7.2

MAHENDRA COLLEGE OF ENGINEERING

SALEM-CAMPUS, ATTUR MAIN ROAD, MINNAMPALLI, SALEM -636 106.

MAHENDRA

CONSOLIDATED-KNOWLEDGE SHARING FORUM

	SI NO	DEPARTMENT	FACULTY NAME	TOPIC
1/6/20 TO 31/12/20	1	EEE	S.Thangapandiyan	overview of solar PV technology
	2	CSE	Mrs.A.Indhuja	Blue Eye
	3	IT	Karthikeyan.M	Python for Data Analysis
	4	ECE	Mr.J.Sampathkumar	Radiation effects of wearable antenna in human body tissues
	5	MECH	Mr.T.Parthiban	EV Technology on 01-08-2020
	6	BIO-MED	Mr.A.T.Priyesh Kumar	Block chain Technology
	7	MTR	Mr.S.Sathishkumar	3D Printing
1/1/21 TO 31/5/21	1	EEE	Dr.R.Anand	Neural Networks and Fuzzy Logic
	2	CSE	Ms.L.Vinithasree	Wireless sensor networks
	3	IT	P.Shanmugapriya	inteligent agent and their application in E-Business
	4	ECE	Mr.D.Balaji	Sensitization Program on Online Courses
	5	MECH	Dr.M.Haridass	Leadership and Management Programme ON 06.03.2021
	6	BIO-MED	Ms.G.Shyamala	5G Technology
	7	MTR	Mr.R.Chandiran	AutomaticGuided Vehicle
1/6/21 TO 31/12/21	1	EEE	Dr.M.S.Saravanan	Artificial Intelligence
	2	CSE	Mrs.V.Nishadevi	Semantic Web
	3	IT	S.Kiruthika	5G wireless Technology
	4	ECE	Dr.M.Suganthi	Possible Future Research Directions
	5	MECH	Mr.M.Govindaraj	Road to become an entrepreneur on 07.08.2021
	6	BIO-MED	Mr.S.Vinoth	Engineering Forensic Science
	7	MTR	Mr.M.Senthilkumar	Turbojet Engines

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Any Faulty from Dept - Session (FN) - 10.00 am to 11.30 am.

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Kindly Nominate the faculty and the Topic of presentation by 06,Jun

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knowledge sharing forum 2020- reg.

1 message

HoD civil Mahendra Salem <hodcivil@mahendracollege.com> Wed, Jun 03, 2020 at 09:35 AM

To: hods <hods@mahendracollege.com>
Cc: Principal Mahendra Salem <principal@mahendracollege.com>, "dean.academic" <dean.academic@mahendracollege.com>, mcestaffs@mahendracollege.com

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Thanks & Regards,
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HOD -Civil,
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Mob: 94437 48531.

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KNOWLEDGE SHARING FORUM

06-JUN-2020 at 10:00 a.m

Presented by

Mr.S.Thangapandiyan

Assistant Professor, EEE

Topic: OVERVIEW OF SOLAR PV TECHNOLOGY

Will be the resource persons

Dr. N.MALMURUGAN

Principal, Mahendra College of Engineering

Will deliver the introductory note

Dr. N.MOHANA SUNDHARA RAJ

Dean-Academics

https://meet.google.com/sdi-mcrx-gca

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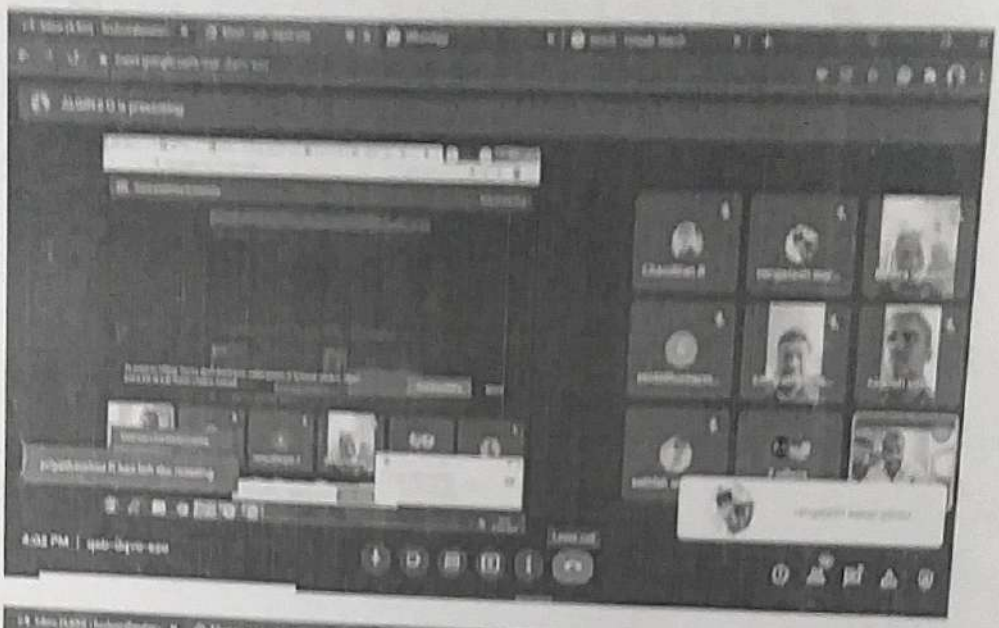

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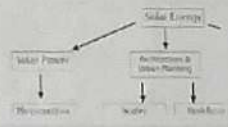
MAHENDRA COLLEGE OF ENGINEERING
DEPARTMENT OF ELECTRICAL AND ELECTRONICS ENGINEERING

OVERVIEW OF SOLAR PV TECHNOLOGY

PRAVEEN
Assistant Professor
EEE

The Big Picture - Sust
Capacity to Endure

Solar Technologies



Energy Conservatio

Energy cannot be created or destroyed; it can be only transferred from one form to another.

Semiconductor Devi Basics

- Charge can be positive (h electrons)
- Silicon (Si) is an atom with

Physics of Photovoli

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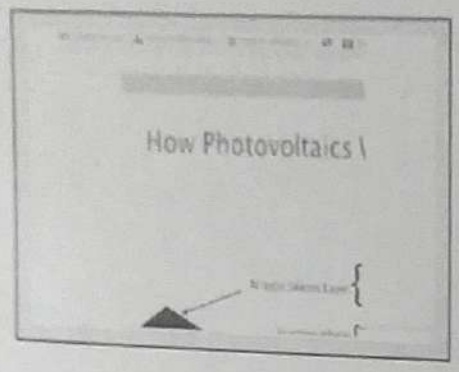

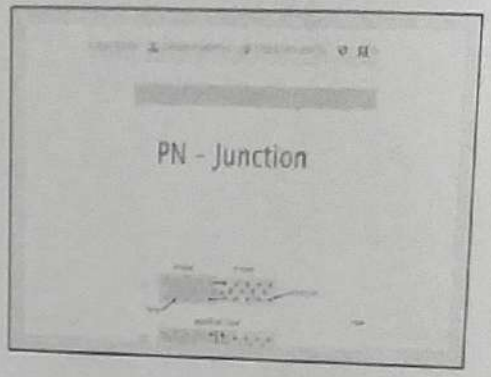

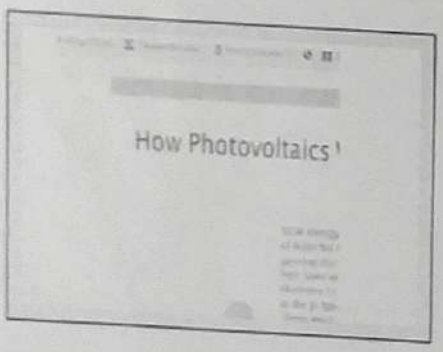

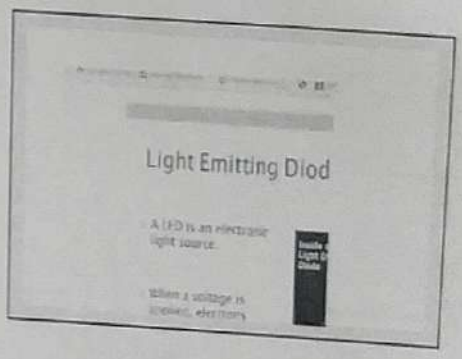

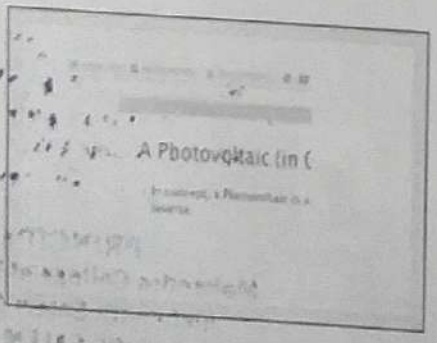

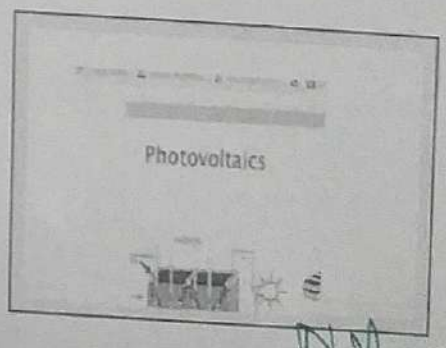

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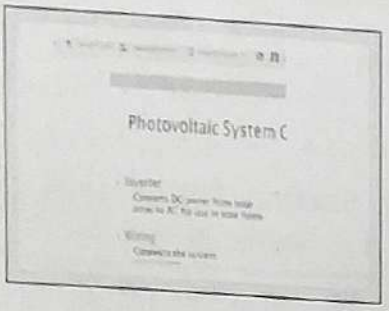

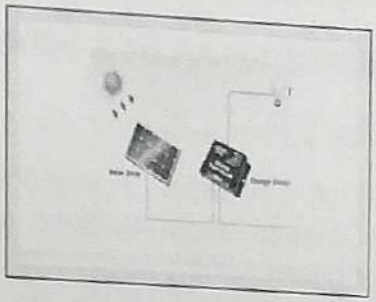

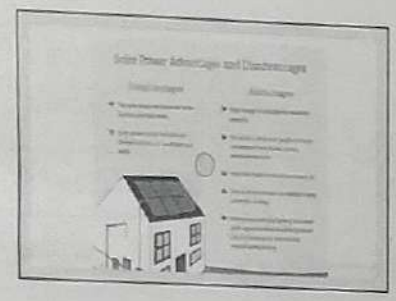

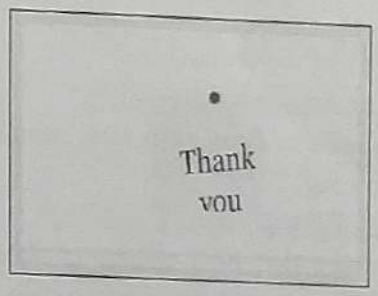

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Date & Time:

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IT	06.02.2021	10.00 am to 11.30 am.
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MECT	03.04.2021	10.00 am to 11.30 am.

Kindly Nominate the faculty and the Topic of presentation by 02 Jan.

Principal

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knowledge sharing forum 2021 - reg.

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HoD civil Mahendra Salem <hodcivil@mahendracollege.com> Tue, Dec 29, 2020 at 10:28 AM

To: hods <hods@mahendracollege.com>
Cc: Principal Mahendra Salem <principal@mahendracollege.com>, "dean.academic" <dean.academic@mahendracollege.com>, mcestaffs@mahendracollege.com

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KNOWLEDGE SHARING FORUM

02-Jan-2021 at 10:00 AM

Presented by

Dr.R.Anand

HOD/ EEE

Topic: NEURAL NETWORK AND FUZZY LOGIC

Will be the resource persons

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Will deliver the introductory note

Dr. N.MOHANA SUNDHARA RAJ

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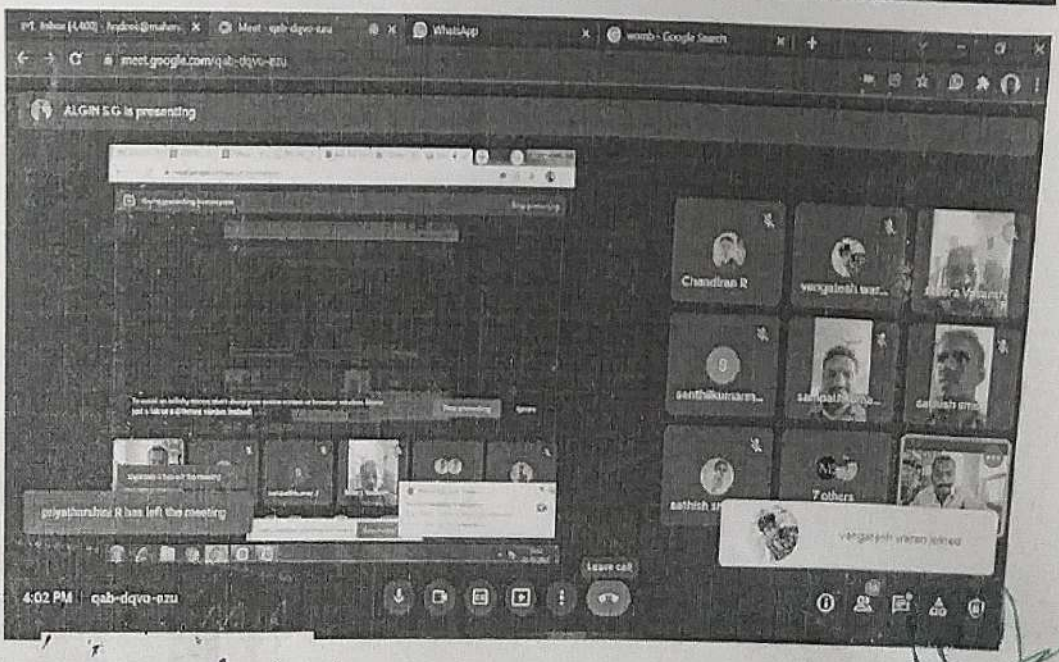

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MAHENDRA COLLEGE OF ENGINEERING

ELECTRICAL AND ELECTRONICS ENGINEERING

KNOWLEDGE SHARING PROGRAM

NEURAL NETWORK AND FUZZY LOGIC

Present By

Dr.R.Anand

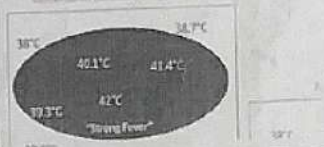
HoD/EEE

The term "fuzzy logic" was intr
the 1965 proposal of
theory by Lotfi A. Zadeh.

Fuzzy logic is a form

Fuzzy Controllers

Fuzzy Set Theory



Fuzzy Set vs Crisp

- X is a set of all real numbers from 1 to 10
- Universe of Discourse
- A is a set of real numbers between 5 and 8
- Crisp or Classical Set
- Membership Value 1 or 0

μ_A

Fuzzy Set vs Crisp

- B is a set of young people
- Membership values between 0 and

Age	65	27	17	3
B	0	0.3	1	0

μ_B

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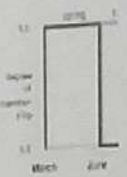
Fuzzy Set

- Another example of Fuzzy Set
- What season is it right now?
- Using the astronomical definitions for season, we get sharp boundaries.
- What we experience as



Traditional Representati

Slow

Speed = 0

Fast

Speed =

```
bool speed;
get the speed
if ( speed == 0) {
```

Fuzzy Logic Representat

- Every problem must be represent in terms of fuzzy sets.
- What are fuzzy sets?

Fuzzy Logic Representa

Slowest Slow Fast

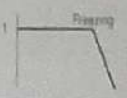
```
float speed;
get the speed
if ((speed >= 0.0)&&(speed < 0.25
// speed is slowest
}
else if ((speed >= 0.25)&&(speed
{
```

Fuzzy Linguistic V

- Fuzzy Linguistic Variables a represent qualities spannir spectrum
- Temp: {Freezing,
- Membership Function

Membership Fu

- Temp: {Freezing, , Hot
- Degree of Truth or "Membership
- Each of these linguistic terms i with a fuzzy set defined by a c membership function.



KNOWLEDGE SHARING FORUM-02.01.2021

Membership Fu

- Membership function (MF) is how each point in the input membership value (or deg between 0 and 1 and is often of μ.
- $\mu_A(x)$ is called the membershi in A.

Types of Membershi

Triangular MF:

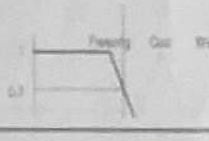
Trapezoidal MF:

Membership Fu

- How cool is 36 F° ?

Membership Fu

- How cool is 36 F° ?
- It is 30% Cool and 70%



Fuzzy Logi

- How do we use fuzzy n functions in predicate l
- Fuzzy logic Connective:
  - Fuzzy Conjunction, ∧
  - Fuzzy Disjunction, ∨

Fuzzy Set Oper

- There are three basic operation on fuzzy and union
- Negation
- Intersection
- Union

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Fuzzy Cont

- Defuzzification is the conversion of a precise quantity.
- Output of a fuzzy process can be the more fuzzy membership functions de discourse.
- Methods of defuzzification
  - Max-membership principle
  - Centroid method
  - Weighted average method

Rules

- If it's Sunny and Warm,

  Sunny(Cover)∧Warm(Temp)⇒

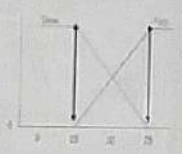
- If it's Cloudy and Cool,

  Cloudy(Cover)∧Cool(Temp)⇒ S

Defuzzificati

Constructing the

- Speed is 20% Slow and



Defuzzificati

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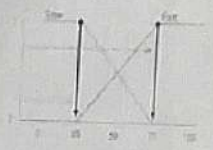

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Kindly Nominate the faculty and the Topic of presentation by 05 Jun.

Principal

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HoD civil Mahendra Salem <hodcivil@mahendracollege.com>

knowledge sharing forum(2021) - reg.

1 message

HoD civil Mahendra Salem <hodcivil@mahendracollege.com> Tue, Jun 01, 2021 at 02:30 PM

To: hods <hods@mahendracollege.com>
Cc: Principal Mahendra Salem <principal@mahendracollege.com>, "dean.academic" <dean.academic@mahendracollege.com>, mcestaffs@mahendracollege.com

One of our successful best practices, Knowledge Sharing Forum, will commence from 05.06.2021 (Saturday). Kindly circulate the attachment to all the faculty. Please discuss with your faculty and allot the speaker for the date assigned to your department.

EEE	05.06.2021	10.00 am to 11.30 am.
CSE	19.06.2021	10.00 am to 11.30 am.
MECT	10.07.2021	10.00 am to 11.30 am.
ECE	24.07.2021	10.00 am to 11.30 am.
MECH	07.08.2021	10.00 am to 11.30 am.
BIO-MED	21.08.2021	10.00 am to 11.30 am.
IT	04.09.2021	10.00 am to 11.30 am.

Thanks & Regards,
Prof.K.Prasadbabu,
HOD -Civil,
Mahendra College of Engineering,
Salem - 636 106.
Mob: 94437 48531.

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Cordially invite you to the

KNOWLEDGE SHARING FORUM

05-Jun-2021 at 10:00 AM

Presented by

Dr.M.S.Saravanan

ASP, EEE

Topic: ARTIFICIAL INTELLIGENCE

Will be the resource persons

Dr. N.MALMURUGAN

Principal, Mahendra College of Engineering

Will deliver the introductory note

Dr. N.MOHANA SUNDHARA RAJ

Dean-Academics

https://meet.google.com/hdi-hcox-dya

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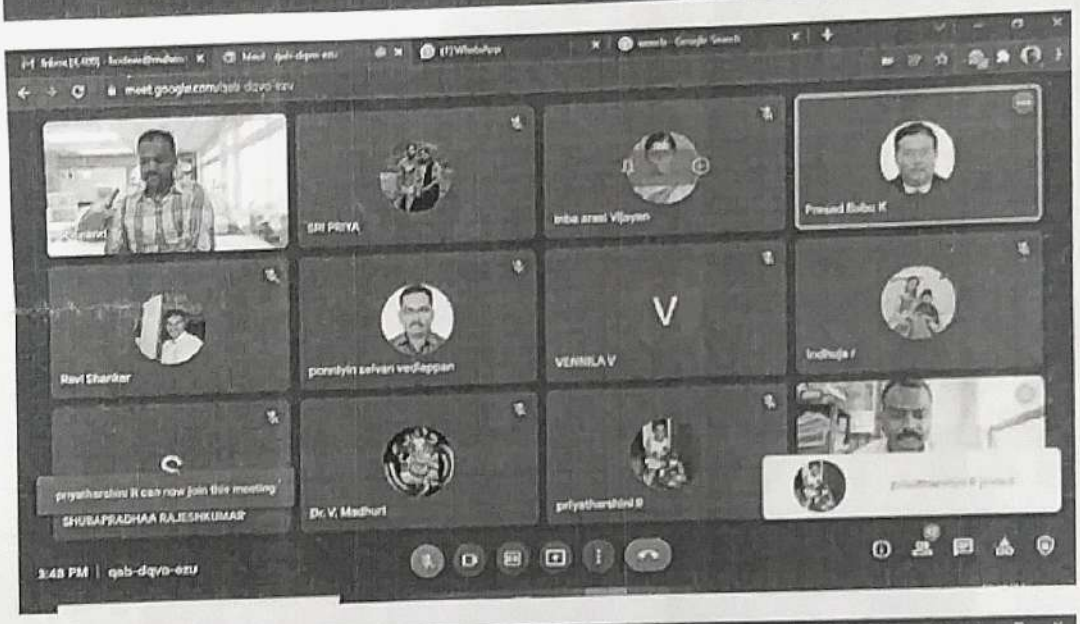

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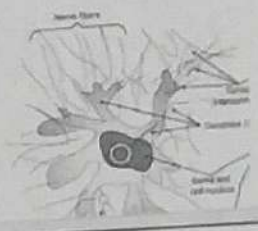
MAHENDRA COLLEGE OF ENGINEERING
DEPT OF EEE
KNOWLEDGE SHARING PROGRAM

ARTIFICIAL INTELLIGENCE

Present By
Dr.M.S.Saravana
ASP/EEE

Artificial Neural

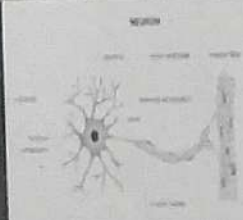


- Artificial neural network (AN
  learning approach that models
  consists of a number of artificia
- An Artificial Neural Network is
  - neuron model: the informati
    of the NN,
  - an architecture: a set of
    connecting neurons. Each lin
  - a learning algorithm: used f
    by modifying the weights in
    particular learning task

The Biological Neural

Characteristics of Human

- Ability to learn from experi
- Ability to generalize the kn
- Ability to perform abstracti
- To make errors.



- A neuron fires when the sur
  inputs reaches a threshold

- Nerve impulses which pass dow
  from node to node, thus saving
- There are about 10^16 synapse
  physical or electrical connectio
  synapse.

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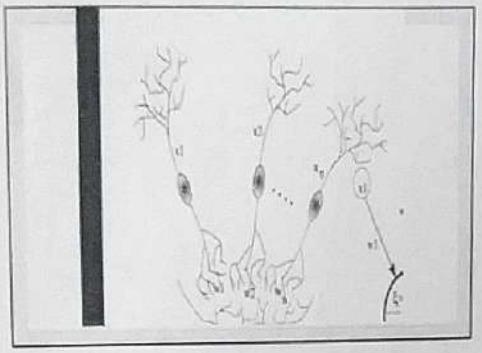
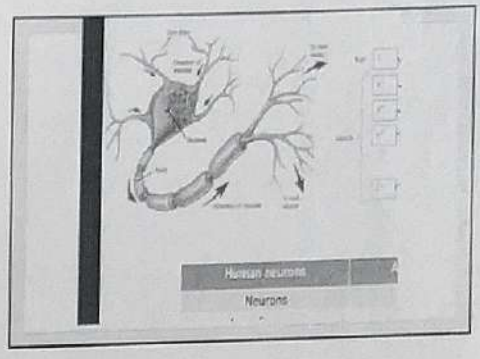
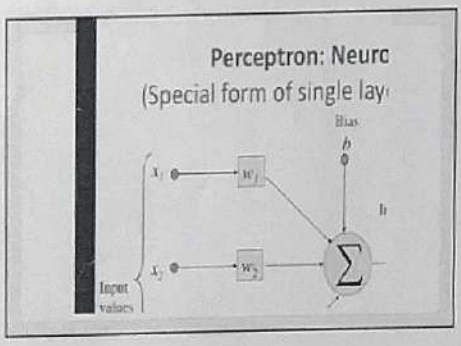
KNOWLEDGE SHARING FORUM-01.06.2021

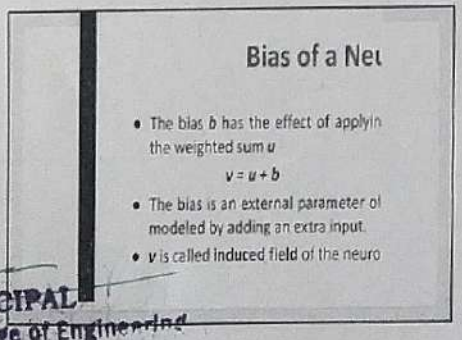


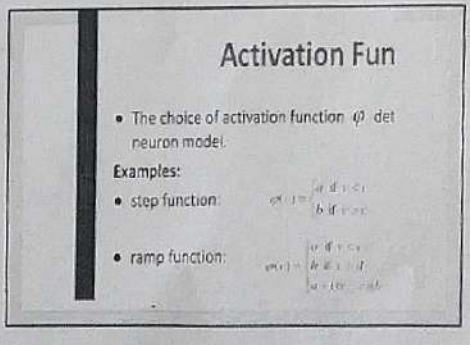




Neuron

- The neuron is the basic information NN. It consists of:
  1. A set of links, describing the neuron ing
  2. An adder function (linear combiner) for sum of the inputs:
     (real numbers)





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Training

Training is accomplished by sequentially appl
adjusting network weights according to a pre

Supervised Training

requires the pairing of each input vector with
the desired output

Unsupervised Training

requires no target vector for the outpu
predetermined ideal responses. The training

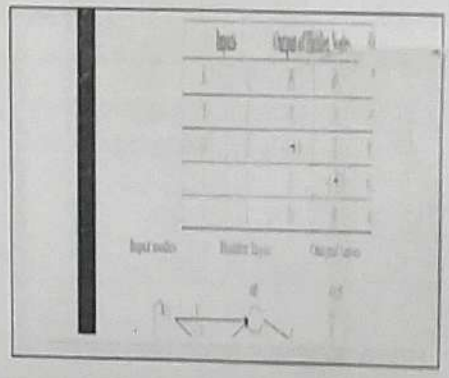
Multi layer feed-forwa

- FFNN is a more general network architit
  hidden layers between input and outpu
- Hidden nodes do not directly receive inp
  the external environment
- FFNNs overcome the limitation of single
- They can handle non-linearly separable

FFNN for XO

- The ANN for XOR has two hidden nodes
  separation and uses the sign (step) activatio
- Arrows from input nodes to two hidden nod
  the weight vectors (1,-1) and (-1,1)
- The output node is used to combine the
  nodes.

Input nodes Hidden layer Output la



Any queries

Thank you

NM

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Cordially invite you to the

"KNOWLEDGE SHARING FORUM"

01-AUGUST-2020 at 10:00 a.m. in Google Meet

Presented by

Mr.T.PARTHIBAN

Assistant Professor, MECHANICAL ENGINEERING

Topic: "EV TECHNOLOGY"

Will be the resource persons

Dr. N.MALMURUGAN

Principal, Mahendra College of Engineering

Will deliver the introductory note

Dr. Mohana Sundara Raju N

Dean-Academics

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Link : https://meet.google.com/sqw-xgkb-pqh

Webinar on "EV Technology" Scheduled on 01.08.2020

Signature of Co-ordinator

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Webinar on "EV Technology"

Mr.T.Parthiban, Assistant Professor,
Mahendra College of Engineering,
Salem,
Phone No:9789496931

What is an Electric Car ?

- Electric Car propelled by Electric Motors and uses electrical energy sored in batteries.
- Unlike vehicles with combustion engines, electric vehicles do not produce exhaust gases during operation.
- This alone makes electric vehicles more environmentally friendly than vehicles with conventional technology.

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How does it work?

- . The controller gathers energy from the battery,
- 2. Controller delivers the appropriate amount of electrical energy to the motor.
- 3. Electric energy transforms to mechanical energy.
- 4. Wheels turn, vehicle moves

External charging source

- Battery charger
- High-voltage heating
- High-voltage air conditioner compressor
- Brake system
- Cooling system
- Electronics box with control unit for battery regulation
- High-voltage battery

History of Electric Car

- 1830's - first electric carriage was built •
- 1891 - the first electric automobile was build in the United States •
- 1900 - heyday
- 1908 - Henry Ford introduces Model T (top image)
- 1974 -Vanguard-Sebring's bottom image)

Types of Electric Vehicles

- Three Types of Electric Vehicles On the Road Today
- 1.BEV: - Battery Electric Vehicle
- 2.PHEV and HEVs: – (Plug-In) Hybrid Electric Vehicle
- 3.FCEV: – Fuel-cell Electric Vehicle

Battery Electric Vehicle (BEV

- A BEV runs entirely on a battery and electric drive train, without an internal combustion engine. It is powered by electricity from an external source, usually the public power grid. This electricity is stored in onboard batteries that turn the vehicle's wheels using one or more electric motors. What you should know about BEVs

Plug-in Hybrid Electric Vehicle (PHEV)

- A PHEV runs mostly on a battery that is recharged by plugging into the power grid.
- It is also equipped with an internal combustion engine, running on gasoline or diesel fuel, that can recharge the battery and/or to replace the electric drive train when the battery is low and more power is required. What you should know about PHEVs:
- The original purchase price is comparable to similar vehicles operating on internal combustion alone.
- PHEVs have an advantage over BEVs because consumers are already comfortable with gas- or diesel-fuelled vehicles.

Hybrid Electric Vehicle (HEV)

- An HEV has two complementary drive systems - a gasoline engine and fuel tank, and an electric motor, battery and controls.
- The engine and the motor can simultaneously turn the transmission, which powers the wheels.
- Where the HEV differs from the above two types of electric vehicles (BEV and PHEV) is that HEVs cannot be recharged from the power grid.
- Their energy comes entirely from gasoline and regenerative braking.
- What you should know about HEVs: •

Fuel-cell Electric Vehicle (FCEV)

- A FCEV creates electricity from hydrogen and oxygen, instead of storing and releasing energy like a battery. Because of these vehicles' efficiency and water-only emissions, some experts consider these cars to be the best electric vehicles, even though they are still in development phases and provide many challenges.
- What you should know about FCEVs:
- Purchase price is high because the cost of a fuel cell is several times more expensive than the cost of an internal combustion engine.

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Infrastructure of EV's

- 1 MW supercar with 265 miles range & top speed of 194 mph The 'NIO EP9' is equipped with "four high-performance inboard motors and four individual gearboxes" capable of torque vectoring.
- The powertrain can deliver up to 1 megawatt of power and 24,000 Newton's of down force at 240 km/h (150 mph). The vehicle can achieve a top speed of 313 km/h (194 mph) – narrowly beating the Rimac Concept One, which until now was the electric supercar to beat in all performance specs.

Energy Policy

- EU energy policy provides affordable energy while contributing to the EU's wider social and climate goals
- In 1992, the United States ratified the United Nations' Framework Convention on Climate Change (UNFCCC), which called on industrialized countries to make voluntary efforts to reduce greenhouse gases.
- Transportation accounts for roughly 15% of energy related CO2 emissions globally.
- Global support for climate change has gained momentum with Europe leading the way.
- Lack of Infrastructure (grids) is a huge factor. Climate Change.

THANK YOU
FOR
YOUR ATTENTION

ANY QUERIES?

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Cordially invite you to the

"KNOWLEDGE SHARING FORUM"

06-MARCH-2021 at 10:00 a.m. in Google meet

Presented by

Dr.M.HARIDASS

Associate Professor, MECHANICAL ENGINEERING

Topic: "LEADERSHIP AND MANAGEMENT PROGRAMME"

Will be the resource persons

Dr. N.MALMURUGAN

Principal, Mahendra College of Engineering

Will deliver the introductory note

Dr. N.MOHANA SUNDARA RAJU

Dean-Academics

Link : https://meet.google.com/spr-ywcw-joe

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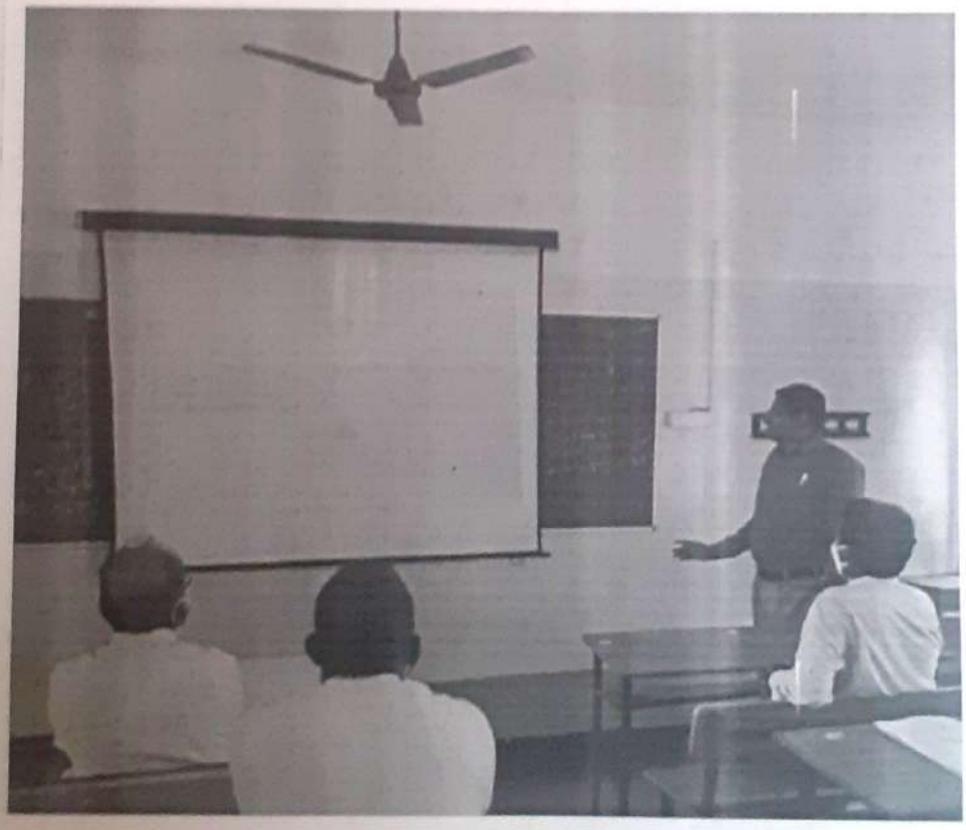
Photos on Leadership and Management programme



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WELCOME
TO
LEADERSHIP AND MANAGEMENT WORKSHOP FOLLOWED BY AICTE - UKIERI PROGRAMME

Presented by

Dr.M.Haridass
Mahendra College of Engineering
Salem

8th March, 2021

INTRODUCTION

Leadership and Management Programme

- First delivered by Dudley College of Technology, working in partnership with AICTE & UKIERI
- Part of an initiative working towards developing programmes that meet the priorities and needs of both India and the UK
- Being about a systemic change in the educational sector
- Now being delivered by Indian trainers as part of widening participation across the country

Programme Over View

Topics we will cover include

- A high level review of concepts of management and leadership
- Styles of leadership
  - Authorization
  - Participative
  - Delegative
  - Transactional
  - Transformational
- People management and raising performance
- Approaches to employer engagement
- Leading change and communicating effectively
- Developing teacher effectiveness
- Project management
- Measuring impact

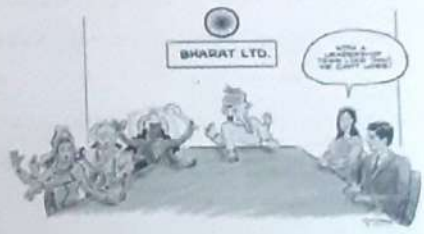
Programme Outcome

- The single most important element of the programme is that each is that each delegate will deliver their own change project in their institution
- In this first workshop we will be asking you to consider what that change will be
- In the final workshop you will present the outcome of that change project to delegates and stakeholders

Expectation of delegates

- Be honest
- Participate
- Keep confidential information
- Be willing to be challenged
- Be open minded
- Do your homework
- Meet deadlines
- Enjoy the ride!

WITH A LEADERSHIP TEAM LIKE THAT,WE CAN'T LOSE



Understanding Leadership & Management

Leadership & Management

There has probably been more research, discussion and controversy on the topic of leadership than most other areas of management. It can be a confusing concept, and each definition seems to emphasize one aspect of leadership more than another.

Leadership

Educational leadership is the process of enlisting and guiding the talents and energies of teachers, pupils, and parents toward achieving common educational aims.

Leadership in education, it is argued, requires consensual followership if it is to exist at all.

LEADERSHIP

- Setting Goals
- Organizing
- Initiating Action
- Co-Ordination
- Direction and Motivation
- Link between Management and Employees

Management

Management is a set of principles relating to the functions of planning, organizing, directing and controlling, and the application of these principles to business.

- Physical
- Financial
- Human
- Information/ Resources

efficiently and effectively to achieve organizational goals

Leadership & Management

- *"Leadership certainly seems to be part of management: a sub-set of specific skills, qualities, attitudes(engagement), functions) and action.*
- *There is an expectation in those being managed that somewhere, effective leadership should be exercised and visible.*

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Leadership & Management

"After all, it is obvious that a person can be a leader without being a manager, a person can be a manager without leading."

Transformational Leadership

- Leader works with teams or followers beyond their immediate self-interests
- Leader's behaviour influences the followers and inspires them to perform
- Leader inspires people to achieve unexpected or remarkable results.

Transformational Leadership

- A leadership style which leads to positive change in those who follows
- A style which is energetic, enthusiastic and passionate (சுறுசுறுப்பான, உற்சாகமான மற்றும் உணர்ச்சிமிக்க)
- Transformational leaders involve their followers in making changes
  - James MacGregor Burns: Leadership 1978

Example for Transformational Leadership

- Apple iPhone
- Microsoft Office
- Entertainment Streaming
- Automobile
- All these have transformed society

Thanks to Transformational Leaders

Transformational Leadership contd...

