both electrodes can be manufactured



# Inco Cent

Bimonthly News Magazine published by the Central Provincial Branch of Institution of Incorporated Engineers, Sri Lanka  
Volume 5- Jul 2021 (Date issued: 05-Jul-2021)

as transparent. Then the whole display will be transparent like glass. Transparent monitor screens are manufactured. Because of this ability “Augmented reality technology is developed.

Most important thing is, using OLEDs very thin displays can be made. Can you believe, these displays are thinner than paper. But very hard and flexible. It can be rolled like paper. Some mobiles phones and laptop screen are made of OLEDs.

## Quantum Dot LED

Quantum dot Led are made using Nanotechnology. The technology comes from Quantum Physics. Simply, when a light ray going through a Nano partial, you can see colour. This colour will change when the Nano partial’s size change. The quantum dot led made with this natural phenomenon. This very small dot named the quantum dot (QD).

The light wavelength increases while the QD size increase and various colours can be made by mixing colours. The



power consumption is very low in QD Displays. The Colour and the picture quality is very high. Presently very high-quality TV screens are made of QD OLED. These TVs’ display’s color temperature is more than 4K, sometimes it will 8K. So that The pictures are almost natural.

## Light Emitting Diodes

-End-

References: ඉලෙක්ට්‍රොනික්ස් අත් පොත.





# Inco Cent

Bimonthly News Magazine published by the Central Provincial Branch of Institution of Incorporated Engineers, Sri Lanka  
Volume 5- Jul 2021 (Date issued: 05-Jul-2021)

## THE TALLEST BUILDING IN THE WORLD 2020

### The Burj Khalifa

In 2020, the Burj Khalifa remains the World's Tallest Building at 828 meters (and has been since 2010), which is 1.8 times the height of the Petronas Twin Towers.

**Burj Dubai**  
**WORLD'S TALLEST SKYSCRAPER**

**WORLD RECORDS**  
As an 828-metre-tall tower with 163 stories, Burj Dubai holds the following records:

- Tallest building in the world
- Tallest free-standing structure in the world
- Highest number of stories in the world
- Highest occupied floor in the world
- Highest outdoor observation deck in the world
- Elevator with the longest travel distance in the world
- Tallest service elevator in the world

**DESIGN INSPIRATION**  
The architects of Burj Dubai incorporated Islamic traditional patterns and modern sophistication to design a structure that will stand the test of time. The end product is a visually striking building, towering over the Dubai skyline. They also took further design for elevation to Dubai as a key inspiration.

**Organic and desert influence**  
The tower's design is inspired by the organic forms of the desert landscape, such as the spiraling minarets of the Great Mosque of Cordoba.

**Islamic design influence**  
The tower's design is inspired by Islamic architecture, specifically the spiraling minarets of the Great Mosque of Cordoba.

**BY NUMBERS**

- 28,261** Glass panels covering the exterior of the Burj Khalifa and its twin towers
- 2.93** ELEV TOWER would have to be built to reach the top of the Burj
- 95km** The distance from which the top of the spire can be seen
- 80km** The distance that can be seen from the observation deck
- 2,065** The number of miles of pipeline that can hold with the concrete in the Burj
- 12,000** The number of welds on the Burj during the peak of construction
- 6-8wks** The amount of time it will take to complete the construction of the entire building

**GREEN IRRIGATION**  
The garden is irrigated with water collected through Burj Dubai's Condensate Collection System. Hot and humid Dubai climate, combined with the tower's cooling requirements, result in a significant amount of condensation of moisture from the air. This water, about 100 tonnes or so, provides about 5 million gallons of supplemental water a year. The equivalent to nearly 20 Olympic-sized swimming pools.

**PREDICTIVE YEARLY CONDENSATION**  
Data is gathered from the ambient air conditioning condenser coils which is collected and used for irrigation.

**CLEANING**  
Cleaning the Burj is a big job. The contractor is the Burj Khalifa Cleaning Company. The Burj Khalifa Cleaning Company is the only company in the world to clean a building of this height. The Burj Khalifa Cleaning Company has been in business for over 10 years.

**THE FOUNDATION**  
The Burj Khalifa, which weighs about 500,000 tonnes, will rest on 1.7m thick precast concrete foundations, supported by concrete piles with a maximum 120m in diameter and extending 200 metres below ground.

**ARMANI SUITES**  
The Armani Hotel occupies eleven floors of the Burj Khalifa. All the furniture was specifically designed for the hotel and the materials chosen for Giorgio Armani himself. They include some advanced, anti-rust, stainless steel, and leather coverings.

**40,000** Square metres of hotel space  
**160** Suites and suites  
**30,000** Square metres of conference and meeting facilities  
**8** Restaurants  
**12,000** Square feet of the Armani spa

**BUILT AROUND THE BURJ**  
Surrounding Burj Dubai is a mixed-use development including 20,000 homes, 200,000 sqm of offices, 100,000 sqm of retail, and the D Mall by Dubai Mall.

**LEVEL SUMMARY**  
The Burj Khalifa is divided into different sections. The diagram below shows their floor plans.

**Roof 1-5 used for:**  
1-5: TSO Reserve  
6: Water Tank  
7-10: Window Washing System  
11: Mezzanine  
12-15: Spine Hotel Lobby  
16-19: Communications  
20-23: Mechanical  
24-27: Corporate Offices

**100-108** Mechanical Area of Refuge  
**109-118** Corporate Offices  
**119-121** Observation Deck  
**122-123** Corporate Offices  
**124-125** Sky Lobby  
**126-127** Residents Club  
**128-129** Hotel Club  
**130-131** Mechanical Area of Refuge  
**132-138** Luxury Residences  
**139-140** Sky Lobby  
**141-142** Residents  
**143-147** Residents  
**148-149** Sky Lobby  
**150-151** Residents  
**152-153** Mechanical Area of Refuge  
**154-155** Residents  
**156-157** Sky Lobby  
**158-159** Residents  
**160-161** Sky Lobby  
**162-163** Residents  
**164-165** Sky Lobby  
**166-167** Residents  
**168-169** Sky Lobby  
**170-171** Residents  
**172-173** Sky Lobby  
**174-175** Residents  
**176-177** Sky Lobby  
**178-179** Residents  
**180-181** Sky Lobby  
**182-183** Residents  
**184-185** Sky Lobby  
**186-187** Residents  
**188-189** Sky Lobby  
**190-191** Residents  
**192-193** Sky Lobby  
**194-195** Residents  
**196-197** Sky Lobby  
**198-199** Residents  
**200-201** Sky Lobby  
**202-203** Residents  
**204-205** Sky Lobby  
**206-207** Residents  
**208-209** Sky Lobby  
**210-211** Residents  
**212-213** Sky Lobby  
**214-215** Residents  
**216-217** Sky Lobby  
**218-219** Residents  
**220-221** Sky Lobby  
**222-223** Residents  
**224-225** Sky Lobby  
**226-227** Residents  
**228-229** Sky Lobby  
**230-231** Residents  
**232-233** Sky Lobby  
**234-235** Residents  
**236-237** Sky Lobby  
**238-239** Residents  
**240-241** Sky Lobby  
**242-243** Residents  
**244-245** Sky Lobby  
**246-247** Residents  
**248-249** Sky Lobby  
**250-251** Residents  
**252-253** Sky Lobby  
**254-255** Residents  
**256-257** Sky Lobby  
**258-259** Residents  
**260-261** Sky Lobby  
**262-263** Residents  
**264-265** Sky Lobby  
**266-267** Residents  
**268-269** Sky Lobby  
**270-271** Residents  
**272-273** Sky Lobby  
**274-275** Residents  
**276-277** Sky Lobby  
**278-279** Residents  
**280-281** Sky Lobby  
**282-283** Residents  
**284-285** Sky Lobby  
**286-287** Residents  
**288-289** Sky Lobby  
**290-291** Residents  
**292-293** Sky Lobby  
**294-295** Residents  
**296-297** Sky Lobby  
**298-299** Residents  
**300-301** Sky Lobby  
**302-303** Residents  
**304-305** Sky Lobby  
**306-307** Residents  
**308-309** Sky Lobby  
**310-311** Residents  
**312-313** Sky Lobby  
**314-315** Residents  
**316-317** Sky Lobby  
**318-319** Residents  
**320-321** Sky Lobby  
**322-323** Residents  
**324-325** Sky Lobby  
**326-327** Residents  
**328-329** Sky Lobby  
**330-331** Residents  
**332-333** Sky Lobby  
**334-335** Residents  
**336-337** Sky Lobby  
**338-339** Residents  
**340-341** Sky Lobby  
**342-343** Residents  
**344-345** Sky Lobby  
**346-347** Residents  
**348-349** Sky Lobby  
**350-351** Residents  
**352-353** Sky Lobby  
**354-355** Residents  
**356-357** Sky Lobby  
**358-359** Residents  
**360-361** Sky Lobby  
**362-363** Residents  
**364-365** Sky Lobby  
**366-367** Residents  
**368-369** Sky Lobby  
**370-371** Residents  
**372-373** Sky Lobby  
**374-375** Residents  
**376-377** Sky Lobby  
**378-379** Residents  
**380-381** Sky Lobby  
**382-383** Residents  
**384-385** Sky Lobby  
**386-387** Residents  
**388-389** Sky Lobby  
**390-391** Residents  
**392-393** Sky Lobby  
**394-395** Residents  
**396-397** Sky Lobby  
**398-399** Residents  
**400-401** Sky Lobby  
**402-403** Residents  
**404-405** Sky Lobby  
**406-407** Residents  
**408-409** Sky Lobby  
**410-411** Residents  
**412-413** Sky Lobby  
**414-415** Residents  
**416-417** Sky Lobby  
**418-419** Residents  
**420-421** Sky Lobby  
**422-423** Residents  
**424-425** Sky Lobby  
**426-427** Residents  
**428-429** Sky Lobby  
**430-431** Residents  
**432-433** Sky Lobby  
**434-435** Residents  
**436-437** Sky Lobby  
**438-439** Residents  
**440-441** Sky Lobby  
**442-443** Residents  
**444-445** Sky Lobby  
**446-447** Residents  
**448-449** Sky Lobby  
**450-451** Residents  
**452-453** Sky Lobby  
**454-455** Residents  
**456-457** Sky Lobby  
**458-459** Residents  
**460-461** Sky Lobby  
**462-463** Residents  
**464-465** Sky Lobby  
**466-467** Residents  
**468-469** Sky Lobby  
**470-471** Residents  
**472-473** Sky Lobby  
**474-475** Residents  
**476-477** Sky Lobby  
**478-479** Residents  
**480-481** Sky Lobby  
**482-483** Residents  
**484-485** Sky Lobby  
**486-487** Residents  
**488-489** Sky Lobby  
**490-491** Residents  
**492-493** Sky Lobby  
**494-495** Residents  
**496-497** Sky Lobby  
**498-499** Residents  
**500-501** Sky Lobby  
**502-503** Residents  
**504-505** Sky Lobby  
**506-507** Residents  
**508-509** Sky Lobby  
**510-511** Residents  
**512-513** Sky Lobby  
**514-515** Residents  
**516-517** Sky Lobby  
**518-519** Residents  
**520-521** Sky Lobby  
**522-523** Residents  
**524-525** Sky Lobby  
**526-527** Residents  
**528-529** Sky Lobby  
**530-531** Residents  
**532-533** Sky Lobby  
**534-535** Residents  
**536-537** Sky Lobby  
**538-539** Residents  
**540-541** Sky Lobby  
**542-543** Residents  
**544-545** Sky Lobby  
**546-547** Residents  
**548-549** Sky Lobby  
**550-551** Residents  
**552-553** Sky Lobby  
**554-555** Residents  
**556-557** Sky Lobby  
**558-559** Residents  
**560-561** Sky Lobby  
**562-563** Residents  
**564-565** Sky Lobby  
**566-567** Residents  
**568-569** Sky Lobby  
**570-571** Residents  
**572-573** Sky Lobby  
**574-575** Residents  
**576-577** Sky Lobby  
**578-579** Residents  
**580-581** Sky Lobby  
**582-583** Residents  
**584-585** Sky Lobby  
**586-587** Residents  
**588-589** Sky Lobby  
**590-591** Residents  
**592-593** Sky Lobby  
**594-595** Residents  
**596-597** Sky Lobby  
**598-599** Residents  
**600-601** Sky Lobby  
**602-603** Residents  
**604-605** Sky Lobby  
**606-607** Residents  
**608-609** Sky Lobby  
**610-611** Residents  
**612-613** Sky Lobby  
**614-615** Residents  
**616-617** Sky Lobby  
**618-619** Residents  
**620-621** Sky Lobby  
**622-623** Residents  
**624-625** Sky Lobby  
**626-627** Residents  
**628-629** Sky Lobby  
**630-631** Residents  
**632-633** Sky Lobby  
**634-635** Residents  
**636-637** Sky Lobby  
**638-639** Residents  
**640-641** Sky Lobby  
**642-643** Residents  
**644-645** Sky Lobby  
**646-647** Residents  
**648-649** Sky Lobby  
**650-651** Residents  
**652-653** Sky Lobby  
**654-655** Residents  
**656-657** Sky Lobby  
**658-659** Residents  
**660-661** Sky Lobby  
**662-663** Residents  
**664-665** Sky Lobby  
**666-667** Residents  
**668-669** Sky Lobby  
**670-671** Residents  
**672-673** Sky Lobby  
**674-675** Residents  
**676-677** Sky Lobby  
**678-679** Residents  
**680-681** Sky Lobby  
**682-683** Residents  
**684-685** Sky Lobby  
**686-687** Residents  
**688-689** Sky Lobby  
**690-691** Residents  
**692-693** Sky Lobby  
**694-695** Residents  
**696-697** Sky Lobby  
**698-699** Residents  
**700-701** Sky Lobby  
**702-703** Residents  
**704-705** Sky Lobby  
**706-707** Residents  
**708-709** Sky Lobby  
**710-711** Residents  
**712-713** Sky Lobby  
**714-715** Residents  
**716-717** Sky Lobby  
**718-719** Residents  
**720-721** Sky Lobby  
**722-723** Residents  
**724-725** Sky Lobby  
**726-727** Residents  
**728-729** Sky Lobby  
**730-731** Residents  
**732-733** Sky Lobby  
**734-735** Residents  
**736-737** Sky Lobby  
**738-739** Residents  
**740-741** Sky Lobby  
**742-743** Residents  
**744-745** Sky Lobby  
**746-747** Residents  
**748-749** Sky Lobby  
**750-751** Residents  
**752-753** Sky Lobby  
**754-755** Residents  
**756-757** Sky Lobby  
**758-759** Residents  
**760-761** Sky Lobby  
**762-763** Residents  
**764-765** Sky Lobby  
**766-767** Residents  
**768-769** Sky Lobby  
**770-771** Residents  
**772-773** Sky Lobby  
**774-775** Residents  
**776-777** Sky Lobby  
**778-779** Residents  
**780-781** Sky Lobby  
**782-783** Residents  
**784-785** Sky Lobby  
**786-787** Residents  
**788-789** Sky Lobby  
**790-791** Residents  
**792-793** Sky Lobby  
**794-795** Residents  
**796-797** Sky Lobby  
**798-799** Residents  
**800-801** Sky Lobby  
**802-803** Residents  
**804-805** Sky Lobby  
**806-807** Residents  
**808-809** Sky Lobby  
**810-811** Residents  
**812-813** Sky Lobby  
**814-815** Residents  
**816-817** Sky Lobby  
**818-819** Residents  
**820-821** Sky Lobby  
**822-823** Residents  
**824-825** Sky Lobby  
**826-827** Residents  
**828-829** Sky Lobby  
**830-831** Residents  
**832-833** Sky Lobby  
**834-835** Residents  
**836-837** Sky Lobby  
**838-839** Residents  
**840-841** Sky Lobby  
**842-843** Residents  
**844-845** Sky Lobby  
**846-847** Residents  
**848-849** Sky Lobby  
**850-851** Residents  
**852-853** Sky Lobby  
**854-855** Residents  
**856-857** Sky Lobby  
**858-859** Residents  
**860-861** Sky Lobby  
**862-863** Residents  
**864-865** Sky Lobby  
**866-867** Residents  
**868-869** Sky Lobby  
**870-871** Residents  
**872-873** Sky Lobby  
**874-875** Residents  
**876-877** Sky Lobby  
**878-879** Residents  
**880-881** Sky Lobby  
**882-883** Residents  
**884-885** Sky Lobby  
**886-887** Residents  
**888-889** Sky Lobby  
**890-891** Residents  
**892-893** Sky Lobby  
**894-895** Residents  
**896-897** Sky Lobby  
**898-899** Residents  
**900-901** Sky Lobby  
**902-903** Residents  
**904-905** Sky Lobby  
**906-907** Residents  
**908-909** Sky Lobby  
**910-911** Residents  
**912-913** Sky Lobby  
**914-915** Residents  
**916-917** Sky Lobby  
**918-919** Residents  
**920-921** Sky Lobby  
**922-923** Residents  
**924-925** Sky Lobby  
**926-927** Residents  
**928-929** Sky Lobby  
**930-931** Residents  
**932-933** Sky Lobby  
**934-935** Residents  
**936-937** Sky Lobby  
**938-939** Residents  
**940-941** Sky Lobby  
**942-943** Residents  
**944-945** Sky Lobby  
**946-947** Residents  
**948-949** Sky Lobby  
**950-951** Residents  
**952-953** Sky Lobby  
**954-955** Residents  
**956-957** Sky Lobby  
**958-959** Residents  
**960-961** Sky Lobby  
**962-963** Residents  
**964-965** Sky Lobby  
**966-967** Residents  
**968-969** Sky Lobby  
**970-971** Residents  
**972-973** Sky Lobby  
**974-975** Residents  
**976-977** Sky Lobby  
**978-979** Residents  
**980-981** Sky Lobby  
**982-983** Residents  
**984-985** Sky Lobby  
**986-987** Residents  
**988-989** Sky Lobby  
**990-991** Residents  
**992-993** Sky Lobby  
**994-995** Residents  
**996-997** Sky Lobby  
**998-999** Residents  
**1000-1001** Sky Lobby

