

ICERYX 🌣

Department of Instrumentation and Control Engineering

SARANATHAN COLLEGE OF ENGINEERING

EDITORIAL

MAY - AUG 2021

FOREWARD

Old things have passed away behold all things have become new. This saying would be the right one for all of us, in this present day today life. The pandemic situations had suffered us a lot. It has taught us to live United and we are all born not to give up. We have made it and let's all unite to get adapted to this new normal. Lets revive energy to this world.

FROM THE EDITORS DESK Dear Readers,

It's our pleasure to provide you with interesting articles. From this edition, the magazine of ICERYX is getting its new form. Hope you would like to read it this way. Many new measures have been taken to bring in more fervent readers for our magazine. From the Public Relations team, we express gratitude to everyone who supported us in this endeavor. Stay tuned on to update yourself with the deeds of our department as well as the outside world. Happy reading!



MUKESH.P	SIVA SUBRAMANIAN. A	1ST VEAD
SHARAN.R		ISITEAR
SHERENE.G		
HARI VARSHINI.S		
REGENA ARSHINI	SHARLENE. A	2ND YEAR
DHARSHINI.G		
SWATHI .A		
BAIRAVI .S		
HARIHARAN.T	VASUNDRA.R	SRD TEAR
SHIVA SHANKAR.A	SWETHA.R	
SURYA PRAKASH.D	PRANAV KUMAR .S	
MAHALAKSHMI.S.P		4TH YEAR
SHARVIN SHAKESH.P		
AKASH SAMI. R		
SURYA.S		

1) ARTICLE-

History and future of ICE

-Hari Varshini S - 1st Year

2) FACULTY CORNER

3) STUDENTS CORNER

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5) DID YOU KNOW?

-Irshath Ahmed.MS - 1st Year

6) ART AND PHOTOGRAPHY

-Siva Subramanian.A - 1st Year



ARTICLE

HISTORY AND FUTURE OF ICE -HARI VARSHINI.S 1ST YEAR



The Department of Instrumentation and Control Engineering was established in the year 1972. Instrumentation developed at a rapid space in the Industrial Revolution of the 18th and 19th centuries, particularly in the areas of dimensional measurement, electrical measurement, and physical analysis

Early History –

The First Industrial Revolution

With the coming of mechanization, soon developed a need for very basic control.

It is probable that the steam engine governor could be considered the first closed loop control system using instrumentation. Invented in 1788 by James Watt, this very basic and functional solution was able to measure engine speed through the rotation of two metal balls

The Second Industrial Revolution

In terms of instrumentation, there is a blur between the first and second industrial revolutions. The first brought the steam engine and the second focussed on motive electricity with the start of mass production, initially in steel and then into the chemical and petroleum sectors in the early 1900's.

The real start of the second industrial revolution could be defined as mass production in the automotive industry at the start of the 20th century, still requiring nearly 100% manual labour and yet to progress more mechanised automation.

The Electrical Revolution – The Third Industrial Revolution

Up until the start of the third industrial revolution with the explosion in development of electronic systems in the 1960's, instrumentation had still been largely based on the mechanical sensors and gauge readouts from the earlier steam engines.

In 1875, the Metre Convention was signed by 17 nations to coordinate international metrology. Whilst there had been a number of updates along the way, in 1960. The system was overhauled and relaunched where International Standards were defined and SI units,established from the French Système International d&Unités. identified the seven base units.



ARTICLE

The Future of Instrumentation – The Fourth Industrial Revolution

The fourth industrial revolution is really a focus on the digitisation of industry. The process industries have their challenges in this area as do those engaged with manufacturing.

The end game should be a completely integrated supply chain from feedstock specification and order through high quality and efficient manufacturing to providing customers with their specific order. Mass customisation at mass production costs.