- Renowned Transformational Leaders
- Mahatma Gandhi
- Ratan Tata
- Jeff Bezos (Amazon)
- Billy Beane (Major League Baseball)
- Reed Hastings (Netflix)
- Bill Gates (Microsoft)
- Steve Jobs (Apple)

Highly Effective Tips To Be A Transformational Leader

- Allow team members to express creativity
- Be a Role Model
- Passion Is Important
- Effective Communication and Listening Skills
- Develop a Positive Attitude
- Encourage Team Members to Contribute

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Chief Characteristics of TL approach

- Feedback
- Transparency
- Flexibility
- Collaboration
- Opportunity

Ethical Leadership

- Leadership directed by respect for ethical beliefs and values, and for the dignity and rights of others.
- Related to trust, honesty, consideration, charisma and fairness (நம்பிக்கை, நேர்மை, அக்கறை, கவர்ச்சி மற்றும் நேர்மை ஆகியவற்றுடன் தொடர்புடையது)

Be an Ethical Leader: 7 Tips for Success

- Define and align your values.
- Hire people with similar values
- Promote open communication
- Beware of bias (பாரபட்சம் ஜாக்கிரதை)
- Lead by example
- Find your role models
- Care for yourself so you are able to care for others

Famous Ethical Leaders

- Mahatma Gandhi
- Abraham Lincoln
- Ratan Tata
- Warren Buffet – American business man, CEO of Berkshire Hathaway
- Martin Luther King Jr.– Leader of American Civil rights movement - most visible spokesman – he was inspired by Mahatma Gandhi and adopted non-violent protests
- Nelson Mandela – South African political leader – first President of South Africa

9

Team

Small group of people with complementary skills and abilities who are committed to a common goal and approach for which they hold each other accountable

Group

Number of people with or without complementary skills, may or may not have common goals

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Leadership Styles

- Authoritative
- Democratic
- Coaching
- Visionary
- Transformational
- Ethical

MISSION and VISION

"Vision without action is merely a dream. Action without vision just passes the time. Vision with action can change the world."

Joel A. Barker

What is a mission statement?

- A mission statement is designed to ensure that all stakeholders are clear on the purpose of the institution/department.
- It should help to ensure everyone is focused on the same goals and objectives.
- When someone reads a mission statement they should understand, at a glance, an organisation's core purpose and what it stands for.

From Mission to Vision

Vision - definition
- The ability to think about or plan the future with imagination or wisdom.

Vision Statement
- A fairly detailed statement of what an organisation wishes to accomplish in the course of its operations. A vision statement may be placed in a strategic or business plan on a website or nearly anywhere else. While brief, it explains the organisation's goals to interested parties. It is more detailed than a mission statement.

Example **college wide** vision statement

As a college wide level our vision is this:
By 2023 we will be firmly recognised regionally,nationally and internationally simply as 'a great college'.With our focus on apprentices, full-time programmes
for young people, adult learning and higher technical skills, we will consistently make a real difference to the lives of our learners, raising their aspirations and promoting their prosperity.As a driving force in the regional economy we will continue to improve business productivity, adding great value.

Vision

Create an Environment to acquire skills through learning and practicing in the relevant domain to become effective and successful technician to augment the societal needs, upholding ethics and environmental concern.

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MISSION

M1: Identification of relevant courses and their content necessary for the skill Development in Mechanical Engineering.
M2: Providing adequate emphasis for practical learning augmented by the relevant theoretical concepts.
M3: Facilitating continuous evaluation and outcome assessment.
M4: Opportunity to develop applications.
M5: Facilitating an environment for interactive and interdisciplinary learning.
M6: Exposure to industries, professional bodies and social activities.

Task – whole group discussion

As a leader, what is your role in contributing to the creation of your organisation's vision?

What are the positives and negatives of your heavy contribution?

Name four ways you could communicate your organisation's vision to others?

What are the strengths and limitations of each approach?

NEWTON'S SECOND LAW OF MOTION F=ma

The context of change

Before Starting any work, analyse the required strength for doing that work. Our capability, ability of opposing actions and the ability of supporting actions

Kurt Lewin's Change Model

If you have a large cube of ice but realize that what you want is a cone of ice, what do you do?

First you must melt the ice to make it amenable to change (unfreeze). Then you must mold the melted water into the shape you want (change). Finally, you must solidify the new shape (refreeze).

UNFREEZE CHANGE REFREEZE

Steps to **anchor the changes** into Institute's or team's culture:

- Identity what supports the change.
- **Identify barriers to sustaining change.**
- Ensure leadership support.
- **Create a reward system.**
- Establish feedback systems.
- Adapt the organizational structure as necessary.
- Keep everyone informed and supported.
- Celebrate your success!

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How do people learn?

People generally loose concentration after 8 seconds. People forget 40% of what they learned after 20 minutes. People forget 77% of what they learned after SIX days. People forget 90% of what they learned after one month.

AICTE-UKIERI-FELDP

Makes way for creative thinking

SUCCESS is not a Destination..... SUCCESS is a Journey

Higher Education
KPI Example

Set Goals & Targets

Plan & Measure Strategically Assemble the Rigt

the Process

These are broken down into five categories:

- Financial
- Student Success
- Admissions & Enrollments
- Faculty & Staff
- Facilities & Resources

QUALITY ASSURANCE

THANK YOU

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Mechanicl Engineering
Mahendra college of engineering
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The Management, Principal, Faculty

Cordially invite you to the

"KNOWLEDGE SHARING FORUM"

07-AUGUST-2021 at 10:00 a.m. in Google Meet

Presented by

Mr.M.GOVINDARAJ

Assistant Professor, MECHANICAL ENGINEERING

Topic: ROAD TO BECOME ENTREPRENEUR

Will be the resource persons

Dr. N.MALMURUGAN

Principal, Mahendra College of Engineering

Will deliver the introductory note

Dr. N.MOHANA SUNDARA RAJU

Dean-Academics

Link : https://meet.google.com/kgw-oyhi-ozp

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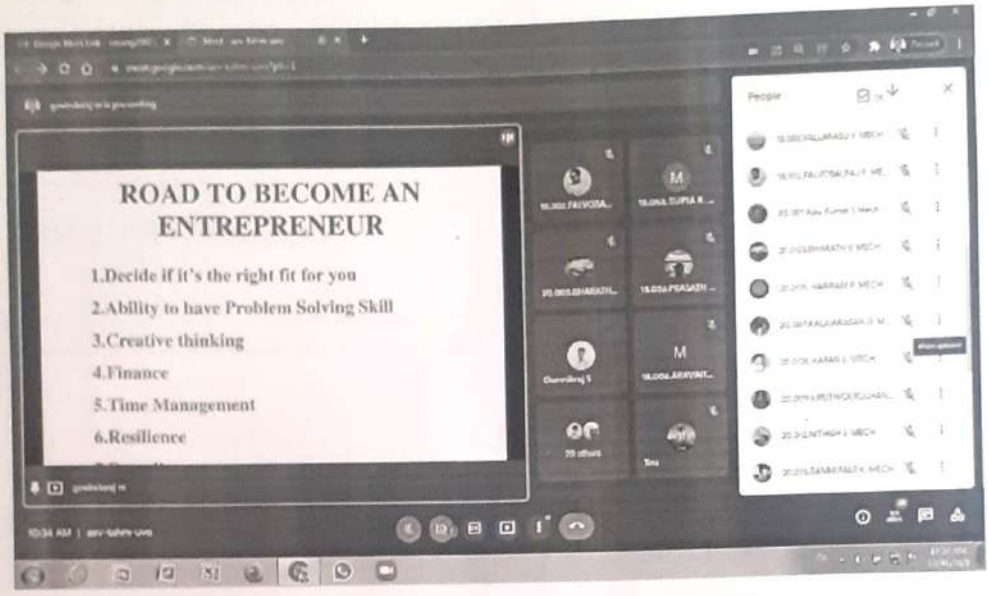

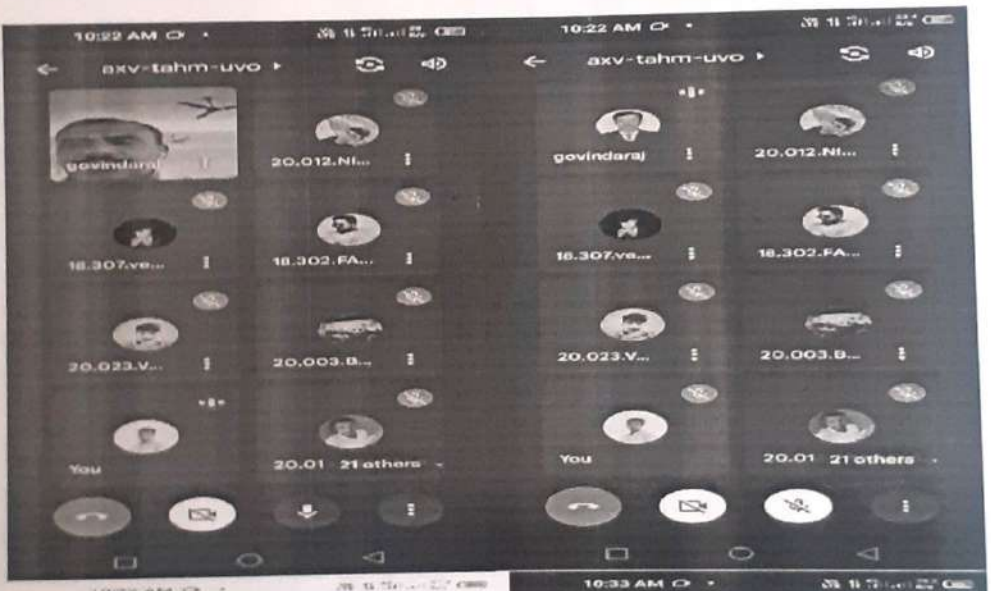

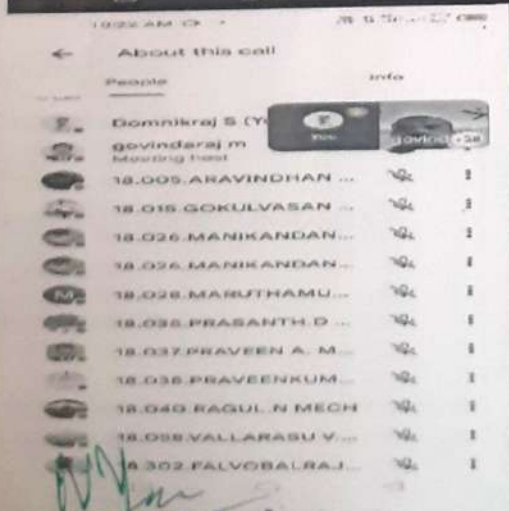

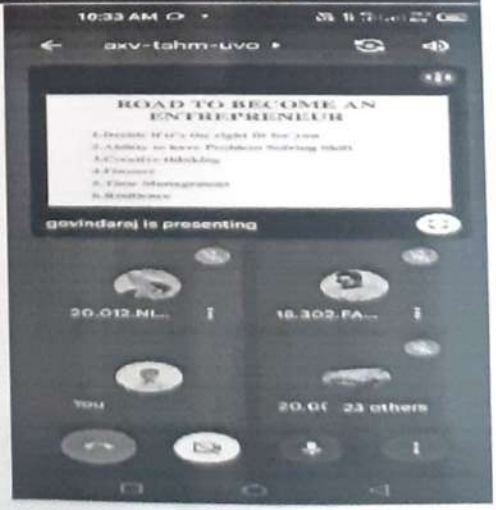

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ROAD TO BECOME AN

ENTREPRENEUR

Mr.M.Govindaraj

Assistant Professor

Characteristics of Successful Entrepreneurs

Recall personal characteristics and skills needed for a successful entrepreneur.

What is an Entrepreneur?

An individual who undertakes the risk associated with creating, organizing, and owning a business.

Personal Characteristics of Successful Entrepreneurs

- Persistent
- Creative
- Responsible
- Inquisitive
- Goal-oriented
- Independent
- Self-confident
- Risk taker

Skills Needed by Successful Entrepreneurs

- Communication skills
- Human relations skills
- Math skills
- Problem-solving & Decision-making skills
- Technical skills
- Basic Business skills

Entrepreneurship and the Entrepreneurial Process

Understand entrepreneurship and the entrepreneurial process.

Entrepreneurship vs. Entrepreneurs

ENTREPRENEURSHIP

The process of starting and running one's own business

This involves a considerable amount of risk.

ENTREPRENEUR

An entrepreneur is an individual who undertakes the risk associated with creating, organizing, and owning a business.

5 Steps of the Entrepreneurial Process

1. Discovery
2. Concept Development
3. Resourcing
4. Actualization
5. Harvesting

Step 1: Discovery

The stage in which the entrepreneur generates ideas, recognizes opportunities, and studies the market.

Entrepreneurs consider the following:

Hobbies or Skills

Consumer Needs and Wants

Conduct Surveys and Questionnaires

Study Demographics

Step 2: Concept Development

Entrepreneurs prepare the following in this step:

Develop a Business Plan

- A detailed proposal describing the business idea

Choose Location for the Business

- Is the business online or does it have a physical location for customers to visit to purchase products, services or combinations.

Decide if the idea will need a Patent or Trademark

- Patent –
- Trademark -

Resourcing

The stage in which the entrepreneur identifies and acquires the financial, human, and capital resources needed for the venture startup, etc.

Entrepreneurs contemplate the following:

Identify Potential Investors

Apply for loans, grants and financial assistance

Hire employees

Actualization

The stage in which the entrepreneur operates the business and utilizes resources to achieve its goals / objectives

Entrepreneurs prepare for the following:

Grand Opening of the Business

Day to Day Operations of the Business

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Minnampalli, SALEM 636 106
TAMILNADU

Harvesting

The stage in which the entrepreneur decides on venture's future growth, development, or demise.

Entrepreneurs consider the following:

Future Plans for the Business:
- Expansion to additional locations
- Company to change structure

3.03

Starting a Business

Understand the procedures and requirements for starting a business.

Starting a Business

1. Develop a Business Plan
2. Acquire Finances
3. Meet Legal Requirements

Develop a Business Plan

A Business Plan is a detailed proposal that describes a new business.

Business Plans are:
- Presented to potential investors and lenders
- Most business plans are 30+ pages

Purposes of a Business Plan

Business Plans are used to:
- Obtain Financing
  - Banks and Potential Lenders require a business plan
- Helps organize and analyze data critical to new business.
- Provides a start-up proposal
  - Provides and outline to follow when starting the business.

Components of a Business Plan

Executive Summary:
- Brief one to two page description of the key points of each section of the business plan

Product/Service Plan:
- Presents Product or Service being offered
- Unique features of the Product or Service

Management Team Plan:
- Qualifications of the Entrepreneur
- Qualifications of any Partners who may be involved in the business venture

Components of a Business Plan

Industry/Market Analysis:
- Analyzes the: Customers / Competition / Industry / Demographic / Geographic and Economic data

Operational Plan:
- Includes all processes involved in producing and/or delivering the product or service to the customer

Organizational Plan:
- Management philosophy of the business
- Key management personnel
- Key employment policies

19

Components of a Business Plan

Marketing Plan:
- Describes how the business will make its customers aware of its products/ services.
- The Market being served / Marketing Strategies / Promotional Plan / Marketing Budget

Growth Plan:
- Presents plan for future expansion of the business

Financial Plan:
- Includes financial statements that will help forecast the future financial health of the business.

20

Finance the Business

Identify Potential Investors

Examples:
- Family and Friends
- Other Businesses
- Employees

Contact Financial Agencies for loans, grants and financial assistance:
- Small Business Administration
- Banks / Credit Unions
- Insurance Companies

21

The Legal Environment

Additional Legal Requirements for some businesses:

Permits, Certifications or Licenses:
- an official document giving someone authorization to run their business under the extension of the direction of the Local, State and Federal Laws.

Contracts:
- a written or spoken agreement, especially one concerning employment, sales, or tenancy, that is intended to be enforceable by law.

Zoning Laws:
- specify the areas in which residential, industrial, recreational or commercial activities may take place.

Taxes:
- a enforced contribution of funds to state revenue, levied by the government on workers' income and business profits or added to the cost of some goods, services, and transactions.

22

Protecting Your Business

More Legal Documents to Protect Your Business:

Trademarks:
- Protects a business' name / logo.

Patents:
- Protects the invention of products or processes from theft.

Copyrights:
- Protects Creative Works: Literary, Musical, Dramatic, Artistic works

For More Information visit:
https://www.uspto.gov/trademarks/basics/trade_defin.jsp

23

ACADEMIC YEAR 2020-2021

ODD SEMESTER

Circular through Email

Gmail by Google

Principal Mahendra Salem principal@mahendracollege.com

knowledge sharing forum - reg.

1 message

Principal Mahendra Salem principal@mahendracollege.com Fri, May 08, 2020 at 11:38 AM

To: hods <hods@mahendracollege.com>
Cc: "dean.academic"<dean.academic@mahendracollege.com>, mcestaffs@mahendracollege.com

Dear Sir/madam,

It is proposed to have a lecture series on the recent developments of engineering domain by the faculty members for the faculty members. This lecture series session is to be known as “Knowledge Sharing Forum (KSF)”. Topic of lecture should be of interdisciplinary nature and should not be department specific. The faculty members of the all the departments of our college are expected to deliver the lecture. It is proposed to have this session on Saturdays, when it is a working day.

Prof. K.Prasad Babu, HoD-Civil is deputed as the Coordinator for this Knowledge Sharing Forum.

Thanking you,

Regards,
Dr.N. Malmurugan, M.Tech, Ph.D.,
Principal,
Mahendra College of Engineering,
Mahendra Salem Campus,
Minnampalli, Salem 636 106.
Phone 0427 6542111
Fax 0427 2482886
www.mahendracollege.com

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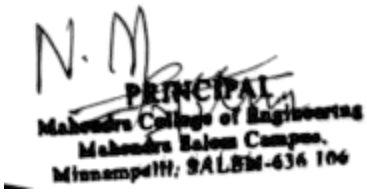

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CIRCULAR

MCE/KSF/2020-21 **Date: 08/05/2020**

It is proposed to have a lecture series on the recent developments of engineering domain by the faculty members for the faculty members. This lecture series session is to be known as "Knowledge Sharing Forum (KSF)". Topic of lecture should be of interdisciplinary nature and should not be department specific. The faculty members of the all the departments of our college are expected to deliver the lecture. It is proposed to have this session on Saturdays, when it is a working day.

Prof. K.Prasad Babu, HoD-Civil is deputed as the Coordinator for this Knowledge Sharing Forum.

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The Managing Director

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HODs
AO
IQAC
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Coordinator Circular

Gmail by Google

HoD Civil Mahendra Salem <hodcivil@mahendracollege.com>

knowledge sharing forum - reg.

1 message

HoD Civil Mahendra Salem <hodcivil@mahendracollege.com> Mon, May 18, 2020 at 10:21 AM

To: Principal Mahendra Salem<principal@mahendracollege.com>, hods <hods@mahendracollege.com>
Cc: "dean.academic"<dean.academic@mahendracollege.com>, mcestaffs@mahendracollege.com

Dear Sir/madam,

This is to request the Head of the Departments to depute the faculty members, for the Knowledge Sharing Forum as per the following Schedule to deliver the Lectures. Hence all the department Heads are requested to give the list of faculty members along with the title of the lecture to the under signed on or before 25/05/2020.

S.No	Date	Department
1.	06.06.2020	EEE
2.	20.06.2020	CSE
3.	04.07.2020	IT
4.	18.07.2020	ECE
5.	01.08.2020	MECH
6.	22.08.2020	BME
7.	05.09.2020	MECT

Thanking you,

--

Prof.K.Prasadbabu,
HOD -Civil,
Mahendra College of Engineering,
Salem - 636 106.
Mob: 94437 48531.

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SALEM - 636 106.

CIRCULAR

MCE/KSF/2020-21 Date: 18/05/2020

This is to request the Head of the Departments to depute the faculty members, for the Knowledge Sharing Forum as per the following Schedule to deliver the Lectures. Hence all the department Heads are requested to give the list of faculty members along with the title of the lecture to the under signed on or before 25/05/2020.

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5.	01.08.2020	MECH
6.	22.08.2020	BME
7.	05.09.2020	MECT

COORDINATOR

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The Managing Director

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The Principal
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Department Circular

Gmail by Google

HoD ECE Mahendra Salem <hodece@mahendracollege.com>

knowledge sharing forum - reg.

1 message

HoD ECE Mahendra Salem <hodece@mahendracollege.com> Thurs, May 21, 2020 at 11:51 AM

To: Principal Mahendra Salem<principal@mahendracollege.com>, HoD Civil Mahendra Salem <hodcivil@mahendracollege.com>
Cc: "dean.academic"<dean.academic@mahendracollege.com>, hods <hods@mahendracollege.com>, mcestaffs@mahendracollege.com

With reference to the circular MCE/KSF/2020-21 Dt: 18/05/2020, here with I have furnished the list of faculty member and their title of the lecture to handle the session in the Knowledge Sharing Forum.

18.07.2020- Mr.J.SampathKumar - Radiation effects of wearable antenna in human body tissues

Thanking you,

With kind regards
Dr.M.Suganthi
Prof & Head/ECE,
Mahendra College of Engineering,
Salem-636 106

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

To
Prof.K.Prasad Babu
HoD-Civil
Coordinator –Knowledge Sharing Forum

With reference to the circular MCE/KSF/2020-21 Dt: 18/05/2020, here with I have furnished the list of faculty members and their title of the lecture to handle the session in the Knowledge Sharing Forum.

S.No	Date	Title	Name of the Staff
1.	18.07.2020	Radiation effects of wearable antenna in human body tissues	Mr.J.Sampathkumar

HOD-ECE

Circular from Coordinator

HoD Civil Mahendra Salem <hodcivil@mahendracollege.com>

knowledge sharing forum - reg.

1 message

HoD Civil Mahendra Salem <hodcivil@mahendracollege.com> wed, July 15, 2020 at 11:17 AM

To: Principal Mahendra Salem<principal@mahendracollege.com>, hods <hods@mahendracollege.com>
Cc: "dean.academic"<dean.academic@mahendracollege.com>, mcestaffs@mahendracollege.com

All the staff members are hereby informed to attend the Knowledge Sharing Forum on Saturday, 18th July 2020 at 10.00 am through Google Meet (online mode).

The programme schedule for the same is given below:

10.00 am to 11.30 am - Session - “Radiation effects of wearable antenna in human body tissues”
by Mr.J.Sampathkumar, AP/ECE.

Google meet Link Id: meet.google.com/dmf-uryv-oce

In order to make the sessions more lively and interesting, all faculty members are requested to interact more with the speakers.

Thanking you,

--

Prof.K.Prasadbabu,
HOD -Civil,
Mahendra College of Engineering,
Salem - 636 106.
Mob: 94437 48531.

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MAHENDRA COLLEGE OF ENGINEERING

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CIRCULAR

MCE/KSF/2020-21 **Dt : 15/07/2020**

All the staff members are hereby informed to attend the Knowledge Sharing Forum on Saturday, 18th July 2020 at 10.00 am through Google Meet (online mode). The programme schedule for the same is given below:

10.00 am to 11.30 am - Session - "**Radiation effects of wearable antenna in human body tissues"**

by Mr.J.Sampathkumar, AP/ECE.

Google meet Link Id: meet.google.com/dmf-uryv-oce

In order to make the sessions more lively and interesting, all faculty members are requested to interact more with the speakers.

COORDINATOR

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Dean-Academics
HODs to circulate among all staff members
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Invitation

KSF - Invitation

MAHENDRA

COLLEGE OF ENGINEERING

Affiliated to Anna University and Approved by AICTE

The Management, Principal, Faculty

Cordially invite you to the

"KNOWLEDGE SHARING FORUM"

06th January-2018 at 09.30 a.m. in MCE Seminar Hall

Presented by

Session: 09.30 am to 10.30 am

Mr.J.Samnathkumar

Assistant Professor-Dept. of ECE

Topic: Radiation effects of wearable antenna in human body tissues

Will be the resource persons

In the presence of

Dr. N.MALMURUGAN

Principal, Mahendra College of Engineering

Dr. N.MOHANA SUNDHARA RAJU

Dean-Academics

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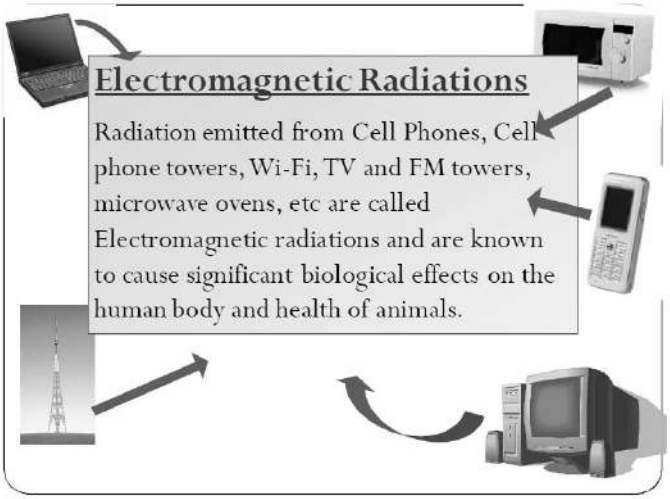
Minnampatti, SALEM-636 106

Presentation Slides

OUTLINE OF PRESENTATION

- Cell Tower Statistics
- Radiation Pattern of Cell tower Antenna
- EMF exposure Safety norms
- Radiation measurements near cell towers
- Biological effects
- Precautions and Solutions



Electromagnetic Radiations

Radiation emitted from Cell Phones, Cell phone towers, Wi-Fi, TV and FM towers, microwave ovens, etc are called Electromagnetic radiations and are known to cause significant biological effects on the human body and health of animals.

Microwave Radiation

Microwave radiation effects are classified as:

- Thermal
- **Non-thermal**

The current exposure safety standards are mainly based on the thermal effects, which are inadequate.

Non-thermal effects are several times more harmful than thermal effects.

Warning from iPhone

Exposure to Radio Frequency Energy iPhone contains radio transmitters and receivers. When on, iPhone receives and sends out radio frequency (RF) energy through its antennas. The iPhone cellular antenna is located at the bottom edge of iPhone, to the left of the Home button. The Wi-Fi and Bluetooth® antenna is located at the top edge of iPhone, to the right of the headset jack.

For optimal mobile device performance and to be sure that human exposure to RF energy does not exceed the FCC, IC, and European Union guidelines, always follow these instructions and precautions: When on a call using the built-in audio receiver in iPhone, hold iPhone with the dock connector pointed down toward your shoulder to increase separation from the antenna. When using iPhone near your body for voice calls or for wireless data transmission over a cellular network, keep iPhone at least 15 mm (5/8 inch) away from the body, and only use carrying cases, belt clips, or holders that do not have metal parts and that maintain at least 15 mm (5/8 inch) separation between iPhone and the body.

WHO: Cell phone use can increase cancer risk

International Agency for Research on Cancer (IARC), a part of **WHO designates cell phones as "possible human carcinogen" [Class 2B]**

World Health Organization

Found evidence of increase in glioma and acoustic neuroma brain cancer for mobile phone

International Agency for Research on Cancer
World Health Organization
PRESS RELEASE N° 208

SAR and Cell phone use time limit

6 minutes/day usage.

A Cell phone transmits 1 to 2 Watts of power

SAR (Specific absorption rate) - Rate at which radiation is absorbed by human body, measured in watts per kg (W/kg).

In USA, max. SAR limit for cell phones is 1.6W/Kg which is for 6 minutes. It has a safety margin of 3 to 4, so a person should not use cell phone for more than 18 to 24 minutes per day.

This information is not emphasized to public.

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Cell Tower Installed: Residential & Commercial Buildings

Cell Phone/Tower Statistics, India - 2012

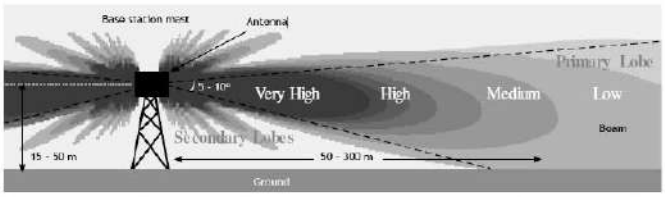
- Population - 1.2 billion
- Mobile Towers - 500 K
- Subscribers - 900+ Million

SAR value

Check SAR Values:
Search on Internet
SAR mobile phone

Indian Govt. has made it mandatory for the industry to display SAR value for each phone from 2013.

Radiation Pattern of a Cell Tower Antenna



Propagation of "main beam" from antenna mounted on a tower or roof top

People living within 50 to 300 meter radius are in the high radiation zone (dark blue) and are more prone to ill-effects of electromagnetic radiation

Power varies by $1/R^2$, where R = Distance from tower

EMF Radiation Standards (for GSM900)

Country	Milliwatt / m^2	Watts / m^2
INDIA (adopted ICNIRP)	**4500**	**4.5 (f/200)**
INDIA (1/10th of ICNIRP from 1 Sept 2012)	450	0.45 (f/2000)
AUSTRALIA (New South Wales proposed)	0.01	0.00001
AUSTRIA (Salzburg city)	1	0.001
BELGIUM	45 to 1125	0.045 to 1.125
BELGIUM (Luxembourg)	24	0.024
BIO-INITIATIVE REPORT (Outdoor)	1	0.001
BIO-INITIATIVE REPORT (Indoor)	0.1	0.0001
CANADA (Toronto Board of Health - proposed)	100	0.1
CHINA	400	0.4
FRANCE (Paris)	100	0.1
GERMANY (ECOLOG 1998 - Precautionary Recommendation)	90	0.09
GERMANY (BUND 2007 - Precautionary Recommendation)	0.1	0.0001
ITALY	100	0.1
NEW ZELAND (Aukland)	500	0.5
POLAND	100	0.1
RUSSIA	100	0.1
SWITZERLAND (Apartments, Schools, Hospitals, Offices & Playgrounds)	42	0.042
USA (Implementation is strict)*	3000	3 (f/300)
Final Recommendations		
Indoor - include apartments, schools, hospitals, offices & playgrounds.	**0.1**	**0.0001**
Outdoor - where people spend few minutes a day.	**10**	**0.01**

**USA - FCC Guidelines: f/300 if averaged over 6 minutes and f/1500 if averaged over 30 min*

ICNIRP Guidelines

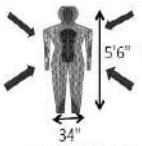
India adopted ICNIRP guideline for Power density (P_d)
= Frequency /200, frequency is in MHz
(averaged over **6 min** exposure)

For GSM900 (935-960 MHz), $P_d = 4.7 W/m^2$ and GSM1800 (1810-1880 MHz), $P_d = 9.2 W/m^2$.

ICNIRP has given following disclosure:
ICNIRP is only intended to protect the public against short term gross heating effects and NOT against 'biological' effects such as cancer and genetic damage from long term low level microwave exposure from mobile phones, masts and many other wireless devices.

Power Absorbed by Human Body

Microwave power absorbed by human body if exposed to so called safe radiation level adopted in India, which is f/200, where f is in MHz?



Area = 1.43 m^2

X ICNIRP Guideline – At 940 MHz, Power density (P_d) is 4.7W/m^2 ➡ Power received (P_r) by human body will be [$P_r = P_d$ x Area] = 6.75 Watts in one sec.

Microwave oven: 700 to 1000 W. With say 60% efficiency, microwave power output is say 500 W. ⟷ **In one day, microwave energy absorbed will be [6.75 Watts x 60x60x24 sec] = 583.2 KW-sec.**

This implies that human body can be safely kept in a microwave oven for 1166 secs = 19 minutes per day

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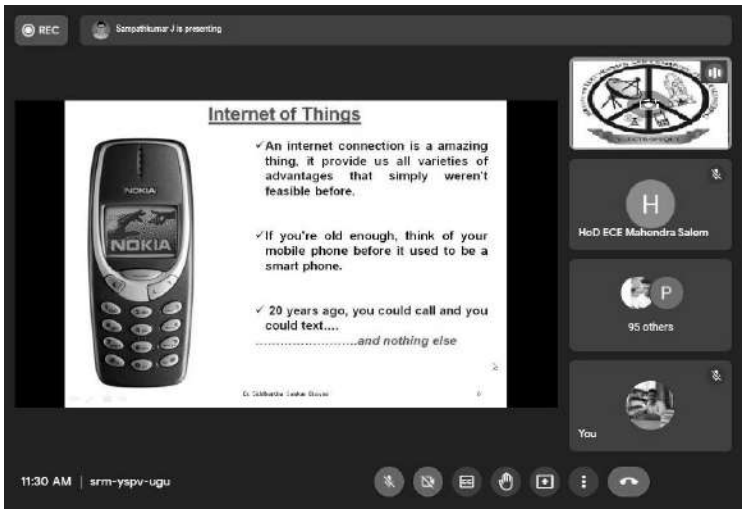
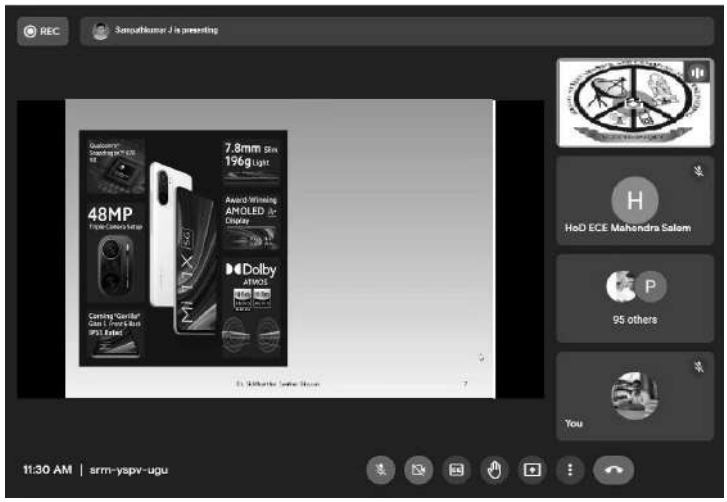
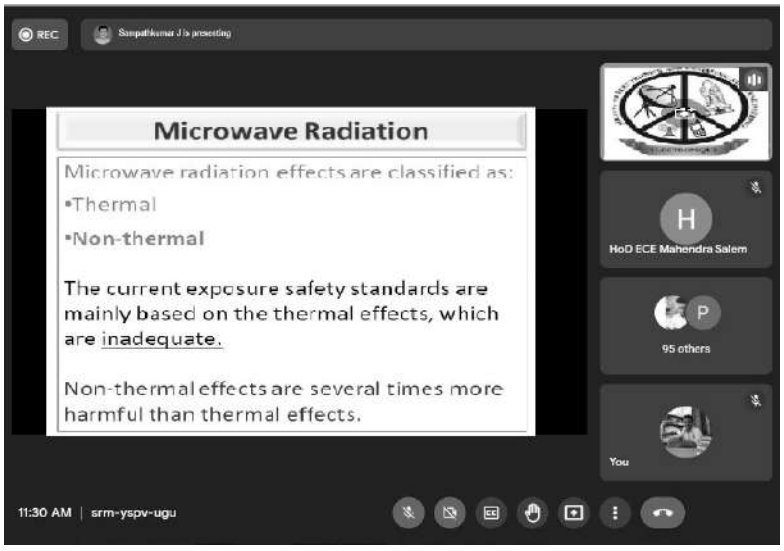
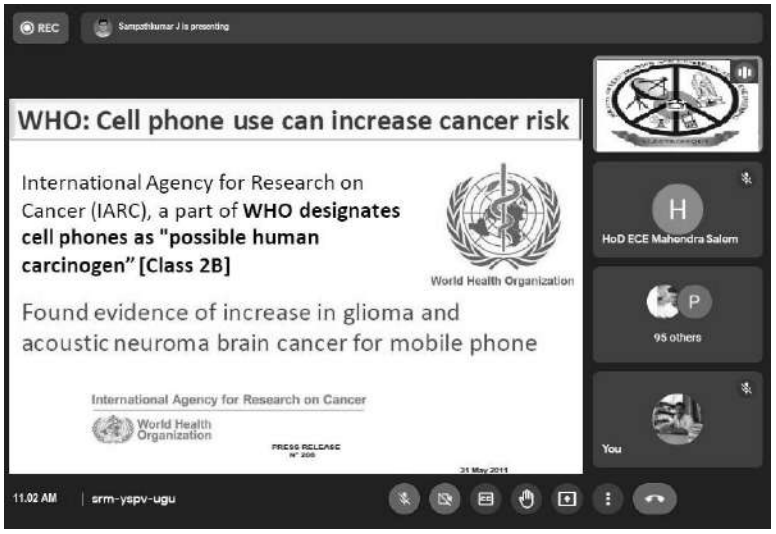
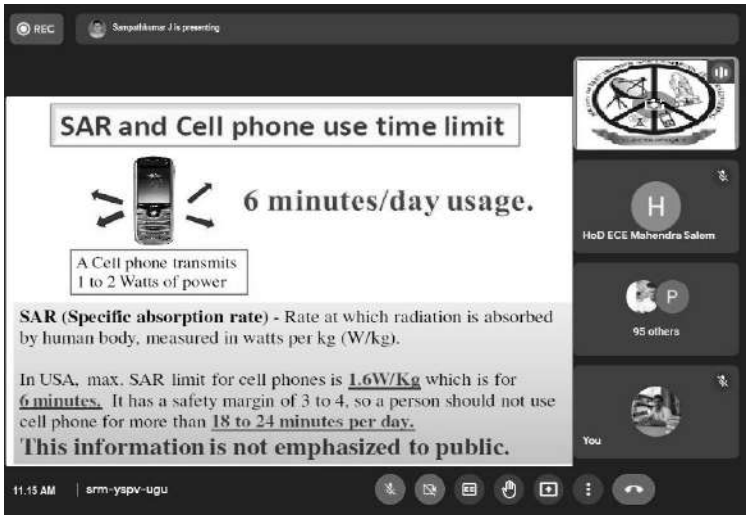
Google meet Presentation Photos