(<https://www.skyscrapercenter.com/tallest-in-2020>)



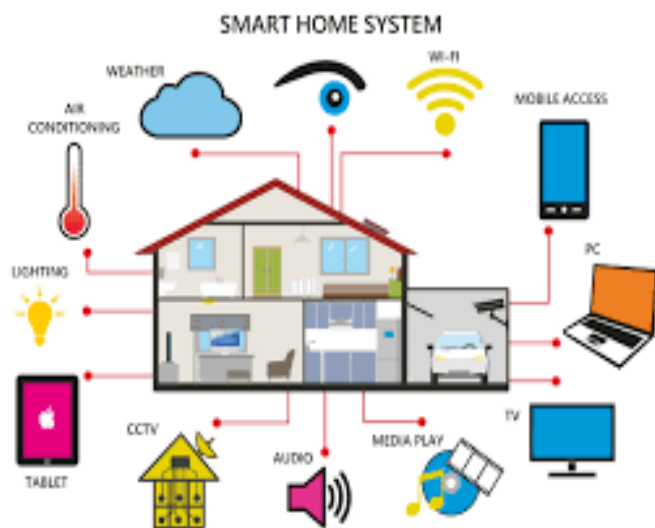
## Smart Home

Eng.Sumedha Walisundara

Member of Education and Training Subcommittee (EDSCO)

Engineer, Sri Lanka Telecom PLC, IIESL (M2231), ECLS (211587)

The **Smart Home** concept is the process of automating a home or office using IoT devices. (I described what an IoT device is in my previous article) Simply making the household appliances we automatically control and function through a mobile app, such as switches, TVs, radio, washing machine, door lock, air conditioners, curtains, plugs and other devices. By providing us with safe, comfortable and efficient solutions, a smart home will help us in our dreaming of better life.



The key feature is the ability of saving time. Everyone is benefitted by a smart home. Just as homes evolved to include electricity in the past, today a smart home is the next step in an improved lifestyle to suit our life (Shinrai, 2021).

The most important thing here is that we are able to control these devices either being at home or anywhere in the world. It has the ability to schedule a timetable for any. It can also create an event and control the equipment as an event. For example, you can create an event in the morning, during the day, in the evening, at night or on a holiday and control the equipment. Another feature here is the ability to control the

device via voice commands using a virtual assistant service (using Google Home or Amazon Alexa) as well as it has the ability to detect GPS location and control devices accordingly. In addition, it monitors power consumption. All devices in the system can be integrated with several levels of administrator privileges to enable a high security solution. This home system can create energy saving strategies to save electricity and minimize public works. It provides users with safe, convenient, and energy-saving service points, along with warnings about current safety and power consumption.

Newly built homes are often constructed with smart home infrastructure in place. Older homes, on the other hand, can be retrofitted with smart technologies. While many smart home systems still run on X10 or Insteon, Bluetooth and Wi-Fi have grown in popularity. Zigbee and Z-Wave are two of the most common home automation communications protocols in use today. Both use mesh network technologies, short-range, low-power radio signals to connect smart home systems. Though both target the same smart home applications, Z-Wave has a range of 30 meters to Zigbee's 10 meters,



with Zigbee often perceived as the more complex of the two. Zigbee chips are available from multiple companies, while Z-Wave chips are only available from Sigma Designs. A smart home is not a collection of disparate smart devices and appliances, but ones that work together to create a remotely controllable network. All devices are controlled by a master home automation controller, often called a smart home hub. The smart home hub is a hardware device that acts as the central point of the smart home system and is able to sense, process data and communicate wirelessly. It combines all of the disparate apps into a single smart home app that can be controlled remotely by homeowners. (TechTarget, 2021).

## Smart Devices and Sensors

Smart switch



Smart Motion detector



Smart Door lock



Smart Doorbell



Smart Room Curtain Controller







# Inco Cent

Bimonthly News Magazine published by the Central Provincial Branch of Institution of Incorporated Engineers, Sri Lanka  
Volume 5- Jul 2021 (Date issued: 05-Jul-2021)

Smart Plug



Smart Scene switch



Smart Camera



Smart Gateway



## References

- *Shinrai, 2021. Smart home solution. [Online]*
- Available at: <https://shinrai-smarthome.lk/smart-home/>
- *TechTarget, 2021. smart home or building. [Online]*
- Available at: <https://internetofthingsagenda.techtarget.com/definition/smart-home-or-building>



# Inco Cent

Bimonthly News Magazine published by the Central Provincial Branch of Institution of Incorporated Engineers, Sri Lanka  
Volume 5- Jul 2021 (Date issued: 05-Jul-2021)

## රූකඩ කලාකාරයෝ

### ඉංජිනේරු සමන්ත කොඩිතුචක්කු (M 2307)

පැරණි ජන සමාජය පරිස්සමින් විපරම් කරන්නෙකුට බොහෝ වටිනා දෑ සොයා ගත හැක. සමාජය සමඟ කරන ලද ගනුදෙනුව කළබලකාරී නොවූ අරුත්බර දෙයක් බව ඔවුන්ගේ සංස්කෘතිකාංග ගැන විපරම් කරන්නෙකුට පෙනී යයි. මිල මුදලින්,භවබෝග සම්පත්තියෙන් කෙසේ වෙතත්, ජීවන සතුට බුක්ති විදිමින් ගලාගිය ජීවන රටාවක් තිබූ බව පැරණි ජන කලාවන්ගෙන් විදහා දැක්වේ. මගේ කුඩා අවදිය තුළද එවන් ජනකාලවත් රසවිදිමේ තෘප්තිය ආවජර්නාත්මක රසවින්දයක් අදත් සිත තුළ නැගෙනත් වෙගවත් වී ඇති ජන ජීවිතය තුළ පැරණි ජනකලාවට ඉඩක් තිබේදැයි සැක මතුවන තරමටම සමාජ පරිවර්තනය සිදුවී ඇති බවක් පෙනී යයි.



වෙසක් නාට්‍ය ,මිහිදු පෙරහැර, ශාන්ති කමර්, බලි තොවිල් වැනි සජීවි කලාංගයන් සෑම වසරකම පාහේ නැරඹීමට මීට දශක තුන හතරකට පෙර අවස්ථාව තිබුණි. මෙම ජන කලා අංග සෞම්‍ය වූ මිහිරිත් ජන සමාජයට එක් කරන ලද අතර, රූකඩ නාට්‍යය ද එම මිහිරි එක් කිරීමට දායක වූ බව මතකයේ රැඳී පවතී.