Best states for instrumentation and control engineering:

California is the best state for jobs for instrumentation engineers,

- 1.Total Instrumentation Engineer Jobs: 3,713
- 2. Average Annual Salary: \$95,171
- 3.Lowest 10 Percent Earn: \$63,000

4.Highest 10 Percent Earn: \$141,000 5.Location Quotient: 1.54



New Mexico

- 1. Total Instrumentation Engineer Jobs: 143
- 2. Average Annual Salary: \$91,397
- 3.Lowest 10 Percent Earn: \$63,000
- 4. Highest 10 Percent Earn: \$131,000
- 5.Location Quotient: 0.88

Washington

- 1.Total Instrumentation Engineer Jobs: 891
- 2. Average Annual Salary: \$87,062
- 3.Lowest 10 Percent Earn: \$62,000
- 4. Highest 10 Percent Earn: \$122,000
- 5.Location Quotient: 1.48

Best companies for instrumentation and control engineering around world:

GE:

From jet engines to power generation, financial services to plastics, and medical imaging to news and information, GE people worldwide are dedicated to turning imaginative ideas into leading products and services that help solve some of the world's toughest problems.

Suzlon:

Suzlon Energy is Asia's strongest growing fully integrated wind power company and ranks amongst the top ten in the world. Suzlon integrates consultancy, design, manufacturing, operation and maintenance services to provide customers with total wind power solutions.

THEN AND NOW

Sales ballooned for several of the top instrument firms over the past five years

	2008		2013	ŧ.
RANK	COMPANY	INSTRUMENT SALES (\$ MILLIONS)	COMPANY	INSTRUMENT SALES (\$ MILLIONS)
1	Life Technologies	\$2,317	Danaher	\$6,279
2	Thermo Fisher Scientific	2,200	Thermo Fisher Scientific	4,125
3	Agilent Technologies	2.195	Agilent Technologies	3.894
4	Shimadzu	1,667	Waters	1,904
5	Waters	1,575	Shimadzu	1,754
6	Roche Diagnostics	1.206	Roche Diagnostics	1.733
7	PerkinElmer	1.185	Bruker	1,710
8	Bruker	1,074	PerkinElmer	1,625
9	Danaher	875	Mettler-Toledo	1.094
10	Mettier-Toledo	868	Carl Zeiss	835

FACULTY CORNER

FACULTY DEVELOPMENT PROGRAM

1) DATE : MAY18- MAY22

TOPIC : Recent research trends and future research Direction in solar technologies.

Attended By Mr.S.Vigneshwaran.

2) DATE : MAY18- MAY22

TOPIC : Recent research trends and future research Direction in solar technologies.

Attended by **Mr.S.Prasanna Perumal.**

3) **Dr.P.Thirumurgan** of Department of Instrumentation And Control Engineering has qualified for the award of **"Degree of Doctor Of Philosophy" on 16.07.2021**



STUDENT'S CORNER

Name : HEMANTH.K.K , 2nd Year ICE

Event : CHESS Prize : SECOND Place : Indra Ganesan College of Engineering Date : 19/03/2021 I learn more from this competition.Thank you for the opportunity. Great experience, happy to have this opportunity of learning. Thank you for setting up this initiative.

NAME : D.BHARATH SAMVEL, 2nd Year ,ICE

Event : Chess zonals level Prize : second Place : Indira Ganesan college of engineering Date : 19/03/2021 Thank you for giving me this opportunity to gain experience about college tournaments, innovative and team work. Thanks for boosting up our self confidence by games.





APTITUDE BY_IRSHATH AHMED .MS - 1ST YEAR

1) A and B are friends. They decide to meet between 1 pm and 2 pm on a given day. There is a condition that whoever arrives first will not wait for the other for more than 15 min. The probability that they will meet on that day is

(a) 1/4 (c) 7/16

(b) 1/16 (d) 9/16

2. There are eight bags of rice looking alike, seven of which have equal weight and one is slightly heavier. The weighing balance is of unlimited capacity. Using this balance, the minimum number of weighings required to identify the heavier bag is (a) 2 (c) 4

(b) 3 (d) 8

3. What is the ratio of number of years in which the actual production was above the average production to the number of years whose actual production is below the average production?

(a) 2:1 (c) 1:2

(b) 1:1 (d) 3:2

4. Two cyclists M and N starts from A, B and travels forward to B and A respectively. Once they reach to B and A, they turn back and travel to their starting points. If they meet 36 km from A for the first time and 18 km from B for the second time, then find the ratio of speeds of M and N.

(a) 2:3 (c)) 4:5
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(b) 3:2 (d) 5:4

5. An LCD TV is available at 27780 cash price or three equal annual installments at 15% per annum under Cl compounding annually. Find each installment amount (in₹).