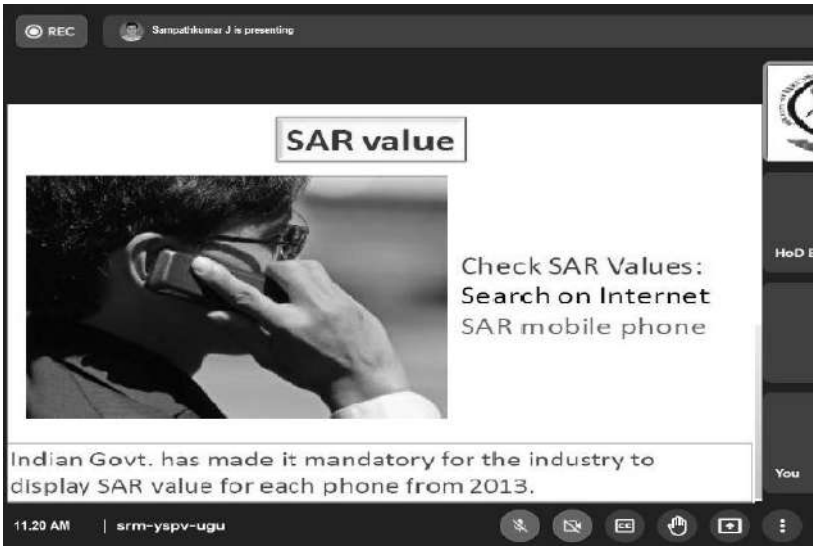












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Minnampatti, SALEM-636 106

ACADEMIC YEAR 2020-2021

EVEN SEMESTER

Google Meet Attendance

1	Attendance for:	Class List									
2	Date:	"2021-08-	"Time:"	"10:35"	"Meet ID:	"hhx-eimo-csv"					
3											
4	Names	"2021-08-	"Email"	"Commer	"Arrival ti	"Last See	"# of Che	"Joined"	"Details"		
5	Ravishankar.T Mce-Ap/Civil	"✔"	""	""	"10:38"	"11:02"	"45"	"1"			
6	Muthukumar.S Mce-Ap/Civil	"✔"	""	""	"10:44"	"11:03"	"38"	"1"			
7	Harikaran.M Mce-Ap/Civil	"✔"	""	""	"10:35"	"11:01"	"85"	"1"			
8	Manisekar.A Mce-Ap/Civil	"✔"	""	""	"10:40"	"11:02"	"41"	"2"	"10:40 (35	11:01 (2min) [11:02]	
9	Meenakshi.S Mce-Ap/Ece	""	""	""							
10	Inba Arasi.M Mce-Ap/Eee	"✔"	""	""	"10:36"	"11:01"	"79"	"1"			
11	Latha.p.s Mce-Ap/Cse	""	""	""							
12	Rameshkumar.S Mce-Ap/Mech	"✔"	""	""	"10:41"	"11:02"	"34"	"1"			
13	Obuli Ranganathan.O. Mce-Ap/Ee	"✔"	""	""	"10:35"	"11:02"	"50"	"1"			
14	Balaji.D Mce-Ap/Ece	""	""	""							
15	Panneerselvam.p Mce-Ap/Mech	"✔"	""	""	"10:38"	"11:01"	"43"	"3"	"10:38 (35	11:01 (1mi	11:59 (3min) [11:01]
16	Rajaram.k Mce-Ap/Mech	""	""	""							
17	Rameshkumar.s Mce-Ap/Mech	"✔"	""	""	"10:35"	"11:38"	"18"	"2"	"11:31 (8r	10:35 (10min) [10:44]	
18	C.Kannan.Mce-Ap/Mech	"✔"	""	""	"10:38"	"11:01"	"38"	"2"	"11:59 (3r	10:38 (35min) [11:58]	
19	Prabu.S Mce-Ap/Mech	"✔"	""	""	"10:35"	"11:02"	"36"	"1"			
20	Govindaraj.M Mce-Ap/Mech	"✔"	""	""	"10:35"	"11:02"	"37"	"1"			
21	Ganesh Raja.S.Mce-Ap/Mech	"✔"	""	""	"10:35"	"11:01"	"84"	"1"			
22	Palanisamy.P.N Mce-Ap/Ece	""	""	""							
23	Hod Civil Mahendra Salem	"✔"	""	""	"10:36"	"11:02"	"49"	"2"	"11:17 (46	10:36 (3min) [10:38]	
24	Prabavathi Mk Mce-Ap/Bme	""	""	""							
25	Sakthivel.M Mce-Ap/Mech	"✔"	""	""	"11:31"	"11:02"	"32"	"1"			

25	Sakthivel.M Mce-Ap/Mech	"✔"	""	""	"11:31"	"11:02"	"32"	"1"			
26	Hod Ece Mahendra Salem	"✔"	""	""	"10:43"	"10:43"	"1"	"1"			
27	Thangaraju.MMce-Ap/Maths	"✔"	""	""	"10:35"	"11:02"	"77"	"1"			
28	Nandhakumar.KMce-Ap/Maths	"✔"	""	""	"10:36"	"11:01"	"44"	"1"			
29	Priya.T Mce-Ap/Bme	"✔"	""	""	"10:35"	"11:03"	"80"	"1"			
30	Baskar.R Mce-Ap/Bme	"✔"	""	""	"10:35"	"11:02"	"38"	"2"	"11:29 (34	10:35 (4min) [10:38]	
31	John Bosco.P Mce-Ap/Eee	""	""	""							
32	Jenolin Rex.M Mce-Ap/Cse	"✔"	""	""	"10:36"	"11:02"	"35"	"1"			
33	Suresh.R Mce-Ap/Maths	""	""	""							
34	Vijayalakshmi.A Mce-Ap/Cse	"✔"	""	""	"10:40"	"11:02"	"53"	"1"			
35	Meera.S Mce-Ap/Ece	"✔"	""	""	"10:35"	"10:40"	"6"	"1"			
36	Madhusudan.S Mce-Ap/Eee	"✔"	""	""	"11:08"	"11:02"	"35"	"1"			
37	Priyadevi.KMce-Ap/Ece	"✔"	""	""	"10:35"	"11:01"	"76"	"1"			
38	Hod Cse Mahendra Salem	"✔"	""	""	"10:41"	"11:01"	"39"	"1"			
39	Monisha.S Mce-Ap/Ece	"✔"	""	""	"10:38"	"11:01"	"38"	"3"	"11:34 (9r	10:38 (16n	11:49 (13min) [11:01]
40	Kokila.SMce-Ap/Maths	""	""	""							
41	Sankar.A Mce-Ap/Mech	"✔"	""	""	"11:31"	"11:02"	"32"	"1"			
42	J.Ram Kumar Mce-Ap/Eee	"✔"	""	""	"11:24"	"11:01"	"34"	"1"			
43	Hod Eee Mahendra Salem	"✔"	""	""	"10:39"	"11:05"	"85"	"3"	"11:37 (13	11:31 (35n	10:39 (37min) [11:05]
44	Karthigaswathini.S.Mce-Ap/Ece	"✔"	""	""	"10:39"	"11:02"	"42"	"1"			
45											
46											
47	Help/more info:	"https://tinyurl.com/y5peu3nk"									
48	© Google Meet Attendance	https://tinyurl.com/y6k2vots									

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Feedback Form

	B	C	D	E	F
1	Name of the participants	How Satisfied were you w	How would you rate the e	How would you rate the c	Any additional comments
2	Thangaraju.M	Very High	High	High	Excellent session
3	Sakthivel.M	High	High	High	nice
4	Vijayalakshmi.	High	Medium	High	Good
5	Ganesh Raja.S.	High	Medium	Medium	Good
6	Meenakshi.S	Very High	High	High	Very nice session, Thank
7	Inba Arasi.M	High	Medium	High	Nice session
8	Baskar.R	High	High	High	Nothing
9	Rameshkumar.S	Very High	High	High	Gud
10	Obuli Ranganathan.O.	High	Medium	Medium	Nothing
11	Balaji.D	Very High	High	High	Useful session
12	Panneerselvam.p	Very High	High	High	Nice presentation.
13	Rajaram.k	High	Medium	Medium	Wonderful
14	Rameshkumar.s	Very High	High	High	Nice session
15	C.Kannan.Mce	High	High	High	good
16	Dr.M.Suganthi	Very High	High	High	No
17	Govindaraj.M	Very High	High	High	Good
18	Manisekar.A	Very High	High	High	No
19	Palanisamy.P.N	Very High	High	High	None
20	Dr.Prasad Babu	Very High	High	High	Excellent
21	Prabavathi Mk	High	Medium	Medium	Good
22	Muthukumar.S	Very High	High	High	Excellent information and
23	Prabu.S	High	High	High	Any tools regarding this t
24	Ravishankar.T	Very High	High	High	Please inform more webi
25	Nandhakumar.K	Very High	High	High	NA
26	Priya.T	Very High	High	Medium	Good
27	Latha.p.s	Very High	High	High	Very depth concepts
28	John Bosco.P	High	High	Medium	Good and informative
29	Jenolin Rex.M Mce-Ap/C	High	High	High	Effective
30	Suresh.R	High	Medium	Medium	.
31	Harikaran.M	Very High	Medium	High	Good
32	Meera.S	Very High	High	High	timing only very limited, m
33	Madhusudan.S	High	High	High	Good
34	Priyadevi.K	High	High	Medium	Useful session

26	Priya.T	Very High	High	Medium	Good
27	Latha.p.s	Very High	High	High	Very depth concepts
28	John Bosco.P	High	High	Medium	Good and informative
29	Jenolin Rex.M Mce-Ap/C	High	High	High	Effective
30	Suresh.R	High	Medium	Medium	.
31	Harikaran.M	Very High	Medium	High	Good
32	Meera.S	Very High	High	High	timing only very limited, m
33	Madhusudan.S	High	High	High	Good
34	Priyadevi.K	High	High	Medium	Useful session
35	Dr.Likly Bealauh	High	High	High	Nothing
36	Monisha.S	Very High	High	Medium	Nice session
37	Kokila.S	High	High	High	Nice lecture
38	Sankar.A	High	High	High	Good
39	J.Ram Kumar	Very High	High	High	nice
40	Dr.S.M.Kamali	Very High	High	High	Can arrange for 1 day
41	Karthigaswathini.S.	Very High	High	High	Very nice presentation.

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Mahendra Salem Campus,
Minampatti, SALEM-636 106

Circular through Email

Gmail by Google

Principal Mahendra Salem principal@mahendracollege.com

knowledge sharing forum - reg.

1 message

Principal Mahendra Salem principal@mahendracollege.com Mon, Dec 14, 2020 at 10:14 AM

To: hods <hods@mahendracollege.com>
Cc: "dean.academic"<dean.academic@mahendracollege.com>, mcestaffs@mahendracollege.com

Dear Sir/madam,

It is proposed to have a lecture series on the recent developments of engineering domain by the faculty members for the faculty members. This lecture series session is to be known as “Knowledge Sharing Forum (KSF)”. Topic of lecture should be of interdisciplinary nature and should not be department specific. The faculty members of the all the departments of our college are expected to deliver the lecture. It is proposed to have this session on Saturdays, when it is a working day.

Prof. K.Prasad Babu, HoD-Civil is deputed as the Coordinator for this Knowledge Sharing Forum.

Thanking you,

Regards,
Dr.N. Malmurugan, M.Tech, Ph.D.,
Principal,
Mahendra College of Engineering,
Mahendra Salem Campus,
Minnampalli, Salem 636 106.
Phone 0427 6542111
Fax 0427 2482886
www.mahendracollege.com

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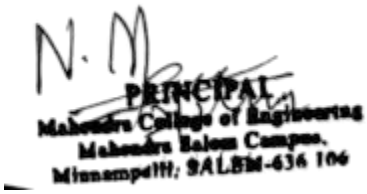

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MAHENDRA COLLEGE OF ENGINEERING

SALEM - 636 106.

CIRCULAR

MCE/KSF/2020-21 **Date: 14/12/2020**

It is proposed to have a lecture series on the recent developments of engineering domain by the faculty members for the faculty members. This lecture series session is to be known as "Knowledge Sharing Forum (KSF)". Topic of lecture should be of interdisciplinary nature and should not be department specific. The faculty members of the all the departments of our college are expected to deliver the lecture. It is proposed to have this session on Saturdays, when it is a working day.

Prof. K.Prasad Babu, HoD-Civil is deputed as the Coordinator for this Knowledge Sharing Forum.

PRINCIPAL

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The Managing Director

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Coordinator Circular

Gmail by Google

HoD Civil Mahendra Salem <hodcivil@mahendracollege.com>

knowledge sharing forum - reg.

1 message

HoD Civil Mahendra Salem <hodcivil@mahendracollege.com> Fri, Dec 18, 2020 at 11:11 AM

To: Principal Mahendra Salem<principal@mahendracollege.com>, hods <hods@mahendracollege.com>
Cc: "dean.academic"<dean.academic@mahendracollege.com>, mcestaffs@mahendracollege.com

Dear Sir/madam,

This is to request the Head of the Departments to depute the faculty members, for the Knowledge Sharing Forum as per the following Schedule to deliver the Lectures. Hence all the department Heads are requested to give the list of faculty members along with the title of the lecture to the under signed on or before 21/12/2020.

S.No	Date	Department
1.	02.01.2021	EEE
2.	23.01.2021	CSE
3.	06.02.2021	IT
4.	20.02.2021	ECE
5.	06.03.2020	MECH
6.	20.03.2021	BME
7.	03.04.2021	MECT

Thanking you,

--

Prof.K.Prasadbabu,
HOD -Civil,
Mahendra College of Engineering,
Salem - 636 106.
Mob: 94437 48531.

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MAHENDRA COLLEGE OF ENGINEERING
SALEM - 636 106.

CIRCULAR

MCE/KSF/2020-21 Date: 18/12/2020

This is to request the Head of the Departments to depute the faculty members, for the Knowledge Sharing Forum as per the following Schedule to deliver the Lectures. Hence all the department Heads are requested to give the list of faculty members along with the title of the lecture to the under signed on or before 21/12/2020.

S.No	Date	Department
1.	02.01.2021	EEE
2.	23.01.2021	CSE
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4.	20.02.2021	ECE
5.	06.03.2020	MECH
6.	20.03.2021	BME
7.	03.04.2021	MECT

COORDINATOR

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The Managing Director

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Department Circular

Gmail by Google

HoD ECE Mahendra Salem <hodece@mahendracollege.com>

knowledge sharing forum - reg.

1 message

HoD ECE Mahendra Salem <hodece@mahendracollege.com> Thurs, Dec 21, 2020 at 10:01 AM

To: Principal Mahendra Salem<principal@mahendracollege.com>, HoD Civil Mahendra Salem <hodcivil@mahendracollege.com>
Cc: "dean.academic"<dean.academic@mahendracollege.com>, hods <hods@mahendracollege.com>, mcestaffs@mahendracollege.com

With reference to the circular MCE/KSF/2020-21 Dt: 18/12/2021, here with I have furnished the list of faculty member and their title of the lecture to handle the session in the Knowledge Sharing Forum.

20.02.2021- Mr.D.Balaji – Sensitization Program on Online Courses

Thanking you,

With kind regards
Dr.M.Suganthi
Prof & Head/ECE,
Mahendra College of Engineering,
Salem-636 106

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

To
Prof.K.Prasad Babu
HoD-Civil
Coordinator –Knowledge Sharing Forum

With reference to the circular MCE/KSF/2020-21 Dt: 21/12/2021, here with I have furnished the list of faculty members and their title of the lecture to handle the session in the Knowledge Sharing Forum.

S.No	Date	Title	Name of the Staff
1.	20.02.2021	Sensitization Program on Online Courses	Mr.D.Balaji

HOD-ECE

Circular from Coordinator

HoD Civil Mahendra Salem <hodcivil@mahendracollege.com>

knowledge sharing forum - reg.

1 message

HoD Civil Mahendra Salem <hodcivil@mahendracollege.com> Tues, Feb 16, 2020 at 10:47 AM

To: Principal Mahendra Salem<principal@mahendracollege.com>, hods <hods@mahendracollege.com>
Cc: "dean.academic"<dean.academic@mahendracollege.com>, mcestaffs@mahendracollege.com

All the staff members are hereby informed to attend the Knowledge Sharing Forum on Saturday, 20th Feb 2021 at 10.00 am through Google Meet (online mode).

The programme schedule for the same is given below:

10.00 am to 11.30 am - Session - “Sensitization Program on Online Courses”
by Mr.D.Balaji, AP/ECE.

Google meet Link Id: meet.google.com/ovw-gafj-mwn

In order to make the sessions more lively and interesting, all faculty members are requested to interact more with the speakers.

Thanking you,

--

Prof.K.Prasadbabu,
HOD -Civil,
Mahendra College of Engineering,
Salem - 636 106.
Mob: 94437 48531.

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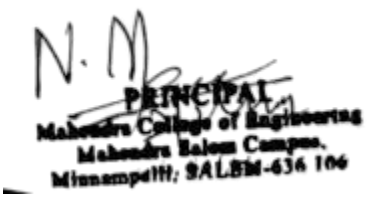

Attachment Circular Copy

MAHENDRA COLLEGE OF ENGINEERING

SALEM - 636 106.

CIRCULAR

MCE/KSF/2020-21 **Dt : 16/02/2021**

All the staff members are hereby informed to attend the Knowledge Sharing Forum on Saturday, 20th February 2021 at 10.00 am through Google Meet (online mode). The programme schedule for the same is given below:

10.00 am to 11.30 am - Session - "**Sensitization Program on Online Courses"**

by Mr.D.Balaji, AP/ECE.

Google meet Link Id: meet.google.com/ovw-gafj-mwn

In order to make the sessions more lively and interesting, all faculty members are requested to interact more with the speakers.

COORDINATOR

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The Principal
Dean-Academics
HODs to circulate among all staff members
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Invitation

KSF - Invitation

MAHENDRA

COLLEGE OF ENGINEERING

Affiliated to Anna University and Approved by AICTE

The Management, Principal, Faculty

Cordially invite you to the

"KNOWLEDGE SHARING FORUM"

20th February-2021 at 10:00 a.m. in Gmeet

Presented by

Session: 09.30 am to 10.30 am

Mr.D.BALAJI

Assistant Professor-Dept of ECE

Topic: Sensitization Program on Online Courses

Will be the resource persons

In the presence of

Dr. N.MALMURUGAN

Principal, Mahendra College of Engineering

Dr. N.MOHANA SUNDHARA RAJU

Dean-Academics

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Mahendra Salem Campus,
Minnampatti, SALEM-636 106

Presentation Slides

Sensitization Program on Online Courses

Mr.D.Balaji
Asst.Professor
Department of Electronics and Communication Engineering
Mahendra College of Engineering,
Salem-636 106
E-mail : balajiece21@gmail.com

ONLINE LEARNING

Online learning is education that takes place over the Internet. It is often referred to as **"E Learning"** among other terms.

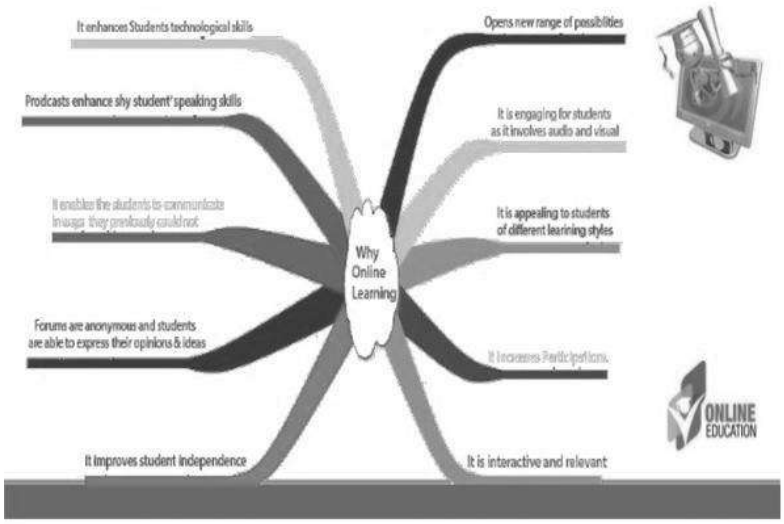
Online learning is just one type of **"Distance Learning"**.

including:

- ***Correspondence Courses***: Conducted through regular mail with little interaction.
- ***Telecourses:*** Where content is delivered via radio or television broadcast.
- ***CD-ROM Courses:*** Where the student interacts with static computer content.
- ***Online Learning***: Internet-based courses offered synchronously and/or asynchronously.
- ***Mobile Learning:*** by means of devices such as cellular phones, PDAs and digital audio players (iPods, MP3 players).

Work From Anywhere, At Any Time

- Everything is available online, accessing class materials and submitting work is very convenient.
- Exactly when and where this takes place is up to student, as long as assignment due dates are met.



Free Online Courses with Certificate on Coursera

- Coursera provides flexible start dates, adjustable due dates, and easy to use mobile apps, Coursera has created an intuitive learning experience designed to enable an individual master real-world skills relevant to his career from the get go.
- A majority of the courses available here are free.How it works is a person first selects a course he/she may be interested in and enrolls free of cost.
- If after a few days, the student wants to complete the course and earn a certificate – he is expected to pay for it. If not, he can cntinue till the end of the trial period and then has to exit.
- To know more about the various free online courses with certificates at Coursera log onto to www.coursera.org.

Free Courses on FutureLearn

- Based out of the United Kingdom, FutureLearn has reportedly changed the life of approx. 7, 5000,000+ students and working professionals worldwide by updating their knowledge and skills.
- These include; Business & management, Creative Arts & Media, Nature & Environment, Law, History, Tech & Coding, Teaching, Health & Psychology and Literature among others.
- In addition to free courses, students also get an opportunity to specialize in individual subjects and/or pursue post graduate degrees if they so desire.
- Some of the popular free course options offered here include;
  - HR Fundamentals
  - How To Succeed at Interviews
  - Finance Fundamentals: Financial Services after the Banking Crisis.
  - Introduction to Psychology
  - Learning Online: Managing your Identity
  - People Management Skills
  - Teaching English Online
- For more details on the free courses available log on to futurelearn.com.

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Free Courses on Alison Courses

- Alison offers over 1000 free online courses across nine distinct categories. The types of courses across the categories include: Certificate Courses, Diploma Courses and Learning Paths.

Certificate Courses

- **Average hour duration:** 2-3 hrs

Alison's Certificate courses will help you focus your learning on distinct topics, to provide you with specific expertise in your field or industry. By concentrating your energy on singular concepts, the niche skills you gain could set you apart from the rest.

- **Certificate courses include an abundance of subjects, such as:** languages, media studies, journalism and public relations, health and fitness, business studies, computer programming and networking,

CONT…….

- Open Learning Initiative — *Carnegie Mellon University's (CMU's) Open Learning Initiative (OLI) is course content (many open and free) intended for both students who want to learn and teachers/ institutions requiring teaching materials.*
- Khan Academy — *Khan Academy is one of the early online learning sites, offering free learning resources for all ages on many subjects, and free tools for teachers and parents to monitor progress and coach students.*
- MIT Video — *MITVideo offers over 12,000 talks/ lecture videos in over 100 channels that include math, architecture and planning, arts, chemistry, biological engineering, robotics, humanities and social sciences, physics and more.*

FREE ONLINE COURSES WITH CERTIFICATION

- edX – *The edX site offers free subject matter from top universities, colleges and schools from around the world, including MIT and Harvard, and many courses are "verified," offering a certificate of completion for a nominal minimum fee.*
- Cousera — *Coursera is a learning site offering courses (free for audit) from over 100 partners — top universities from over 20 countries, as well as non-university partners — with verified certificates as a paid option, plus specializations, which group related courses together in a recommended sequence.*
- MIT Open Courseware — *MIT OpenCourseWare is the project that started the OCW / Open Education Consortium [http://www.oeconsortium.org], launching in 2002 with the full content of 50 real MIT courses available online, and later including most of the MIT course curriculum — all for free — with hundreds of higher ed institutions joining in with their own OCW course materials later.*
- Open Yale Courses — *Open Yale Courses (OYC) are free, open access, non-credit introductory courses recorded in Yale College's classroom and available online in a number of digital formats.*

CONT…..

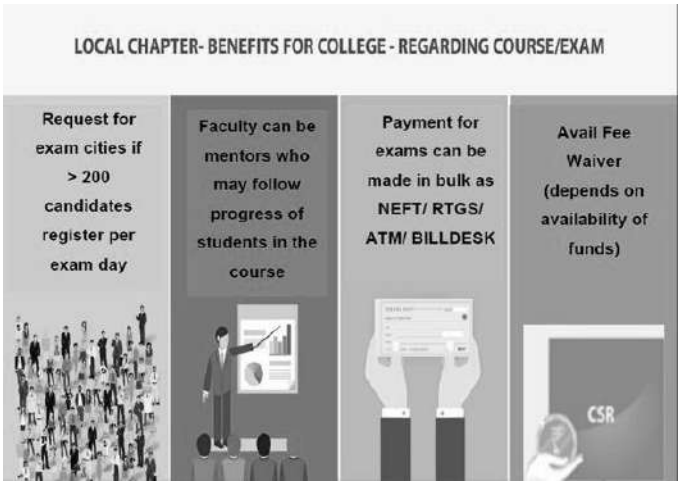
- Stanford Online — *Stanford Online is a collection of free courses billed as "for anyone, anywhere, anytime" and which includes a wide array of topics that include human rights, language, writing, economics, statistics, physics, engineering, software, chemistry, and more.*
- Harvard Extension School: Open Learning Initiative — *Harvard's OLI (Open Learning Initiative) offers a selection of free video courses (taken from the edX selection) for the general public that covers a range of typical college topics, includings Arts, History, Math, Statistics, Computer Science, and more.*
- Canvas Network — *Canvas Network offers mostly free online courses source from numerous colleges and universities, with instructor-led video and text content and certificate options for select programs.*
- Quantum Physics Made Relatively Simple — *Quantum Physics Made Relatively Simple" is, as the name implies, a set of just three lectures (plus intro) very specifically about Quantum Physics, form three presentations given by theoretical physicist Hans Bethe.*

NPTEL Online Certification

- The objective of enabling students obtain certificates for courses is to make students employable in the industry or pursue a suitable higher education programme.
- Through an online portal, **4-, 8-, or 12-week online courses**, typically on topics relevant to students in all years of higher education along with basic core courses in sciences and humanities with exposure to relevant tools and technologies, are being offered.
- **The enrolment to and learning from these courses involves no cost**.

All the statistics pertaining to completed courses are available at https://nptel.ac.in/noc/.

- All courses are completely free to enrol and learn from. The certification exam is optional and comes at a fee of **Rs 1000/course exam**.



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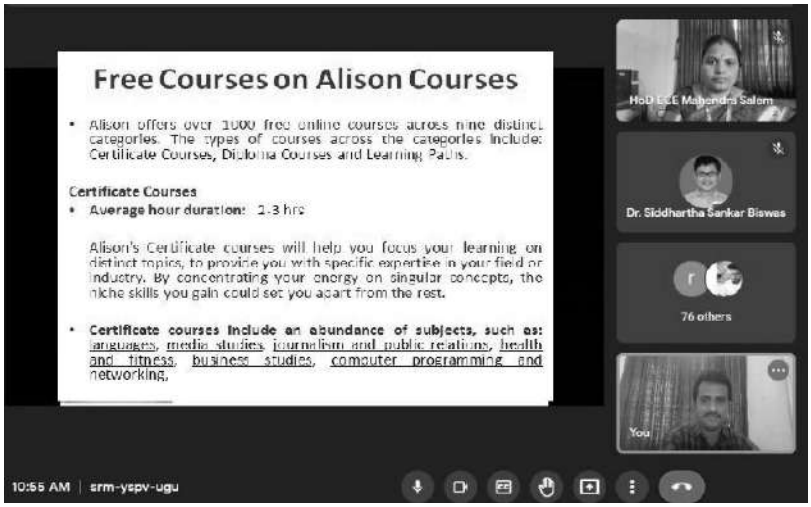
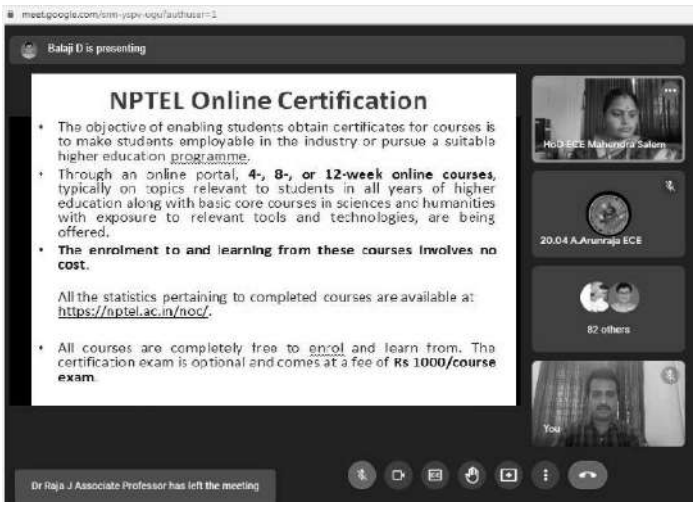
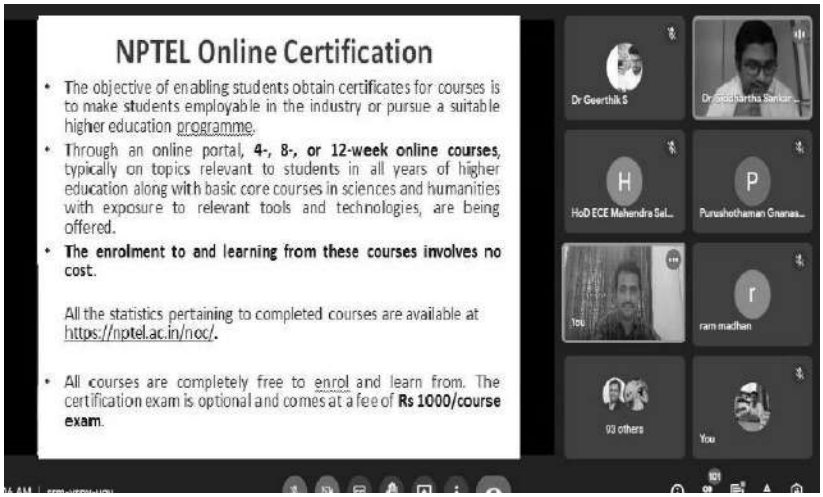
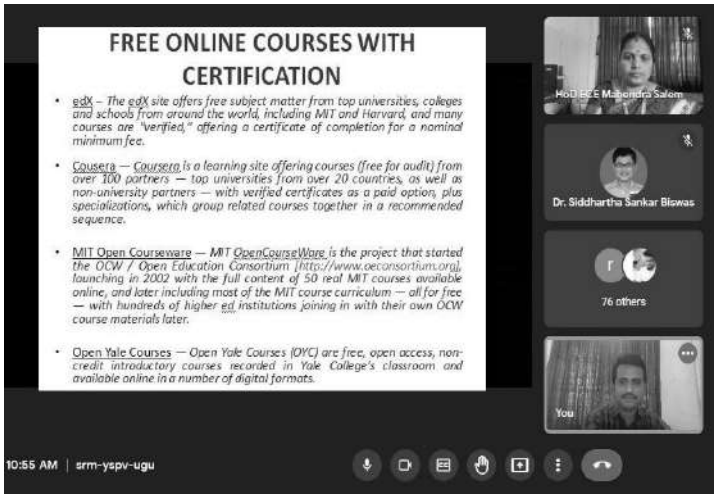
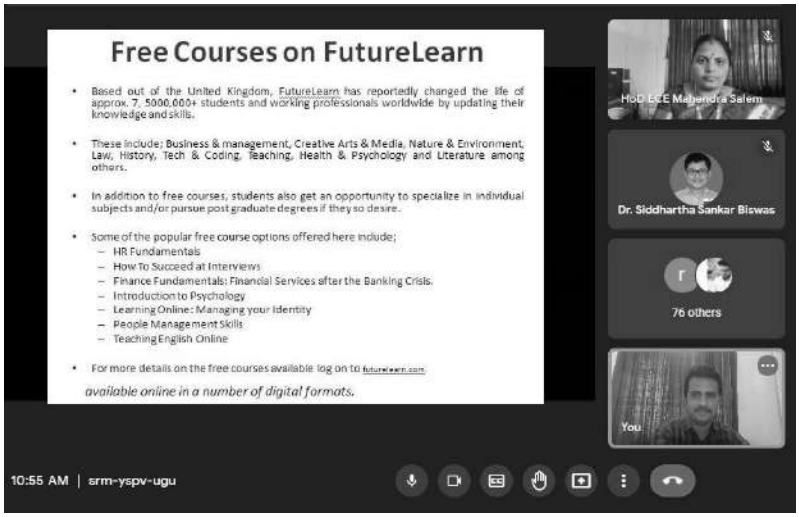
Google meet Presentation Photos

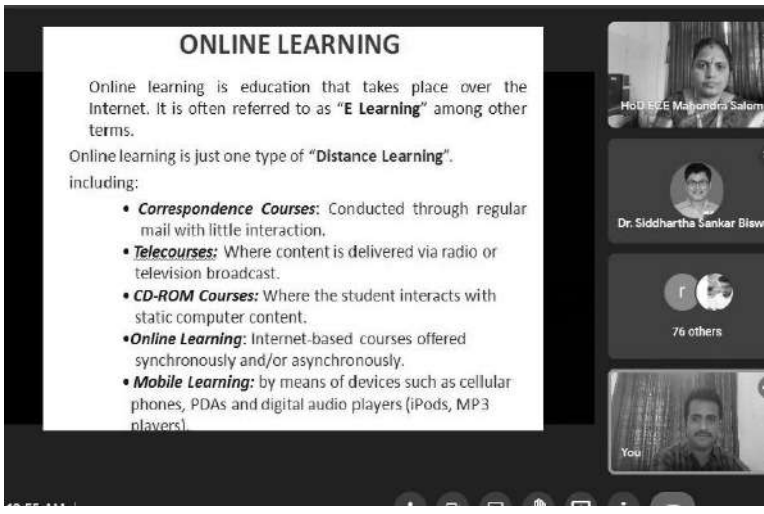












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Mahendra Salem Campus,
Minampatti, SALEM-636 106

ACADEMIC YEAR 2021-2022

ODD SEMESTER

Google Meet Attendance

1	Attendance for:	Class List									
2	Date:	"2021-08-	"Time:"	"10:35"	"Meet ID:	"hhx-eimo-csv"					
3											
4	Names	"2021-08-	"Email"	"Commer	"Arrival ti	"Last See	"# of Che	"Joined"	"Details"		
5	Ravishankar.T Mce-Ap/Civil	"✔"	""	""	"10:38"	"11:02"	"45"	"1"			
6	Muthukumar.S Mce-Ap/Civil	"✔"	""	""	"10:44"	"11:03"	"38"	"1"			
7	Harikaran.M Mce-Ap/Civil	"✔"	""	""	"10:35"	"11:01"	"85"	"1"			
8	Manisekar.A Mce-Ap/Civil	"✔"	""	""	"10:40"	"11:02"	"41"	"2"	"10:40 (35	11:01 (2min) [11:02]	
9	Meenakshi.S Mce-Ap/Ece	""	""	""							
10	Inba Arasi.M Mce-Ap/Eee	"✔"	""	""	"10:36"	"11:01"	"79"	"1"			
11	Latha.p.s Mce-Ap/Cse	""	""	""							
12	Rameshkumar.S Mce-Ap/Mech	"✔"	""	""	"10:41"	"11:02"	"34"	"1"			
13	Obuli Ranganathan.O. Mce-Ap/Ee	"✔"	""	""	"10:35"	"11:02"	"50"	"1"			
14	Balaji.D Mce-Ap/Ece	""	""	""							
15	Panneerselvam.p Mce-Ap/Mech	"✔"	""	""	"10:38"	"11:01"	"43"	"3"	"10:38 (35	11:01 (1mi	11:59 (3min) [11:01]
16	Rajaram.k Mce-Ap/Mech	""	""	""							
17	Rameshkumar.s Mce-Ap/Mech	"✔"	""	""	"10:35"	"11:38"	"18"	"2"	"11:31 (8r	10:35 (10min) [10:44]	
18	C.Kannan.Mce-Ap/Mech	"✔"	""	""	"10:38"	"11:01"	"38"	"2"	"11:59 (3r	10:38 (35min) [11:58]	
19	Prabu.S Mce-Ap/Mech	"✔"	""	""	"10:35"	"11:02"	"36"	"1"			
20	Govindaraj.M Mce-Ap/Mech	"✔"	""	""	"10:35"	"11:02"	"37"	"1"			
21	Ganesh Raja.S.Mce-Ap/Mech	"✔"	""	""	"10:35"	"11:01"	"84"	"1"			
22	Palanisamy.P.N Mce-Ap/Ece	""	""	""							
23	Hod Civil Mahendra Salem	"✔"	""	""	"10:36"	"11:02"	"49"	"2"	"11:17 (46	10:36 (3min) [10:38]	
24	Prabavathi Mk Mce-Ap/Bme	""	""	""							
25	Sakthivel.M Mce-Ap/Mech	"✔"	""	""	"11:31"	"11:02"	"32"	"1"			

25	Sakthivel.M Mce-Ap/Mech	"✔"	""	""	"11:31"	"11:02"	"32"	"1"			
26	Hod Ece Mahendra Salem	"✔"	""	""	"10:43"	"10:43"	"1"	"1"			
27	Thangaraju.MMce-Ap/Maths	"✔"	""	""	"10:35"	"11:02"	"77"	"1"			
28	Nandhakumar.KMce-Ap/Maths	"✔"	""	""	"10:36"	"11:01"	"44"	"1"			
29	Priya.T Mce-Ap/Bme	"✔"	""	""	"10:35"	"11:03"	"80"	"1"			
30	Baskar.R Mce-Ap/Bme	"✔"	""	""	"10:35"	"11:02"	"38"	"2"	"11:29 (34	10:35 (4min) [10:38]	
31	John Bosco.P Mce-Ap/Eee	""	""	""							
32	Jenolin Rex.M Mce-Ap/Cse	"✔"	""	""	"10:36"	"11:02"	"35"	"1"			
33	Suresh.R Mce-Ap/Maths	""	""	""							
34	Vijayalakshmi.A Mce-Ap/Cse	"✔"	""	""	"10:40"	"11:02"	"53"	"1"			
35	Meera.S Mce-Ap/Ece	"✔"	""	""	"10:35"	"10:40"	"6"	"1"			
36	Madhusudan.S Mce-Ap/Eee	"✔"	""	""	"11:08"	"11:02"	"35"	"1"			
37	Priyadevi.KMce-Ap/Ece	"✔"	""	""	"10:35"	"11:01"	"76"	"1"			
38	Hod Cse Mahendra Salem	"✔"	""	""	"10:41"	"11:01"	"39"	"1"			
39	Monisha.S Mce-Ap/Ece	"✔"	""	""	"10:38"	"11:01"	"38"	"3"	"11:34 (9r	10:38 (16n	11:49 (13min) [11:01]
40	Kokila.SMce-Ap/Maths	""	""	""							
41	Sankar.A Mce-Ap/Mech	"✔"	""	""	"11:31"	"11:02"	"32"	"1"			
42	J.Ram Kumar Mce-Ap/Eee	"✔"	""	""	"11:24"	"11:01"	"34"	"1"			
43	Hod Eee Mahendra Salem	"✔"	""	""	"10:39"	"11:05"	"85"	"3"	"11:37 (13	11:31 (35n	10:39 (37min) [11:05]
44	Karthigaswathini.S.Mce-Ap/Ece	"✔"	""	""	"10:39"	"11:02"	"42"	"1"			
45											
46											
47	Help/more info:	"https://tinyurl.com/y5peu3nk"									
48	© Google Meet Attendance	https://tinyurl.com/y6k2vots									

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Feedback Form

	B	C	D	E	F
1	Name of the participants	How Satisfied were you w	How would you rate the e	How would you rate the c	Any additional comments
2	Thangaraju.M	Very High	High	High	Excellent session
3	Sakthivel.M	High	High	High	nice
4	Vijayalakshmi.	High	Medium	High	Good
5	Ganesh Raja.S.	High	Medium	Medium	Good
6	Meenakshi.S	Very High	High	High	Very nice session, Thank
7	Inba Arasi.M	High	Medium	High	Nice session
8	Baskar.R	High	High	High	Nothing
9	Rameshkumar.S	Very High	High	High	Gud
10	Obuli Ranganathan.O.	High	Medium	Medium	Nothing
11	Balaji.D	Very High	High	High	Useful session
12	Panneerselvam.p	Very High	High	High	Nice presentation.
13	Rajaram.k	High	Medium	Medium	Wonderful
14	Rameshkumar.s	Very High	High	High	Nice session
15	C.Kannan.Mce	High	High	High	good
16	Dr.M.Suganthi	Very High	High	High	No
17	Govindaraj.M	Very High	High	High	Good
18	Manisekar.A	Very High	High	High	No
19	Palanisamy.P.N	Very High	High	High	None
20	Dr.Prasad Babu	Very High	High	High	Excellent
21	Prabavathi Mk	High	Medium	Medium	Good
22	Muthukumar.S	Very High	High	High	Excellent information and
23	Prabu.S	High	High	High	Any tools regarding this t
24	Ravishankar.T	Very High	High	High	Please inform more webi
25	Nandhakumar.K	Very High	High	High	NA
26	Priya.T	Very High	High	Medium	Good
27	Latha.p.s	Very High	High	High	Very depth concepts
28	John Bosco.P	High	High	Medium	Good and informative
29	Jenolin Rex.M Mce-Ap/C	High	High	High	Effective
30	Suresh.R	High	Medium	Medium	.
31	Harikaran.M	Very High	Medium	High	Good
32	Meera.S	Very High	High	High	timing only very limited, m
33	Madhusudan.S	High	High	High	Good
34	Priyadevi.K	High	High	Medium	Useful session

26	Priya.T	Very High	High	Medium	Good
27	Latha.p.s	Very High	High	High	Very depth concepts
28	John Bosco.P	High	High	Medium	Good and informative
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31	Harikaran.M	Very High	Medium	High	Good
32	Meera.S	Very High	High	High	timing only very limited, m
33	Madhusudan.S	High	High	High	Good
34	Priyadevi.K	High	High	Medium	Useful session
35	Dr.Likly Bealauh	High	High	High	Nothing
36	Monisha.S	Very High	High	Medium	Nice session
37	Kokila.S	High	High	High	Nice lecture
38	Sankar.A	High	High	High	Good
39	J.Ram Kumar	Very High	High	High	nice
40	Dr.S.M.Kamali	Very High	High	High	Can arrange for 1 day
41	Karthigaswathini.S.	Very High	High	High	Very nice presentation.