ජාතක කතා, වීර චරිත, ඉතිහාස කතා තේමා කරගෙන නිමර්ශනය වී තිබූ රූකඩ නාට්‍ය ජවනිකා අතරට එදිනදා සමාජය තුළ සිදුවන විවිධ අකටයුතුකම්වලට පහර ගසමින් සමාජ මාධ්‍යයක් ලෙස ක්‍රියා කල ද අද මෙන් අවභාවිතා වන සමාජ මාධ්‍යයක් නොවේ.

කුඩාකල මතකයන්ට සීමා වී තිබූ රූකඩ නාට්‍යකලාව මා තුළ ඉතිරි කර තිබුනේ ආවජර්නාත්මක මතකයක් පමණි. වේදිකාව, සිනමාව හා රූපවාහිනිය හා පරිගණකය තුලින් විද්‍යුත් මාධ්‍ය කලාව ව්‍යාප්ත වී ඇති යුගයක අනේකවිධ බාධක මැද තවත් ජනකලාවක් පෝෂණය කරන කලාකරුවන් සිටින බව පසක් කරමින් මෑතකදී රූකඩ නාට්‍ය සංදර්ශනයක් නැරඹීමේ අවස්ථාක් මටද හිමිවීමත් සමගම ඔවුන්ගේ මෙම රූකඩ කලාව පිළිබඳ බිඳක් උගත් බුද්ධිමත් පාඨක පිරිසක් සිටින **"INCOCENT"** වෙත ගෙන එන්නට සිත්විය.

### රූකඩ කලාවේ ඉතිහාසයෙන් බිඳක් .....

ප්‍රාථමික යුගයේ මූලික ජන කලාවක් ලෙස පැවතිය ද ගැමි නාට්‍ය කාලවක් ලෙස ලාංකීය සමාජය තුළ මතුවන්නේ මීට වසර තුන්සියකට පමණ පෙර සිට බව විශ්වාස කෙරේ. මුලින්ම ඉන්දියානු සහ ඉන් පසුව චීන, ජපන් හා රුසියානු ආභාෂය ලබා පසු කාලීනව ජමර්න්, වෙකොස්ලෝවැකියානු වැනි රටවලින් ආදර්ශය ගත්ත ද ලාංකීය අනන්‍යතාවයක් ගොඩනගා ගැනීමට රූකඩ කලාකරවන් සමත් වී සිටි බව සඳහන් වේ.



# Inco Cent

Bimonthly News Magazine published by the Central Provincial Branch of Institution of Incorporated Engineers, Sri Lanka  
Volume 5- Jul 2021 (Date issued: 05-Jul-2021)

## මොකක්ද මේ රූකඩය.....

නිමර්ශන මාධ්‍යය හා හැසිරවීමේ ක්‍රමය අනුව නූල් රූකඩ, රිටි රූකඩ, සෙවනැලි රූකඩ , අත් රූකඩ සහ ඇඟිලි රූකඩ ලෙස වගර් කල හැකි වුවද නූතරී හා නාඩගම් සම්ප්‍රදාය අනුගමනය කරමින් රහඳක්වන රූකඩ නාට්‍යය සඳහා කදුරු හා රුක්අත්තන ලීයෙන් මිනිස් රුවට සමාන දැවමය රූකඩ නිමර්ශනයට අපේ කලාකරුවන් සුවිශේෂී දස්කම් දක්වනු ලබයි.

මිනිස් රූප සඳහා සාමාන්‍ය ශරීර ප්‍රමාණයේ මිනුම් සැලකිල්ලට ගනු ලබන අතර, ප්‍රතිමා සහ බලි යන කලාවන්හි මිණුම් ක්‍රම ද අනුගමනය කෙරේ. එසේ නිමර්ශනය කරන ලද රුව ජීවයක් නොමැති අඩ රුවක් (භාගයක්) යන අරුතින් රූ-කඩ ලෙස නම් කරන ලද බව විද්වතුන්ගේ මතයයි.

කෙසේ නමුත්, වණර් ගන්වා ඇඳුම් ආයින්තම් අන්දවා වර්තවල තරාතිරම හා ස්වභාවය අනුව ශිල්පීන්ගේ හඬ මුසුකරමින් රූකඩයට පනදීම කලාත්මකය. එවාගේම සුන්දරය.



## සිද්දි පෙලගැසීම හා කථා සන්දහරය

මහාලායර් සරච්චන්ද්‍රයන්ට අනුව රූකඩ කලාව කාලයෙන් කාලය වෙනස්වෙමින් විකාශනය වී ඇත. මෑතක් වන තුරු රූකඩ නාට්‍ය රහඳක්වනු ලැබූයේ වාද්‍ය වෘන්දය රංගභූමියට මුහුණ ලා ප්‍රේක්ෂකයන්ට පිටුපා හිදිමින් වන අතර, ඔවුන් වාදනයන් අරඹා ඇසිල්ලකින් රංගභූමියේ එක් පාශර්වයක් මුවා කොට කඩතුරාව එසවීමෙනි. ඉන්පසුව නලගහනන් නිරූපනය කරන රූකඩයක් විසින් නැටුමක් කරනු ලැබේ. මෙම නැටුම් විලාශය නූතරීවල දක්නට ලැබුන සංකර කතක් නැටුම්වලට සමාන වුවකි. අනතුරුව සෙල්ලපිල්ලේ හා බහුභූතයා යන පාත්‍රයන් ඉදිරිපත් කරනු ලබයි. නාඩගම්වල ස්ථාවර පාත්‍රයන් වෙස්ගන්වා ඇති අන්දමට රූකඩ අන්දවා තිබුනද තබ්ලා වාදනය අනුව සකස් කර ඇති නැටුම් විලාශය නාඩගම් කලාවට වඩා වෙනස් ය.

මහාලායර් කේ.ඒ. අමරසේකර දක්වන පරිදි රූකඩ නාට්‍ය ආරම්භ වන්නේ ප්‍රථමයෙන් සිනුවක් නාද කිරීමෙනි. ඉන්පසු සරච්චන්ද්‍රයන් දක්වා ඇති පරිදි සංගීත කණ්ඩායක් වාදනය කරන අතර, වාදනය සඳහා යොදාගන්නේ සපරීනාව හා තබ්ලාවයි. එම වාදනය යන අතරතුර තිරය ඉහළට එසවෙන අතර, එවිට ප්‍රේක්ෂකයන්ට අවාර කරමින් නලගහනක් රංගභූමියේ දිස්වේ. මෙලෙස නලගන නැටුම / පිළිගැනීමේ නැටුම / නංගාහාම් නැටුම / පූජා නැටුම / සරස්වතී නැටුම යනුවෙන් හඳුන්වන නාටිකාංගනාවන්ගේ නැටුමකින් සෑම රූකඩ නාට්‍ය කණ්ඩායමක්ම පාහේ තම රූකඩ නාට්‍ය අරභනු ලබයි.

පොදුවේ ප්‍රේක්ෂකයින් පිළිගැනීම මේ අවස්ථාවේදී සිදුවන අතර, විශේෂිත වූ ආරාධිතයෙකු සිටි නම් ඒ තැනැත්තාට නාටිකාංගනාව දෝතීන් බුලත් අතක් දී පිළිගැනීම සිරිතකි. ඒ බුලත්අත ලබන ආරාධිත අමුත්තා විසින් තුටු පඩුරක් නාටිකාංගනාවගේ දෝතෙහි තබනු ලැබීමත් වාරිත්‍රයක් වේ. ඉන් අනතුරුව බුදුගුණ ගීයක් හෝ දේව ගුණ ගීයක් අනුව ඉතා සැලකිල්ලෙන් ආකශර්ණීය ප්‍රාථර්නයක් ඉදිරිපත් කිරීමෙන් සෑමගේ තෙත් සිත් පැහැර ගනී.





# Inco Cent

Bimonthly News Magazine published by the Central Provincial Branch of Institution of Incorporated Engineers, Sri Lanka  
Volume 5- Jul 2021 (Date issued: 05-Jul-2021)

මීලඟට බොහෝ රුකඩ කණ්ඩායම් වේදිකාවට පමුණුවන්නේ කොණංගි නැටුම හෙවත් බහුභූත නැටුමයි. මෙම කොණංගි නැටුම ලෙස නාඩගම් සම්ප්‍රදාය අනුව රඟදක්වනු ලැබුවද රුකඩ කණ්ඩායම් අනුව විවිධ වෙනස්කම් පවතී. මීට අමතරව, රුකඩ කණ්ඩායම් සතුව තවත් ස්ථාවර රංගනයන් කිහිපයක් වේ. කරත්තයේ ජවනිකාව, ගබා සහ විදානේ. මාමා සහ බැනා ආදිය වේ. එහෙත් නංගිහාමි නැටුම ලෙස සෙසු සියල්ල ඉදිරිපත් කිරීමේදී නිශ්චිත අනුපිළිවෙලක් නොමැති බව පෙනේ.

කෙසේ වුවද කතා වස්තුව අවසානයේ හෝ හැඩ මුසුකරන ශිල්පීන් වෙහෙස වී ඇති විටක හෝ ගබා-විදානේ හෝ මාමා-බැනා හෝ සාමාන්‍ය මිනිසුන් දෙදෙනෙකු හෝ රුකඩ දෙකක් යොදාගෙන සංවාද කණ්ඩ මගින් භාසා රසය දනවන අතර, එම අන්තර් රංගනය මගින් සමාජමය ගැටළු සඳහා උපහාසාත්මක විවේචන ඉදිරිපත් කිරීම සිදුවේ.

නාට්‍යකරුවා තෝරගත් කථා වස්තුවේ සියල්ල අනුපිළිවෙලට රඟදැක්වීම නාට්‍ය කලාවේදී අපේක්ෂා නොකෙරේ. වේදිකාවට නැගීමේදී නාට්‍ය රසය කුළුගැන්වෙන පරිදි අත්‍යවශ්‍ය කොටස් පමණක් තෝරාගෙන නාට්‍යමය ගුණය රැකගනිමින් සිද්දී එකිනෙක හා එහා මෙහා කරමින් ප්‍රේක්ෂකයා තුළ කුතුහලය දනවමින් නාට්‍ය කලාවේ සීමාවන් තුළ සාපර්ක නිමර්ශණයක් බිහිවීම නාට්‍යකරුවා අනුව තීරණය වේ.



මහාචාර්ය කේ.ජී අමරසේකරයන් පවසන පරිදි මෙරට පාරම්පරික රුකඩ නාට්‍ය කලාකරුවා මේ කාරනය හරිහැටි පසක් කරගෙන නොමැත. ඔහු පවසන්නේ කිසිම කථා වස්තුවක සංසිද්දි හෝ අවස්ථා එක ,දෙක ,තුන ආදී වශයෙන් සිදුවී ඇති ආකාරය අනුපිළිවෙලින් ඉදිරිපත් කිරීමට උත්සුක වීම නිසා දීසර් නාට්‍ය හා ඒවා නාට්‍ය රසයෙන් හීන වීමක් සිදුවී ඇති බවයි.

කාලය වැඩියෙන් ගතවන විට ප්‍රේක්ෂකයා වෙහෙසට පත්වීමෙන් නාට්‍යයයේ මුඛ්‍ය රසය ගැනීමට බාධාවක් වන බව හැඟියන විට අන්තර් රංගනයක් වේදිකාවට ගෙන ඒමත් ඒවා හැමවිටම භාසා රසයෙන් යුතු සිද්ධි ලෙස ඉදිරිපත් කිරීමෙන් ප්‍රේක්ෂකයාට අස්වැසුමක් ලබාදුන්න ද එමගින් රුකඩ නාට්‍ය සංදර්ශණය එක,දෙක, තුන ආදී වශයෙන් අනුපිළිවෙලින් ගොඩනැගෙන බව මහාචාර්ය අමරසේකරයන් පවසයි.

