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FDP organized by the Department of Electrical
and Electronics Engineering

Faculty Development Programme on "Research Opportunities in Electrical and Electronics Engineering"

The Department of Electrical and Electronics Engineering organized FDP on 'Research Opportunities in Electrical and Electronics Engineering', on 1-3-2021 to 5-3-2021 through online by distinct speakers from 10:00 am – 12:00 pm. Faculties of other Engineering Institutes, Research Scholars, EEE Department participated in this programme. About 70 participants registered for this programme.

The main objective of this FDP is to focus on the research opportunities in power systems and power electronics specialization which includes power system deregulation, Automatic generation control, Grid integration issues of renewable energy sources, Solar irradiance forecasting, modelling and design of power electronics converters and Fuzzy logic applications to power electronics. The sessions were conducted by different resource persons from reputed institutions within and outside India.

On 1st March 2021, the Five-day Faculty Development Program on 'Research Opportunities in Electrical and Electronics Engineering', started with a welcome address by H M Harshitha Assistant Professor, Dept. of EEE and Followed by inauguration by Dr. P Mahaballeshwarapa, Principal, MVJCE who addressed the gathering by his valuable words. Later Dr. Ravishankar.C.V, Vice Chairman, IETE-Bangalore Section, Governing Council Member of Sambhram Educational Trust, VTU-BOE-EC/TE Member and working as Professor & Head of the Department, Department of ECE, Sambhram Inst. of Tech, Bangalore, started his session on 'Research opportunities in Indian power system'.



Inaugural speech by Dr.MahaballeshvarappaP , Principal , MVJCE , Bangalore

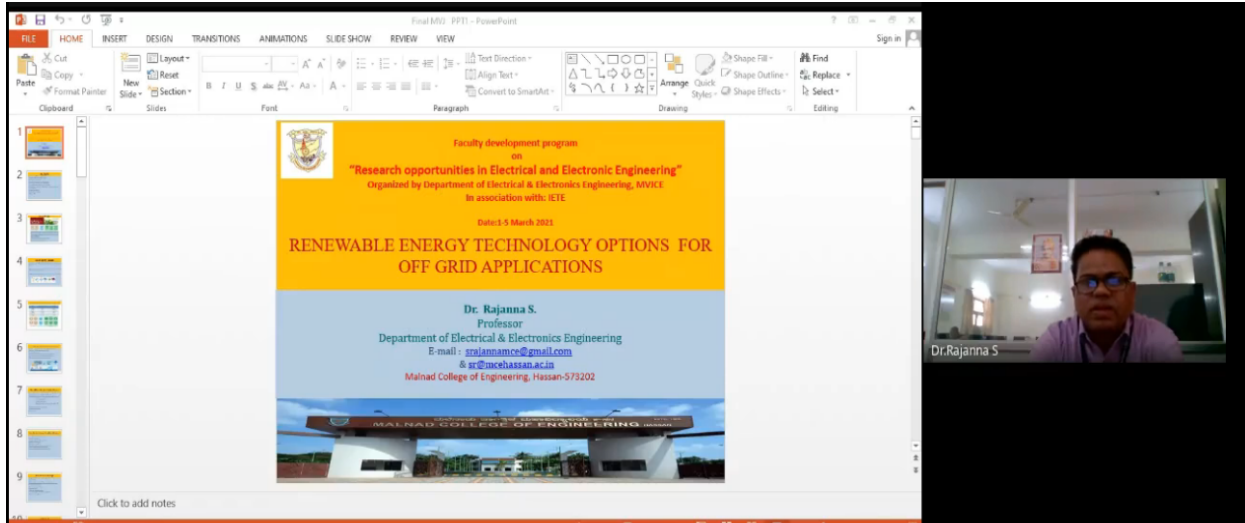
A presentation slide titled "RESEARCH" with a list of steps for research opportunities in Indian power systems. The slide is blue with white text. The steps are: FOURTH STEP - Start to interact with Professors or Seniors in the same area, try to discuss and take guidelines for the same. FIFTH STEP - Become member for technical associations IEEE,IETE,ISTE,CSI. SIXTH STEP - Try to select suitable University ,understand and update with the rules and regulations, formalities, duration, fee, University approval , recognition etc... SEVENTH STEP : Selection of Guide !!!!!!! EIGHTH STEP - Start downloading the Research papers from above web portals. NINTH STEP - Start working on MSWORD,EXCEL,POWERPOINT, MATLAB etc... and get perfect acquaint with the skill. The slide also includes a small video inset of Dr. Ravishankar C V, Principal of MVJCE, Bangalore, giving a session on 'Research opportunities in Indian power system' on 1st March 2021. The text "MVJ College of Engineering" is visible in the bottom left corner of the video inset. The slide footer includes "1 March 2021" and "Dr. C.V.RAVISHANKAR".

Glimpse of Dr.Ravishankar C V , session on 'Research opportunities in Indian power system' on 1st March 2021.