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Minampatti, SALEM-636 106

Circular through Email

Gmail by Google

Principal Mahendra Salem principal@mahendracollege.com

knowledge sharing forum - reg.

1 message

Principal Mahendra Salem principal@mahendracollege.com Thur, June 28, 2021 at 11:24 AM

To: hods <hods@mahendracollege.com>
Cc: "dean.academic"<dean.academic@mahendracollege.com>, mcestaffs@mahendracollege.com

Dear Sir/madam,

It is proposed to have a lecture series on the recent developments of engineering domain by the faculty members for the faculty members. This lecture series session is to be known as “Knowledge Sharing Forum (KSF)”. Topic of lecture should be of interdisciplinary nature and should not be department specific. The faculty members of the all the departments of our college are expected to deliver the lecture. It is proposed to have this session on Saturdays, when it is a working day.

Prof. K.Prasad Babu, HoD-Civil is deputed as the Coordinator for this Knowledge Sharing Forum.

Thanking you,

Regards,
Dr.N. Malmurugan, M.Tech, Ph.D.,
Principal,
Mahendra College of Engineering,
Mahendra Salem Campus,
Minnampalli, Salem 636 106.
Phone 0427 6542111
Fax 0427 2482886
www.mahendracollege.com

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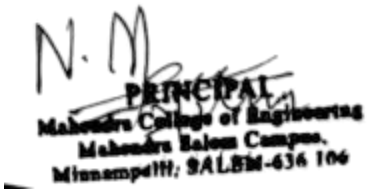

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SALEM - 636 106.

CIRCULAR

MCE/KSF/2021-22 **Date: 28/05/2021**

It is proposed to have a lecture series on the recent developments of engineering domain by the faculty members for the faculty members. This lecture series session is to be known as "Knowledge Sharing Forum (KSF)". Topic of lecture should be of interdisciplinary nature and should not be department specific. The faculty members of the all the departments of our college are expected to deliver the lecture. It is proposed to have this session on Saturdays, when it is a working day.

Prof. K.Prasad Babu, HoD-Civil is deputed as the Coordinator for this Knowledge Sharing Forum.

PRINCIPAL

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The Managing Director

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HODs
AO
IQAC
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Coordinator Circular

Gmail by Google

HoD Civil Mahendra Salem <hodcivil@mahendracollege.com>

knowledge sharing forum - reg.

1 message

HoD Civil Mahendra Salem <hodcivil@mahendracollege.com> Tue, June 01, 2021 at 11:41 AM

To: Principal Mahendra Salem<principal@mahendracollege.com>, hods <hods@mahendracollege.com>
Cc: "dean.academic"<dean.academic@mahendracollege.com>, mcestaffs@mahendracollege.com

Dear Sir/madam,

This is to request the Head of the Departments to depute the faculty members, for the Knowledge Sharing Forum as per the following Schedule to deliver the Lectures. Hence all the department Heads are requested to give the list of faculty members along with the title of the lecture to the under signed on or before 05/06/2021.

S.No	Date	Department
1.	05.06.2021	EEE
2.	19.06.2021	CSE
3.	10.07.2021	MECT
4.	24.07.2021	ECE
5.	07.08.2020	MECH
6.	21.08.2021	BME
7.	04.09.2021	IT

Thanking you,

--

Prof.K.Prasadbabu,
HOD -Civil,
Mahendra College of Engineering,
Salem - 636 106.
Mob: 94437 48531.

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CIRCULAR

MCE/KSF/2021-22 Date: 01/06/2021

This is to request the Head of the Departments to depute the faculty members, for the Knowledge Sharing Forum as per the following Schedule to deliver the Lectures. Hence all the department Heads are requested to give the list of faculty members along with the title of the lecture to the under signed on or before 05/06/2021.

S.No	Date	Department
1.	05.06.2021	EEE
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4.	24.07.2021	ECE
5.	07.08.2020	MECH
6.	21.08.2021	BME

COORDINATOR

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The Managing Director

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Dean-Academics
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Department Circular

Gmail by Google

HoD ECE Mahendra Salem <hodece@mahendracollege.com>

knowledge sharing forum - reg.

1 message

HoD ECE Mahendra Salem <hodece@mahendracollege.com> Fri, Jun 05, 2021 at 10:51 AM

To: Principal Mahendra Salem<principal@mahendracollege.com>, HoD Civil Mahendra Salem <hodcivil@mahendracollege.com>
Cc: "dean.academic"<dean.academic@mahendracollege.com>, hods <hods@mahendracollege.com>, mcestaffs@mahendracollege.com

With reference to the circular MCE/KSF/2021-22 Dt: 01/06/2021, here with I have furnished the list of faculty member and their title of the lecture to handle the session in the Knowledge Sharing Forum.

24.07.2021- Dr.M.Suganthi – Possible Future Research Directions

Thanking you,

With kind regards
Dr.M.Suganthi
Prof & Head/ECE,
Mahendra College of Engineering,
Salem-636 106

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DEPARTMENT OF ELECTRONICS & COMMUNICATION ENGINEERING

To
Prof.K.Prasad Babu
HoD-Civil
Coordinator –Knowledge Sharing Forum

With reference to the circular MCE/KSF/2021-22 Dt: 01/06/2021, here with I have furnished the list of faculty members and their title of the lecture to handle the session in the Knowledge Sharing Forum.

S.No	Date	Title	Name of the Staff
1.	24.07.2021	Possible Future Research Directions	Dr.M.Suganthi

HOD-ECE

Circular from Coordinator

Gmail by Google

HoD Civil Mahendra Salem <hodcivil@mahendracollege.com>

knowledge sharing forum - reg.

1 message

HoD Civil Mahendra Salem <hodcivil@mahendracollege.com> Tues, Jul 20, 2021 at 09:40 AM

To: Principal Mahendra Salem<principal@mahendracollege.com>, hods <hods@mahendracollege.com>
Cc: "dean.academic"<dean.academic@mahendracollege.com>, mcestaffs@mahendracollege.com

All the staff members are hereby informed to attend the Knowledge Sharing Forum on Friday, 20th July 2021 at 10.00 am through Google Meet (online mode).

The programme schedule for the same is given below:

10.00 am to 11.30 am - Session - “Possible Future Research Directions”
by Dr.M.Suganthi, Professor and Head /ECE.

Google meet Link Id: meet.google.com/roo-wtqq-bkc

In order to make the sessions more lively and interesting, all faculty members are requested to interact more with the speakers.

Thanking you,

--

Prof.K.Prasadbabu,
HOD -Civil,
Mahendra College of Engineering,
Salem - 636 106.
Mob: 94437 48531.

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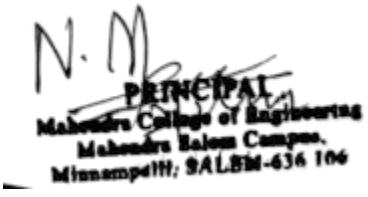

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CIRCULAR

MCE/KSF/2021-22 **Dt : 20/07/2021**

All the staff members are hereby informed to attend the Knowledge Sharing Forum on Saturday, 20th February 2021 at 10.00 am through Google Meet (online mode). The programme schedule for the same is given below:

10.00 am to 11.30 am - Session - "**Possible Future Research Directions"**

by Dr.M.Sugnathi, Prof/Hod-ECE.

Google meet Link Id: meet.google.com/roo-wtqq-bkn

In order to make the sessions more lively and interesting, all faculty members are requested to interact more with the speakers.

COORDINATOR

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The Principal
Dean-Academics
HODs to circulate among all staff members
IQAC
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Invitation

KSF - Invitation

MAHENDRA

COLLEGE OF ENGINEERING

Affiliated to Anna University and Approved by AICTE

The Management, Principal, Faculty

Cordially invite you to the

"KNOWLEDGE SHARING FORUM"

24th July-2021 at 10:00 a.m. in Gmeet

Presented by

Session: 10.00 am to 11.30 am

Dr.M.Suganthi

Professor and Head -Dept of ECE

Topic: Possible Future Research Directions

Will be the resource persons

In the presence of

Dr. N.MALMURUGAN

Principal, Mahendra College of Engineering

Dr. N.MOHANA SUNDHARA RAJU

Dean-Academics

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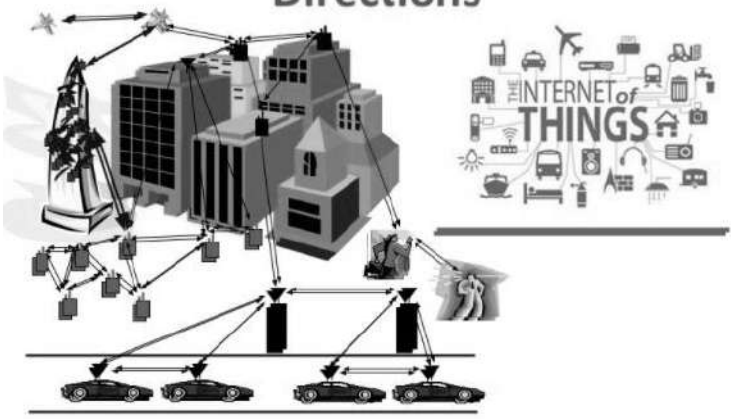
Minampatti, SALEM-636 106

Presentation Slides

Possible Future Research Directions



Presented By

Dr.M.Suganthi
Professor & HoD
Department of ECE
Mahendra College of Engineering
Salem- 636106
Email : hodece@mahendracollege.com

Research Process

- Formulation of problem
- Review of Literature
- Formulating hypothesis
- Research design
- Meeting population
- Ethical considerations
- Pilot study
- Data collection
- Data analysis and interpretation
- Communications and Utilization

Current Trends

- The thirst for data communication is going to continue and our transmission networks will most probably remain the bottleneck
- The landscape of information has expanded greatly to machines
- Machines will become an integral part of the global information network
- The nature of most of this data will be different than conventional human generated content , and will mostly be short , bursty and asynchronous
- Need to build an efficient and smart architecture that can accommodate future demands for data communications
- Standard bodies and Industries are now organizing a timeframe to standardize 5G technology
- Preliminary interest and discussions about a possible 5G standard have evolved into a full-fledged conversation that has captured the attention of researchers

Research Needs

- Accuracy
- Reliability
- High Speed
- Less Power Consumption
- Less size
- Less Weight
- Cost Effectiveness
- Less Time to Market Factor
- Ease of Modification
- Ease of Testability

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Growing Research Areas

- Digital Signal Processing
- Audio and Video Processing
- Image Processing
- Wireless Communication
- Mobile Communication
- Satellite Communication
- Embedded System Design
- VLSI Design
- Wireless Sensor Networks
- Security
- Reconfigurable system Design
- Robotics
- Internet of Things
- Cloud Computing
- Big data

Existing Challenges

- **Common Features**
  - They use a lot of multiplying and adding operations
  - They deal with signals that come from the real world
  - They require certain response time
- **Key Operations are**
  - Transformation
  - Convolution
  - Correlation
- **These Operations require**
  - Multiplication and Addition
- **Implementation need**
  - Multipliers
  - Adders
  - Memory

Transformation

Design Tools

- Simulation Tools
  - Improve accuracy by reducing errors
  - Reduce Resources
  - Examples are
    - Matlab, Qualnet, Network Simulator etc.,
- Implementation Tools
  - Improve Speed
  - Reduce Area
  - Reduce Power
  - Examples are
    - Xilink ISE, Cadence Synopsis , Mentor Graphics etc

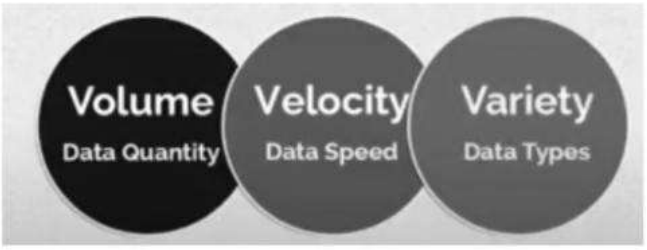
Design Classification

GPP	▪ 16 bit or ▪ 32 bit Microprocessor
ASIP	▪ Microcontrollers ▪ DSP
PLD	▪ CPLD ▪ FPGA
ASIC	▪ Chip ▪ For Specific Applications only

3 V's of Big Data

What is big data?

3 V's of Big Data and How they Sum up the whole **Big Data Schematic**



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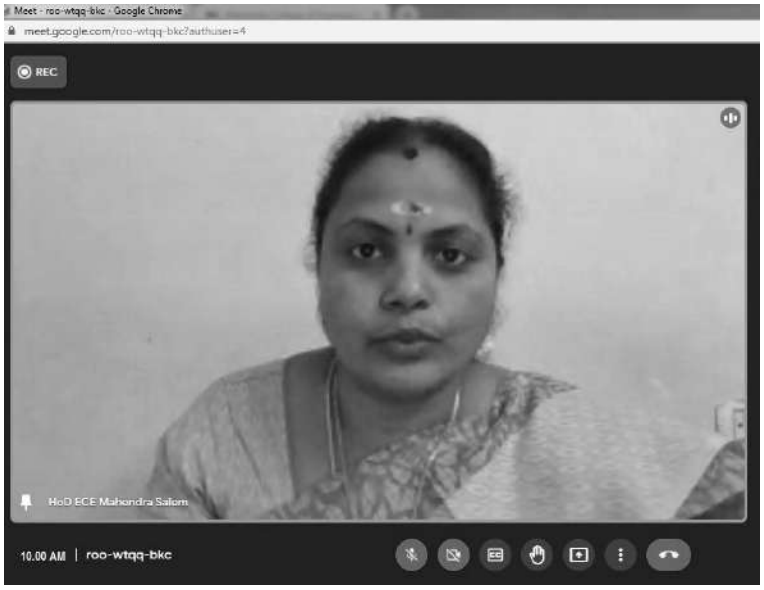
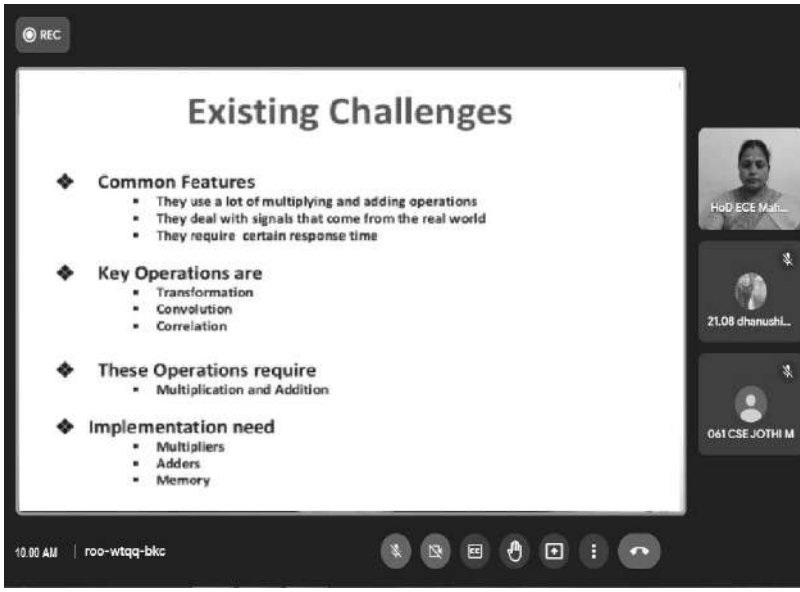
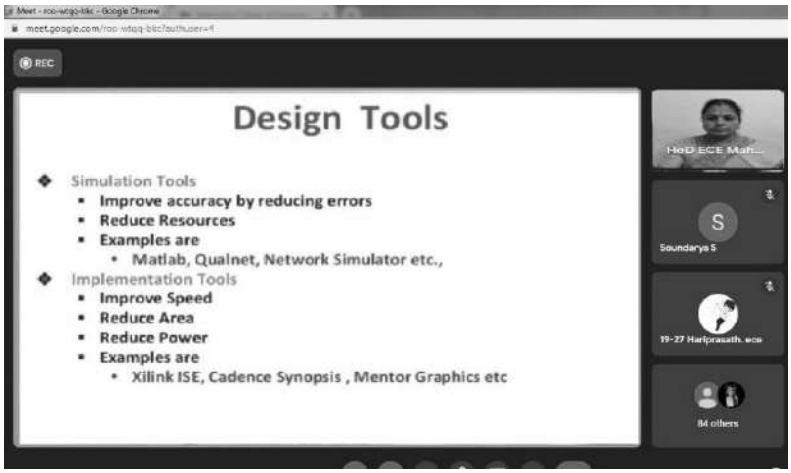
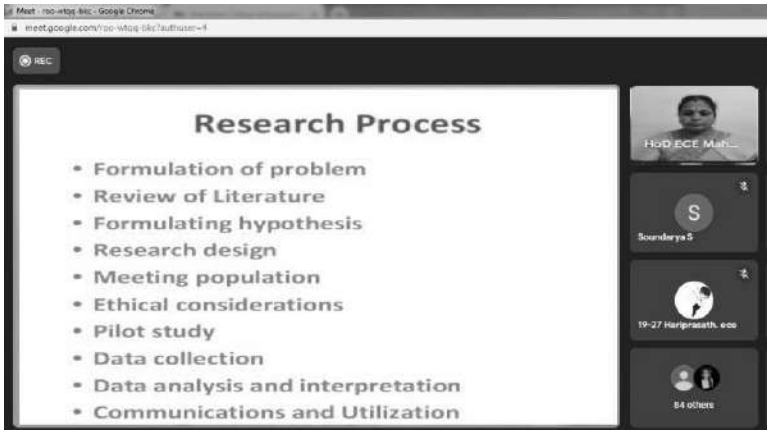
Google meet Presentation Photos









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Google Meet Attendance

1	Attendance for:	Class List									
2	Date:	"2021-08-	"Time:"	"10:35"	"Meet ID:	"hhx-eimo-csv"					
3											
4	Names	"2021-08-	"Email"	"Commer	"Arrival ti	"Last See	"# of Che	"Joined"	"Details"		
5	Ravishankar.T Mce-Ap/Civil	"✔"	""	""	"10:38"	"11:02"	"45"	"1"			
6	Muthukumar.S Mce-Ap/Civil	"✔"	""	""	"10:44"	"11:03"	"38"	"1"			
7	Harikaran.M Mce-Ap/Civil	"✔"	""	""	"10:35"	"11:01"	"85"	"1"			
8	Manisekar.A Mce-Ap/Civil	"✔"	""	""	"10:40"	"11:02"	"41"	"2"	"10:40 (35	11:01 (2min) [11:02]	
9	Meenakshi.S Mce-Ap/Ece	""	""	""							
10	Inba Arasi.M Mce-Ap/Eee	"✔"	""	""	"10:36"	"11:01"	"79"	"1"			
11	Latha.p.s Mce-Ap/Cse	""	""	""							
12	Rameshkumar.S Mce-Ap/Mech	"✔"	""	""	"10:41"	"11:02"	"34"	"1"			
13	Obuli Ranganathan.O. Mce-Ap/Ee	"✔"	""	""	"10:35"	"11:02"	"50"	"1"			
14	Balaji.D Mce-Ap/Ece	""	""	""							
15	Panneerselvam.p Mce-Ap/Mech	"✔"	""	""	"10:38"	"11:01"	"43"	"3"	"10:38 (35	11:01 (1mi	11:59 (3min) [11:01]
16	Rajaram.k Mce-Ap/Mech	""	""	""							
17	Rameshkumar.s Mce-Ap/Mech	"✔"	""	""	"10:35"	"11:38"	"18"	"2"	"11:31 (8r	10:35 (10min) [10:44]	
18	C.Kannan.Mce-Ap/Mech	"✔"	""	""	"10:38"	"11:01"	"38"	"2"	"11:59 (3r	10:38 (35min) [11:58]	
19	Prabu.S Mce-Ap/Mech	"✔"	""	""	"10:35"	"11:02"	"36"	"1"			
20	Govindaraj.M Mce-Ap/Mech	"✔"	""	""	"10:35"	"11:02"	"37"	"1"			
21	Ganesh Raja.S.Mce-Ap/Mech	"✔"	""	""	"10:35"	"11:01"	"84"	"1"			
22	Palanisamy.P.N Mce-Ap/Ece	""	""	""							
23	Hod Civil Mahendra Salem	"✔"	""	""	"10:36"	"11:02"	"49"	"2"	"11:17 (46	10:36 (3min) [10:38]	
24	Prabavathi Mk Mce-Ap/Bme	""	""	""							
25	Sakthivel.M Mce-Ap/Mech	"✔"	""	""	"11:31"	"11:02"	"32"	"1"			

25	Sakthivel.M Mce-Ap/Mech	"✔"	""	""	"11:31"	"11:02"	"32"	"1"			
26	Hod Ece Mahendra Salem	"✔"	""	""	"10:43"	"10:43"	"1"	"1"			
27	Thangaraju.MMce-Ap/Maths	"✔"	""	""	"10:35"	"11:02"	"77"	"1"			
28	Nandhakumar.KMce-Ap/Maths	"✔"	""	""	"10:36"	"11:01"	"44"	"1"			
29	Priya.T Mce-Ap/Bme	"✔"	""	""	"10:35"	"11:03"	"80"	"1"			
30	Baskar.R Mce-Ap/Bme	"✔"	""	""	"10:35"	"11:02"	"38"	"2"	"11:29 (34	10:35 (4min) [10:38]	
31	John Bosco.P Mce-Ap/Eee	""	""	""							
32	Jenolin Rex.M Mce-Ap/Cse	"✔"	""	""	"10:36"	"11:02"	"35"	"1"			
33	Suresh.R Mce-Ap/Maths	""	""	""							
34	Vijayalakshmi.A Mce-Ap/Cse	"✔"	""	""	"10:40"	"11:02"	"53"	"1"			
35	Meera.S Mce-Ap/Ece	"✔"	""	""	"10:35"	"10:40"	"6"	"1"			
36	Madhusudan.S Mce-Ap/Eee	"✔"	""	""	"11:08"	"11:02"	"35"	"1"			
37	Priyadevi.KMce-Ap/Ece	"✔"	""	""	"10:35"	"11:01"	"76"	"1"			
38	Hod Cse Mahendra Salem	"✔"	""	""	"10:41"	"11:01"	"39"	"1"			
39	Monisha.S Mce-Ap/Ece	"✔"	""	""	"10:38"	"11:01"	"38"	"3"	"11:34 (9r	10:38 (16n	11:49 (13min) [11:01]
40	Kokila.SMce-Ap/Maths	""	""	""							
41	Sankar.A Mce-Ap/Mech	"✔"	""	""	"11:31"	"11:02"	"32"	"1"			
42	J.Ram Kumar Mce-Ap/Eee	"✔"	""	""	"11:24"	"11:01"	"34"	"1"			
43	Hod Eee Mahendra Salem	"✔"	""	""	"10:39"	"11:05"	"85"	"3"	"11:37 (13	11:31 (35n	10:39 (37min) [11:05]
44	Karthigaswathini.S.Mce-Ap/Ece	"✔"	""	""	"10:39"	"11:02"	"42"	"1"			
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47	Help/more info:	"https://tinyurl.com/y5peu3nk"									
48	© Google Meet Attendance	https://tinyurl.com/y6k2vots									

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Feedback Form

	B	C	D	E	F
1	Name of the participants	How Satisfied were you w	How would you rate the e	How would you rate the c	Any additional comments
2	Thangaraju.M	Very High	High	High	Excellent session
3	Sakthivel.M	High	High	High	nice
4	Vijayalakshmi.	High	Medium	High	Good
5	Ganesh Raja.S.	High	Medium	Medium	Good
6	Meenakshi.S	Very High	High	High	Very nice session, Thank
7	Inba Arasi.M	High	Medium	High	Nice session
8	Baskar.R	High	High	High	Nothing
9	Rameshkumar.S	Very High	High	High	Gud
10	Obuli Ranganathan.O.	High	Medium	Medium	Nothing
11	Balaji.D	Very High	High	High	Useful session
12	Panneerselvam.p	Very High	High	High	Nice presentation.
13	Rajaram.k	High	Medium	Medium	Wonderful
14	Rameshkumar.s	Very High	High	High	Nice session
15	C.Kannan.Mce	High	High	High	good
16	Dr.M.Suganthi	Very High	High	High	No
17	Govindaraj.M	Very High	High	High	Good
18	Manisekar.A	Very High	High	High	No
19	Palanisamy.P.N	Very High	High	High	None
20	Dr.Prasad Babu	Very High	High	High	Excellent
21	Prabavathi Mk	High	Medium	Medium	Good
22	Muthukumar.S	Very High	High	High	Excellent information and
23	Prabu.S	High	High	High	Any tools regarding this t
24	Ravishankar.T	Very High	High	High	Please inform more webi
25	Nandhakumar.K	Very High	High	High	NA
26	Priya.T	Very High	High	Medium	Good
27	Latha.p.s	Very High	High	High	Very depth concepts
28	John Bosco.P	High	High	Medium	Good and informative
29	Jenolin Rex.M Mce-Ap/C	High	High	High	Effective
30	Suresh.R	High	Medium	Medium	.
31	Harikaran.M	Very High	Medium	High	Good
32	Meera.S	Very High	High	High	timing only very limited, m
33	Madhusudan.S	High	High	High	Good
34	Priyadevi.K	High	High	Medium	Useful session

26	Priya.T	Very High	High	Medium	Good
27	Latha.p.s	Very High	High	High	Very depth concepts
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32	Meera.S	Very High	High	High	timing only very limited, m
33	Madhusudan.S	High	High	High	Good
34	Priyadevi.K	High	High	Medium	Useful session
35	Dr.Likly Bealauh	High	High	High	Nothing
36	Monisha.S	Very High	High	Medium	Nice session
37	Kokila.S	High	High	High	Nice lecture
38	Sankar.A	High	High	High	Good
39	J.Ram Kumar	Very High	High	High	nice
40	Dr.S.M.Kamali	Very High	High	High	Can arrange for 1 day
41	Karthigaswathini.S.	Very High	High	High	Very nice presentation.

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Cordially invite you to the

"KNOWLEDGE SHARING FORUM "

05-SEP-2020 at 10:00 a.m. in Google Meet

Presented by

Mr.S.Sathish

Assistant Professor, MCT

Topic: 3D Printing

Will be the resource persons

Dr. N.MALMURUGAN

Principal, Mahendra College of Engineering

Will deliver the introductory note

Dr. N.MOHANA SUNDARARAJU

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DEPARTMENT OF MECHATRONICS ENGINEERING

KNOWLEDGE SHARING FORUM

Topic: ***3D PRINTING***

Presented by

Mr.S.SATHISH
Assistant Professor, MCT

Introduction

- 3D printing is a form of additive manufacturing technology where a three dimensional object is created by laying down successive layers of material.
- It is also known as **Additive manufacturing.**
- 3D printing is achieved using an additive process, where successive layers of material are laid down in different shapes.

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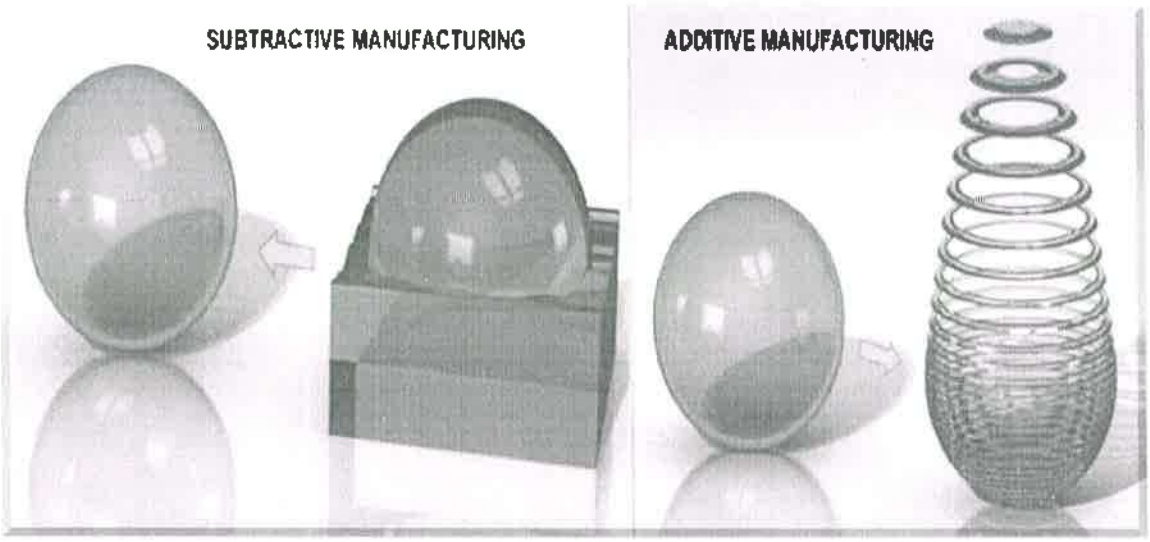
History

- The technology for printing physical 3D objects from digital data was first developed by Charles Hull in 1984.
- He named the technique as Stereo lithography and obtained a patent for the technique in 1986.
- By the end of 1980s, other similar technologies such as Fused Deposition Modeling (FDM) and Selective Laser Sintering (SLS) were introduced.
- In 1993, Massachusetts Institute of Technology (MIT) patented another technology, named "3 Dimensional Printing techniques", which is similar to the inkjet technology used in 2D Printers.
- In 1996, three major products, "Genisys" from Stratasys, "Actua 2100" from 3D Systems and "Z402" from Z Corporation, were introduced.
- In 2005, Z Corp. launched a breakthrough product, named Spectrum Z510, which was the first high definition color 3D Printer in the market.

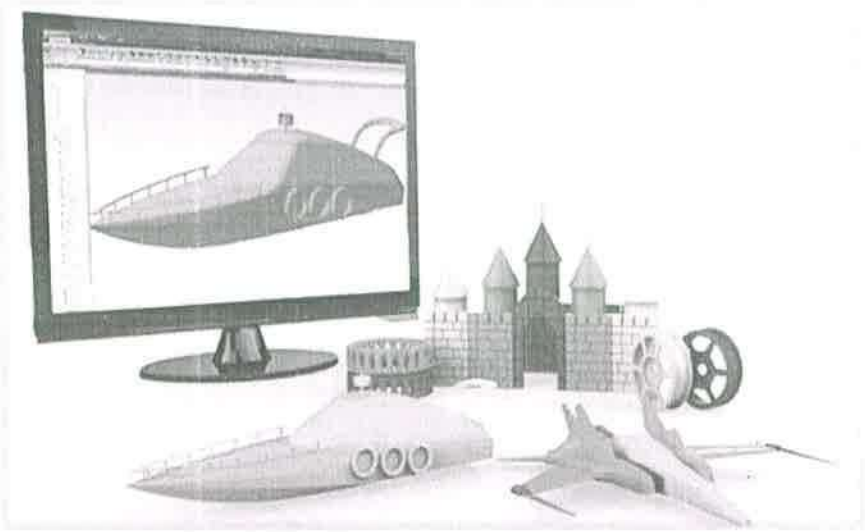
Terminology

- **Additive manufacturing** - refers to technologies that create objects through sequential layering.
- **Rapid prototyping** - is a group of techniques used to quickly fabricate a scale model of a physical part or assembly using three-dimensional computer aided design (CAD) data.
- **Subtractive processes** - removal of material by methods such as cutting or drilling.
- **Stereolithography** was defined by Charles W. Hull as a "system for generating three-dimensional objects by creating a cross-sectional pattern of the object to be formed"

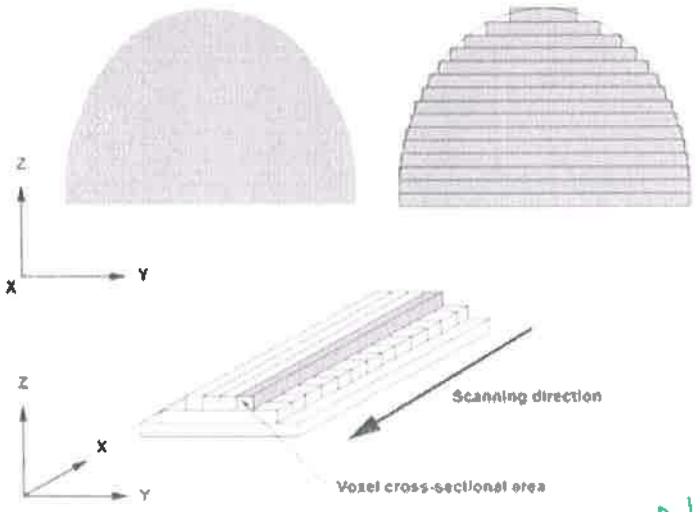


3D Printable Models

- 3D printable models may be created with a computer aided design package or via 3D scanner.
- The manual modeling process of preparing geometric data for 3D computer graphics is similar to plastic arts such as sculpting.
- 3D scanning is a process of analyzing and collecting data of real object; its shape and appearance and builds digital, three dimensional models.



Rapid Prototyping Slicing



Printing

- To perform a print, the machine reads the design from 3D printable file (STL file).
- STL file – STereoLithography
- It lays down successive layers of liquid, powder, paper or sheet material to build the model from a series of cross sections.
- These layers, which correspond to the virtual cross sections from the CAD model, are joined or automatically fused to create the final shape.
- Printer resolution describes layer thickness and X-Y resolution in dpi (dots per inch), or micrometers.
- X-Y resolution is comparable to that of laser printers.
- The particles (3D dots) are around 50 to 100 µm (510 to 250 DPI) in diameter.

Finishing

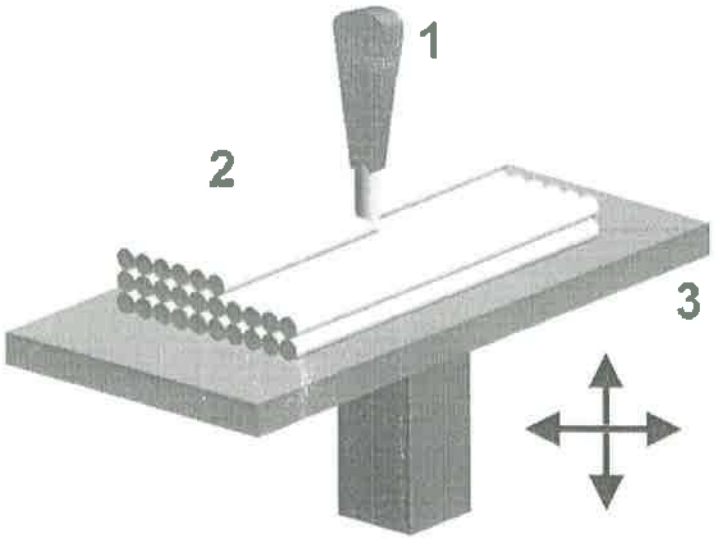
- Though the printer-produced resolution is sufficient for many applications, printing a slightly oversized version of the desired object in standard resolution and then removing material with a higher-resolution subtractive process can achieve greater precision.
- Supports are removable or dissolvable upon completion of the print, and are used to support overhanging features during construction.