කෙසේ වෙතත්, රුකඩ නාට්‍ය බාල මහළු කාහටත් එකසේ රසවිදිය හැකි කලා මධ්‍යයකි. එවගේම මිනිසුන් දැනුවත් කිරීමට භාවිතා කල හැකි වටිනා සන්නිවේදන මාධ්‍යයක් ලෙසද භාවිතා කල හැකිය. එය එසේ වන්නේ ශිල්පියාගේ දක්ෂතාවය, සාමාජ දැනීම හා දැනුම භාවිතයට ඇති හැකියාව මතයි. එවන් දක්ෂ රුකඩ කලාකරුවන් සිටින බව මේ





# Inco Cent

Bimonthly News Magazine published by the Central Provincial Branch of Institution of Incorporated Engineers, Sri Lanka  
Volume 5- Jul 2021 (Date issued: 05-Jul-2021)

පිළිබඳව සුළු අධ්‍යයනයක් කිරීම මගින් වටහා ගැනීමට හැකි විය. එවන් ශිල්පීන්ට නිසි සමාජ ගෞරවය ලබාදී ඔවුන් රැකගැනීම සමාජමය වගකීමකි. එසේම මෙම රුකඩ කලා මාධ්‍යය දුෂ්චරිතය සහ අගතිය පිටුදකිමින් සමාජ ශෝඛන ජනනාවාදී සන්නිවේදන මාධ්‍යයන් වී රසවිදීමේ අවස්ථාව මතු පරපුරට ලබාදීමට හැකිවන්නේ නම් එය අපගේ ජනකලාව ලබන ජයග්‍රනයකි.

ආශ්‍රිත මූලාශ්‍ර:

1. සිංහල ගැමි නාට්‍ය - මහාචාර්ය එදිරිවීර සරච්චන්ද්‍රයන්
2. ශ්‍රී ලංකාවේ රුකඩ නාට්‍ය කලාව - මහාචාර්ය කේ.පී. අමරසේකරයන්
3. අන්තර්ජාලය ඇසුරින්

## Academic/Professional Achievements 2020/2021

#	Name of the Member	ECSL Reg.No	Academic/ Professional Achievements	Designation/ Title	Awarding Body/ Institution/University
1	A.R.K.Atukorala	400269	Promotion	Senior Engineer	National Water Supply and Drainage Board
2	A.W.M. Munas	4000124	Masters	Master in Business Administration	Wayamba University of Sri Lanka





## Analog Transmission Vs Digital Transmission

**Eng. SKU Samantha (M2307)**  
**Member of Membership Subcommittee (MEMSCO)**

Today television is an essential infrastructure facility to society because most people rely on it as a source of information. Whatever, the personal agenda of the owners and the journalists in Sri Lanka, there is no argument worldwide; it is a fantastic tool for home entertaining, education, advertising, and newsgathering. It broadens knowledge of different cultures, promotes tolerance and global understanding of international issues. Through current affairs, discovery, lifestyle, cooking shows, and children's programs.

Television broadcasting is a universal service. It is the system used to send the video and audio signal from the television stations to the households (viewers). The terrestrial transmission is mainly used platform for program delivery to the household in the television industry excluding satellite, cable, and IP televisions. The television channels in Sri Lanka use analogue terrestrial transmission free-to-air (FTA). Digitalization is spread as an industrial revolution in the world therefore digital terrestrial broadcasting becomes a worldwide trend. In this article, I'm going to discuss the basics of television transmission & how to transit from analogue to digital.

### **What is a Signal?**

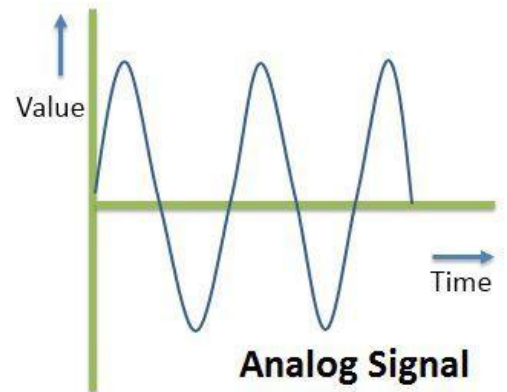
In electronics and telecommunications, a signal is an electromagnetic or electrical current that is used for carrying data from one system or network to another. It refers to any time-varying voltage that is an electromagnetic wave that carries information. A signal can also be defined as an observable change in quality such as quantity. The signal is a function that conveys information about a phenomenon.





## Analog Signal

An Analog signal is a kind of continuous waveform that changes over time. An analogue signal is further classified into simple and composite signals. A simple analogue signal is a sine wave that cannot be decomposed further. On the other hand, a composite analogue signal can be further decomposed into multiple sine waves.



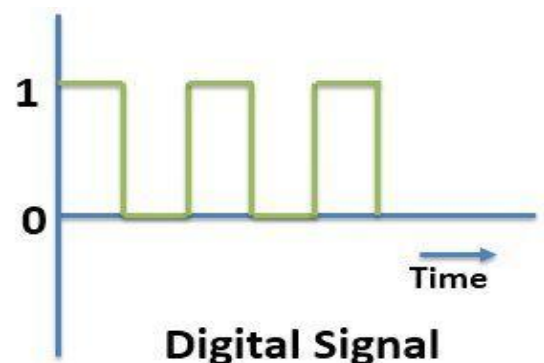
An analogue signal is described using amplitude, period or frequency and phase. Amplitude marks the maximum height of the signal. Frequency marks the rate at which the signal is changing. Phase marks the position of the wave concerning time zero.

An analogue signal is not immune to noise hence; it faces distortion and decreases the quality of transmission. The range of value in an analogue signal is not fixed.

It can explain, in the case of telephony, when we speak into a handset, there are changes in the air pressure around the mouth. Those changes in air pressure fall onto the handset, where they are amplified and then converted into voltage/ current fluctuations. Those fluctuations in current are an analogue of the actual voice pattern- hence the use of the term analogue to describe these signals. An analogue signal is characterized by being continuously variable along with amplitude and frequency.

## Digital Signal

Digital signals also carry information like analogue signals but are somewhat different from analogue signals. A Digital signal is a non-contiguous, discrete-time signal. Digital signal carries information or data in the binary form i.e. a digital signal representing information in the form of bits.





Digital signal can be further decomposed into simple sine waves that are called harmonics. Each simple wave has a different amplitude, frequency and phase. Digital signal is described with bit rate and bit interval. Bit interval describes the time required for sending a single bit. On the other hand, bit rate describes the frequency of bit interval.

A digital signal is more immune to noise; hence, it hardly faces any distortion. Digital signals are easier to transmit and are more reliable when compared to analogue signals. Digital signal has a finite range of values. The digital signal consists of 0s and 1s.

## COMPARISON OF ANALOG AND DIGITAL

Component of Comparison	Analog	Digital
Basic	An analog signal is a continuous wave that changes over a time period.	A digital signal is a discrete wave that carries information in binary form.
Representation	An analog signal is represented by a sine wave.	A digital signal is represented by square waves.
Description	An analog signal is described by the amplitude, period or frequency, and phase.	A digital signal is described by bit rate and bit intervals.
Range	Analog signal has no fixed range.	Digital signal has a finite numbers i.e. 0 and 1.
Distortion	An analog signal is more prone to distortion.	A digital signal is less prone to distortion.
Traffic measurement	Hz (for example, a telephone channel is 4KHz)	Bits per second (for example, a T-1 line carries 1.544Mbps, and an E-1 line transports 2.048Mbps)



# Inco Cent

Bimonthly News Magazine published by the Central Provincial Branch of Institution of Incorporated Engineers, Sri Lanka  
Volume 5- Jul 2021 (Date issued: 05-Jul-2021)

Network capacity	Low; one conversation per telephone channel	High; multiplexers enable multiple conversations to share a communications channel and hence to achieve greater transmission efficiencies
Network manageability	Poor; a lot of labor is needed for network maintenance and control because dumb analog devices do not provide management information streams that allow the device to be remotely managed	Good; smart devices produce alerts, alarms, traffic statistics, and performance measurements, and technicians at a network control center (NCC) or network operations center (NOC) can remotely monitor and manage the various network elements
Power requirement	High because the signal contains a wide range of frequencies and amplitudes	Low because only two discrete signals—the one and the zero—need to be transmitted
Security	Poor; when you tap into an analog circuit, you hear the voice stream in its native form, and it is difficult to detect an intrusion	Good; encryption can be used
Error rates	High	Low

## Terrestrial Transmission

Terrestrial Transmission is a type of television broadcasting in which the television signal is transmitted by radio waves from the terrestrial (Earth-based) transmitter of a television station to a TV receiver having an antenna. The term "terrestrial" is used to distinguish this type from the newer technologies of satellite television (direct broadcast satellite or DBS television), in which the television signal is transmitted to the receiver from an overhead satellite; cable television, in which the signal is carried to the receiver through a



cable; and Internet Protocol television, in which the signal is received over an Internet stream or on a network utilizing the Internet Protocol.

Terrestrial television stations broadcast on television channels with frequencies between the VHF and UHF bands. Since radio waves in these bands travel by line of sight, reception is generally limited by the visual horizon to distances of 64–97 kilometres (40–60 mi), although under better conditions and with tropospheric ducting, signals can sometimes be received hundreds of kilometres distant.

## **Analog versus Digital Terrestrial Transmission**

Analogue terrestrial was the first technology used for television broadcasting. It uses analogue signals to transmit video and audio and in this system broadcast, the brightness, colours, and sound are represented by the amplitude, phase, and frequency of an analogue signal.

Digital terrestrial television (DTT or DTTB with "Broadcasting") is a technology for terrestrial television in which land-based (terrestrial) television stations broadcast television programmes by radio waves to televisions in consumers' residences in a digital format. DTT is a major technological advance over the previous analogue technology.

There are some differences between analogue and digital transmission, and it is important to understand how conversions between analogue and digital occur. Let's look first at the older form of transmission, analogue. Analogue facilities have limited bandwidth, which means they cannot support high-speed data. Another characteristic of analogue is that noise is accumulated as the signal traverses the network. As the signal moves across the distance, it loses power and becomes impaired by factors such as moisture in the cable, dirt on contact, and critters chewing on the cable somewhere in the network. By the time the signal arrives at the amplifier, it is not only attenuated, but it is also impaired and noisy. One of the problems with a basic amplifier is that it is a dumb device. All it knows how to do is to add power, so it takes a weak and impaired signal, adds power to it, and brings it back up to its original power level. But along with an increased signal, the amplifier passes along an increased noise level. So, in an analogue network, each time a signal goes through an amplifier, it accumulates noise. For example, after mix together coffee and cream, you cannot





separate them. The same concept applies in analogue networks: After the mix, the signal and the noise, can't longer separate the two, and, as a result, it ends up with very high error rates.

DTT is a major technological advance over analogue television and has largely replaced analogue which had been in common use since the middle of the 20th century. The advantages of digital terrestrial television are similar to those obtained by digitizing platforms such as cable TV and satellite TV. On the other hands more efficient use of limited radio spectrum bandwidth, provision of more television channels than analogue, better quality images, and potentially lower operating costs for broadcasters (after the initial upgrade costs).

## **How is the digital transition in Sri Lanka?**

The world is moving toward switching off analogue terrestrial transmission of broadcasting signals and replacing that with the digital terrestrial transmission. The system of the digital migration or analogue switch-off is called digital television transition. It needs a period because of the analogue shutdown we have to handle as a process due to many reasons. Digital TV transmission though will provide a high-quality service, will result in added expenditure both for the service provider and the viewer.

Under the sponsorship, International Telecommunications Union (ITU) and the Sri Lanka government prepared a Roadmap project for Transition from Analogue to Digital Terrestrial Television Broadcasting (DTTB) in Sri Lanka; Naming "RU-Sankya"

It was proposed to establish a body to be known as "Digital Broadcast Network Operator" (DBNO) to organize manage and administer the new system. DBNO is expected to operate and maintain the entire system with the revenue from the operation fees collected from broadcasting stations. The transition to DTTB will result in incurring heavy expenditure by both DBNO and individual service providers, including installing new antenna systems, purchasing digital studio equipment such as cameras, animators, programme mixers, etc. all of which could run into Billions of Rupees.