(a) 10146	(c) 13184
(b) 11123	(d) 12167

6. Mr. Arun purchased few pencils at the rate of 8 for bay three pencils and marked eight pencils for ₹ 30. If he allowed a discount of 20%, then find his percentage of profit or loss.

(a) 12.5% profit	(c) 15% loss	
(b) 20% profit	(d) 12.5% loss	

7. What would be the remainder, if the smallest possible number formed of 3 and 0, which is exactly divisible by 48 is divided by 96?

(a) 46 (d	c)	36
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(b) 24 (d) 72

8. Three bikers clubs, Rovers, Aces and Riders have 60, 70 and 90 members respectively. 20 of them are by members of the three clubs, whereas 60 of them have membership of any one club. How many bikers have membership of exactly two clubs?

(a) 50 (C) 100

(b) 60 (d) None of these

9.Some sheets of papers are folded and stapled in the middle to form a book so each sheet contains two leaves and each leaf contains two pages. The sum of the page numbers on the last leaf was 191. Mr. Dheeru removed even number of sheets from the book. If the number of sheets removed are minimum, then find the sum of the page numbers on the remaining sheets.

(a) 4202	(b) 4224
(c) 4224	(d) cannot be determined

10.How many values of n exists such that n! ends in 30 zeros?

(a)	12	(c)	6

(b) 4 (d) None Of these



APTITUDE

11.If f(2,3)= 29 and f(4, 5)=169, then what is the value of f(3,8)?

(a)369	(c) 129
(b) 325	(d) 515

12.A window is made up of a square portion and an equilateral triangle portion above it. The base of the triangular portion coincides with the upper side of the square. If the perimeter of the window is 6 m, the area of the window in m² is

- (A) 1.43 (C) 2.68
- (B) 2.06 (D) 2.88

13.Two numbers are respectively 12.2% and 25% more than a third number. The first number as percentage of second number is

(a) 90	(c) 60
(b) 75	(d) 50

14.The houses of a street are numbered with even numbers from 56 to 140. How many houses will be there in the street?

a) 70	b) 43
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c) 42 d) 85

15.A book is lying on the table. What is the angle between the actions of the book on the table and the reaction of the table on the book?

a) 0° b) 45°

c) 90°. d) 180°

16.Ram and Ramesh appeared in an interview for two vacancies in the same department. The probability of Ram's selection is 1/6 and that of Ramesh is 1/8. What is the probability that only one of them will be selected?

(A) 47/48	(C) 13/48	
(B) 1/4	(D) 35/48	

17.An automobile travels from city A to city B and returns to city A by the same route. The speed of the vehicle during the onward and return journeys were constant at 60 km/h and 90 km/h, respectively. What is the average speed in km/h for the entire journey?

(A)72	(C) 74
(B) 73	(D) 75

18.A number consists of two digits. The sum of the digits is 9. If 45 is subtracted from the number, its digits are interchanged. What is the number?

(A) 63	(C) 81

(B) 72 (D) 90



DID YOU KNOW?

1) the name physics was introduced by aristotle in the year 350 bc

2)The closest living relative to humans are chimpanzees, bonobos, and gorillas. We share between 98 and 99.6% of DNA with these species.

3)Most of the Earth's longest-surviving species are found in the ocean.

4) 73 million sharks per year die due to shark finning, where fishermen catch the sharklin, cut off its fins, and throw the stillliving shark back into the water.

5)Many animals exhibit high levels of emotional intelligence.

6)The strings of string instruments were originally made from the guts of animals like sheep or lambs.

7) The 1939 novel Gadsby is the longest book ever published that doesn't contain the letter 'e.'

8)On average, people read 10% slower from a screen than from paper.

9)Over 6,000 new computer viruses are created and released every month. 90% of emails contain some form of malware.

10)The Firefox logo isn't a fox, it's a red panda.

ART AND PHOTOGRAPHY



PHOTOGRAPHY

1. HARI VARSHINI S - 1st YEAR 2. MOHAMED YAHYA A - 2nd YEAR **DIGITAL ART**



3.KAVIN. G - 1st YEAR



ART AND PHOTOGRAPHY



ART BY

1. VIGNESH - 1st YEAR 2. REGENA ARSHNI S - 2nd YEAR **PHOTOGRAPHY**

3. SIVA SUBRAMANIAN.A - 1st YEAR