Additive Processes

- Extrusion deposition (Fused deposition modeling)
- Granular materials binding
- Lamination
- Photopolymerization
- Mask-image-projection-based stereolithography

Extrusion deposition (Fused Deposition Modeling)

- Fused deposition modeling (FDM) is an additive manufacturing technology commonly used for modeling, prototyping, and production applications.
- FDM works on an "additive" principle by laying down material in layers; a plastic filament or metal wire is unwound from a coil and supplies material to produce a part.
- Various polymers are used
  - Acrylonitrile Butadiene Styrene (ABS)
  - Polycarbonate (PC),
  - Polylactic Acid (PLA)
  - High Density Polyethylene (HDPE)
  - PC/ABS
  - Polyphenylsulfone (PPSU).



1 - nozzle ejecting molten plastic
2 - deposited material (modeled p
3 - controlled movable table

Granular Materials Binding

- The technique fuses parts of the layer, and then moves the working area downwards, adding another layer of granules and repeating the process until the piece has built up.

- This process uses the unfused media to support overhangs and thin walls in the part being produced.

- A laser is typically used to sinter the media into a solid.

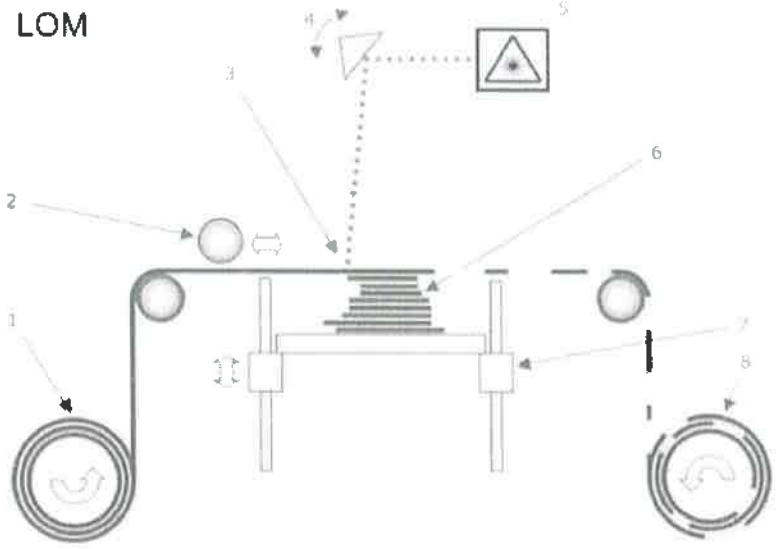
Granular Materials Binding

- Selective Laser Sintering (SLS) -- uses lasers as its power source to sinter powdered material, binding it together to create a solid structure.
- Selective Laser Melting (SLM) – uses 3D CAD data as a digital information source and energy in the form of a high powered laser to create three-dimensional metal parts by fusing fine metallic powders together.
- Electron beam melting (EBM) – EBM manufactures parts by melting metal powder layer by layer with an electron beam in a high vacuum.

Lamination

- Sheet is adhered to a substrate with a heated roller.
- Laser traces desired dimensions of prototype.
- Laser cross hatches non-part area to facilitate waste removal.
- Platform with completed layer moves down out of the way.
- Fresh sheet of material is rolled into position.
- Platform moves up into position to receive next layer.
- The process is repeated.

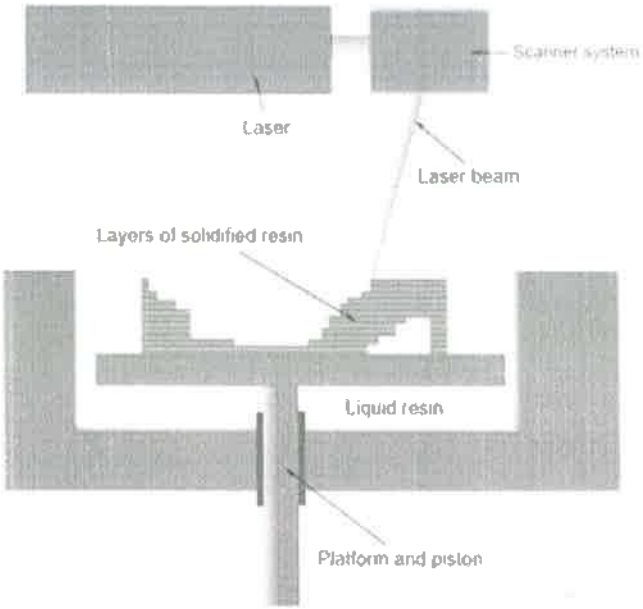
LOM



1. Foil supply
2. Heated roller
3. Laser beam
4. Scanning prism
5. Laser unit
6. Layers
7. Moving platform
8. Waste

Photopolymerization

- Photopolymerization is primarily used in stereolithography (SLA) to produce a solid part from a liquid.
- In Digital Light Processing (DLP), a vat of liquid polymer is exposed to light from a DLP projector under safelight conditions. The exposed liquid polymer hardens.
- The build plate then moves down in small increments and the liquid polymer is again exposed to light.
- The process repeats until the model has been built.
- Inkjet printer systems like the Objet PolyJet system spray photopolymer materials onto a build tray in ultra-thin layers (between 16 and 30 μm) until the part is completed.

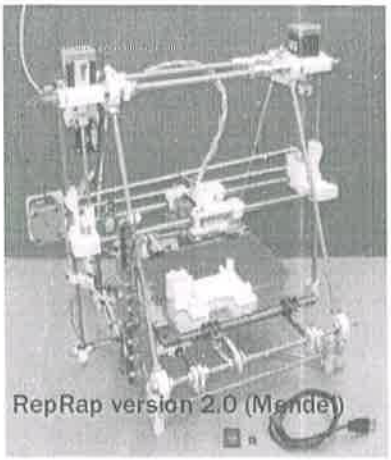


Stereolithography Apparatus

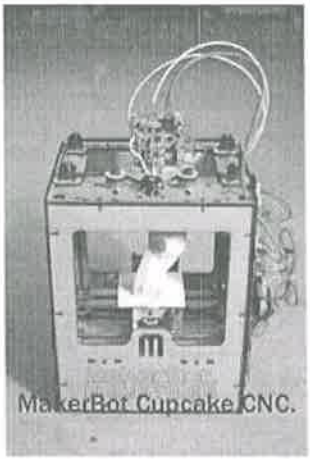
Mask-image-projection-based stereolithograph

- In this technique a 3D digital model is sliced by a set of horizontal planes.
- Each slice is converted into a two-dimensional mask image.
- The mask image is then projected onto a photocurable liquid resin surface.
- Light is projected onto the resin to cure it in the shape of the layer.

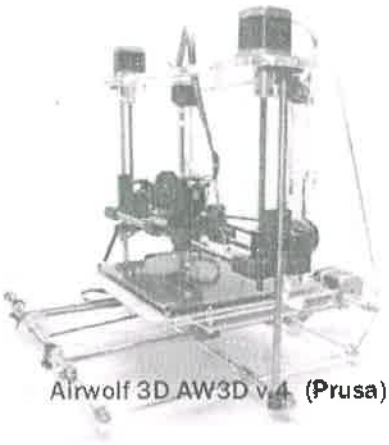
Printers



RepRap version 2.0 (Mendel)



MakerBot Cupcake CNC.



Airwolf 3D AW3D v.4 (Prusa)

Applications

Industrial uses

Rapid Prototyping

Rapid Manufacturing

Mass Customization

Mass Production

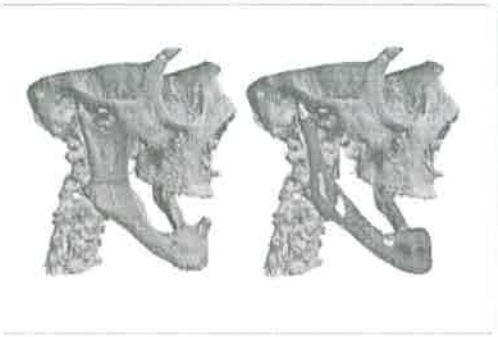
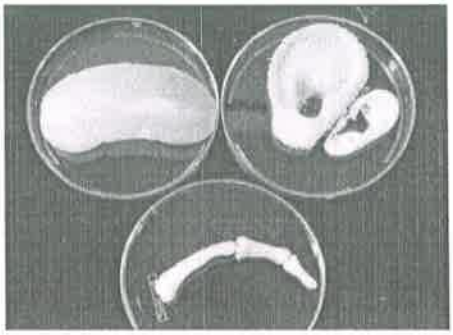
Domestic and hobbyist uses

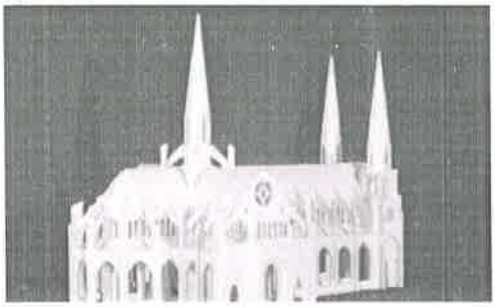
Clothing

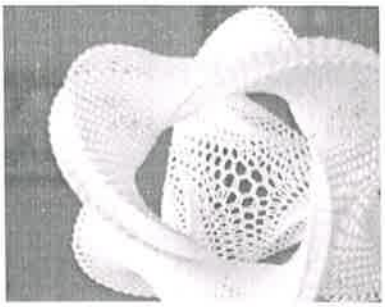
3D Bio-printing

3D Printing For Implant And Medical Device

3D Printing Services





Future

- Future applications for 3D printing might include creating open-source scientific equipment to create open source labs.
- Science-based applications like reconstructing fossils in paleontology.
- Replicating ancient and priceless artifacts in archaeology.
- Reconstructing bones and body parts in forensic pathology.
- Reconstructing heavily damaged evidence acquired from crime scene investigations.
- The technology currently being researched for building construction.

Effects of 3D printing

Space exploration

- Making spare parts on the fly
- Cheaper and more efficient space exploration

Social change

- Conventional relationship between the home and the workplace might get further eroded.
- It becomes easier to transmit designs for new objects around the globe.

Challenges

- Intellectual property rights of the 3D printer users.
- Nearly anything can be printed by 3D printers and this is troubling prospect if criminals use 3D printers to create illegal products.
- Firearms could be downloaded and reproduced by anybody with a 3D printer.

Conclusion

3D Printing technology could revolutionize and re-shape the world. Advances in 3D printing technology can significantly change and improve the way we manufacture products and produce goods worldwide.

If the last industrial revolution brought us mass production and the advent of economies of scale - the digital 3D printing revolution could bring mass manufacturing back a full circle - to an era of mass personalization, and a return to individual craftsmanship.

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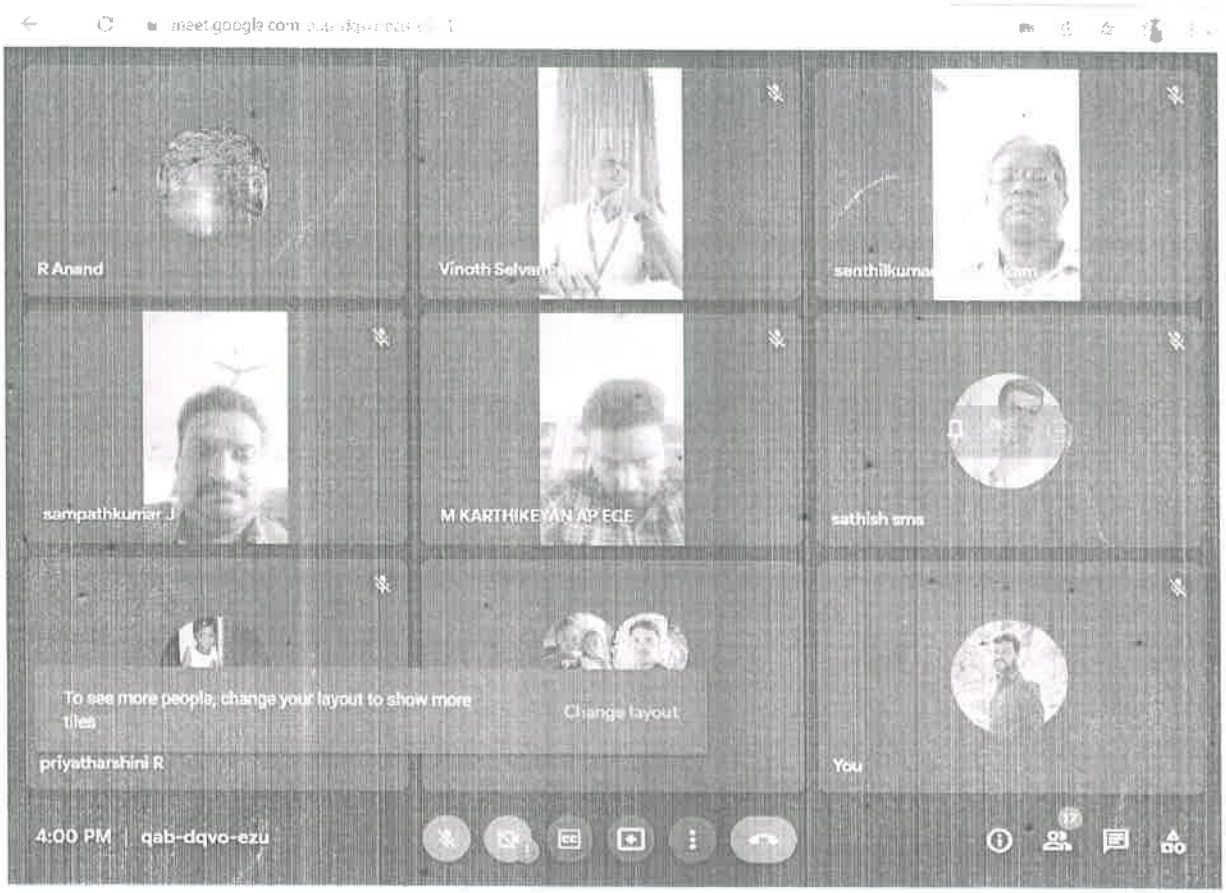

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"KNOWLEDGE SHARING FORUM "

03-APR-2021 at 10:00 a.m. in Google Meet

Presented by

Mr.R.CHANDIRAN

Assistant Professor, MCT

Topic: AUTOMATIC GUIDED VEHICLE

Will be the resource persons

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DEPARTMENT OF MECHATRONICS ENGINEERING

KNOWLEDGE SHARING FORUM

Topic: **AUTOMATIC GUIDED VEHICLE**

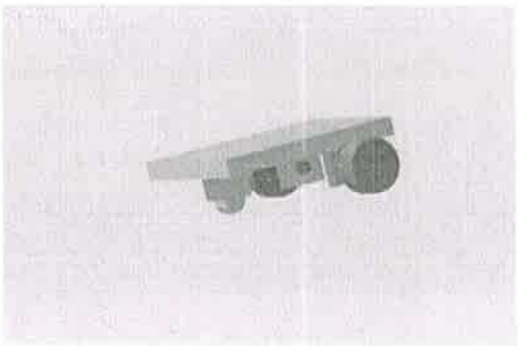
Presented by
Mr.R.CHANDIRAN
Assistant Professor, MCT

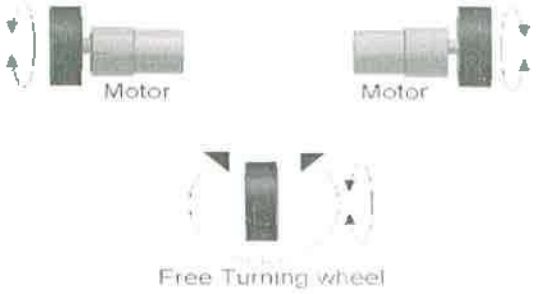
Introduction

- An automated or Automatic guided vehicle system is material handling system .which are programmed for moving in different paths on the factory floor.
- The vehicle are powered by manes of an electric motor.
- AGVs can carry the load from one work station to another workstation.
- The AGV is a key component to chive the objectives of FMS.

Components of AGV

- Mechanical component





- Electrical component
- Electronic component

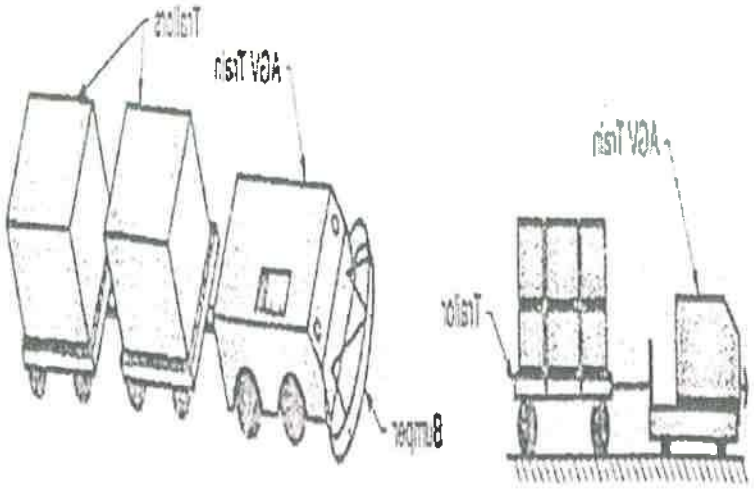
Classification of AGV

1. Driverless trains or towing vehicles
2. AGVS pallet trucks
3. AGVS unit load carries
4. Fork trucks

1. Driverless trains or towing vehicles

- It was first types of AGVS which has been introduced
- The primary faction of this vehicle is pull the trailers up to 2500 kg at speed up to 5 km/hr
- main application includes in the bulk movement of the product into out of the warehouse .

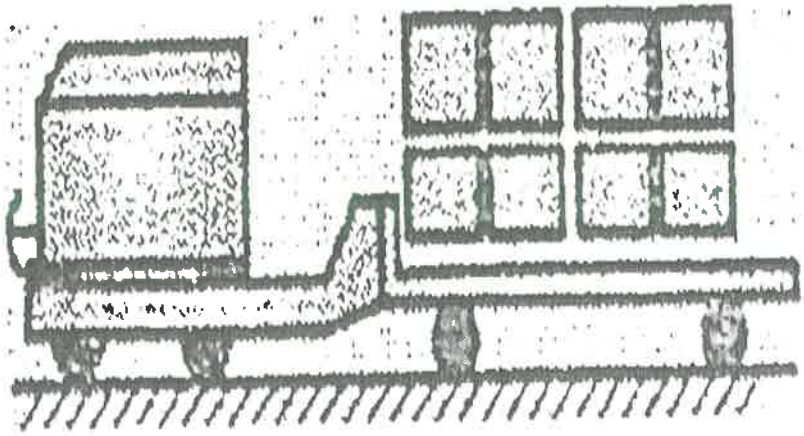
Towing vehicle



2. AGVS pallet trucks

- The AGV pallet truck vehicles are loaded in terms of pallet by human workers with arranging on weight parameters .
- The component are dispatched with different location based on weight parameters and process are completely automated.

AGVS pallet trucks



3. AGVS unit load carries

- Unit load carriers move the loads from one station to another station.
- Powered rollers, moving belt, mechanized lift platform, and other device are attached to this type AGVs.

- There are two types of unit load carries

1. Light load AGVs

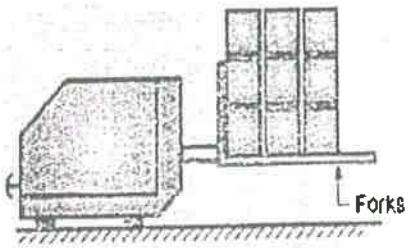
2. Assembly line AGVs

Light load AGVs

Assembly line AGVs

4. Fork trucks

- Fork truck type AGVs is consiste of forks to lift the objects.
- They are commonly employed in a place where storage of parts are at elevated heights.
I



Advantages of AGVs

- Reduction in direct labor
- Utilization of less floor space during material handling.
- Better control of material flow and inventory.
- Improvement in safety records.
- Reduction in product damage.
- Ease of removal and relocation.
- System adaptability and flexibility
- Improved productivity and quality

Disadvantages of AGVs

- Expensive.
- Requirement of specially designed floor space.
- Equal support from workers is required.
- Maintenance is required.
- Sufficient supported from management is required.

Application of AGV

- Flexibility manufacturing system.
- Assembly line operations.
- Raw material handling.
- Driverless train operations.
- Pallet handling.
- Finished product handling
- Trailer loading

Types of navigation in AGVs

1. Guide path navigation

2. Laser target navigation

3. Wired navigation

1. Guide path navigation

- The AGV'S(some known as automated guided carts or AGC'S) use magnetic tape for the guide path
- The AGC'S is fitted with the appropriate guide sensors to follow the path of the tape.

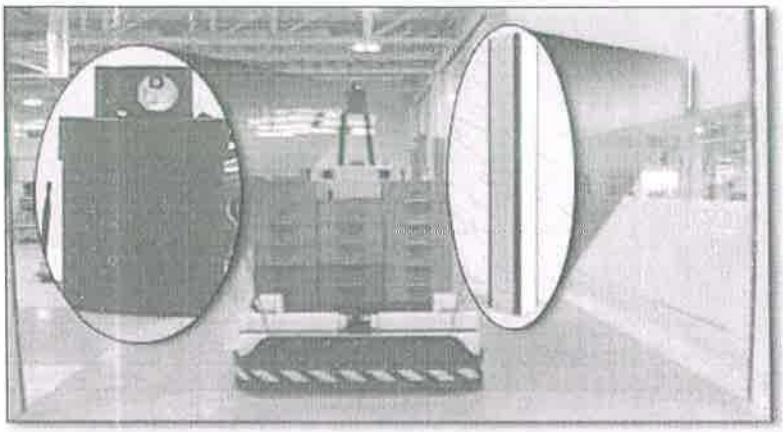
- It is considered a "passive" system since it does not require the guide medium to be energized as wire does

Guide path navigation

Laser target navigation

- The AGV'S carry's a laser transmitter and receiver on a rotating turret.
- The laser is sent off then received again the angle and distances are automatically calculated and stored into AGV'S memory
- The AGV'S has reflector map stored in memory and can correct its position based on errors between the expected and received measurements.

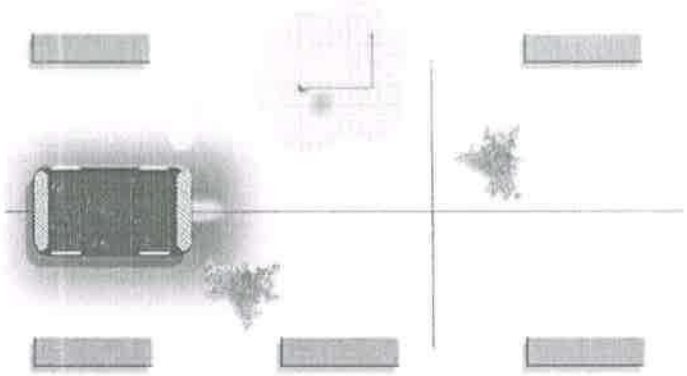
Laser target navigation



Wired navigation

- The wired sensor is placed on bottom of the AGV'S and is placed facing the ground.
- A slot is cut in the ground and a wire is placed approximately 1 inch below the ground.
- The sensors detects the radio frequency being transmitted from the wire and follows it.

Wired navigation



AGVs control system

1. Computer controlled system

2. Remote dispatch control system

3. Manual control system

3.Manual control system

- The destination is fed on the onboard control on the vehicle a human operator.
- after loading the vehicle moves through the guide path for the destination by itself.
- reaching the destination it stops for the human operator to direct loading least expensive control system efficiency depends on operator performance .

Case study: Towards an Automated Guided Vehicle (AGV) in Sprinkler Irrigation

- **Abstract**
- The new technology plays a more important role in improving the productivity over the agricultural industry.
- This paper is explained details about the sprinkler irrigation method to decrease the man power defects as well as save energy and time in sprinkle irrigation method
- develop an automated guided vehicle with capability to change sprinklers timely and an appropriate position for sprinkle irrigation classic method .

Methodology

- In sprinkle irrigation classic system irrigation wings fixed but sprinklers are movable.
- This method has easier utilization lower expansive and alternative moving compare with other method.
- this method has developed in recent year

- one of the disadvantage of this method the pipes are fixed during the irrigation session but irrigation riser are moved by human labor with the sprinkles which are installed on each raiser.
- In this situation automated guide vehicle (AGV) to replace the classic sprinkle system

Advantages and disadvantage of this method is

- High quality of irrigation is achieved.
- It careful control the irrigation process.
- Replace the human power

1. High cost of construction
2. The problem associate with assembly and disassembly after harvesting period.

Result

- In convention irrigation method during each irrigation period (6hours), one hours loss for changing the sprinkler. The losing time in day is equal to 4 hours, this is eliminated by using AGV equipped irrigation method

Conclusion

- This paper explained about the irrigation and its methods .two categories has been explained briefly
- the first method is include some traditional method and second method include modern method
- By using modern method encountered such as moving the sprinklers with human labor and also saves the time

Case Study: Automated Guided Vehicle Trans Car in AKA hospital

- **The customer**

  AKA hospital has more than 1 000 employees, 614 beds and provides medical and surgical care to 16 000 in patients and 20000 outpatients yearly in 13 specialized

- **The Challenge**

  While seeking for cost saving potential, the hospital came across material management and logistics processes.

  Therefore, AKA hospital required a system for automated transports of linen, waste, medical, and sterile goods, combined with easy modifications of the transport routes or schedules.

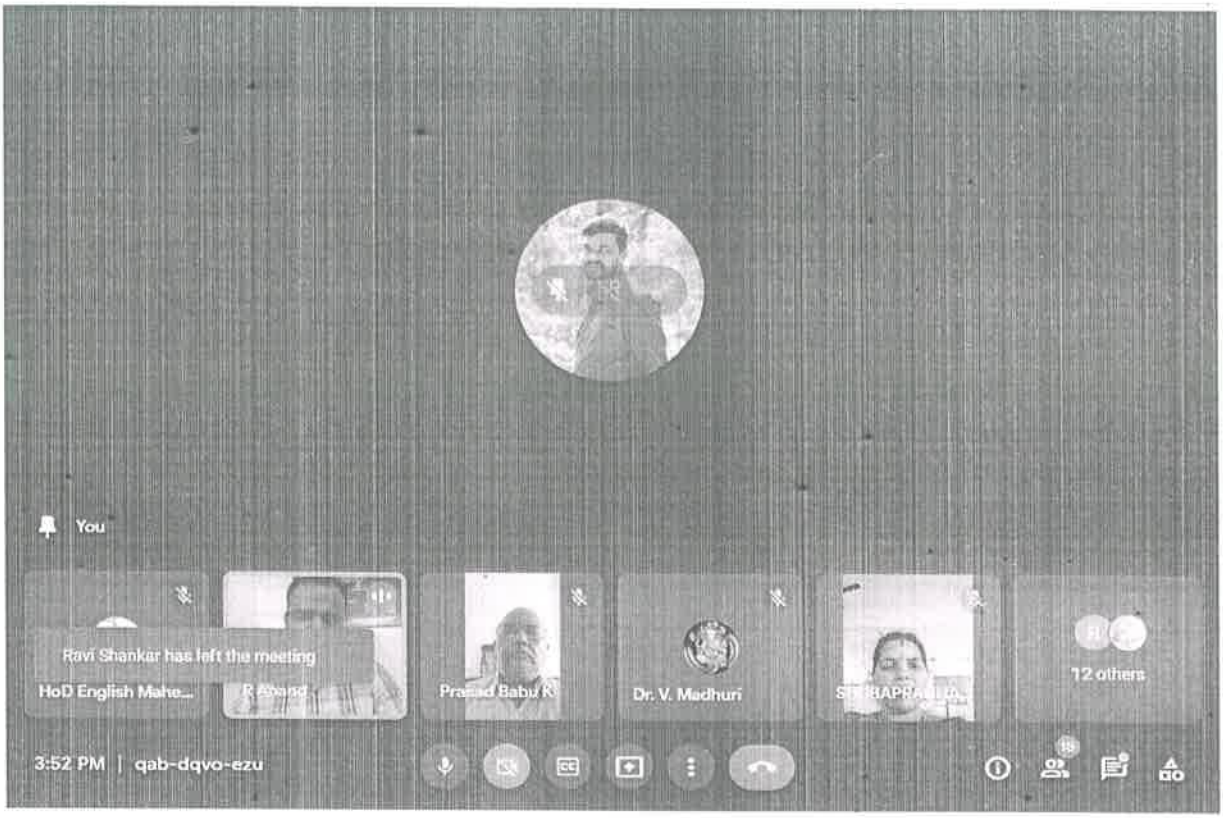
- **The Solution**
- Over the last years, AKA was highly satisfied with the use of the former AGV system Trans Car LTC 1
- AGV system was realized in two phases The first phase impletemented the transport of food and sterile goods containers.
- while during the second phase, the transport of linen and waste containers was implemented.

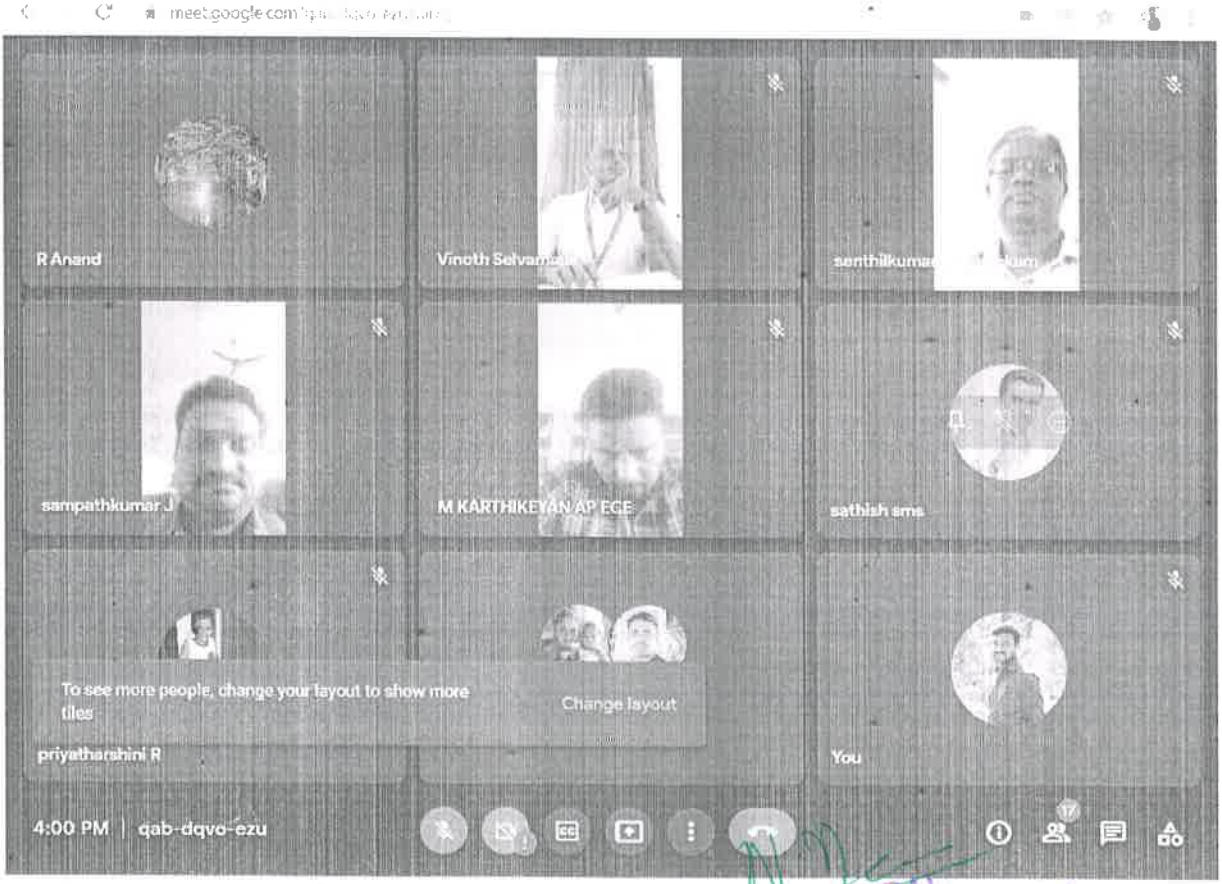
Result

- Cost reduction for internal logistics processes
- Transparency and control of delivery status
- Just-in-time delivery of material

Reference

- Automation textbook **Mikall P.Grovver**, Computer Integrated Manufacturing textbook by **Bharat vinjamuri**
- Journal of Chemical and Pharmaceutical Science Automate Guided Vehicle **Dhamodharan P*, Dinesh S**
- International journal of environment science and development,vol4,No.5,October 2013 Towards an Automated Guided Vehicle (AGV) in Sprinkler Irrigation **Saeid Jafari, Reza Vatankhah Barenji, and Majid Hashemipour**
- Flexible manufacturing system textbook **H.K Shivanand**





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Mahendra Salem Campus

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COLLEGE OF ENGINEERING

Affiliated to Anna University and Approved by AICTE

The Management, Principal, Faculty

Cordially invite you to the

"KNOWLEDGE SHARING FORUM "

10-JUL-2021 at 10:00 a.m. in Google Meet

Presented by

Mr.M.SENTHILKUMAR

Assistant Professor, MCT

Topic: Turbojet Engines

Will be the resource persons

Dr. N.MALMURUGAN

Principal, Mahendra College of Engineering

Will deliver the introductory note

Dr. N.MOHANA SUNDARARAJU

Dean-Academics

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MAHENDRA COLLEGE of ENGINEERING

Salem-campus, attur main road, minnampalli, salem -636 106.

DEPARTMENT OF MECHATRONICS ENGINEERING

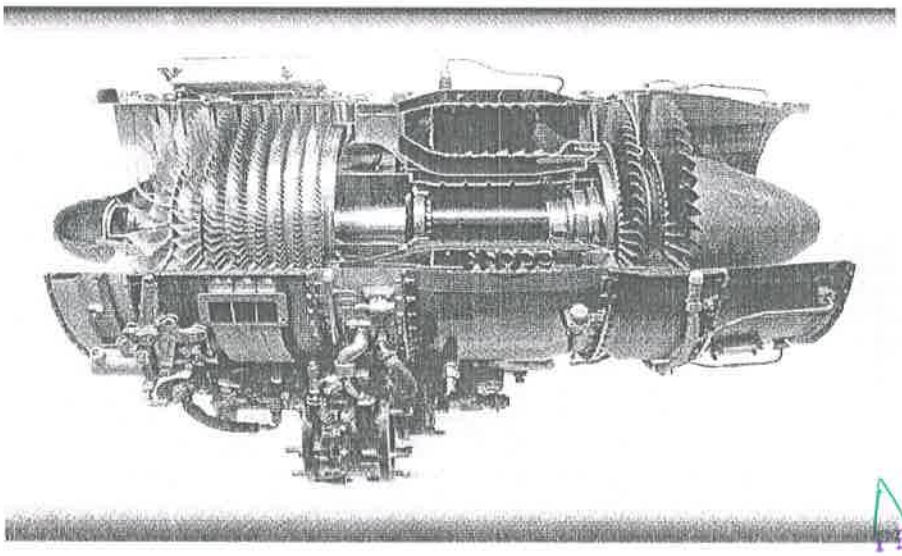
KNOWLEDGE SHARING FORUM

Topic: ***TURBOJET ENGINES***

Presented by

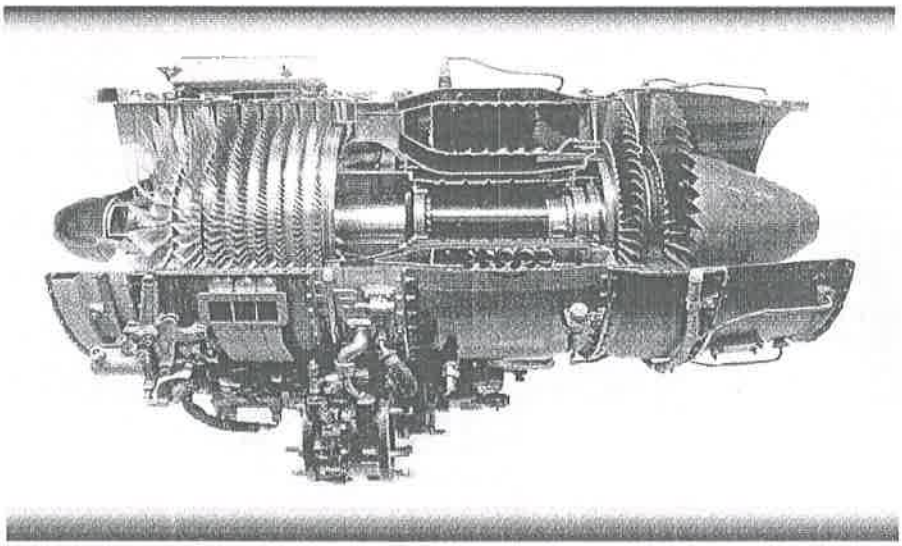
Mr.M.SENTHILKUMAR
Assistant Professor, MCT

Turbojets Engines



CONTENTS:

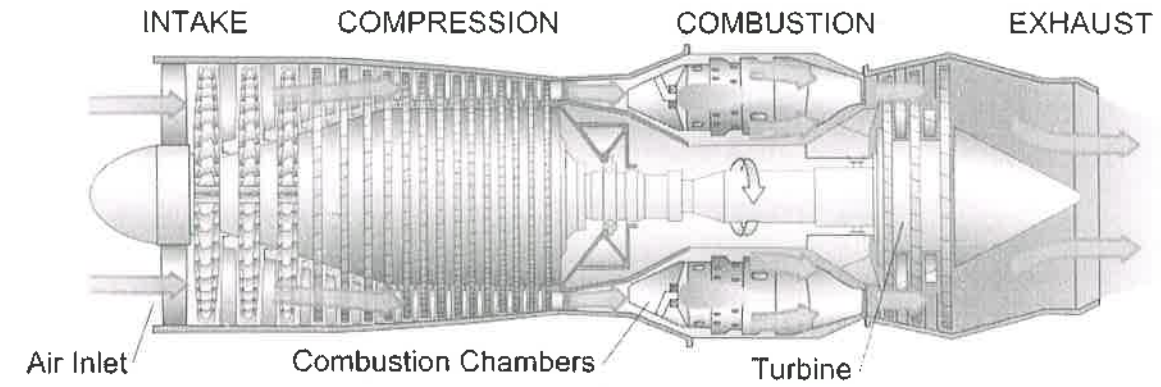
INTRODUCTION:



Turbojets are the oldest kind of general-purpose jet engines.
Turbojets are rotary engines that extracts energy from a flow of combustion gas.