In addition, viewers will have to purchase either set-top boxes for use with analogue receivers or new digital receivers. It may be recalled that with the new development in TV technology, the earlier Cathode-Ray-Tube (CRT) type TV receivers were replaced by slim type LCD/LED TV receivers during the last couple of years.



# Inco Cent

Bimonthly News Magazine published by the Central Provincial Branch of Institution of Incorporated Engineers, Sri Lanka  
Volume 5- Jul 2021 (Date issued: 05-Jul-2021)

Today, CRT receivers are no longer available in the market. Hence, changing receivers will not be an issue for our viewers, as long as it carries benefits.

In the event the Government decides to adopt the DTTB system, it will be necessary to introduce new laws and regulations to regulate the new DTTB industry, and considering the complexities involved, it is best if a total new Parliament Act is passed, with appropriate amendments to both the SLRC Act and SLT Act.

**Sri Lanka's television industry has been preparing to digitalize itself for more than half a decade. But policy uncertainties have confused broadcasters and caused many delays. Will the new government make an evidence-based and transparent?**

References:

- <https://techdifferences.com/difference-between-analog-and-digital-signal.html>
- <https://island.lk/evolution-from-am-radio-to-digital-tv-broadcasting>
- <http://www.dailynews.lk/?q=local/sri-lanka-digitalize-tv-broadcasting>
- <https://en.wikipedia.org/wiki/Ru-Sankya>





## TRAVEL DESTINATION-3

### Visit to Sri Lanka



**Sri Lanka has been named the best Country in the world as tourist destination in 2019 and in 2020 in top List by Lonely Planet.**

**Planning a visit to UNESCO World Heritage Sites can be overwhelming. We will be looking back to ancient civilizations and lands that time forgot, and will be overloaded with curiosities every time we dig deep into these rich archaeological and architectural wonders. The Cultural Triangle in Sri Lanka is home to 6 out of 8 incredible world heritage sites in the country, including Anuradhapura, Polonnaruwa and the Sigiriya rock fortress. These sites have preserved the prosperous culture and history of ancient Sri Lanka and exhibits a picturesque view of different ruling period of different dynasties. If you are in Sri Lanka, visiting these ruins of this glorious civilization should be on top of any itinerary.**

## Dambulla & Sigiriya Fortrress

**Temple of Dambulla** is also a World Heritage Site in Sri Lanka and is a still-functioning monastery since the third and second centuries BC. The temple composes of five caves of rock and can enter into the caves after a small climb to the Dambulla rock. The caves house a giant resting buddha statue at the centre, with smaller standing statues and wall paintings depicting the life of Gautama Buddha.

- Golden Temple (Golden Buddha and Buddhist Museum)
- Dambulla Cave Temple
- Namal Uyana

### Sigiriya Fortress

Listed as one of the manmade wonders of the world, another UNESCO world heritage site, will make you feel like you've been transported to an entirely different time period. Here you can find the foundations of a massive citadel, a column of rock nearly 200 meters high, that







# Inco Cent

Bimonthly News Magazine published by the Central Provincial Branch of Institution of Incorporated Engineers, Sri Lanka  
Volume 5- Jul 2021 (Date issued: 05-Jul-2021)

claims to have had an unbelievable level of technological advances relative to the era. The climb to the top of the fortress is massively adventurous but safe. It leads through a path with stone steps, mural arts and writings, rock gardens with pools, and many more wonders. On a small plateau about halfway up the side of this rock, two giant lion paws made out of solid rock make the gateway to the top. This is significant as the name "Sigiriya" derived from this structure itself; 'Sinha Giriya / lion's rock. The view from the top is gorgeous with rural landscapes, paddy fields and ruins of the palace that once stood gigantically. You can also visit the Sigiriya museum and find out more about the legend of King Kassapa, a not so rightful heir of the throne.

Another rocky outcrop close by is Pidurangala, which is nowadays a very famous climbing site for hikers. It is rather a challenging climb, however, worth it as it has the same magnificent view plus the bonus of seeing Sigiriya from a vantage point.

By: Dr. K.M. Anjana Karunatilaka

Photo Credit: Dr. Yohan Perera



# STAY WITH US FOR MORE TRAVEL DESTINATIONS#

INCO CENT Vol.06 publication will be on 5<sup>th</sup> September 2021.

Send your Advertisements before 15<sup>th</sup> August 2021.



For more details, contact

Editor

Email: [iiesleditor@gmail.com](mailto:iiesleditor@gmail.com)

Mobile: 0777886400



# Inco Cent

Bimonthly News Magazine published by the Central Provincial Branch of Institution of Incorporated Engineers, Sri Lanka  
Volume 5- Jul 2021 (Date issued: 05-Jul-2021)

NON MEMBER

ARTICLES



# Inco Cent

Bimonthly News Magazine published by the Central Provincial Branch of Institution of Incorporated Engineers, Sri Lanka  
Volume 5- Jul 2021 (Date issued: 05-Jul-2021)

## අමුල පිත්ත (ගැස්ට්‍රයිටිස්) සහ හෘදයාබාධ

වෛද්‍ය ජේ. එම්. කේ. බණ්ඩාර ජයවීර  
Director Institute of Acupuncture, Colombo

Visiting lecturer, Eastern University, Tricomalee Campus

e mail: bandarajmk@gmail.com

සාමාන්‍ය ජනතාව අතර ගැස්ට්‍රයිටිස් යන්න නිතරම භාවිතාවන වචනයක් බවට පත්ව ඇත. විශේෂයෙන්ම නගරබද බොහෝ දෙනෙකුට බඩ පපුවේ දැවිල්ල නැතහොත් “ගැස්” අති බව වාර්තාවේ. මිනිස් සිරුරට අහිතකර නවීන රසකාරක යෙදූ ආහාර ගැනීම නිසා අමුල පිත්ත කෝපවීමේ අවදානම වැඩිවන බව මේ වනවිට තහවුරුවී තිබේ. මානසික ආතතිය (කල්මටය) මෙම තත්වය උග්‍ර අතට හැරීමට විශේෂ සාධකයක් වේ. මේ සඳහා බටහිර සහ දේශීය වෛද්‍යවේදීන් තුළින් විවිධ ප්‍රතිකාර ඇති බව පැවසේ. වෛi සාකච්ඡා තුළින් මෙන්ම පුවත්පත්, ගුවන්විදුලි සහ රූපවාහිනී වෙළඳ දැන්වීම් ආදිය මගින්ද, දැනුවත්කිරීම් සහ ඇතැම් ජනමාධ්‍ය මගින් ඖෂධ නියම කිරීම පවා සිදුවේ. එහෙත් ඉන් සුවය ලැබීම එතරම් සාර්ථක නොවන බව නිරතුරුවම සාකච්ඡාවට බඳුන්වේ. සාමාන්‍යයෙන් මෙම රෝගය මාරාන්තික එකක් නොවන අතර, කලාතුරකින්, එසේම නොසැලකිලිමත්කම නිසා, ආමාශය හෝ කුඩා බඩවැලේ මුල් කොටස එනම් ග්‍රහණියේ (duodenum) තුවාල ඇතිවීමෙන් ඒවායින් අධික ලෙස රුධිරය ගැලීමේ හේතුවෙන් මාරාන්තික අවස්ථා ඇතිවිය හැකිය. විශේෂයෙන්ම ආමාශ හෝ ග්‍රහණි තුවාල ඇත්තන්ට ඩොංගු රක්තපාතය වැළඳුණහොත් අනිවාර්යයෙන්ම එවැනි තත්වයක් ඇතිවිය හැකිය.



කෙසේ වෙතත් මෙම ලිපියේ අරමුණ වන්නේ ගැස්ට්‍රයිටිස් රෝගයට ප්‍රතිකාර කිරීම නොව ආමාශයට සම්බන්ධ නොවන, හයානක හෘද රෝගයක් නිසා ගැස්ට්‍රයිටිස් වැනි රෝග ලක්ෂණ ඇතිවන හෙයින් ජනතාව දැනුවත් කිරීමය. හෘද රෝග අතරින් හයානකම සහ ක්ෂණිකව මරණය සිදුවිය හැකි රෝගය ලෙස සැලකෙන්නේ “හෘද ඇටැක්” (heart attack) යනුවෙන් සාමාන්‍යයෙන් භාවිතාවන myocardial infarction නමැති රෝගයයි. කිසිදු පූර්ව රෝග ලක්ෂණයක් නොමැතිව හදිසියේ පහළ වන රෝග ලක්ෂණ, එනම් පපුවේ වේදනාව සහ ශ්වසන අපහසුකම පමණක් ඇති රෝගීන් ඇතැම්විට වෛiවරයකු හමුවීමටත් ප්‍රථම මිය යන අවස්ථා ඇත. ක්ෂණික සහ නිසි ප්‍රතිකාර නොමැතිවුවහොත් එවැනි අවස්ථාවල මරණය නියත ය. ඇතැම් අයට පූර්ව රෝග ලක්ෂණ පහළුවිය හැකි අතර, නියමිත ප්‍රතිකාර ලබාගැනීමෙන් එවැනි අයට ඖෂධ හෝ ශල්‍යකර්ම තුළින් සුවය ලබාගත හැකිය. මෙම හෘද රෝගය පිළිබඳව බොහෝ තොරතුරු විවිධ මාධ්‍යවලින් ජනතාව දැනුවත් කෙරේ. පුවත්පත් මෙන්ම රූපවාහිනී නාලිකාවලින් වෛi සාකච්ඡා මගින් පවා නිරතුරුවම මෙම හයානක හෘද රෝගය පිළිබඳව සාකච්ඡාකලා වුවද එය ගැන බොහෝ දෙනෙකුගේ තැකීමක් නොමැති බව පෙනේ.



# Inco Cent

Bimonthly News Magazine published by the Central Provincial Branch of Institution of Incorporated Engineers, Sri Lanka  
Volume 5- Jul 2021 (Date issued: 05-Jul-2021)

හෘද මාංශයේ ක්‍රියාකාරීත්වයට රුධිරය සැපයෙන නාල සමූහය **කිරීටක ධමනී** (coronary arteries) යනුවෙන් හැඳින්වේ. යම් හේතුවක් නිසා මෙම ධමනී ජාලයෙන් එකක් හෝ කිහිපයක් සම්පූර්ණයෙන්ම අවහිර වුවහොත් හෘදයේ ක්‍රියාකාරීත්වය ඝෂණිකව නතරවීමට ඉඩ ඇත. ප්‍රතිඵලය නියත මරණයයි.

කිරීටක ධමනිය අවහිරවීමට ප්‍රධාන හේතුව වන්නේ රුධිරයේම ඇති කොලෙස්ටරෝල් එකී ධමනී ඇතුළත තැන්පත්වීම නිසාය. එයට වෙනත් හේතු ඇතත් ඒවා නිරතුරුවම දක්නට ඇති හේතු නොවේ. මේ නිසා කොලෙස්ටරෝල් අධික ලෙස රුධිරයේ ඇති පුද්ගලයන් මෙම මාරාන්තික රෝගයට ගොදුරුවීමේ ප්‍රවණතාවය වැඩිවේ. කොලෙස්ටරෝල් අධිකව නොමැති පුද්ගලයන්ටද රෝගය ඇතිවිය හැකිවුවත් කොලෙස්ටරෝල් බහුල අයට අවදානම වැඩිය. කොලෙස්ටරෝල් වර්ධනයවීමට සාධක වන්නේ වැරදි අහාර ගැනීම සහ ව්‍යායාම නොකිරීම යන හේතූන් නිසාය. හතලිස් විය ඉක්මවූ සෑමදෙනාම තම රුධිර කොලෙස්ටරෝල් මට්ටම පමණක් නොව රුධිර සීනි මට්ටම, රුධිර පීඩනය ආදී දේ මැන බලාගැනීම වැදගත්වේ.