Recording link of session

1:https://drive.google.com/file/d/1WEBRnptcUssiz3aiB5Xe_rwaU8jxgTll/view?usp=sharing

Day 2: 2nd March 2021, Programme was started by greeting and introducing about guest speaker of session 2. Dr. S Rajanna who is the Professor in the Department of EEE, Malnad college of Engineering, Hassan. Dr. S Rajanna took the session 2 on the topic of "Research Opportunities in Solar Renewable Energy Resources".



Introduction slide of Dr. Rajanna sir.

Estimation of biogas power

livestock	Total number	Dung Availability (kg/animal)	Total Dung availability (kg/d)	Total dung availability in 75 % collecting efficiency (kg/d)	Biogas Yield (m ³ /kg)	Biogas Yield (m ³ /d)
Cows	275	10	2750	2063	0.036	74
Buffalos	150	15	2250	1688	0.036	61
sheep	193	2.25	434	326	0.078	25
Goats	334	2.25	752	564	0.078	44
Total			6186	4639	-	204

$$P_{BGG} (t) = \frac{\text{Total gas yield (m}^3/\text{day)} \times CV_{BG} \times \eta_{BGS}}{860 \times (\text{operating hours per day})}$$

η_{BMS} is overall energy conversion efficiency of biogas generator (25%),
 CV_{BM} is calorific value of biogas (4700 kcal/kg).

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Dr. Rajanna presentation, on 2nd March 2021, of 5 days of FDP.

Recording link of session

2: <https://drive.google.com/file/d/1-78VtXzGRdIO-zSEFGvjuPsfhLvPTC00/view?usp=sharing>

Day 3: 3rd March 2021, Programme was started by greeting and introducing about guest speaker of session 3, Dr. Subba Reddy, Senior Research fellow, High voltage Engineering Lab, IISc, Bangalore. Dr. Subba Reddy sir completed his session based on the topic of "Research avenues for Electrical and Electronics Engineers".



Introduction slide of Subba Reddy sir.



Glimpse of Dr. Subba Reddy sir's session on 3rd March 2021

Recording link of session 3:

<https://drive.google.com/file/d/1d3dSVpZwDxyigdcwL1DzqUTkGwUm4gJT/view?usp=sharing>

Day 4: 4th March 2021 Programme was started by greeting and introducing about guest speaker of session 4, Dr. I Thangaraju, Assistant Professor Department of EEE, Government College of Engineering, Bargur. Dr. I Thangaraju sir took his session "Energy storage Systems".

FDP -ROEEE 2021 session 4 (2021-03-03 at 20:13 GMT-8)

Possible Applications

Generation		Transmission	Distribution	Customer Services
Conventional	Renewable			
Black start	Distributed Generation flexibility	Participation to the primary frequency control	Capacity support	End-user peak shaving
Arbitrage	Capacity firming	Participation to the secondary frequency control	Dynamic, local voltage control	Time-of-use energy cost management
Support to conventional generation	Limitation of upstream perturbations	Participation to the tertiary frequency control	Contingency grid support	Particular requirements in power quality
	Curtailment minimisation	Improvement of frequency stability of weak grids	Intentional islanding	Continuity of energy supply
		Investment deferral	Reactive power compensation	Limitation of upstream disturbances

Thangaraju Iyengar

Glimpse of Dr. I Thangaraju sir session on 4th March 2021.

Recording link of session

4: <https://drive.google.com/file/d/1WzFe4Fv-EXM-W1B7T4g2Yxkn0bGmiilG/view?usp=sharing>

Day 5: 5th March 2021 Programme was started by greeting and introducing about guest speaker of session 5, Dr. V S Gangwar, SMIEEE, FIETE, FATMS, Scientist-E (RF – Microwave Antenna system). Sir took session on the topic of "Research opportunities in communication Engineering"

FDP ON
"RESEARCH OPPORTUNITIES IN EEE"

**ACTIVE PHASED ARRAY ANTENNAS FOR
 MILITARY RADAR SYSTEMS**

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5th March 2021

MVJ College of Engineering

Introduction slide of Dr. V S Gangwar sir

CONTEXT & BACKGROUND:
ACTIVE PHASED ARRAY OPERATIONS ?

□ **TRANSMIT OPERATIONS**

- Signal Generation
- Up conversion (Modulation)
- Amplifications (Power Amplifiers)
- Radiation into space (Antenna System)

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Glimpse of Dr.V S Ganwar sir session on 5th March 2021

Recording link of session

5:<https://drive.google.com/file/d/1VTHHFWQ8qSuTVMNxmfflyYZIS6d4Dnm/view?usp=sharing>

Outcome of the Event:

After the completion of the FDP the participants will be able to gain the knowledge on

1. Selection of modern trending research topic
2. Methods to do literature survey
3. Identification of research gaps and problem formulation
4. Selection of Journals for publication of research work