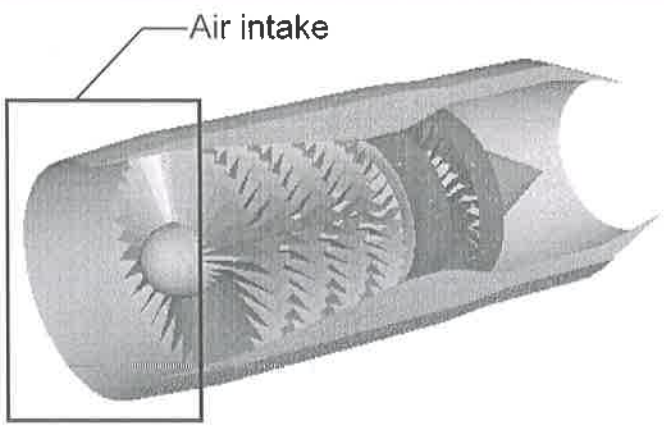
They produce thrust by increasing the velocity of the air flowing through the engine and operate on Newton's third law of motion " For every action there is an equal and opposite reaction".

PRIMARY COMPONENTS:



AIR INTAKE
COMPRESSOR
COMBUSTION CHAMBER
TURBINE
NOZZLE

AIR INTAKE:

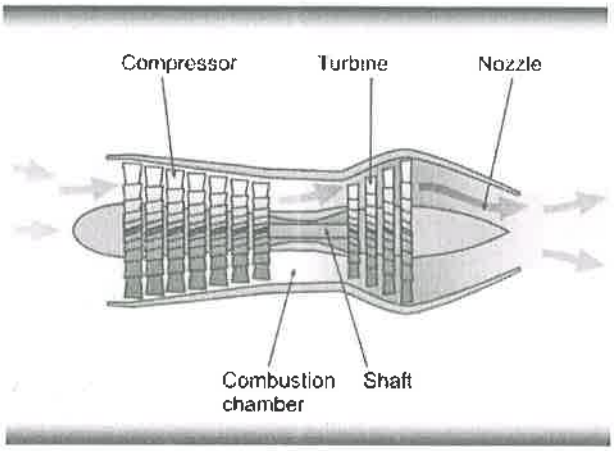


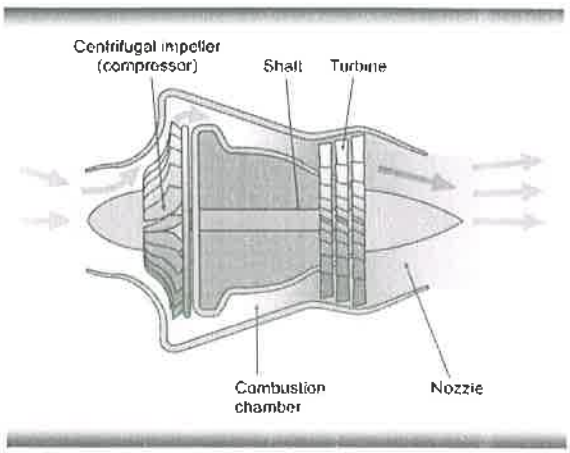
Air intake aims at bringing large amounts of surrounding air into the engine.

A tube-shaped inlet, like one you would see on an airliner usually of cylindrical or conical design.

Inlets come in many shapes and sizes depending on the aircraft.

COMPRESSOR:





The compressor rotates at very high speed, adding energy to the airflow and at the same time squeezing it into a smaller space. Compressing the air increases its pressure and temperature. The compressor is driven by the turbine.

Compressors used in turbojet engines are mainly classified as:

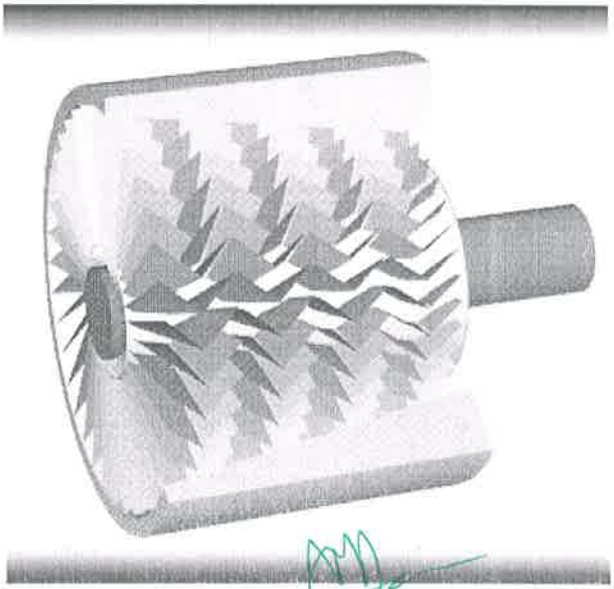
- Axial Flow Compressors.
- Centrifugal Compressors.

COMPRESSOR:

AXIAL FLOW COMPRESSOR:

Axial compressors are rotating, airfoil based compressors in which the working fluid principally flows parallel to the axis of rotation.

Axial compressors consist of a shaft that drives a central drum which has a number of annular airfoil rows attached. These rotate between a similar number of stationary airfoil rows attached to a stationary tubular casing. A pair of rotating and stationary airfoils is called a stage. The cross-sectional area between rotor drum and casing is reduced in the flow direction to maintain axial velocity as the fluid is compressed.

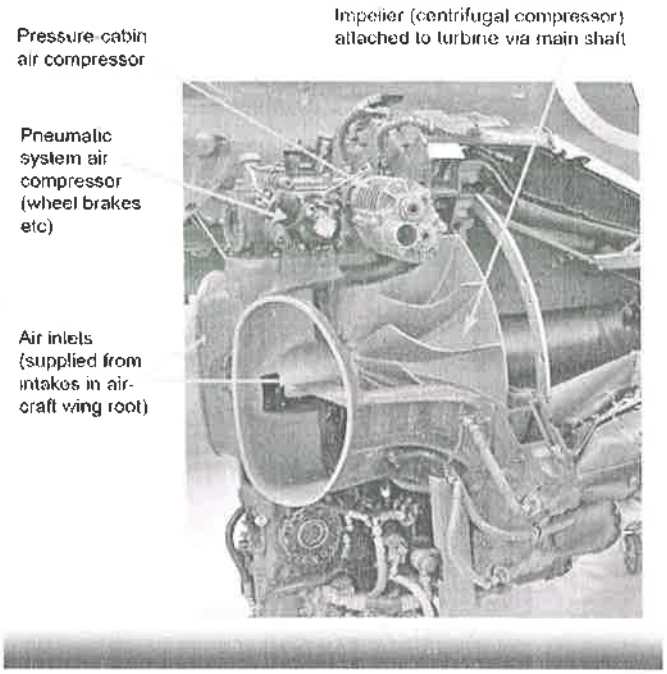


COMPRESSOR:

CENTRIFUGAL COMPRESSOR:

Centrifugal compressors are rotating, airfoil based compressors in which the working fluid principally flows perpendicular to the axis of rotation.

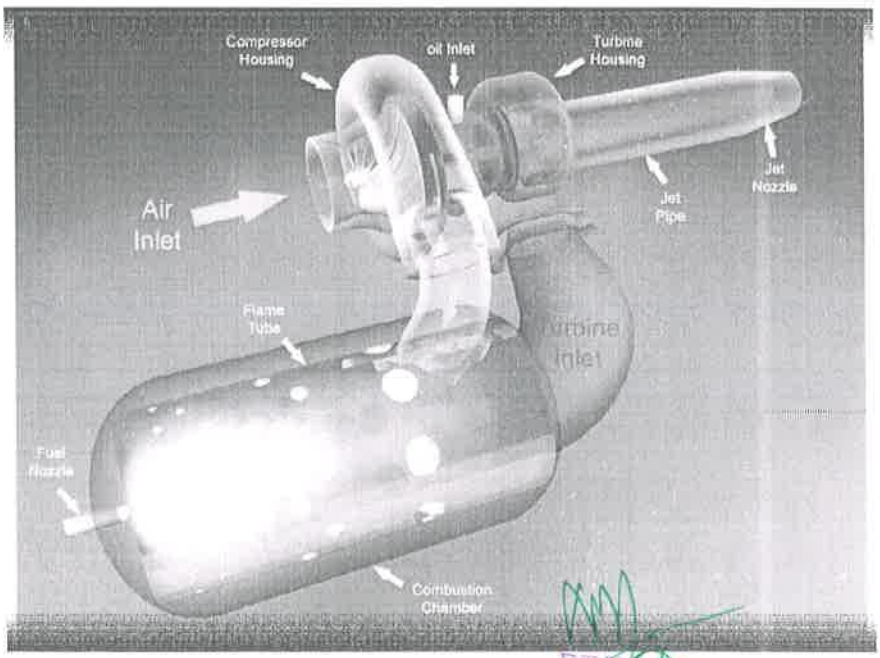
Centrifugal compressors consist of a shaft that drives a impeller which has a number of curved blades.
The impeller rotates in a casing which is designed to convert the kinetic energy of the fluid into pressure energy before leaving the compressor.



COMBUSTION CHAMBER:

In a turbojet the air and fuel mixture passes unconfined through the combustion chamber. As the mixture burns its temperature increases dramatically.

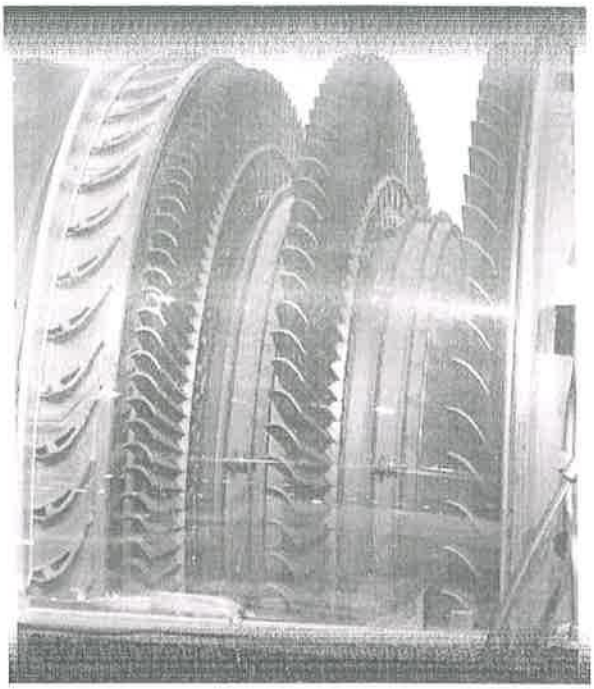
The combustion chamber is usually in the form of cans, which comprise the fuel injector and flame holder.



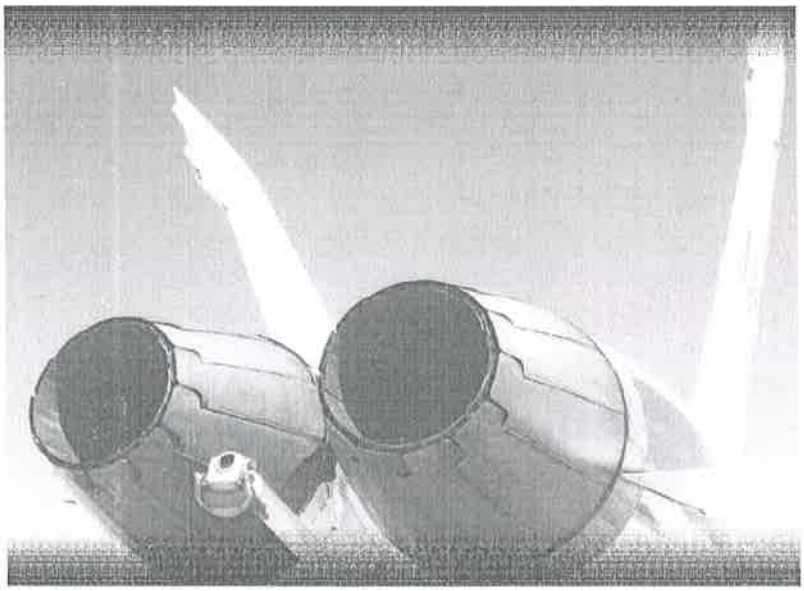
TURBINE:

- Hot gases leaving the combustor are allowed to expand through the turbine. Turbines are usually made up of high temperature metals such as inconel.

- The turbine's rotational energy is used primarily to drive the compressor. and other accessories, like fuel, oil, and hydraulic pumps.
- In a turbojet almost two-thirds of all the power generated by burning fuel is used by the compressor to compress the air for the engine.

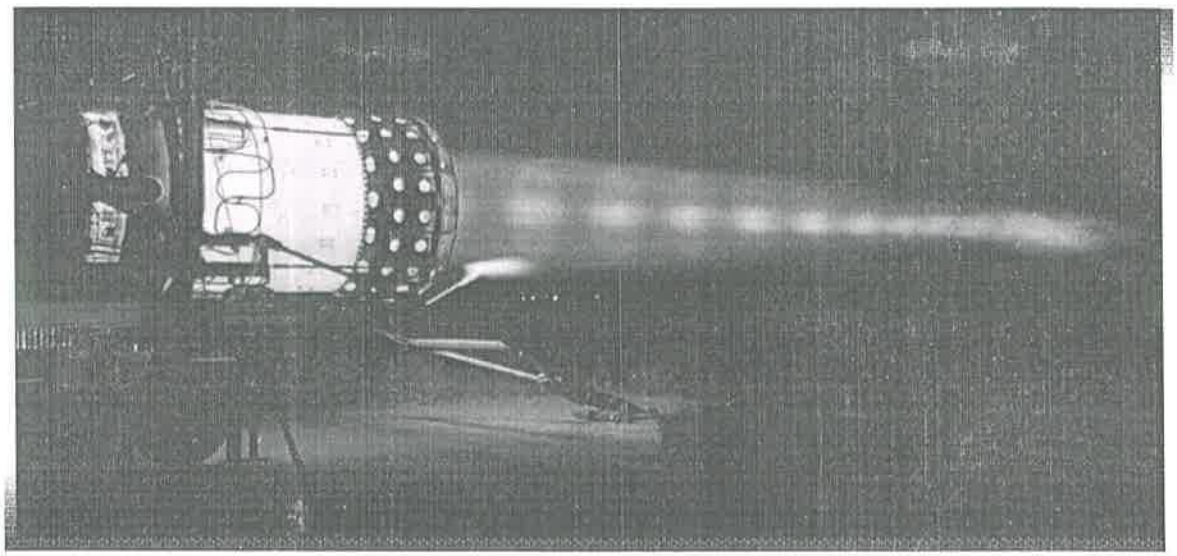


NOZZLE:



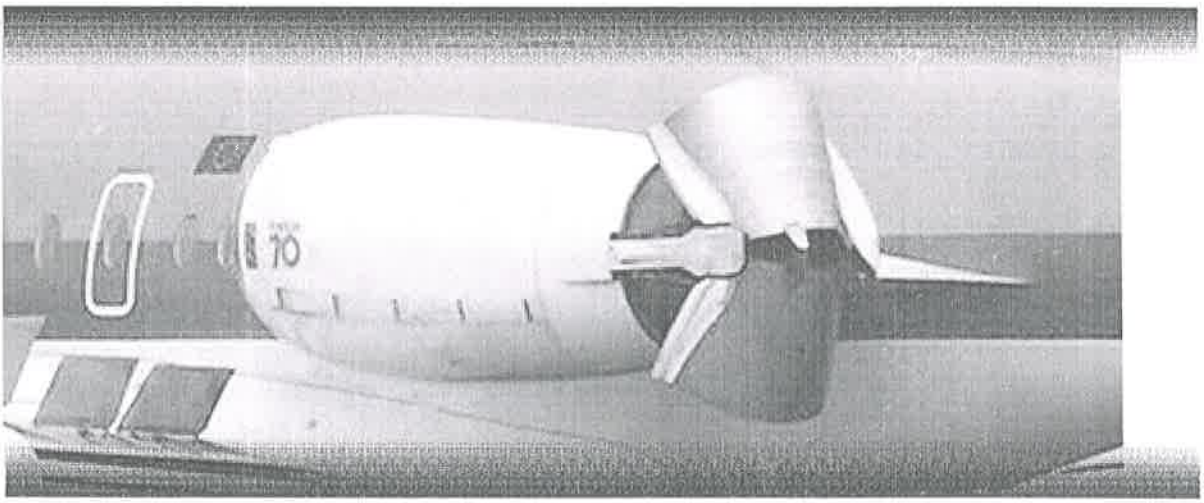
After the turbine, the gases are allowed to expand through the exhaust nozzle to atmospheric pressure, producing a high velocity jet in the exhaust plume.
In a convergent nozzle, the ducting narrows progressively to a throat.

AFTERBURNER:



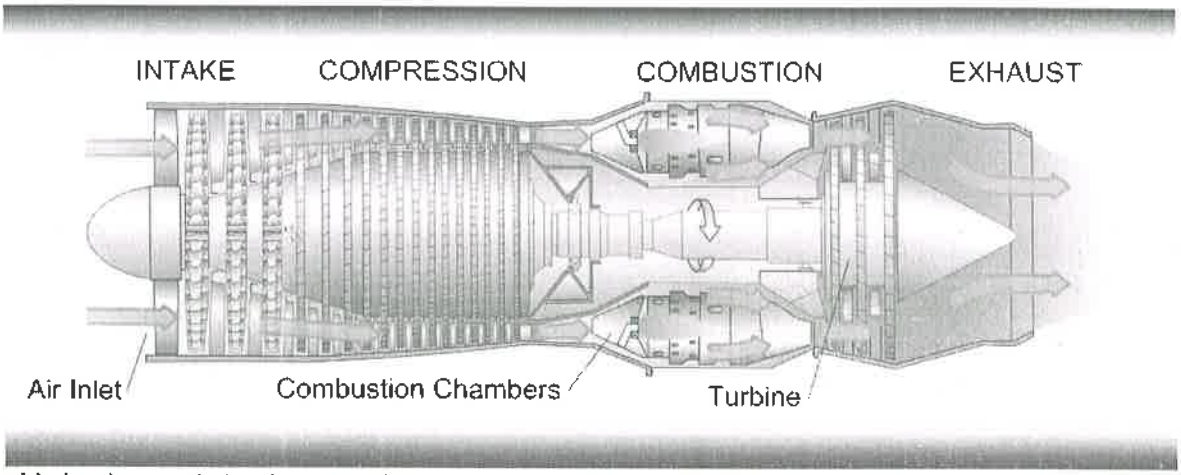
An afterburner or "reheat jet-pipe" is a device added to the rear of the jet engine. It provides a means of spraying fuel directly into the hot exhaust, where it ignites and boosts available thrust significantly; a drawback is its very high fuel consumption rate..

THRUST REVERSER:

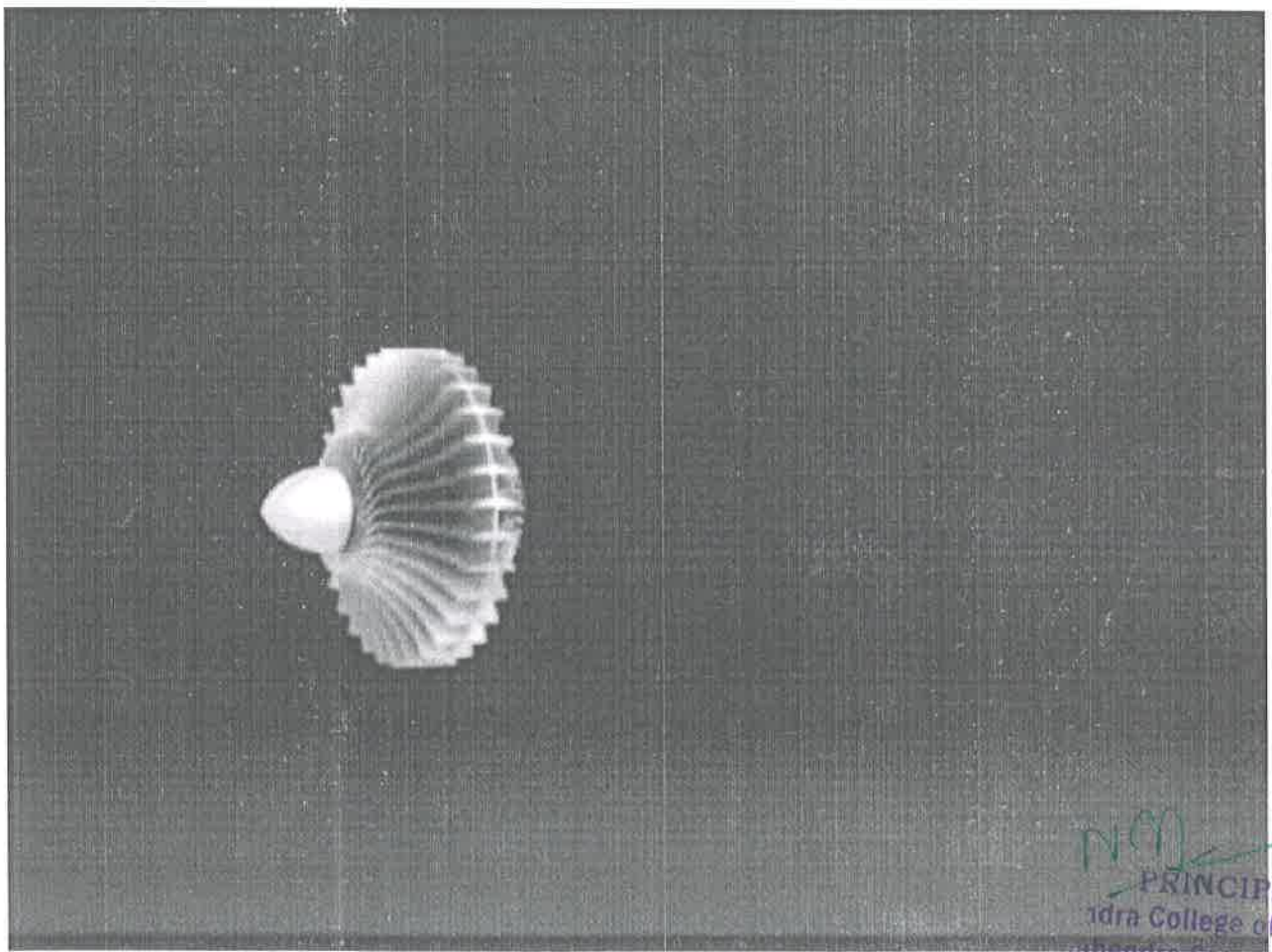


The thrust reverser is, essentially, a pair of clamshell doors mounted at the rear of the engine which, when deployed, divert thrust normal to the jet engine flow to help slow an aircraft upon landing. They are often used in conjunction with spoilers. The accidental deployment of a thrust reverser during flight is a dangerous event that can lead to loss of control and destruction of the aircraft.

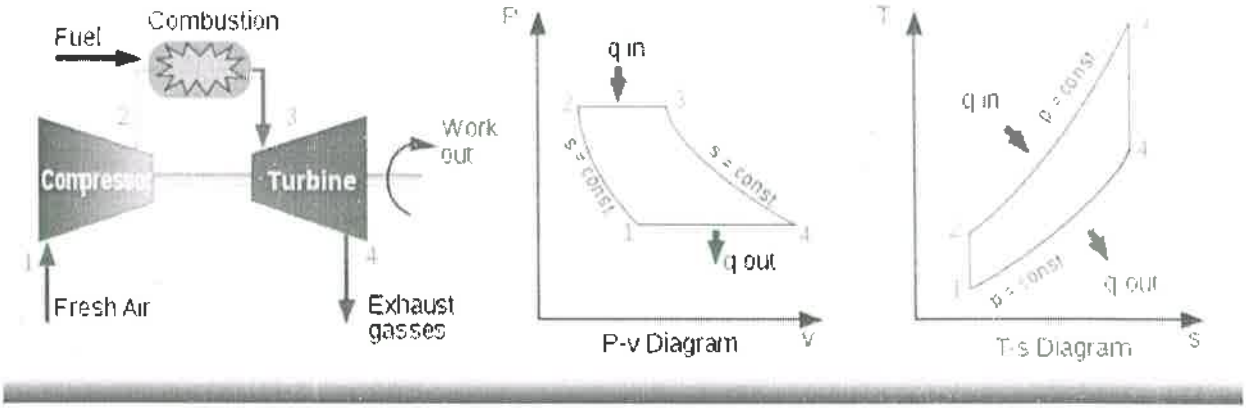
WORKING:



- Air is drawn into the rotating compressor via the intake and is compressed to a higher pressure before entering the combustion chamber.
- Fuel is mixed with the compressed air and ignited by a flame in the eddy of a flame holder.
- Hot combustion products leaving the combustor expand through the turbine where power is extracted to drive the compressor.
- The gas stream exiting the turbine expands to ambient pressure via the propelling nozzle, producing a high velocity jet in the exhaust plume.



BRAYTON CYCLE:



Thermodynamics of a jet engine are modeled approximately by a Brayton Cycle. Ideal Brayton cycle comprise of the following Thermodynamics Processes:

- Isentropic Compression Process.
- Isobaric Heat Addition Process.
- Isentropic Expansion Process.
- Isobaric Heat Rejection Process.

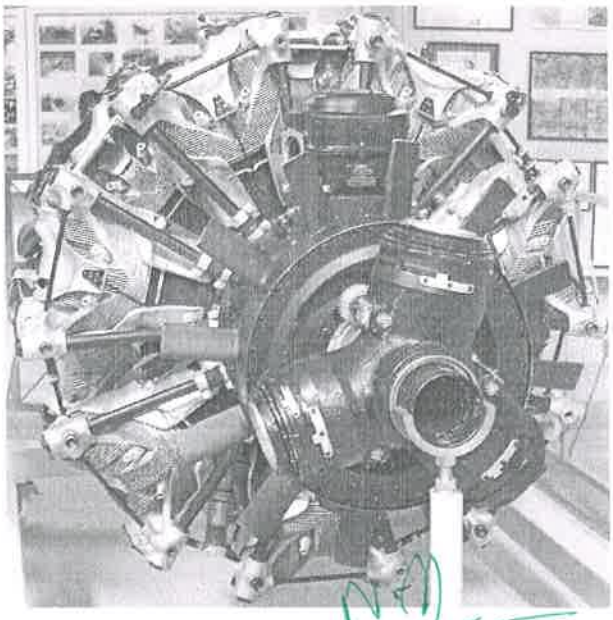
MERITS & DEMERITS:

Merits of Turbojet Engines:

- Very high power-to-weight ratio.
- Compact than most reciprocating engines of the same power rating.
- Fewer moving parts than reciprocating engines.
- Low operating pressures.
- High operation speeds.
- Low lubricating oil cost and consumption.

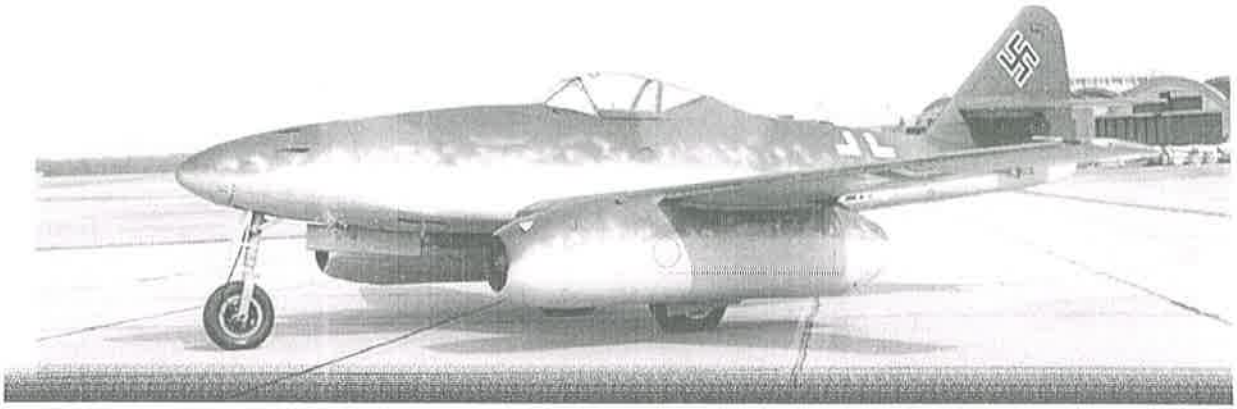
Demerits of Turbojet Engines:

- Cost
- Longer startup than reciprocating engines
- Less responsive to changes in power demand compared to reciprocating engines.



7 CYLINDER BMW 801 AIRCRAFT ENGINE

APPLICATIONS:



THE MESSERSCHMITT Me 262 :

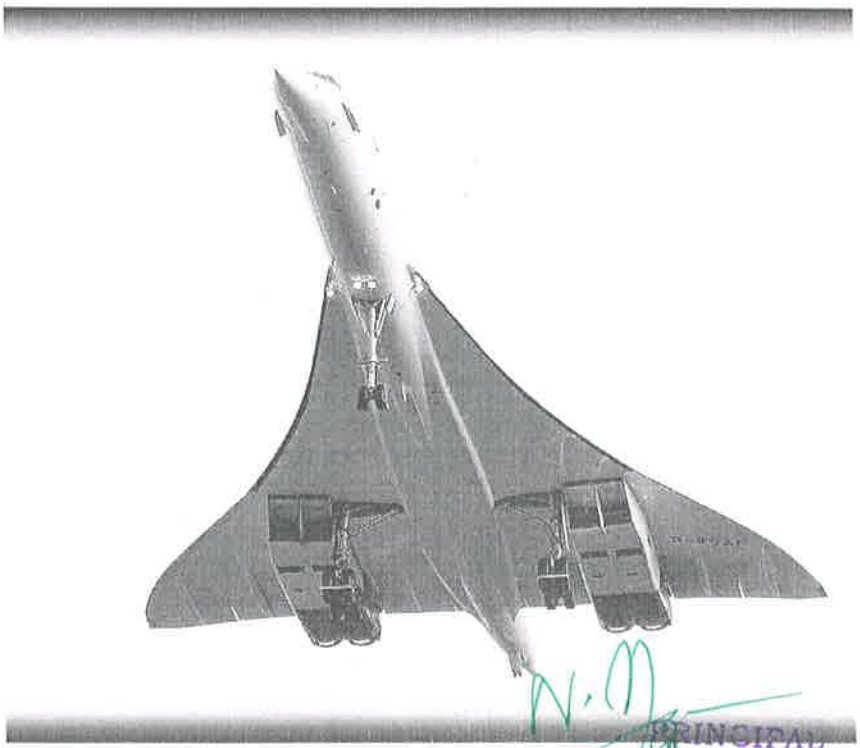
The **Messerschmitt Me 262** was the world's first operational jet-powered fighter aircraft. In combat, when properly flown, it proved to be essentially untouchable, able to outrun its Allied counterparts by as much as 100 mph.

APPLICATIONS:

CONCORDE:-

One of the most recent uses of turbojet engines was the Olympus 593 on Concorde.

Concorde used turbojet engines because it turns out that the small cross-section and high exhaust speed is ideal for operation at Mach 2.



APPLICATIONS:

THRUST 2:

In 1983 the car reached a top speed of 650.88 mph (1,047.49 km/h) and broke the record at 633.468 mph (1,019.468 km/h). It is powered by a single Rolls-Royce Avon jet engine sourced from an English Electric Lightning.

THANK YOU

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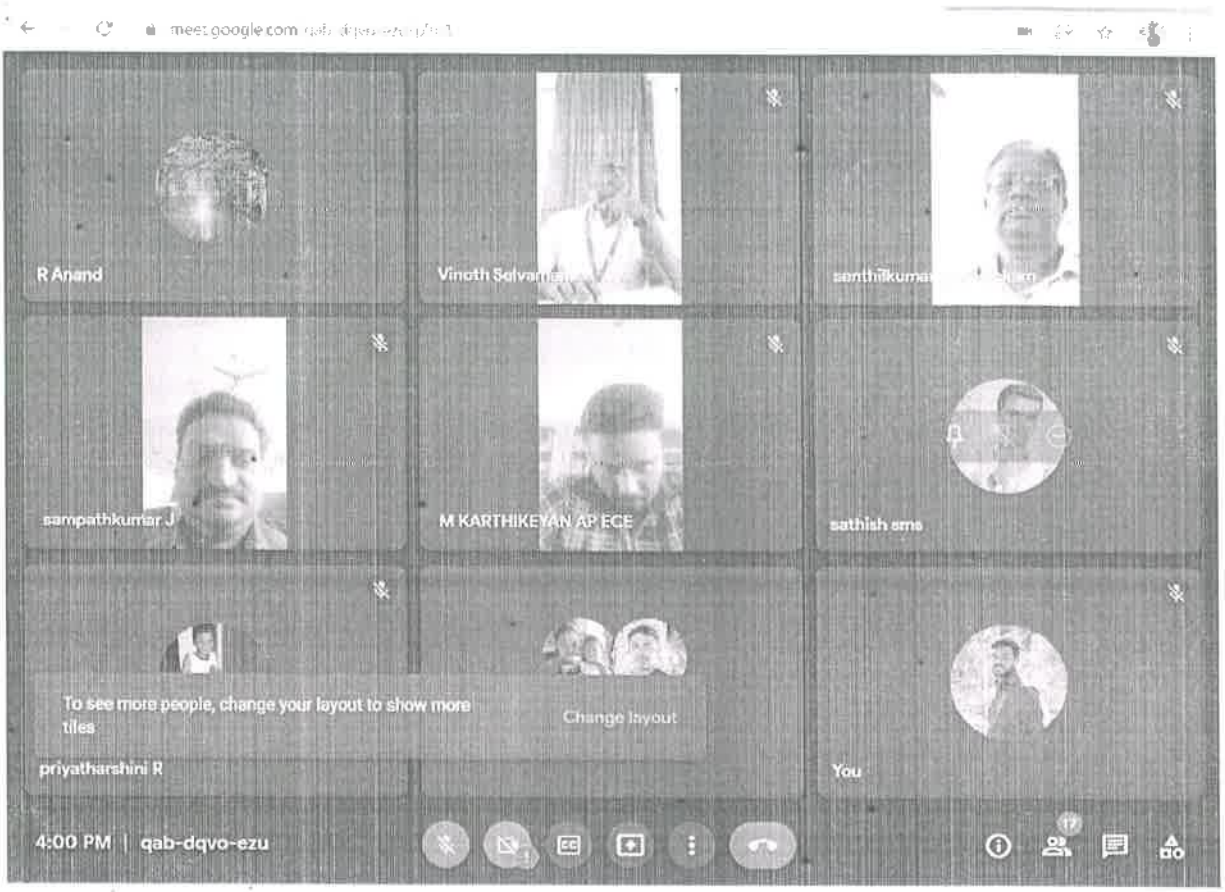

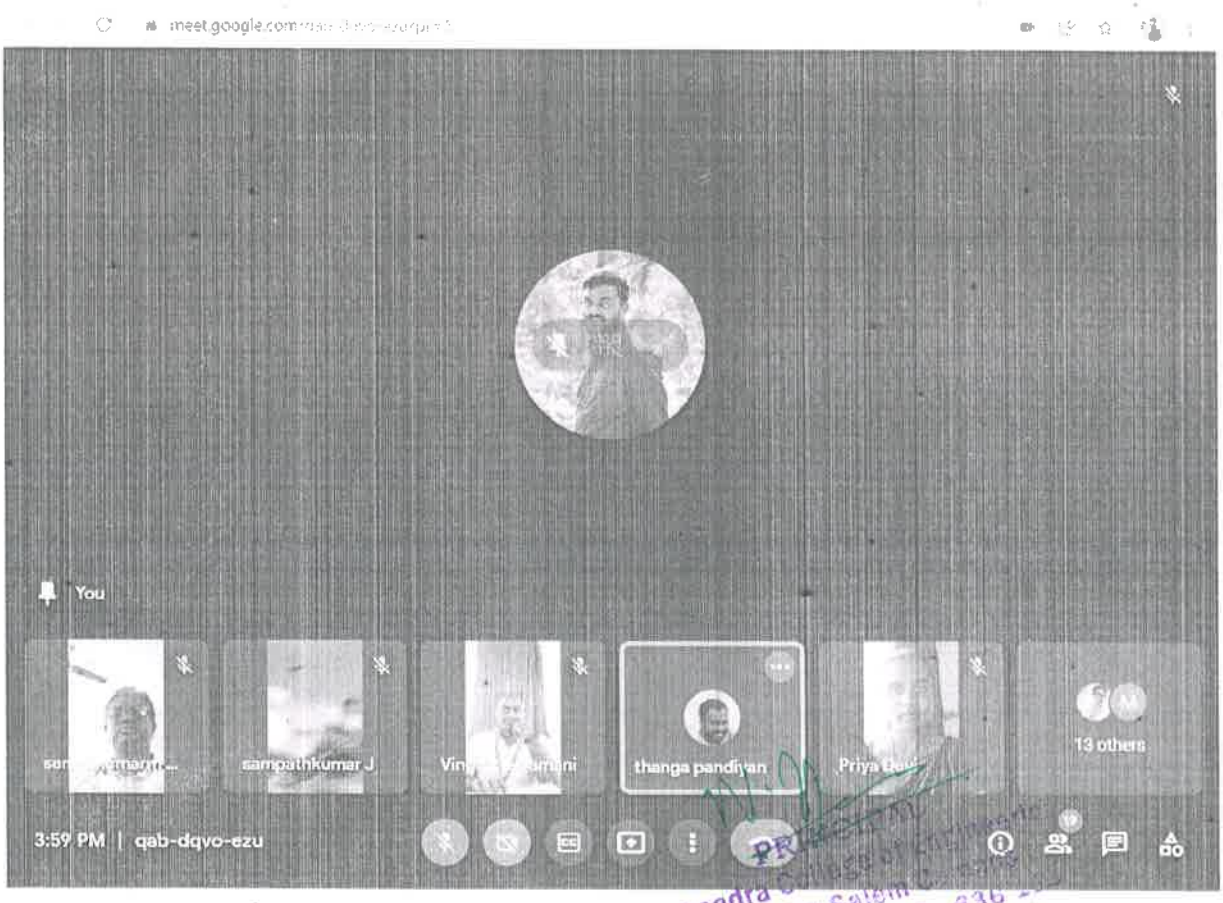

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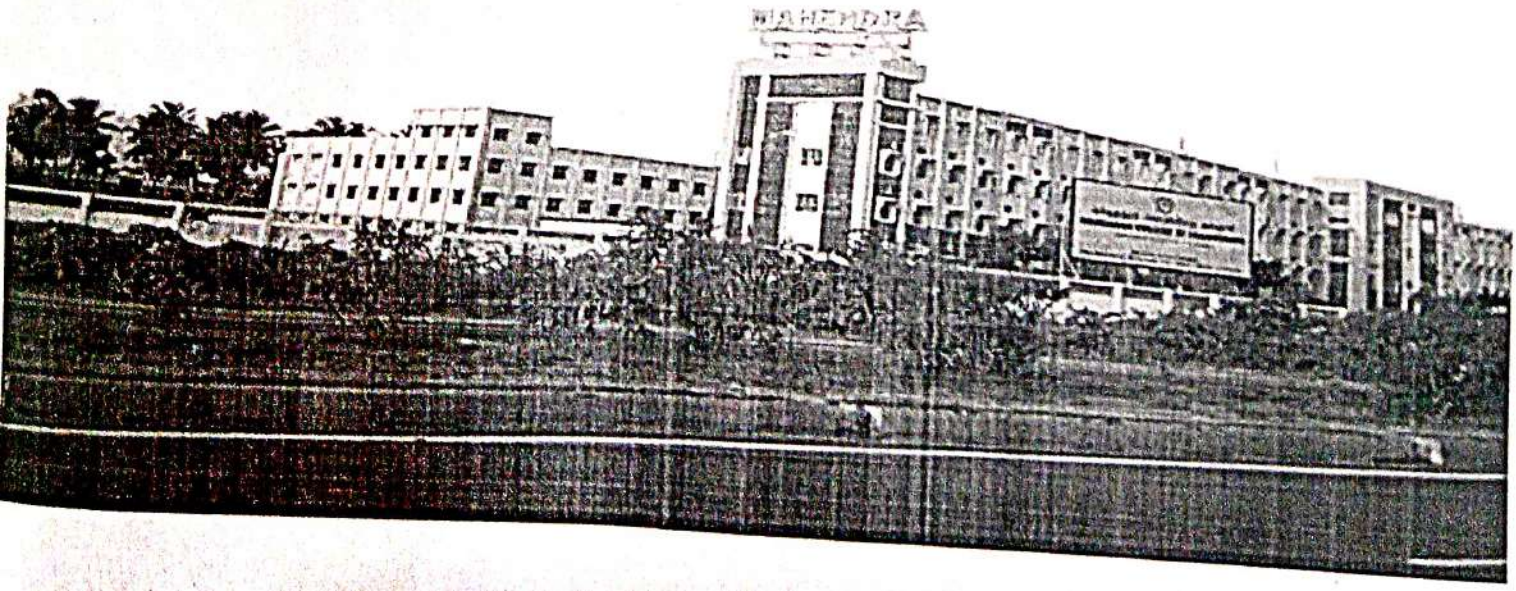
Salem – 636 106

DEPARTMENT OF BIOMEDICAL ENGINEERING

KNOWLEDGE SHARING FORUM



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Department of Biomedical Engineering

KnowlegdeSharing Forum

S.No	Date	Session	Name of the Presenter	Nameof theTitle
1	22.08.2020	FN	Mr.A.T.PriyeshKumar,AP/BME	Block Chain Technology
2	20.03.2021	FN	Ms.G.Shyamala,AP/BME	5G Technology
3	21.08.2021	FN	Mr.S.Vinoth.,AP/BME	Engineering Forensic Science

23/8/21

HoD-BME

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KNOWLEDGE SHARING FORUM

One of our successful best practices, Knowledge Sharing Forum ,will commence from 06.06.2020(Saturday).For better understanding to the newly joined faculty members ,this practice is again explained below.