රුධිර කොලෙස්ටරෝල් අධිකවීම හෝ වෙනත් අප නොදන්නා හේතු නිසා හෝ හෘදයේ කිරීටක නාල ඇතුළත තෙල් සහිත තට්ටුවක් බැඳේ. මොළයේ ඇති ධමනිවල ද එසේ අවහිරතා ඇතිවුවිට එහි ක්‍රියාකාරීත්වය අඩපනවී ආසාත්‍ය (අංශභාග) හෝ මරණය පවා ඇතිවිය හැකිය. ශරීරයේ ඇති වෙනත් ධමනිවලද එසේ බැඳීමේ ප්‍රවණතා ඇතත් හෘදයේ හෝ මොළයේ ඇතිවන නාල අවහිරය තරම් ඒවා බරපතල නොවිය හැකිය. හෘදයේ එවැනි අවහිරතා ඇතිවුවිට පපුවේ වේදනාව, ස්වසන අපහසුතා සහ මුර්ජාව වැනි රෝග ලක්ෂණ පහළවේ. නාල එකක් නොව කිහිපයක් අවහිර වන අවස්ථා ඉතා භයානකවේ. කිසිදු පූර්ව රෝග ලක්ෂණයක් නොමැතිව එක්වරම එවැනි රෝග ලක්ෂණ පහළවිය හැකිය.

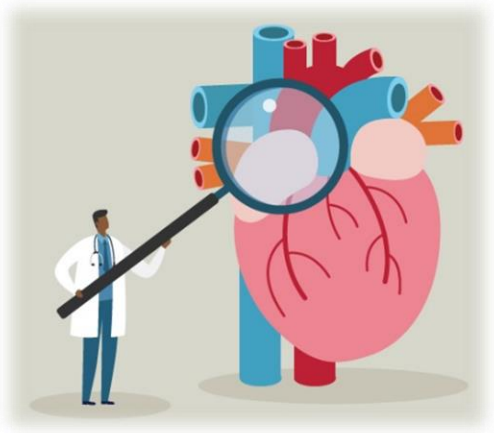
ඝෂණිකව ඇතිවන මෙම හෘද අවහිරය සංකීර්ණවූ රෝග ලක්ෂණ ඇතිකරවන හෙයින් ඇතැම්විට වෛද්‍යවරයෙකුට වුවද එක්වරම රෝගය හඳුනාගැනීම අපහසු විය හැකිය.

“හාට් ඇටෑක්” එකක් ආ විට ඇතිවන සුලභම රෝග ලක්ෂණ වන්නේ පපුවේ වේදනාවයි. පපුව මධ්‍යයේ ඇතිවන හිරවීමක් හෝ දැඩි ලෙස තද කිරීමක්ලෙස එම වේදනාව දැනේ. අධිකලෙස දහදිය පිටකරයි. රෝගියා කම්පනයට පත්වේ. මර බියක් ඇතිවේ. ඇතැම් අයට උරහිස, බෙල්ල සහ වම් අත හෝ සමහරවිට දකුණු අත ඔස්සේ හෝ වේදනාව පැතිර යනු දැනේ.

මෙවන් රෝග ලක්ෂණ නිසා වෛද්‍යවරයෙකුට පමණක් නොව මෙම කරුණු පිළිබඳව කියවා හෝ අත්දැකීම් ඇති බුද්ධිමතෙකුට වුවද එවැනි අවස්ථා “හාට් ඇටෑක්” එකක් ලෙස සැක කිරීමට හොඳටම ඉඩ ඇත.

එහෙත් මේ කිසිදු පූර්ව ලක්ෂණයක් නොමැතිව “හාට් ඇටෑක්” ඇතිවන අවස්ථා ඇත.

විශේෂයෙන්ම වියපත් භාවයට පත්වූ හෝ දියවැඩියාව (මධුමේහය) ඇති ඇතැම් අයට මෙම රුජා - වේදනා නොදනේ. එය “නිරුජා හෘදයාබාධයක්” (silent attack) යනුවෙන් හැඳින්වේ.







# Inco Cent

Bimonthly News Magazine published by the Central Provincial Branch of Institution of Incorporated Engineers, Sri Lanka  
Volume 5- Jul 2021 (Date issued: 05-Jul-2021)

එසේම වේදනාව පපුව මැදින් පමණක් නොව විවිධ පැතිවලින්, විවිධ ආකාරයෙන් මතු වන අවස්ථා බොහෝය. ඒ වේදනා සංවේද මෙසේ විය හැකිය.

- බඩ දූවිල්ල සහ පපුවේ දූවිල්ල ලෙස (ගැස්ට්‍රයිටිස් ලෙස වරදවාගත හැකිය)
- පිටේ හෝ කටි ප්‍රදේශයේ වේදනාවක් ලෙස
- අතේ හෝ ඇඟිළිවල වේදනාවක් ලෙස
- බෙල්ලේ හෝ උරහිසේ වේදනාවන් ලෙස
- දත් කැක්කුමක් ලෙස
- ශ්වසනයේ අවහිරවීමක් හෝ ඇදුම අවස්ථාවක් ලෙස
- ඉදිරියට හෝ පසුපසට නැමීමේ දී වේදනාව උග්‍රවීම
- උග්‍ර අවස්ථාවේදී සම්පූර්ණයෙන්ම සිහිය නැතිවීම හෝ අධි මුර්ඡා තත්ත්වයට පත්වීම
- උගුරේ ආහාර ස්වල්පයක් වැනි දෙයක් හිරවී ඇති ලෙස



විශේෂයෙන්ම බඩ දූවිල්ල සහ පපුවේ දූවිල්ල ලෙස හටගන්නා මෙම රුජාව ගැස්ට්‍රයිටිස් ලෙස වරදවාගන්නා අවස්ථා බොහෝය. එය නියත වශයෙන්ම හෘද වේදනා තත්ත්වයක් නම් ඇවිදීමේදී හෝ වෙහෙසවීමේදී නැතහොත් ඉදිරියට / පසුපසට නැමීමේදී උග්‍ර අතට හැරීමට ඉඩ ඇත. එම නිසා මෙවන් ලක්ෂණ ඇති කෙනෙකු ඇවිදීමෙන් හෝ වෙහෙසවීමෙන් වලක්වාගත යුතුය.

තරප්පු ජේලි දෙකතුනක් වෙහෙසක් නොමැතිව නැගයාමට හෝ වේගයෙන් ඇවිදීමට හෝ දිවීමට හෝ හැකියාවක් ඇති අයට කීර්ටක නාල අවහිරතාවයක් නැතැයි දළ වශයෙන් නිගමනය කළ හැකිය. එසේ ඇවිදින විට හෝ ව්‍යායාම කරනවිට පපුවේ වේදනාවක් ඇතිවන්නේ නම්, එසේම සුලු ව්‍යායාමවලදී නිරතුරුවම පපුවේ වේදනා පහළවන්නේ නම් කීර්ටක නාල අර්ධ වශයෙන් අවහිරවී තිබිය හැකිය. බඩ දූවිල්ලක් හෝ ඉහතින් (1 - සිට 8) දක්වා ඇති කුමණ රෝග ලක්ෂණයක් හෝ පහළවීම වුවද අර්ධවශයෙන් හෘද නාල අවහිරවීමක් ඇතැයි සැකකළ හැකිය. වෙහෙසීමේදී හෝ ඇතැම්විට විවේකව සිටියදී හෝ වේදනා ගෙනදෙන අර්ධ අවහිරතාවය angina pectoris යනුවෙන් හඳුන්වන අවස්ථාවයි. එම රෝගයේද විවිධ අවධීන් ඇත. නිසි ප්‍රතිකාර නොකළොත් ඒ කුමන අවස්ථාවකදී හෝ එය උග්‍ර අතට හැරී “හාටි ඇටෑක්” තත්වයක් ඇතිවිය හැකිය.

මේ ආදී වශයෙන් ඇතිවන රෝග ලක්ෂණ වලින් ගැස්ට්‍රයිටිස් ලෙස ඇතිවන වේදනාව සහ “හාටි ඇටෑක්” වේදනාව යන දෙක පැටලීලි සහිත නිසා රෝගියා මෙන්ම නැදැයින් ද, එසේම ඇතැම්විට වෛචරුන්ද අපහසුතාවයට පත්වන අවස්ථා ඇත.

සාමාන්‍යයෙන් “හාටි ඇටෑක්” එකක් ඇතිවිට එය නිශ්චය වශයෙන්ම හඳුනාගත හැකි පරීක්ෂණ කිහිපයක් ඇත. එකක් නම් ඊ සී ජී පටියක් පරීක්ෂා කිරීමයි. අනෙක ඒ සඳහා ඇති විශේෂ රුධිර පරීක්ෂාවකින් “ට්‍රොපනින් ප්‍රමාණය” මැනබැලීමයි. Angiogram යනුවෙන් හඳුන්වන විශේෂ පරීක්ෂණයකින් පමණක් කීර්ටක ධමනිවල ඇති අවහිරතා නිශ්චය වශයෙන්ම හඳුනාගත හැකිය. මේ අතරතුර නිසි ප්‍රතිකාර නොලදහොත් රෝගියා මිය යාමට ඉඩ ඇත.



# Inco Cent

Bimonthly News Magazine published by the Central Provincial Branch of Institution of Incorporated Engineers, Sri Lanka  
Volume 5- Jul 2021 (Date issued: 05-Jul-2021)

හෘද රෝගය උත්සන්නවී මාරාන්තික තත්ත්වයේ සිටියත් ඇතැම්විට ආරම්භක පැය කීපය තුළ ඊ සී ජී පරීක්ෂාවේ කිසිදු වෙනසක් නොපෙන්වන අවස්ථා ඇත. රෝහලක නැවතී වරින්වර පරීක්ෂාකරන අතරතුර දෙවන හෝ තුන්වන නැත්නම් හතරවන අවස්ථාවකදී ඊ සී ජී පටයේ හෘද රෝග ලක්ෂණ දැකිය හැකි අවස්ථා ඇත. ව්‍යායාම කරන අතරතුර ලබාගන්නා ඊ සී ජී පටයකින් (exercise ECG) වඩාත් පැහැදිලි ලෙස වෙනස්කම් දැකියහැකි වුවත්, හදිසි අවස්ථාවකදී එම පරීක්ෂණය කළ නොහැකිවේ. රුධිර පරීක්ෂණයටද කල්ගතවිය හැකිය.

ගැස්ට්‍රයිටිස් ලෙස හෝ එවැනි සැඟවුණු ලක්ෂණ ඇතිවිට මෙයට පෙර වෛද්‍යවරයෙක් විසින් එම රෝගියාට “හෘද ඇටැක” එකට නියමකරන ලද “හදිසි” ඖෂධ ඇත්නම් ඒවා භාවිතා කිරීමේ වරදක් නැත. TNT යනුවෙන් හඳුන්වන දිව යට තබාගන්නා ඖෂධය භාවිතා කිරීමෙන් ගැස්ට්‍රයිටිස්වලට බලපෑමක් ඇති නොවන අතර හෘද රෝගය ඇතොත් රෝගියාගේ ජීවිතය බේරෙනු ඇත. එනම් හෘද රෝගය නොමැතිව වුවද පෙර භාවිතාකර ඇත්නම් එවැනි අවිනිෂ්චිත අවස්ථාවකදී TNT භාවිතා කළත් එයින් විශේෂ හානියක් සිදු නොවනු ඇත. යහපතක්ම සිදුවනු ඇත.

එම නිසා ගැස්ට්‍රයිටිස් රෝග ලක්ෂණ ඇති අවස්ථාවලදී වෙනත් විශේෂ රෝග ලක්ෂණ එනම්, ස්වසන අපහසුව හෝ ඇවිදීමේදී හෝ පඩිපෙළක් නැගීමේදී පපුවේ වේදනා උග්‍රවන්නේ නම්, මෙම තත්ත්වය හෘදයාබාධයක් නොවන බව නිසැකව ඔප්පුවන තුරුම රෝගියා ප්‍රවේසම් විය යුතුය. ඇවිදීම හෝ වෙහෙසවීම නොකළ යුතුය. වහාම වෛද්‍ය උපදෙස් ලබාගත යුතුය.



## Trawling in the Deep

M. H. S De Silva

Reading Geography Special Degree at University of Peradeniya

Unlike Adele's 2011 hit song Rolling in the Deep, bottom trawling is not going to win awards any time soon. In fact, it is considered to be one of the worst commercial fishing practices to date, with some studies estimating that bottom trawling annually covers an area equivalent to half of the world's continental shelf. Then what exactly is bottom trawling and how is it destructive for the survival of marine ecosystems? Why are the authorities reluctant to control this practice and how come we Sri Lankans only hear about it on the news when the navy is arresting Indian fishermen on trawler boats?