Knowledge Sharing Forum is a platform through which knowledge (namely,information,skillsor,expertise) is exchanged among people in the institution.

Faculty members are invited to step outside their usual routine and engage in the sharing of ideas with their Colleagues. Benefits and strengths:

- You can present a lot of information.
- People focus on what interests them.
- There is immediate interaction with the presenter.
- Excellent for networking.
- Establishes contacts for the future.
- strengthen their team spirit and ability to work together.
- Recognizes best practices and people's achievements.
- Lets people know each other's areas of knowledge.
- Lets you find specific expertise, or a specific person, quickly and easily.
- Provides a highly focused environment for knowledge sharing.
- Allows you to seek knowledge outside your working group.
- Promotes cooperation between teams.

General Guidelines:

- Topic of presentation must be outside the curriculum.
- It should be technology oriented, interesting , provoking the listener to interact.
- Duration of presentation shall be a minimum of 60 minutes.
- Preferably a power point presentation, but the presenter has to speak more rather than reading the slides.

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Date & Time:

On Saturdays as per schedule.

Any Faulty from Dept - Session (FN) - 10.00 am to 11.30 am.

SCHEDULE:

NAME	DATE	TIME
EEE	06.06.2020	10.00 am to 11.30 am.
CSE	20.06.2020	10.00 am to 11.30 am.
IT	04.07.2020	10.00 am to 11.30 am.
ECE	18.07.2020	10.00 am to 11.30 am.
MECH	01.08.2020	10.00 am to 11.30 am.
BIO-MED	22.08.2020	10.00 am to 11.30 am.
MTR	05.09.2020	10.00 am to 11.30 am.

Kindly Nominate the faculty and the Topic of presentation by 06,Jun

Principal

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Minnampalli, SALEM-636 106

Gmail by Google

Mahabme<hodbme @mahendracollege.com >

Invite to MCE Staffs and Hods for the Knowledge Sharing Forum 2020-reg

Maha <hodbme@mahendracollege.com> Saturday Aug 22, 2020 at 10.30 AM
To:<hods@mahendracollege.com
,principal@mahendracollege.com,dean.academic@mahendracollege.commcestaff@mahendracollege.com>

Dear Sir/Madam,

one of our successful best practices, knowledge sharing Forum,will commence from 22.08.2020(Saturday).Kindly circulate the attachment to all the faculty please discuss with your faculty and allot the speaker for the date assigned to your department.

NAME	DATE	TIME
EEE	06.06.2020	10.00 am to 11.30 am.
CSE	20.06.2020	10.00 am to 11.30 am.
IT	04.07.2020	10.00 am to 11.30 am.
ECE	18.07.2020	10.00 am to 11.30 am.
MECH	01.08.2020	10.00 am to 11.30 am.
BIO-MED	22.08.2020	10.00 am to 11.30 am.
MTR	05.09.2020	10.00 am to 11.30 am.

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Thanks & Regards,
Prof.K.Prasadbabu,
HoD/CIVIL,
Mahendra College of Engineering,
Minnampalli, Salem-636106,
Mob: 9443748531

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The Management, Principal, Faculty

Cordially invite you to the

"KNOWLEDGE SHARING FORUM"

22-AUG-2020 at 10:00 a.m

Presented by

Mr.A.T.Priyesh Kumar
AP/BME

Topic: BLOCK CHAIN TECHNOLOGY

Will be the resource persons

Dr. N.MALMURUGAN
Principal, Mahendra College of Engineering

Will deliver the introductory note

Dr. N.MOHANA SUNDHARA RAJ
Dean-Academics

Google Meet

ps://meet.google.com/fgdhvh-hg

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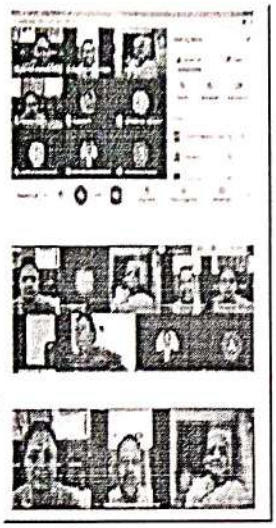
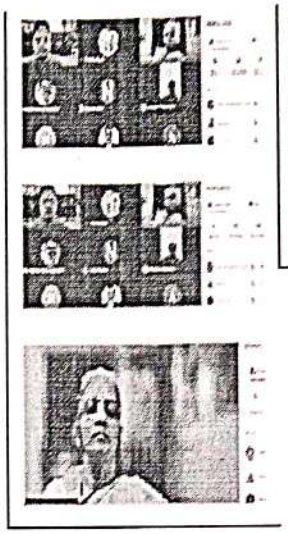
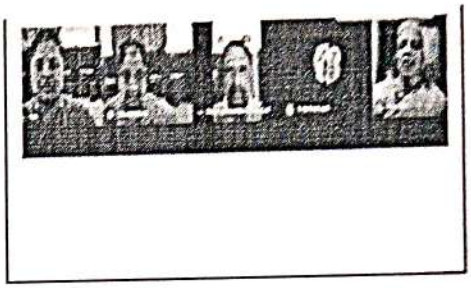
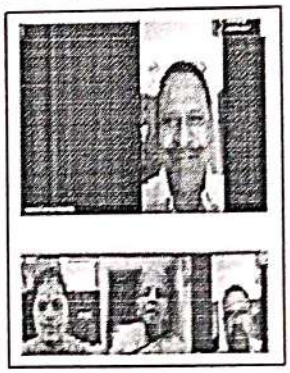
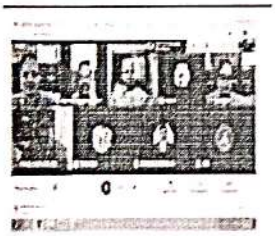
PHOTOS

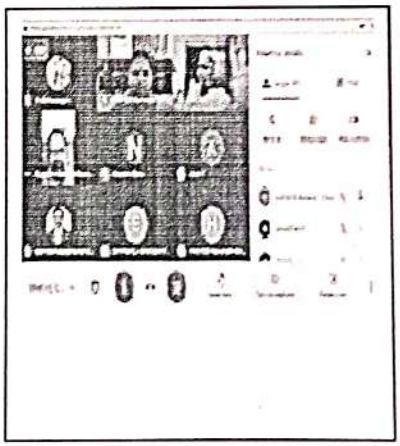












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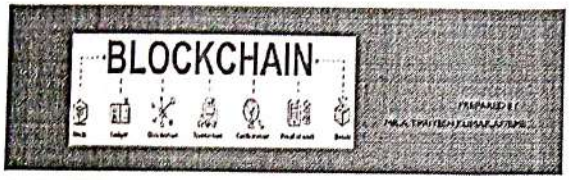
MAHENDRA COLLEGE OF ENGINEERING
BLOCK CHAIN TECHNOLOGY
18.02.2020



BITCOIN ≠ BLOCKCHAIN

Is an application of blockchain technology

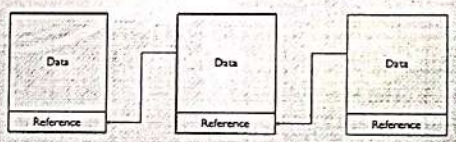
Is the underlying datastructure, which can be used for many things, including cryptocurrencies

THE HISTORY OF BITCOIN

2008	2009	2010	2011
Idea was published under the pseudonym Satoshi Nakamoto	Start of the Bitcoin Network	Fist cryptocurrency stock exchange is launched	One Bitcoin equals one USD

WHAT IS A BLOCKCHAIN?

A blockchain is a growing list of data blocks that are linked together.



THE HISTORY OF BITCOIN

2013	2014	2017
1 Bitcoin equals 100 USD	Microsoft accepts Bitcoin	1 Bitcoin equals 10,000 USD

BITCOIN ECOSYSTEM

A public network in which anyone, including a malicious participant, can participate without restriction.

Even though it is not organized by a central authority, it works!

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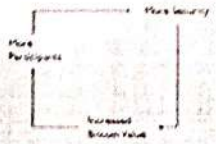
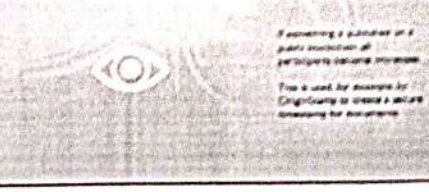
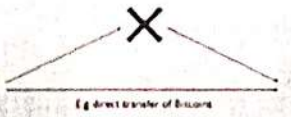
BITCOIN ECOSYSTEM



CREATING WITNESSES



CUTTING THE MIDDLEMAN



KEY FEATURES

BUILDING CONSENSUS

CHALLENGES

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THANK YOU

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DEPARTMENT OF BIOMEDICAL ENGINEERING

KNOWLEDGE SHARING FORUM

FACULTY ATTENDANCE

BLOCK CHAIN TECHNOLOGY

DATE:22.08.2020

S.NO	NAME OF THE STAFF	DEPARTMMENT
1	Mr.S.VINOTH	BME
2	Mr.K.KAAVIYAKANTH	BME
3	Mrs.R.PRIYADHARSHINI	BME
4	Mrs.T.PRIYA	BME
5	Ms.G.SHYAMALA	BME
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12	Ms. M.K.PRABAVATHI	BME
13	Ms.S.DHIVYA	BME
14	Mr.V.BOOBALAN	BME
15	Mr.T.RAVI SHANKAR	CIVIL
16	Mr.S.MANOJ PRABHAKAR	CIVIL
17	Mr.A.C.SIVARAJ	CIVIL
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KNOWLEDGE SHARING FORUM

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Date & Time:

On Saturdays as per schedule.

Any Faulty from Dept - Session (FN) - 10.00 am to 11.30 am.

SCHEDULE:

NAME	DATE	TIME
EEE	02.01.2021	10.00 am to 11.30 am.
CSE	23.01.2021	10.00 am to 11.30 am.
IT	06.02.2021	10.00 am to 11.30 am.
ECE	20.02.2021	10.00 am to 11.30 am.
MECH	06.03.2021	10.00 am to 11.30 am.
BIO-MED	20.03.2021	10.00 am to 11.30 am.
MTR	03.04.2021	10.00 am to 11.30 am.

Kindly Nominate the faculty and the Topic of presentation by 02 Jan.

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Gmail by Google

Mahabme<hodbme @mahendracollege.com >

Invite to MCE Staffs and Hods for the Knowledge Sharing Forum 2021-reg

Maha <hodbme@mahendracollege.com> Saturday March20, 2021 at 10.30 AM
To:<hods@mahendracollege.com
,principal@mahendracollege.com,dean.academic@mahendracollege.commcestaff@mahendracollege.com>

Dear Sir/Madam,

one of our successful best practices, knowledge sharing Forum,will commence from 20.03.2021(Saturday).Kindly circulate the attachment to all the faculty please discuss with your faculty and allot the speaker for the date assigned to your department.

NAME	DATE	TIME
EEE	02.01.2021	10.00 am to 11.30 am.
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Cordially invite you to the

"KNOWLEDGE SHARING FORUM"

20-MARCH-2021 at 10:00 a.m

Presented by

Ms.G.Shyamala
AP/BME

Topic: 5G TECHNOLOGY

Will be the resource persons

Dr. N.MALMURUGAN
Principal, Mahendra College of Engineering

Will deliver the introductory note

Dr. N.MOHANA SUNDARA RAJ
Dean-Academics

Google Meet

ps://meet.google.com/fsdfvh-hg

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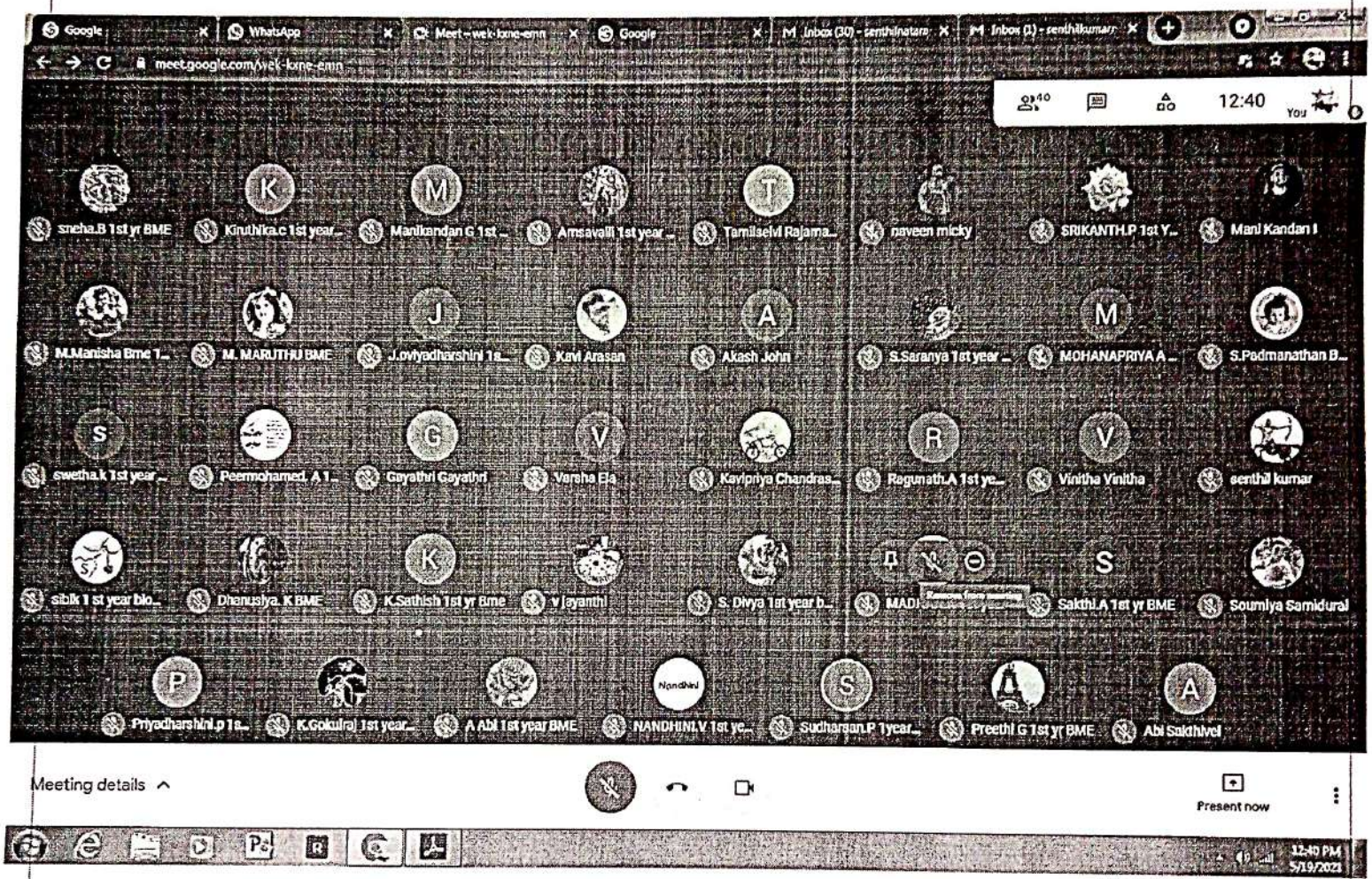
DEPARTMENT OF BIOMEDICAL ENGINEERING

Date: **21.03.2021**

KNOWLEDGE SHARING FORUM
ATTENDANCE
5G TECHNOLOGY
SCREENSHOTS



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Seminar On 5G Technology

PREPARED BY
G.SHAYMALA,AP/BME

Contents...

- Introduction to 5G
- Evolution from 1G to 5G
- COMPARISON OF 1G TO 5G TECHNOLOGIES
- Key concepts
- Architecture
- Hardware & Software of 5G
- Features
- Advantages
- Applications
- Conclusion

What is 5G?

- 5G Wireless: 5th generation wireless technology.
- Complete wireless communication with almost no limitations.
- Can be called REAL wireless world.
- Has incredible transmission speed.
- Concept is only theory not real.

What does it offer?

- Worldwide cellular phones
- Extraordinary data capabilities
- High connectivity
- More power & features in hand held phones
- Large phone memory, more dialing speed, more clarity in audio & video

Evolution from 1G to 5G

- 1G
- 2G
- 3G
- 4G
- 5G

1G

- Developed in 1980s & completed in early 1990s
- Based on analog system
- Speed up to 2.4 kbps
- AMPS (Advance Mobile Phone System) was launched by the US & it was the 1G mobile system
- Allows user to make voice calls in 1 country

2G

- Developed in late 1980s & completed in late 1990s
- Based on digital system
- Speed up to 64 kbps
- Services such are digital voice & SMS with more clarity
- Semi global facility
- 2G are the handsets we are using today, with 2.5G having more capabilities

3G

- Developed between late 1990s & early 2000s until present day
- Transmission speed from 125 kbps to 2 Mbps
- Superior voice quality
- Good clarity in video conference
- E-mail, PDA, information surfing, on-line shopping/ banking, games, etc.
- Global roaming

4G

- Developed in 2010
- Faster & more reliable
- Speed up to 100 Mbps
- High performance
- Easy roaming
- Low cost

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4G

- Developed in 2010
- Faster & more reliable
- Speed up to 100 Mbps
- High performance
- Easy roaming
- Low cost

5G

- Next major phase of mobile telecommunication & wireless system
- 10 times more capacity than
- Expected speed up to 1 Gbps
- More faster & reliable than 4G
- Lower cost than previous

COMPARISON OF 1G TO 5G TECHNOLOGIES

					5G
	FDMA	FDMA/TDMA	CDMA	CDMA	CDMA
	Circuit			All packet	All packet
	PSTN	PSTN	Packet network	Internet	Internet
	Horizontal	Horizontal	Horizontal	Horizontal/ Vertical	Horizontal/ Vertical

Key concepts

- Real wireless world with no more limitations with access & zone issues
- Wearable devices
- IPv6, where a visiting care of mobile IP address is assigned according to location & connected network
- One unified global standard
- Smart radio
- The user can simultaneously be connected with several wireless access technology
- Multiple concurrent data transfer path

Application Layer	Application(Service)
Presentation layer	
Session Layer	Open Transport Protocol (OTP)
Transport Layer	
Network Layer	Upper network layer
	Lower network layer
Data link Layer	Open Wireless Architecture (OWA)
Physical Layer	

Open Wireless Architecture (OWA)

- OSI layer 1 & OSI layer 2 define the wireless technology
- For these two layers the 5G mobile network is likely, to be based on Open Wireless Architecture (OWA)
- Physical layer + Data link layer = OWA

Network Layer

- All mobile networks will use mobile IP
- Each mobile terminal will be FA (Foreign Agent)
- A mobile can be attached to several mobiles or wireless networks at the same time
- The fixed IPv6 will be implemented in the mobile phones
- Separation of network layer into two sub-layers:
  - (i) Lower network layer (for each interface)
  - (ii) Upper network layer (for the mobile terminal)

Open Transport Protocol (OTP)

- Wireless network differs from wired network regarding the transport layer
- In all TCP versions the assumption is that lost segments are due to network congestion
- In wireless, the loss is due to higher bit error ratio in the radio interface
- 5G mobile terminals have transport layer that is possible to be downloaded & installed – Open Transport Protocol (OTP)
- Transport layer + Session layer = OTP

Application (service) Layer

- Provides intelligent QoS (Quality of Service) management over variety of networks
- Provides possibility for service quality testing & storage of measurement information in information database in the mobile terminal
- Select the best wireless connection for given services
- QoS parameters, such as, delay, losses, BW, reliability, will be stored in DB of 5G mobile
- Presentation layer + Application layer = Application

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Features of 5G

- High resolution for crazy cell phone users
- Bi-directional large BW
- Less traffic
- 25 Mbps connectivity speed
- Enhanced & available connectivity just about the world
- Uploading & Downloading speed of 5G touching the peak (up to 1 Gbps)
- Better & fast solution

Features (Conti...)

- High quality service based on policy to avoid error
- Support virtual private networks
- More attractive & effective
- Provides subscriber supervision tools for fast action

Advantages of 5G

- Data BW of 1 Gbps or higher
- Globally accessible
- Dynamic information access
- Available at low cost

Applications of 5G

- Wearable devices with AI (Artificial Intelligence) capabilities
- Pervasive (Global) networks
- Media independent handover
- Radio resource management
- VoIP (Voice over IP) enabled devices
- With 6th sense technology

Conclusion

- 3G- Operator Centric,
  4G- Service Centric whereas
  5G- User Centric
- We have proposed 5G wireless concept designed as an open platform on different layers
- The new coming 5G technology will be available in the market at affordable rates, high peak future & much reliability than preceding technologies

References

- www.3g4g.co.uk/4g
- www.studymafia.org
- Google.com
- Wikipedia.org

Thank You All..... !!!

☺☺☺

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DEPARTMENT OF BIOMEDICAL ENGINEERING

KNOWLEDGE SHARING FORUM

FACULTY ATTENDANCE

5G TECHNOLOGY

DATE:20.03.2021

S.NO	NAME OF THE STAFF	DEPARTMMENT
1	Dr.S.RAJALAXMI	HoD-BME
2	Mr.A.T.PRIYESH KUMAR	BME
3	Mrs.R.PRIYADHARSHINI	BME
4	Mrs.T.PRIYA	BME
5	Ms.G.SHYAMALA	BME
6	Ms.J.JAREENA BEGAM	BME
7	Ms.R.KIRUTHIKA	BME
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9	MR.V. PALANI	BME
10	MR.P. MANIKANDAN	MECH
11	MR.E. SIVAKUMAR	MECH
12	Mr.K.SOMASUNDARAM	MECH
13	MR.T.SAKTHIVEL	MECH
14	MR.D.PRAVEENKUMAR	MECH
15	MR.K. TAMILMANI	MECH
16	Mr.S.SAKTHIVELAPPA	MECH
17	MR.V.KARTHIK RAJA	MECH
18	Mr.M.KIRUBA	MECH
19	Mr.S.MUTHUKUMAR	CIVIL
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41	Mr.R.SRIRAM	EEE
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48	Dr.P.RAJAN	MATHS
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51	Mr.M.KARTHIKEYAN	IT
52	Mr.E.P.NARAYANAN	IT
53	Mr.D.MANOHARAN	IT

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Date & Time:

On Saturdays as per schedule.

Any Faulty from Dept - Session (FN) - 10.00 am to 11.30 am.

SCHEDULE:

NAME	DATE	TIME
EEE	05.06.2021	10.00 am to 11.30 am.
CSE	19.06.2021	10.00 am to 11.30 am.
IT	10.07.2021	10.00 am to 11.30 am.
ECE	24.07.2021	10.00 am to 11.30 am.
MECH	07.08.2021	10.00 am to 11.30 am.
BIO-MED	21.08.2021	10.00 am to 11.30 am.
MTR	04.09.2021	10.00 am to 11.30 am.

Kindly Nominate the faculty and the Topic of presentation by 05 Jun.

Principal

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Minnampalli, SALEM-636 106

Gmail by Google

Mahabme<hodbme @mahendracollege.com >

Invite to MCE Staffs and Hods for the Knowledge Sharing Forum 2021-reg

Maha <hodbme@mahendracollege.com> Saturday Aug21, 2021 at 10.30 AM
To:<hods@mahendracollege.com
,principal@mahendracollege.com,dean.academic@mahendracollege.commcestaff@mahendracollege.com>

Dear Sir/Madam,

one of our successful best practices, knowledge sharing Forum,will commence from 21.08.2021(Saturday).Kindly circulate the attachment to all the faculty please discuss with your faculty and allot the speaker for the date assigned to your department.

NAME	DATE	TIME
EEE	05.06.2021	10.00 am to 11.30 am.
CSE	19.06.2021	10.00 am to 11.30 am.
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MTR	04.09.2021	10.00 am to 11.30 am.

If any of the above Saturdays is declared holiday ,that day slots are automatically carried forward for the next working Saturday .Identified speaker and the topic shall be informed to me two days prior to the eventExpecting your active participation for the successful conduct of the sessions.

Thanks & Regards,
Prof.K.Prasadbabu,
HoD/CIVIL,
Mahendra College of Engineering,
Minnampalli, Salem-636106,
Mob: 9443748531

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Cordially invite you to the

"KNOWLEDGE SHARING FORUM"

21-AUGUST-2021 at 10:00 a.m

Presented by

Mr.S.Vinoth
AP/BME

Topic: ENGINEERING FORENSIC SCIENCE

Will be the resource persons

Dr. N.MALMURUGAN

Principal, Mahendra College of Engineering

Will deliver the introductory note

Dr. N.MOHANA SUNDHARA RAJ

Dean-Academics

Google Meet

ps://meet.google.comertuiohvh-hg

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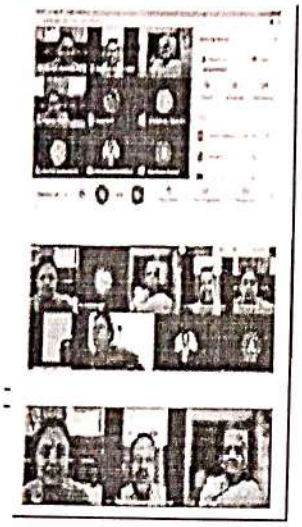
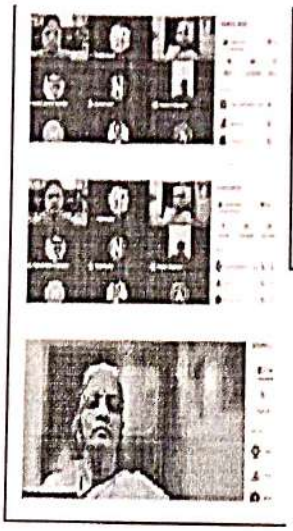
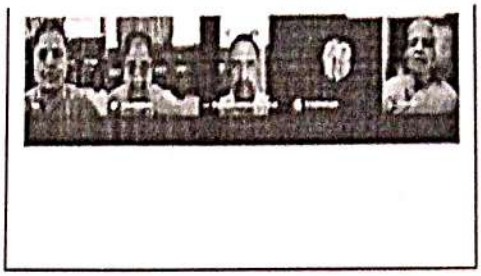
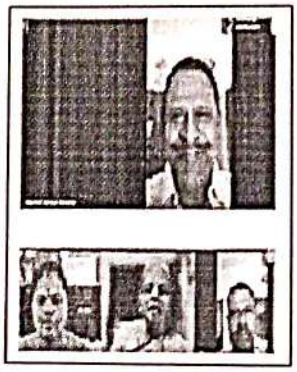
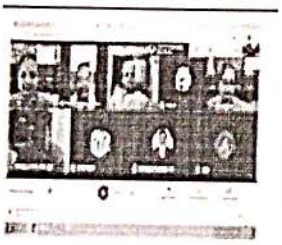
PHOTOS

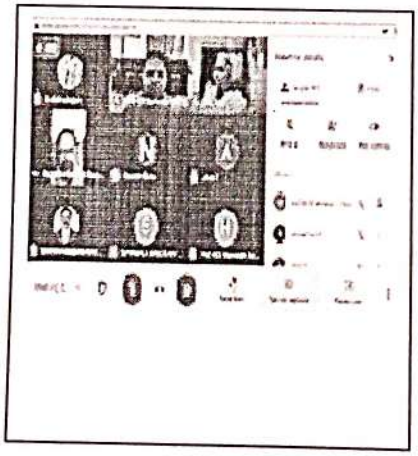












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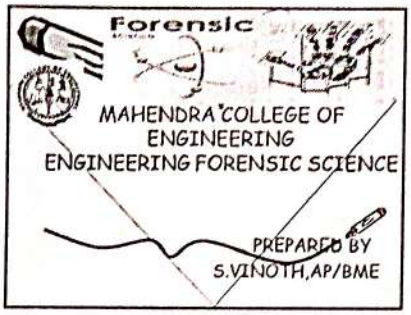


OBJECTIVES

- ABLE TO UNDERSTAND A RELATIONSHIP BETWEEN ASSAULT AND INJURY
- ABLE TO UNDERSTAND MEDICOLEGAL IMPORTANCES OF INJURY

DEFINITION

- WOUND OR INJURY IS A BREAK IN NATURAL CONTINUITY OF ANY OF THE BODY TISSUES

- WOUND:
  - NATURAL (DUE TO DISEASE)
  - UNNATURAL (DUE TO ANY FORCES)

THE FORCES CAN BE CLASSIFIED INTO:

- PHYSICAL
  - MECHANICAL
  - THERMAL
  - GUNSHOT AND EXPLOTION
- CHEMICAL
  - ACID
  - ALKALI

MECHANICAL VIOLENCE WOUNDS

- CAN BE CLASSIFIED INTO TWO MAIN TYPES:

1. BLUNT VIOLENCE WOUNDS
2. WOUNDS CAUSED BY POINTED AND SHARP-EDGED INSTRUMENTS

BLUNT VIOLENCE WOUNDS

BLUNT VIOLENCE WOUNDS ARE DIVIDED INTO THREE CATEGORIES

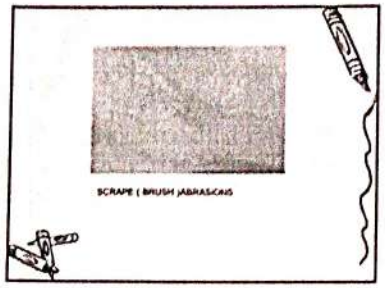
1. ABRASIONS
2. CONTUSIONS
3. LACERATIONS

ABRASIONS

- AN ABRASION IS AN INJURY TO THE SKIN IN WHICH THERE IS REMOVAL THE SUPERFICIAL EPITHELIAL LAYERS OF THE SKIN (THE EPIDERMIS) BY FRICTION AGAINST A ROUGH SURFACE
- OR DESTRUCTION OF THE SUPERFICIAL LAYERS OF THE SKIN BY COMPRESSION
  - THERE ARE TWO TYPES OF ABRASIONS: SCRAPE / BRUSH ABRASIONS; PRESSURE / PATTERNED ABRASIONS

SCRAPE (BRUSH)ABRASIONS

- THIS OCCUR WHEN A BLUNT OBJECT SCRAPES OFF THE SUPERFICIAL LAYERS OF THE SKIN
- ONE OF THE MOST COMMON TYPES OF SCRAPE ABRASIONS IS THE LINEAR ABRASION KNOWN AS SCRATCH
- EXTENSIVE SCRAPE-LIKE ABRASIONS (GRAZE OR SLIDING ABRASIONS) ARE MOSTLY SEEN IN PEDESTRIANS WHO SLIDE ACROSS PAVEMENTS AFTER BEING HIT BY MOTOR VEHICLES



SCRAPE (BRUSH ABRASIONS

PRESSURE ABRASIONS / PATTERNED ABRASIONS

- A PRESSURE ABRASION OCCURS WHEN BLUNT FORCES ARE COME PERPENDICULARLY TO THE BODY SURFACE RESULTS IN COMPRESSION OF THE TISSUES (LIGATURE MARK IN HANGING, NAIL MARKS IN THROTTLING)
- PATTERNED ABRASION IS PRESSURE ABRASION WHERE THE SHAPE OF CAUSATIVE OBJECT IS IMPRINTED UPON THE SKIN DUE TO GRINDING COMPRESSION FORCE (SUCH AS A PIPE, A HAMMER, ETC)

ROPE MARK

CONTUSIONS

- A CONTUSION OR BRUISE IS AN AREA OF HEMORRHAGE INTO SOFT TISSUE DUE TO RUPTURE OF BLOOD VESSELS CAUSED BY BLUNT FORCE
- CONTUSIONS MAY ALSO BE PRESENT IN INTERNAL ORGANS

CONTUSIONS

LACERATIONS

- A LACERATION IS A TEAR IN SOFT TISSUE CAUSED BY A CRUSHING FORCE.
- AS EACH COMPONENTS OF SOFT TISSUE HAS DIFFERENCES IN STRENGTHS, SO THAT THERE WILL BE INCOMPLETE SOFT TISSUE SEPARATION (CALLED BRIDGE OF TISSUE) INSIDE THE WOUND

Here is a very superficial laceration of the forehead

LACERATION

WOUNDS CAUSED BY POINTED AND SHARP-EDGED INSTRUMENTS

THERE ARE THREE TYPES OF THESE WOUNDS:

1. STAB WOUNDS
2. INCISED WOUNDS
3. CHOP WOUNDS

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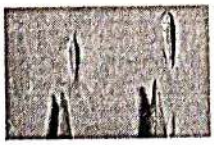
STAB WOUNDS

- STAB WOUNDS ARE PRODUCED BY POINTED INSTRUMENTS, THE DEPTH OF THE WOUND TRACK IN THE BODY IS LONGER THAN ITS LENGTH ON THE SKIN

This is a single-edge blade stab wound in which there is a "hilt" mark at the left. The sharp blade edge is at the right.



Seen in this clay model is the pattern of a stab wound from a double edge knife on the left and a single edge knife on the right.

INCISED WOUNDS

- INCISED WOUNDS OR CUTS ARE PRODUCED BY SHARP-EDGED INSTRUMENTS. THE SHARP EDGE OF THE INSTRUMENT IS PRESSED INTO AND DRAWN ALONG THE SURFACE OF THE SKIN, PRODUCING A WOUND WHOSE LENGTH IS GREATER THAN ITS DEPTH

An incision has clean, straight edges made by a sharp object such as a knife.

CHOP WOUNDS

- A CHOP WOUND IS PRODUCED BY AN HEAVY INSTRUMENT WITH A CUTTING EDGE (FOR EXAMPLE 'AXE'). IT IS AN INCISED-LIKE WOUND BUT ITS DEPTH IS ALMOST SAME GREAT AS ITS LENGTH

THERMAL INJURY

- HEAT
  - DRY HEAT (BURNS)
  - MOIST HEAT (SCALD)
- COLD
  - DRY COLD (FROST BITE)
  - MOIST COLD (TRENCH FOOT)

CHEMICAL INJURY

- ACID
  - STRONG ACID (CORROSION)
  - WEAK ACID (IRRITATION)
- ALKALI
  - STRONG ALKALI (CORROSION)
  - WEAK ALKALI (IRRITATION)

MEDICOLEGAL IMPORTANCES OF INJURY

- IT IS A SIGN OF VIOLANCE
- GIVING INFORMATION ON:
  - THE CAUSATIVE OBJECT (EX. PRESSURE/PATTERNED ABRATION)
  - DIRECTION OF FORCE
  - RELATIVE POSITION OF THE ASSAILANT AND VICTIM
  - IDENTITY OF THE ASSAILANT (BITE MARK)

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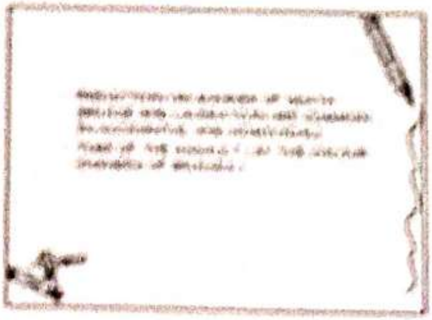

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DEPARTMENT OF BIOMEDICAL ENGINEERING

KNOWLEDGE SHARING FORUM

FACULTY ATTENDANCE

ENGINEERING FORENSIC SCIENCE

DATE:21.08.2021

S.NO	NAME OF THE STAFF	DEPARTMMENT
1	Dr.S.RAJALAXMI	HoD-BME
2	Mr.A.T.PRIYESH KUMAR	BME
3	Mrs.K.PRIYADHARSHINI	BME
4	Mrs.T.PRIYA	BME
5	Ms.G.SHYAMALA	BME
6	Ms.I.JAREENA BEGAM	BME
7	Ms.R.KIRUTHIKA	BME
8	Ms.A.VISHALI	BME
9	MR.V. PALANI	BME
10	MR.P. MANIKANDAN	MECH
11	MR.E. SIVAKUMAR	MECH
12	Mr.K.SOMASUNDARAM	MECH
13	MR.T.SAKTHIVEL	EEE
14	MR.D.PRAVEENKUMAR	EEE
15	MR.K. TAMILMANI	MECH
16	Mr.S.SAKTHIVELAPPA	MECH
17	MR.V.KARTHIK RAJA	MATHS
18	Mr.M.KIRUBA	MECH
19	Mr.S.MUTHUKUMAR	CIVIL
20	Mr.M.SANTHOSHKUMAR	CIVIL
21	Mr.B.DINESHKUMAR	CIVIL
22	Prof.K.PRASADBABU	HoD-CIVIL
23	Mr.R.CHANDIRAN	MECHT
24	Mr.M.THANGARAJU	MECHT
25	Mr.S.G.ALGIN	MECHT
26	Mr.M.SENTHILKUMAR	MECHT
27	Mr.R.CHITHESWARAN	MECHT
28	Mr.S.SATHISH	MECHT
29	Mr.A.SATHISHKUMAR	MECHT
30	MR.P.RAJA	MECHT
31	Mr.P.PAVENTHAN	MECHT
32	MR.R. VIJAY	MECHT
33	Mr.M.JENOLIN REX	CSE
34	Ms.T.NISHADEVI	CSE
35	Ms.M.SATHYA	CSE
36	Ms.M.GEETHA	CSE

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37	Ms.L.PREETHI	CSE
38	Mr.S.THANGAPANDIYAN	EEE
39	Mrs.M.INBA ARASI	EEE
40	Ms.C.AMBIKA	EEE
41	Mr.R.SRIRAM	EEE
42	Mr.J.SAMPATHKUMAR	ECE
43	Dr.A.PRABHU	PHYSICS
44	Ms.J.HELAN MARGRET JOY	CHEMISTRY
45	Ms.R.SATHYA	CHEMISTRY
46	Mr.M.AYYANAR	PHYSICS
47	Mr.T.RAJA	MATHS
48	Mr.A.VASANTHAKUMAR	MATHS
49	Mr.S.NAVEENKUMAR	CHEMISTRY
50	Mrs.S.MONISHA	ECE
51	Mr.M.KARTHIKEYAN	IT
52	Mr.E.P.NARAYANAN	IT
53	Mr.D.MANOHARAN	IT

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"KNOWLEDGE SHARING FORUM "

PRESENTED

DATE:23.01.2021

SESSION: 10.00 am to 11.30 am

Ms.L.VINITHASREE

Assistant Professor-CSE

Topic: WIRELESS SENSOR NETWORKS

Will be the resource persons

Dr. N.MALMURUGAN

Principal, Mahendra College of Engineering

Will deliver the introductory note

Dr. N.MOHANA SUNDARARAJU

Dean-Academics

https://meet.google.com/hvr-tegr-yqz

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Knowledge Sharing Forum

WIRELESS SENSOR NETWORK

Knowledge Sharing

Presented by

L.VINITHASREE,
AP/CSE,

INTRODUCTION

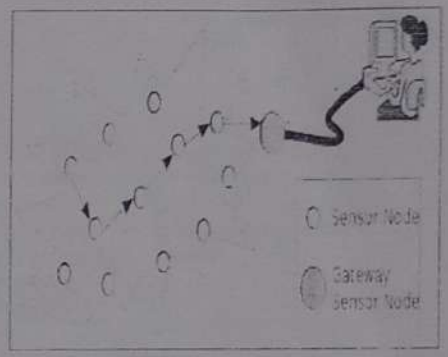
- **Industrial Wireless Sensor Networks**

- Projected to increase by 553% in the next five years
- Recent developments that lead to IWSNs
- Applications and advantages

INTRODUCTION

- **Wireless Sensor Networks**

- Definition
- Characteristics
- Applications



PROBLEM STATEMENT

- Discuss timing constraints of employing Forward Error Correction(FEC) codes

- Benchmark different FEC codes for IWSNs

- Consideration of memory consumption and processing time

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LITERATURE SURVEY

AUTHOR	CITATION	KEY FINDINGS
N. Sadeghi et al.	Analysis of error control code use in ultra-low-power wireless sensor networks," in *Circuits and Systems, 2006*	ECC is more power efficient
Z. Tian et al.	Energy efficiency analysis of error control schemes in wireless sensor networks," in *Wireless Communications and Mobile Computing Conference, 2008*	ARQ more energy efficient for short communication distance
Y. Sankarasubramaniam et al.	Energy efficiency based packet size optimization in wireless sensor networks." in *Sensor Network Protocols and Applications, 2003*	FEC scheme is more energy efficient than retransmission mechanism

LITERATURE SURVEY

AUTHOR	CITATION	KEY FINDINGS
A. Nandi and S. Kundu	Energy level performance of error control schemes in wireless sensor networks," in *Devices and Communications (ICDeCom), 2011 International Conference*	FEC mechanism performs better than the infinite ARQ scheme
M. Sartipi and F. Fekri	Source and channel coding in wireless sensor networks using ldpc codes," in *Sensor and Ad Hoc Communications and Networks, 2004.*	LDPC code is more energy efficient compare to BCH codes and convolutional codes

EXISTING SYSTEM

- Advantages
  - Study on several FEC codes
  - Focus on comparing the energy efficiency between different FEC codes
- Gaps in the existing works
  - Assumptions
  - Evaluation based on simulations

PROPOSED SYSTEM

- Importance and justification for our study
  - Different from previous works
  - Software implementation on the MAC layer
- IWSN Standards
  - Zigbee, wirelessHart
  - IEEE 802.15.4 standard provides stop-and-wait ARQ
  - *AckWaitDuration*

PROPOSED SYSTEM

Forward Error Correction (FEC) CODES

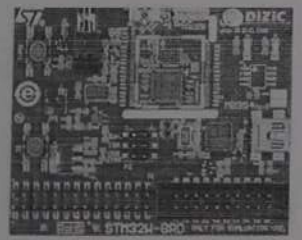
- Categories of FEC codes
  - ➢ Block Codes
  - ➢ Convolutional Codes
- Code Rate
- Types of FEC codes

PROPOSED SYSTEM

- Evaluation Candidate Selection
  - ➢ Repetition
  - ➢ Cyclic
  - ➢ Hamming
  - ➢ Binary Bose-Choudhary-Hocquenhem (BCH)
  - ➢ Reed-Solomon (RS)
  - ➢ Low-Density Parity Check(LDPC) and Turbo

IMPLEMENTATION DETAILS

- Evaluation Node – STM32W development Kit
- A typical wireless sensor node within the automation domain
- Microcontroller integrates
  - ➢ 2.4GHz transceiver
  - ➢ 32-bit ARM microprocessor
  - ➢ 128-Kbytes flash memory
  - ➢ 8-Kbytes RAM memory

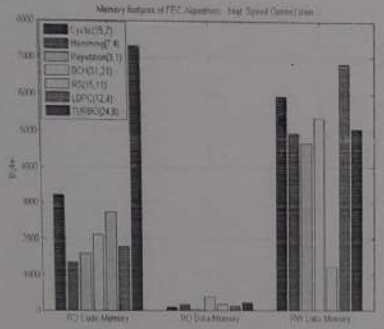


IMPLEMENTATION DETAILS

- The IAR Embedded Workbench 6.4 is used as the development environment
- Implementation of FEC codes uses C language
- Results are shown using highest speed and size optimization
- In IWSNs, the maximum payload is defined as 128 bytes

RESULT ANALYSIS

- Memory Usage
  - The memory usage of each FEC code is presented in three memory regions
  - Read-Only code memory
  - Read -Only data memory
  - Read-Write data memory



CONCLUSION

- FEC coding, an alternative solution to provide reliable and low latency transmission
- Evaluations exhibit that
  - LDPC and Turbo codes fulfil both memory and timing requirements
  - Hamming codes can be considered due to simplicity
  - RS code is the most suitable FEC code
  - among all candidates

RESULT ANALYSIS

- Execution time
- The results are presented in three sections
  - Encoding time
  - Decoding time
  - Decoding time with max errors

EXECUTION TIME OF FEC CODES USING SPEED OPTIMIZATION

FEC Code	Encoding time (ms)	Decoding time with no error (ms)	Decoding time with max errors (ms)
Cyclic (15, 7)	1.6333	3.0067	35.6833
Hamming (7, 4)	2.4500	2.4908	3.1383
Repetition (3, 1)	0.5133	1.5167	1.5167
BCH (31, 21)	2.4424	1.7044	4.4854
RS (15, 11)	0.5953	0.9582	2.3454
LDPC (12, 4)	2.3858	25.4625	37.1817
TURBO (24, 8)	1.9308	703.2	702.1

THANK YOU

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Cordially invite you to the

"KNOWLEDGE SHARING FORUM "

PRESENTED

DATE:19.06.2021

SESSION: 10.00 am to 11.30 am

Mrs.V.NISHADEVI

Assistant Professor-CSE

Topic: SEMANTIC WEB

Will be the resource persons

Dr. N.MALMURUGAN

Principal, Mahendra College of Engineering

Will deliver the introductory note

Dr. N.MOHANA SUNDARARAJU

Dean-Academics

https://meet.google.com/hqh-oyes-gyz

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Knowledge Sharing Forum
SEMATIC WEB

Presented by

V.NISHADEVI
AP/CSE,

Table of contents

Introduction

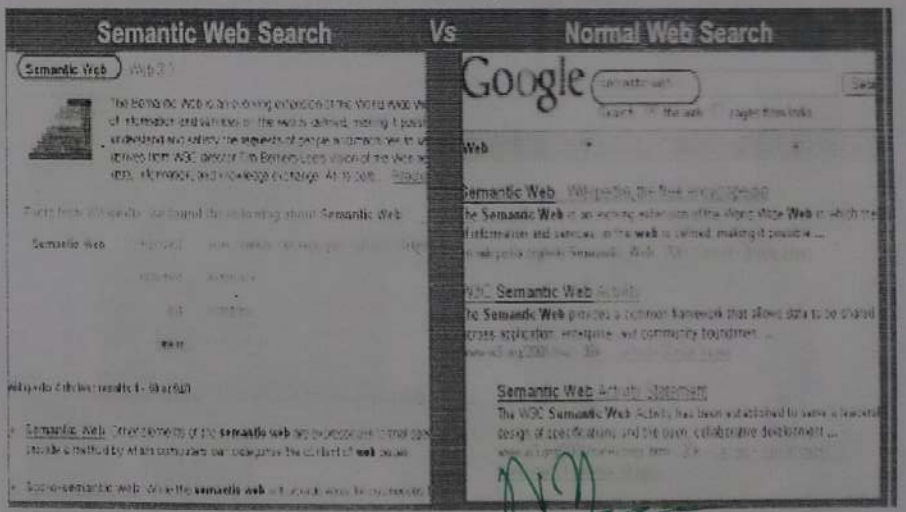
What is Semantic Web??

Semantic = meaning
Semantic web = meaning + web
= Web + Data base technology
+ Knowledge Representation

- extension of the current web
- a web where the focus is placed on the meaning of words
- a metadata based infrastructure

[1]Semantic Web is a group of methods and technologies to allow machines to understand the meaning - or "semantics" - of information on the World Wide Web. The term was coined by World Wide Web Consortium (W3C) director Tim Berners-Lee. He defines the *Semantic Web* as "a web of data that can be processed directly and indirectly by machines."

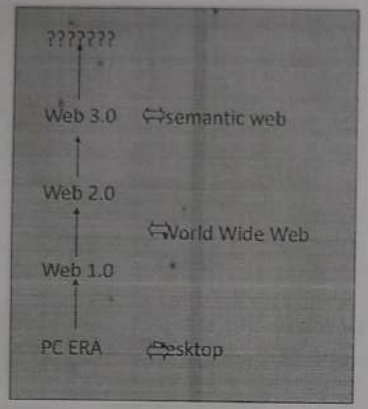
Example



If we search keyword semantic web in Google, all links (sites) But in a semantic web search ,you get definition of "semantic web" with relevant links

[2] Web Updates

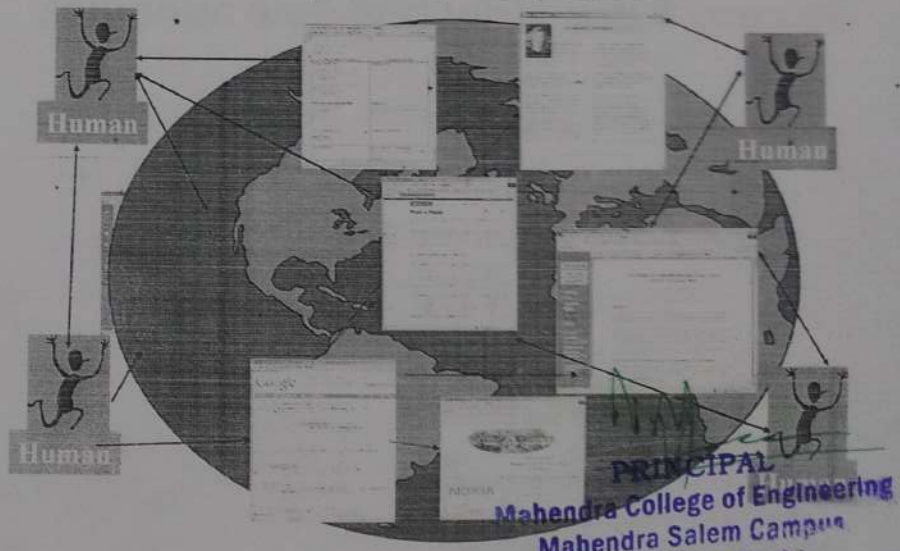
- Web 1.0
  - Web Browser driven
  - started with handwritten HTML pages
- Web 2.0
  - Web Services based API driven
  - started with machine generated and active HTML pages
  - direct human processing (reading, browsing, form- filling)
  - web of links



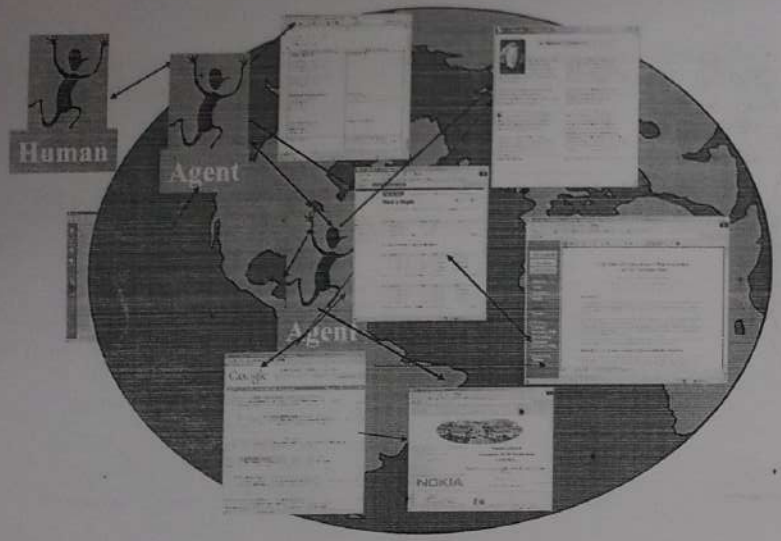
- Web 3.0
  - development and deployment of Data Model driven composite applications
  - aims at machine processable information
  - web of meaning (semantic web)

- Web 3.0
  - development and deployment of Data Model driven composite applications
  - aims at machine processable information
  - web of meaning (semantic web)

Today: Rich Information Source for Human Manipulation/Interpretation



Tomorrow: Rich Information Source : Agent Manipulation/Interpretation



Goal

- Intelligent search instead of keyword matching
- Query answering instead of information retrieval
- Document exchange among departments via ontology mappings
- Definition of customized views on document
- Fast
- Correct results
- Representation of results

[3]History

- In 1989 URIs(when invention of web)
- In 1997 W3C standardization of XML starts
- In 1998 W3C standardization of SW starts

  "Work on Resource description framework(RDF),

  Work on RDF Schema(RDFS)"
- In 1999 Research projects on web ontologies

  "start EU:On-To-Knowledge & US(DARPA):DAML"
- In 2001 W3C Semantic Web Standardization:

  " Work on Web Ontology Language(OWL)"
- In 2004 RDF,OWL become W3C recommendation

[4]Why is there a need for the semantic web and what will it provide

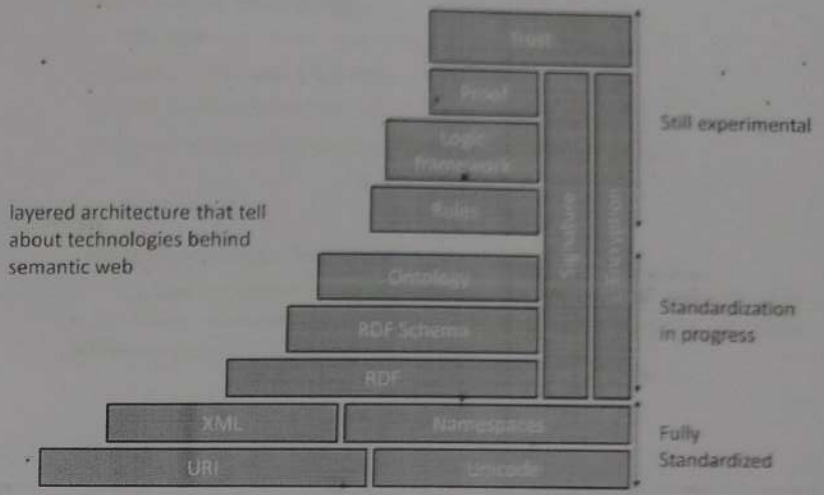
- Today, we have problems in accessing and processing the available information
  - Searching for information
  - Extracting information
  - Presenting information/Maintenance
  - Automatic document generation

Cont..

- Semantic web will provide machine-understandable semantics(intelligent search, query answering etc.)

- Achieving such a semantic web requires
  - languages and terminologies
  - tools and architectures
  - realizing applications

How the semantic web will be possible



Cont..

[5]Components are:

Unicode

standard for computer character representation

URi (Uniform Resource Identifier)

a web identifier like strings starting with http or ftp

XML:

Provide additional information about the text
Is content specific as opposed to presentation specific tags

Cont..

Resource Description Framework:

- A standard for web metadata developed by W3c
- Suitable for describing web resources
- Provides interoperability
- Adds a simple data model on top of XML
- Provides three elements: objects,properties,and value of properties

Problem with RDF

- Not given any special meaning to vocabulary such as sub-Class-Of or type(inheritance)

RDF Schema:

- Also known as RDF Vocabulary Description Language
- Definition of classes, inheritance hierarchies for classes and properties
- Domain and range restrictions for properties

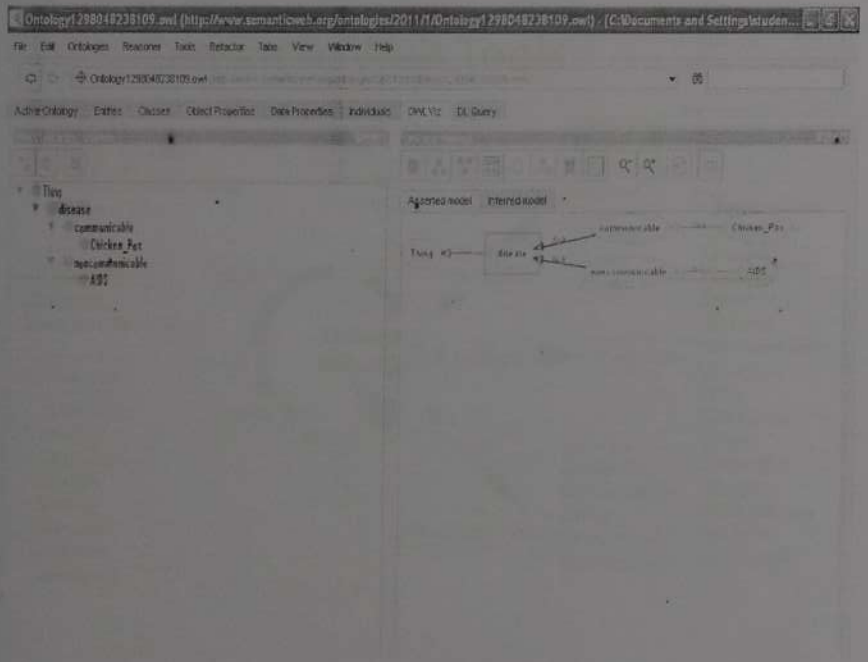
Cont..

- **RDF Schema:**
  - Also known as RDF Vocabulary Description Language
  - Definition of classes, inheritance hierarchies for classes and properties
  - Domain and range restrictions for properties

- **Problem with RDFS**

  No transitive, inverse or symmetrical (Is Part of,has Part)

- **Ontology (Web Ontology Language: OWL)**
  - Built on top of RDF
  - Have more vocabulary
  - OWL is for processing information on the web
  - give the exact description of things and their relationships



Cont..

- OWL has three sublanguages:
  - OWL Lite
  - OWL DL (includes OWL Lite)
  - OWL Full (includes OWL DL)
- can make by Ontology editors (Protégé,Ontolingua,Chamera)

For ex.

We create ontology by protégé

- used to define classes and class hierarchies, slots and slot value restrictions, relationship between classes, and properties of these relationships

Continue .....

Logic and Proof:

- an reasoning system provided on top of the ontology structure to make new inferences
- using such a system, a software agent can make deductions as to whether a particular resource satisfies its requirements (and vice versa)

Trust:

vision of allowing people to ask questions about trustiness of web

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Tools for Information Access and navigation

First Generation – Keywords

used in free text retrieval system
no ability to extract the meaning from the word or root stem
not capable of understanding similar words ,the meaning of the words or sentence.

Ex tools are web site "Search" tools and "find "option in MS Office

Second Generation - Statistical Forecasting

calculate frequency and distance of keyword
capable of understanding similar words
can't understand the meaning of the words or sentence.

Ex tool is "Google"

Third Generation - Natural Language Processing

focus on the structure of language
in this words in each sentence have a different role than others e.g. "man bites dog" is different from "dog bites man"

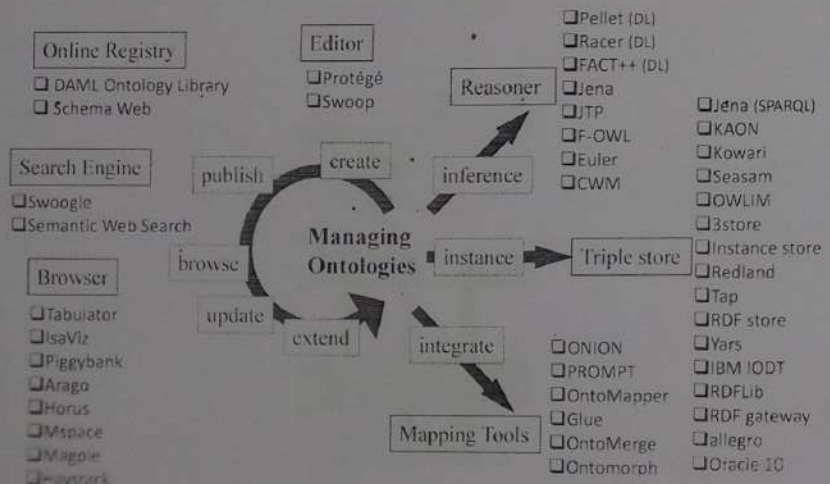
Ex Tools are translator programs to convert words and language-specific grammar to convert source to target languages.

Fourth Generation – Semantic Web Architecture and Applications

Architecture is automated conversion and storage of unstructured text sources in a semantic web database

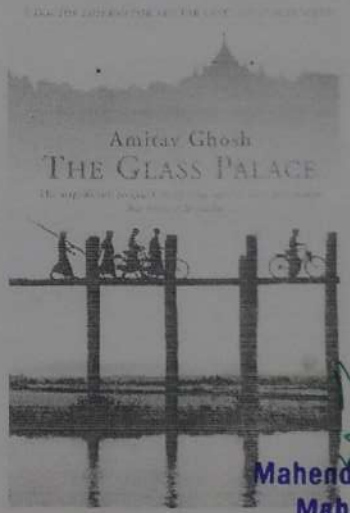
applications automatically extract and process the concepts and context in the database in a range of highly flexible tools.

Semantic Web Tools



Example

We start with a book...



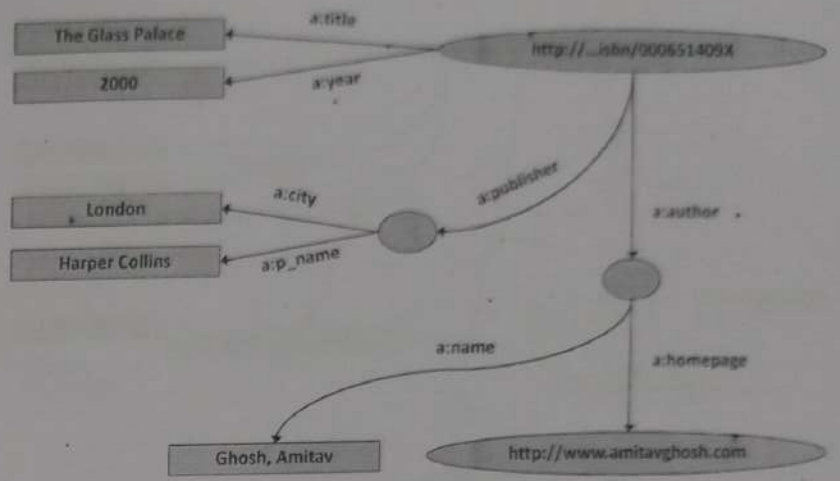
A simplified bookstore data (dataset "A")

ID	Author	Title	Publisher	Year
ISBN 0-00-6511409-X	id_xyz	The Glass Palace	id_qpr	2000

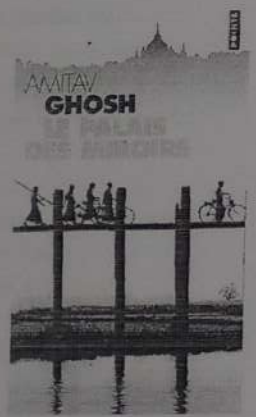
ID	Name	Homepage
id_xyz	Ghosh, Amitav	http://www.amitavghosh.com

ID	Publisher's name	City
id_qpr	Harper Collins	London

1°) export your data as a set of *relations*



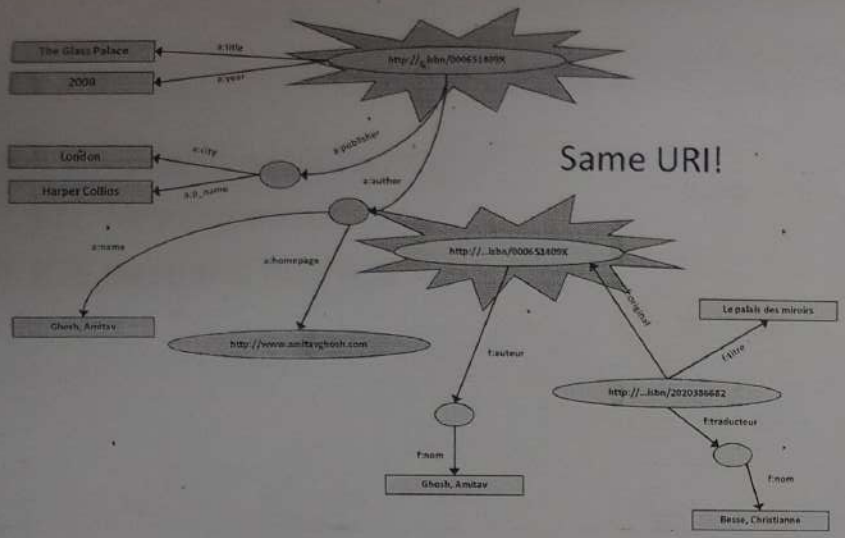
Same book in French...



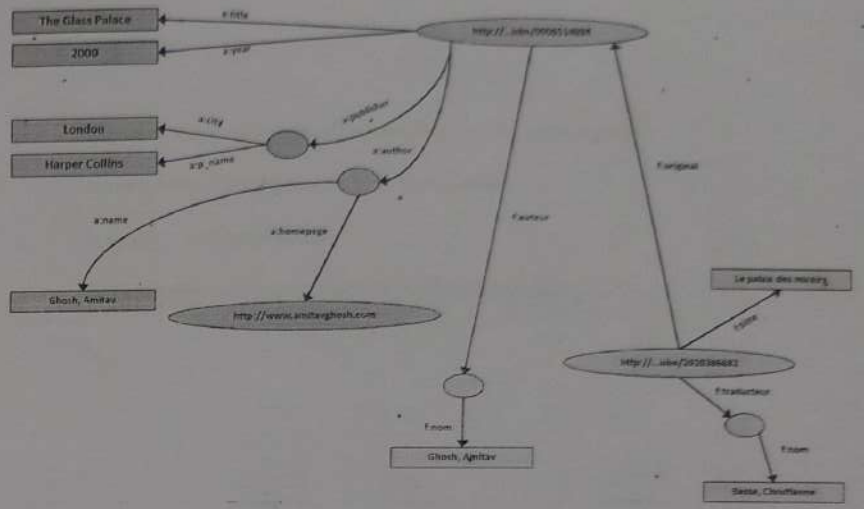
Another bookstore data (dataset "F")

	A	B	C	D
1	ID	Titre	Traducteur	Original
2	ISBN 2020286682	Le Palais des Miroirs	$A12$	ISBN 0-00-6511409-X
3				
4				
5				
6	ID	Auteur		
7	ISBN 0-00-6511409-X	$A11$		
8				
9				
10	Nom			
11	Ghosh, Amitav			
12	Besse, Christianne			

3rd: start merging your data



3rd: start merging your data

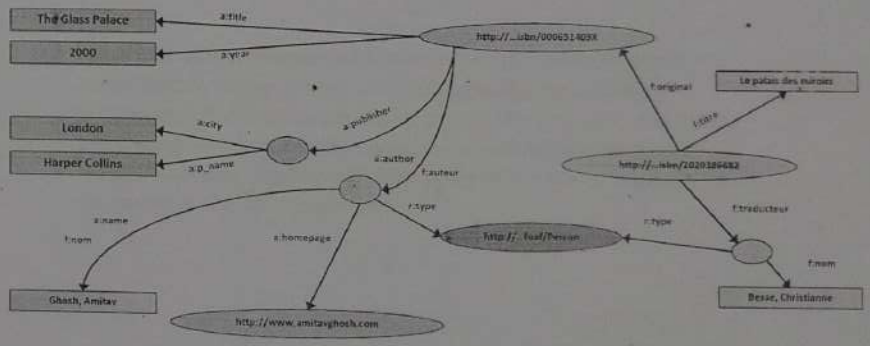


User can ask queries...

- User of "F" can ask queries like:
  - "give me the title of the original"
- this information is not in the "F"...
- but can be available by merging with "A"

add some extra information to the merged data:
- a:author same as f:auteur
- both recognize as a "Person"

3rd revisited: use the extra knowledge



Application areas for Semantic Web Technologies

- Knowledge management
- B2C Web commerce
- B2B electronic business

Advantages

is a complete database architecture, not only an application

handle both structured and unstructured data

is dynamic and automated

support both human and machine intelligence systems

Conclusion

- "Semantic Web Vision" - a future where:
  - Web information has exact meaning
  - Web information can be processed by computers
  - Computers can integrate information from the web

The Semantic web

- simple but powerful
- Standardized by W3C: RDF, RDFS, OWL
- Currently working on
  - Query -- SPARQL
  - Rules – SWRL, RIF
  - Web services – OWL-S, WSDL-S, SAWSDL

Cont...

- Semantics web make sense of search results based on context. It automatically recognize the concepts(classes) structuring the texts(domain). For instance, if you search for "election" a semantic search engine might retrieve documents containing the words "vote", "campaigning" and "ballot", even if the word "election" is not found in the source document.

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COLLEGE OF ENGINEERING

Affiliated to Anna University and Approved by AICTE

The Management, Principal, Faculty

Cordially invite you to the

"KNOWLEDGE SHARING FORUM "

PRESENTED

DATE:20.06.2021

SESSION: 10.00 am to 11.30 am

Mrs.A.INDHUJA

Assistant Professor-CSE

Topic: BLUE EYE

Will be the resource persons

Dr. N.MALMURUGAN

Principal, Mahendra College of Engineering

Will deliver the introductory note

Dr. N.MOHANA SUNDARARAJU

Dean-Academics

https://meet.google.com/hwr-yesr-gxz

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Knowledge Sharing Forum
BLUE EYE

Presented by

A.INDHUJA
AP/CSE,

Content Page

Introduction

Blue Eye is the technology to make computer to sense and understand human behavior and feelings and respond in the proper way.

What is blue eye technology ?

- Blue -> Bluetooth connection
- Eye -> Eye movement
- Technology -> Technique

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How can we make computers "see" and "feel" ?

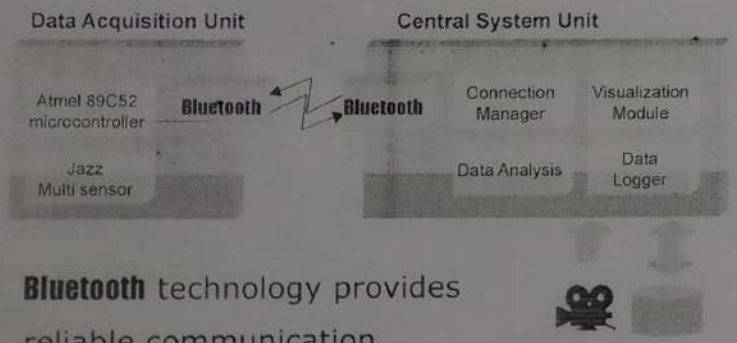
- Blue eyes technology uses sensing technology to identify user's action & extract key information eg. Microphone video camera etc.
- Information is used to identify user's physical , emotional & informational 's state

Designing

The Blue Eyes uses:

- A personal area network for linking all the operators and the supervising system
- Two major units
- DAU (data acquisition unit)
- CSU (central system unit

System overview



Bluetooth technology provides reliable communication

DAU-features

Lightweight
Runs on batteries - low power consumption
Easy to use - does not disturb the operator working
ID cards for operator authorization
Voice transmission using hardware PCM codec

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Jazz Multisensor:

- It's an eye movement sensor, to provide necessary physiological data in Data Acquisition Unit (DAU).
- It supplies raw digital data regarding eye position, the level of blood oxygenation acceleration along horizontal and vertical axes and ambient light intensity.
- Eye movement can be measured using direct infrared oculographic transducers.

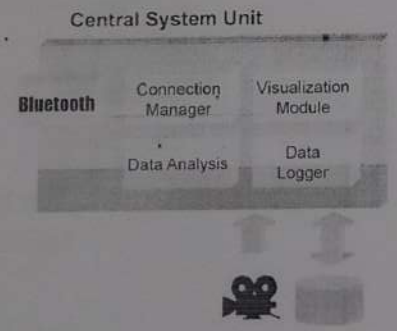
Eye movement

- Human eye movements have the potential to be a convenient, natural, fast input mode of computers due to their communication power.

Fig 1. Diagram of eye

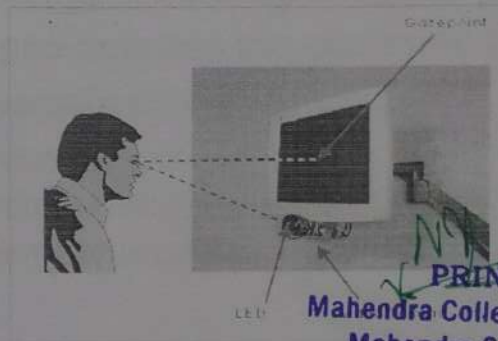
CSU-features

Connection management
Data processing
Visualization
Data recording
Access verification
System maintenance



MAGIC

- Computer could move the cursor by direction of the user's eyes.



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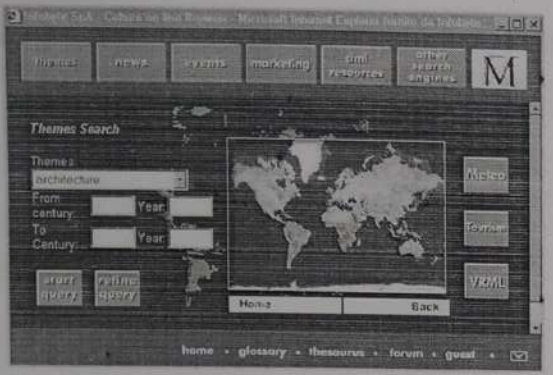
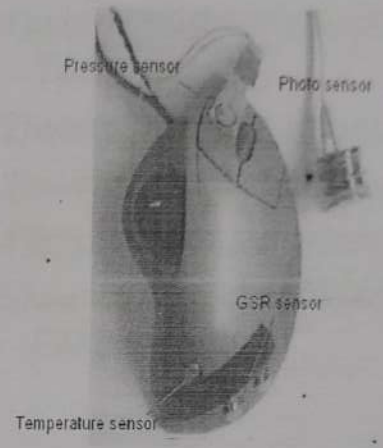
SUITOR

- It is mostly used in web based applications.



Emotion mouse



•This mouse is used to evaluate the users emotion such as anger, fear, sadness, disgust, happiness, surprise, etc when we use a computer.

Application

- POD - Car manufactured by TOYATO

•PONG-ROBOT Designed by IBM

•Secure Badge-an electronic badge that can identify the wearer

conclusion

- A convenient way of simplifying the life by providing more delicate and user friendly facilities in computing devices.
- The gap between the electronic and Physical world is reduced.
- The computers can be run using implicit commands instead of the explicit commands.

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