Let me be the first to admit that I had no idea that trawling was so destructive until I did some research on it. Now, this research does not have to be anything extensive. A 10-second google search will tell you that bottom trawling is a commercial fishing practice that drags a heavy weighted net across the seafloor in an attempt to catch a greater amount of fish. The concept is simple enough; increase the area, get more catch, sell more fish and you get more cash. Well, the problem with this is that the ocean is not only home to salmon and tuna.



Research efforts from around the world have still been unsuccessful in identifying all the different species residing in the Earth's oceans. However, the current estimate is that there are over 228,450 marine species worldwide, ranging from seaweeds to blue whales. Even with all these discoveries, scientists believe that between 500,000 and 2 million more multi-celled marine organisms are still unknown.

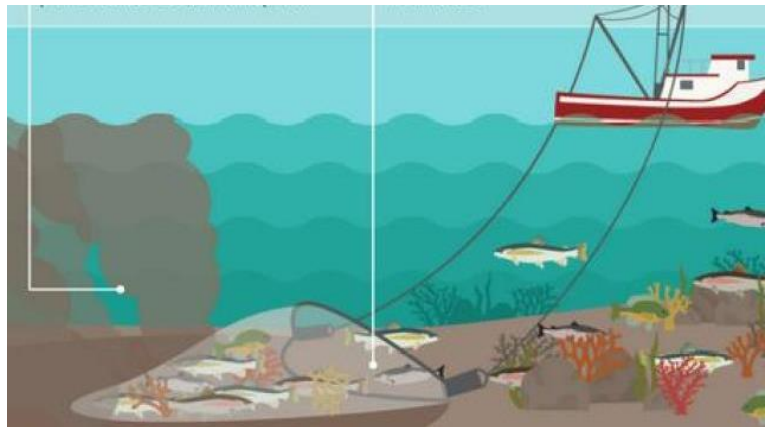


# Inco Cent

Bimonthly News Magazine published by the Central Provincial Branch of Institution of Incorporated Engineers, Sri Lanka  
Volume 5- Jul 2021 (Date issued: 05-Jul-2021)

Something has got to give with hundreds of thousands of marine organisms and thousands of more trawler boats trying to increase their profits. We're currently witnessing the equivalent of a WWE Smackdown between commercial fishing and the marine ecosystem with commercial fishermen clearly gaining the upper hand with their massive nets and a seeming disregard for marine life.

The problem with Bottom Trawling is not only the massive amounts of sea-floor destruction caused by these weighted nets but also the large by-catch impact that just happens to be caught up in the nets. These nets do not distinguish between dolphins and salmon so being in the wrong place at the wrong time takes on a whole new meaning with bottom trawling. Oceanographer Sylvia Earle describes this practice as *"the subsea equivalent of collecting the entire farm when the goal is to bring in a couple of apples."*



Not many people realize the dangers brought on to marine ecosystems through bottom trawling practices. In Sri Lanka alone, by-catch due to trawling has been recorded as high as 92%. In July 2017, Sri Lanka became one of the first countries in Asia to enforce a complete ban on bottom trawling. Finally, a well thought out decision that finally puts the oceans first. Well, this ban only lasted for 6 months before the Department of Fisheries proposed to weaken this ban by allowing "less destructive" trawling in designated trawling zones. It is only too bad that the number of species being caught up as by-catch will not get this memo about these zones.

Four years later, we are still at a standstill when it comes to a solution concerning bottom trawling. Is it too much to hope for a clear resolution in the next 4 years to come? The best we can do is educate ourselves about these pressing issues that threaten the existence of the diverse forms of life found in our oceans. We can only hope that at the end of the day, our sense of preservation would extend to marine life forms as well.

Reference: <https://mithmadesilva97.wixsite.com/website/post/trawling-in-the-deep>





# Inco Cent

Bimonthly News Magazine published by the Central Provincial Branch of Institution of Incorporated Engineers, Sri Lanka  
Volume 5- Jul 2021 (Date issued: 05-Jul-2021)

## නිවන් සැප ලැබේවා !

දෙවනපැතිස් රජ දවස ඉන්දියාවේ රජකම් කළ අශෝක අධිරාජයාගේ අනුදැනුමින් ලක්දිව සම්බුද්ධ ශාසනය යළි ස්ථාපිත කළබව ඉතිහාස වංශකතාවේ සඳහන්ය. එතැන් පටන් භාරතීය ජන අනුසාර සංස්කෘතික ඇදහිල්ලක් අප රට තුළ මුල්බැසගන්නට යෙදුනි. ශාකාමුණිඳුන් දේශනා කළ නිමර්ල දඟර්නය අප රට තුළ ඇදහිල්ලක් බවට පත්වූයේ ඉන් පසුවය. හෙල වෙදකමට ආයුර්වේදයේ හා නක්ශත්ර කලාවට ජෝතිශායේ බලපෑම සිදුවූයේ ඉන් පසුවය. ඉතිහාසය පිළිබඳව තකරානුකූලව හා විමගර්නාත්මව බැලූ කළ එය මනාව වැටහෙන අතර සාමාන්‍ය අයෙකුට වුවද ඇදහිල්ලෙන් බැහැරව ධර්මය පිළිබඳ විමසන විට එම දෙකෙහි වෙනස මනාව පැහැදිලි වේ. අවාසනාවකට මෙන් එසේ උඩුගං බලා සිතන තැනැත්තා බෞද්ධාගමිකයන් විසින්ම තම ශාස්තෘන්ට විරුද්ධවාදියෙකු ලෙසට හුවා දක්වයි. එමනිසාවෙන් දඟර්නයේ සහ ඇදහිල්ලේ වෙනස මනාව දුටුවන් නිහඬව දඟර්නය තුළ යෙදෙමින් නිවර්තන මාගර්යේ නිහඬවම ගමන් කරයි.

අද මේ මොහොත වන විටද සෝවාන්, සකාදාගාමී, අනාගාමී, අරහත් මගර්පල ලාභීන් මේ පොළොව මත වාසය කරති. අද සමාජය බෞද්ධ දඟර්නයෙන් කෙතරම් දුරස්ථ ඇතිද යන්න සොයා බැලීමට ඉහත මා මාතෘකා කරගත් පාඨය සාක්ෂි දරයි. මරණින් මතුට ස්වගර්යක් පිළිබඳව අනෙකුත් ආගම් වලින් පිළිබිඹු කලද බෞද්ධ දඟර්නය තුළ නිවර්තනය ලබන්නේ මරණින් මතුද යන්න සිහියෙන් සිතාබැලිය යුතුව ඇත. මළ මිනියකට නිවන් පැතීමෙන් ඇතිවන ඵලය කිමෙක්ද? එය දාගර්නික බෞද්ධයා නොකරන නමුදු සංස්කෘතික බෞද්ධයා මෘත දේහයට නිවන් පතයි. බෞද්ධ දඟර්නයට අනුව මරණින් මතු නිවනක් තිබේද? මරණින් මතු ඇතිවන්නේ නව භවයකි. සිතා බලන්න. නිවර්තනය ලැබිය යුත්තේ මරණින් මතු නොව ජීවත්ව සිටියදීය. නිවන් ලබන්නා මරණින් මතු යළි භවයක් නොලබයි. නිවන් යනු ඉපදීම කෙළවර කිරීමයි. එසේ නම්, මෘතදේහයට නිවන් පතා ඇතිවන ඵලයක් නොමැත්තේය. නමුදු අද





# Inco Cent

Bimonthly News Magazine published by the Central Provincial Branch of Institution of Incorporated Engineers, Sri Lanka  
Volume 5- Jul 2021 (Date issued: 05-Jul-2021)

වනවිට ගිහි පැවිදි සමස්ථ බෞද්ධ සමාජයේ බහුතරයක් නිවන පතන්නේ මළ මිනියට නොවේද?

ඇදහිල්ල තුළ වූ මූලාව කෙතරම්ද යන්න වැටහේද? සමහරක් මළගෙදරක බැතරයක “නිවන්සැප ලැබේවා” යන්න ඉහලින් සඳහන් වන අතර “යළි අප අතරම ඉපදේවා” යන්න පහළින් සඳහන් වන්නේ ඒ නිසාවෙනි.

එමෙන්ම ජීවත්ව සිටින අයෙකුට නිවන් සැප පැතීම අශෝඛන ක්‍රියාවක් ලෙසට සමාජය වටහාගෙන සිටී. ඔබ සමීපතමයෙකට ඔබට නිවන් සුවය ලැබේවා යනවෙන් සබ පැතීමක් කළහොත් කමන ආකාරයේ ප්‍රතිචාරයක් පෙරලා ලැබේවිද? එනමුදු ජීවත්ව සිටිනා අයෙකුට කළහැකි වටිනාම ආශීවර්ෂය එය නොවන්නේද? පුත් පොහොය දිනෙක අටසිල් සමාදන්වූ මගේ අත්තමමා සවස පෙරලා නිවසට පැමිණි වේලාවේ පාද වන්දනාකොට ඇයට නිවන් සුවය පතා මා ඇගේ මුණුබුරෙකු නොව හතුරෙකු බව දැනගනිමි. තවද මාහා සම වයසේ ගිහි කළ මිත්‍රයෙකු ව සිට පැවිදි වූ කලාණකුමිත්‍ර ස්වාමීන් වහන්සේට නිවන් සුව පැතු කළ එම හිමියන් මගේ කණට කර පැවසූයේ එතරම්ම ඉක්මනින් නොඑනා ගමන් නොයන බවය.

සත්‍ය එසේ පැවතියද එම ආශීවර්ෂ ප්‍රාථමිකව යම් සාහසික බවක් ගැබ්ව ඇති සැටියක් උපන්දාසිට සංස්කෘතිකව ආගම ඇදහූ අපහට දැනේ. උපන්දා සිටම අප ආගම ලෙස වන්දනාවක හා ඇදහිල්ලක නිරතව ඇත. එම සමාජයේ සමාජානුයෝජනය ලද අපට සත්‍යය වැටහුනද එකඟව පිළිගැනීමට බියක් හා සැකයක් අපව නටවන සංස්කෘතික වලිග කොටසින් ඇතිකරනු ලබයි. සංස්කෘතික වලිගයට පාලනය නොවන සිතක් තනාගනු හැකිවේනම් ඔබ මූලාවේ නොවැටෙනු ඇත. අපේ සිත කිසිවක් නොලියන ලද හිස් කඩදාසියක් ලෙසට ගෙන බෞද්ධ දර්ශනය එහි ලියන්නට හැකිවේ නම් අවබෝධය මහ දුරක නොවන්නේය. නමුදු අවාසනාවකට අපි එසේ කිරීමට අවශ්‍ය වටපිටාව හා ස්වයං ධෛර්ය හීනවූවෝ වෙමු.

මා ඉතා කෙටියෙන් ඔබට පවසන්නට උත්සහ කළ දෙය ඔබට වැටහුනා යැයි සිතමි. සිතට යම් කුතුහලයක් දැනේ නම් අද සිට නිවර්ණය පිළිබඳව සොයා බලන ලෙස යෝජනා කරමි. එමගින් හක්කියෙන් අවබෝධයටද ඇදහිල්ලෙන් දර්ශනය පසක් කරලීමටද හැකිවනු නොඅනුමානය. එසේ නම්

ඔබට නිවන් සුව ලැබේවා!

ධනංජය ජයාරත්න

2021/06/25

බෙල්ලන්විල අහසයට හිඳ.



# Inco Cent

Bimonthly News Magazine published by the Central Provincial Branch of Institution of Incorporated Engineers, Sri Lanka  
Volume 5- Jul 2021 (Date issued: 05-Jul-2021)

## POETRY

විල් උයන් මැදින්  
තුරු වියන යටින්  
නණ පැදුරු මතින්  
ඇවිද යමු අපි ඇතින්  
ඇතට

හුස්ම තුඹයි මගේ  
පණ කෙත්ද ලඟයි තුඹේ  
සුක්කානම හිමියි තුඹේ  
දැනට  
මගේ ජීවිත නොකාවේ

පෙර ආත්මයේ පැතු  
මේ ආත්මයේ ලද  
ගිම් පවස නිවන්තට  
තුඹේ ආදර හද ගැඹුරේ

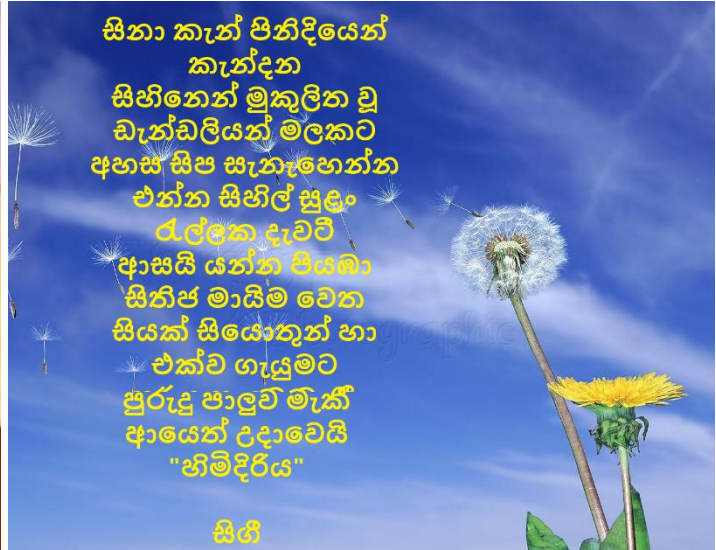
ඉතින් අවසරයි  
හැර යන්න ඔය  
රුව  
සසර කෙටි  
කරන්න යන  
අන්තිම දිවි ගමනේ

සීගී



සිතා කැන් පිනිදියෙන්  
කැන්දන  
සිහිනෙන් මුකුලින වූ  
වැන්වලියන් මලකට  
අහස සිප සැනැහෙන්න  
එන්න සිහිල් සුලං  
රැල්ලක දැවටී  
ආසයි යන්න පියඹා  
සිතිජ මායිම වෙත  
සියක් සියොතුන් හා  
එක්ව ගැයුමට  
පුරුදු පාලුව මැකී  
ආයෙන් උදාවෙයි  
"හිමිදිරිය"

සීගී



මල් එවමි ඔබ වෙත  
කටු මා ලඟ තබාගෙන  
සිඹ සැනැහෙන්නට  
සුවද විදින්නට

අහිමි වූවන්  
හදවන මාහට  
ජීවත් කරවන්න  
හුස්ම වැටෙන්නට

දිරාහිය ශරීර කුඩුව තුල  
තවමත් අමාරුවෙන්  
ගැහෙන  
ඒ හදවන විතරක් ඉතිරිව  
අපරාජිත පෙමක නටඹුන්ව

දිය පොදක් ඉස තවත්  
අසංකයක් දිවි ගෙවනට  
කල්පයක් ගෙවී ගියත්  
වෙනස් නොවෙන  
නැවතුමක

සීගී







## Quotes of the Inco Cent



### Understanding **Effective** Leadership

- Becoming Influential.
- Facilitating Teamwork & Collaboration.
- Being a Catalyst for Change.
- Managing Conflict.
- Developing Others.
- Having & Communicating a Compelling Vision.
- Break old habits/responses and form new ones.
- Know which areas to improve.
- Use a reliable assessment to identify areas of growth opportunity.
- Develop a plan of development.
- Having one or more people who can support you, give unbiased, nonjudgmental feedback and help make course corrections.



**Leaders must be able to listen, observe, and be willing to change when necessary.**





# Inco Cent

Bimonthly News Magazine published by the Central Provincial Branch of Institution of Incorporated Engineers, Sri Lanka  
Volume 5- Jul 2021 (Date issued: 05-Jul-2021)

## ANSWERS FOR THE CROSSWORD PUZZLE # 2

	<sup>2</sup> G				<sup>4</sup> C				<sup>5</sup> V	
	A			<sup>1</sup> D	A	M		<sup>2</sup> B	I	B
<sup>3</sup> T	U	R	B	I	N	E			S	
	S				T				C	
<sup>4</sup> B	S	<sup>3</sup> R		<sup>5</sup> P	I	L	E		<sup>6</sup> O	R
		O			L				S	
		<sup>7</sup> O	A	H	E			<sup>8</sup> R	I	B
<sup>1</sup> H		F			V				T	
A			<sup>9</sup> C	R	E	O			Y	
S					<sup>10</sup> R	A	M	P		
<sup>11</sup> P	I	N	C	H						

Note: Please visit INCO CENT Vol.04 for Crossword Puzzle#2.

<https://iiesl.lk/inco-cent-2021-bimonthly-news-magazine-vol-4/>

By Mr. Udayanka Wijayarathne  
Member of the Social and Welfare Subcommittee-IIESL CPB



**Appreciation Reward for IIESL CPB Member's Children**  
**Excelled in G.C.E. (A/L 2019-2020)**

**Application**

01 Student's Full Name

.....  
.....

Student's Name with initials.....

02 School

.....

03 GCE A/L Results

Year .....

Attempt .....

Subjects	Results
Z score	

04 District & Exam Admission No

.....

05 Selected University/ Institute (**Eligible institutes are mentioned below**)

.....

**(Attach a copy of letter /email of confirmation of selection certified by a JP or Corporate member of IIESL)**

04 Parent member's name.....

05 Membership Reg. No. (Parent)

CPB.....IIESL.....ECSL.....

06 Contact Numbers

Mobile.....Home.....

07. Postal address.....

.....

.....

08 Email address

.....

Date..... Signature of the parent

.....

**Conditions:**

- Limited to IIESL CPB member's children.
- Application should be submitted on or before 30<sup>th</sup> October 2021 (Late submission shall not be considered).
- Program is applicable for Exam held in 2019/20.
- Final decision shall be taken by IIESL CPB Social & Welfare Subcommittee.
- Digital applications with digital signature are accepted by IIESL CPB SWELLCO.

**Eligibility criteria for AL scholar program**

- Selections based on the AL exam year 2019/2020.
- Students selected to follow a courses in one of the following institutions are eligible to apply this scholarship
  - **Government University** approved by UGC
  - **Government higher education institute accredited by IIESL**
  - **Defense University as an officer cadet.**
  - **Foreign university as a full scholar** witch is granted by the Ministry of Education.

# We invite and encourage you to send us an article for INCO CENT Vol 06.

**“A person who wrote badly did better than a person who does not write at all.  
A bad writing can be corrected. An empty page remains an empty page”.**

Articles can be on,

1. General Engineering articles.
2. News important and useful for the members
3. Poetry and criticisms on art
4. Religious articles
5. Food Thoughts
6. Humor
7. Members views on current affairs
8. Retro Items such as crossword puzzles to reintroduce the joy of life.
9. Language Lessons
10. Support for document preparation [CDR etc.]
11. Lesson learnt stories or current topics or any of his/her experience related to engineering.
12. Work Place Safety (Since the majority are engaged in the industry)
13. Any other that accepted by the editorial board.



After your draft is edited by the editorial board, you will have the opportunity to make further improvements.

We would like to inform that family member [spouses and kids] of IIESL-CPB members and Non-members an opportunity to ride across the fascinating world of writing.

**Article Submission Due Date: 15-Aug-2021**

Please feel free to e-mail at [iieslcpbeditor@gmail.com](mailto:iieslcpbeditor@gmail.com) or  
WhatsApp me at 0777886400 with your photograph & Citation.

**Eng. Chaturani Gunathilaka**

**IIESL CPB Editor**







# Inco Cent

Bimonthly News Magazine published by the Central Provincial Branch of Institution of Incorporated Engineers, Sri Lanka  
Volume 5- Jul 2021 (Date issued: 05-Jul-2021)

*Be a member of Senkadagala Toastmasters Club*

and improve your communication and Leadership skills.

**President – 070 2472884**

**VP Education – 077 9196108**

 **Senkadagala Toastmasters Club**  
Club Number: 04851169, District 82, Area F4  
Charter Date: Nov. 26, 2015  [Contact Club](#)

**CONTACT INFORMATION:**

**Meeting Times:** Saturday 3:00 pm - 5:00pm

**Location:** RDA Quarters  
Embilmeegama  
529C, Colombo Road Pilimathalawa, Central 20450 Sri Lanka

**Membership Restriction:** None; the club is open to all interested parties.  
**Online Attendance is allowed**



Where

The Leaders are made

# JOIN US

## REVEAL YOUR IDENTITY FOR YOUR COMMUNITY

Every 1st and  
3rd  
Wednesdays  
at 6.30pm

Welcome all  
Incorporated  
Engineers,  
Grab your  
Opportunity

Past Students of NDT  
/NDES/HNDE/C&G/OU SL/  
Those who have Registered for the  
Membership of IIESL

**PRESIDENT'S DISTINGUISHED**

**CONGRATULATIONS**




**IIESL Toastmasters Club**


DIVISION E

TOASTMASTERS  
INTERNATIONAL

DISTRICT 82



 Institution Of Incorporated  
Engineers, Sri Lanka. 27/B  
Udumulla Rd,  
Battaramulla.10120

 0773487072



**IIESL TOASTMASTERS CLUB**



# Inco Cent

Bimonthly News Magazine published by the Central Provincial Branch of Institution of Incorporated Engineers, Sri Lanka  
Volume 5- Jul 2021 (Date issued: 05-Jul-2021)

**Become**

**a MEMBER**

*of*

*IIESL Central Province Branch*

*Chairperson-MEMSCO - 0714192182*

*General Secretary - 0771578103*

*E-mail:- [iiesscpb1@gmail.com](mailto:iiesscpb1@gmail.com)*

*Fax: 0812579433*





# INSTITUTION OF INCORPORATED ENGINEERS SRI LANKA

## CENTRAL PROVINCIAL BRANCH

(Established in 1977 and Incorporated under an Act of Parliament Act No.64 of 1992)  
No 529, Colombo Road, Pilimathalawa, Sri Lanka

### CPB MEMBERSHIP APPLICATION FORM

Please use Block L letters and forward the completed application to the General Secretary.

Remit the application fee of Rs. 1000.00 to the account "Institution of Incorporated Engineers Sri Lanka, Central Provincial Branch - Acct no 8794497 of BOC"

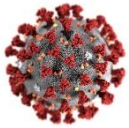
1 Name In Full					
2 NIC Number		3 Date of Birth			
4 Permanent Address					
5. Postal Address					
6. Personal Contact	Fixed Line	Mobile	Email	Whatsapp	
	Viber	Imo	Facebook	Website	
7 Membership / Reg. No(s) (Year)	IIESL ( )	ECSL ( )	8. Occupation	9 Field of Practice	
10 Official Address					
11 Official contacts	Fixed Line	Mobile	Email	Whatsapp	
	Viber	Imo	Facebook	Website	
12 Brief Description of the Job / Business					
13 Expertise	In Engineering	Soft Skill	Leadership	Others	
14 Possible Contributions for the CPB	With Talents	With Contacts	Financially	As a resource person	
15 Professional Qualification					
Qualification		Awarding Institution		Year	
16 Proposer's Name		Prop. IIESL Mem. No		Prop's CPB No.	
17 Proposer's Signature / Date			18 Signature if Applicant / Date		
<b>OFFICIAL USE</b>					
1. Admin Payment	Amount Paid	Receipt No	Date		
2 Approval for membership	Granted / Not Granted	Chairperson	General Secretary		
3 Exco Meeting	Date	Venue	CPB Mem. No		





# Inco Cent

Bimonthly News Magazine published by the Central Provincial Branch of Institution of Incorporated Engineers, Sri Lanka  
Volume 5- Jul 2021 (Date issued: 05-Jul-2021)



*North or South, East or West*

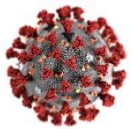
*Home is the Best.*

*Take some Rest, Don't call any Guest.*

*Enjoy your Home Fest,*

*Don't have an outgoing Zest.*

*This is our Life Saving Test.*



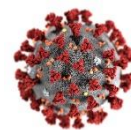
*So, be in your nest;*

*Wearing FACE MASK is better than*

*wearing Ventilator MASK.*

*Washing HANDS is better than washing*

*your LIFE away.*



**This is the IIESL-CPB request to all.**