JAYAWANT SHIKSHAN PRASARAK MANDAL's
Bhivarabai Sawant Institute of Technology & Research
(Approved by AICTE New Delhi, DTE Mumbai & Affiated to Savitribai Phule Pune University)
Accredited with B++ Grade by NAAC
Gat No. 719/1 & 2, Wagholi, Pune-Nagar Road, Pune-412207
Ph : 020-067335108, 65217050, 67335100
Telefax : 020-67335100
Website : www.jspm.edu.in / www.bsiotr.org
EN 6311 / CEGP-013100

Prof. Dr. T. J. Sawant
B.E. (Elec.) PGDM, Ph.D
Founder Secretary

Dr. T.K. Nagaraj
ME. (Civil Engg), Ph.D (Civil Engg)
LMISTE, LMIGS, LMIRC
LMISRMTT, LMIE
Principal

Report on
Faculty Development Programme
On

"Recent Trends in Mobile Computing with Real Time Approach"
(Under the aegis of "IETE Pune Centre" and "IEEE Communication Society Pune Chair")

at
Department of Electronics and Telecommunication Engineering
Bhivarabai Sawant Institute of Technology & Research Wagholi, Pune

Name of The Programme	**Faculty Development Programme** **"Recent Trends in Mobile Computing with Real Time Approach"** **Under the aegis of "IETE Pune Centre" and "IEEE Communication Society Pune Chair"**
Date	27th March 2023 to 1st April 2023
Mode	Online
Organizer	Department of Electronics and Telecommunication Engineering of Bhivarabai Sawant Institute of Technology & Research Wagholi, Pune
Programme Convenor	Dr. Y. S. Angal, HOD (E&TC)
Programme Co-Ordinator	Asst. Prof. S. V. Malge (E&TC) Asst. Prof. P. V. Gawade (E&TC) Asst. Prof J. Y. Suryawanshi (E&TC)
Participants	104 Participants

The FDP aims to provide opportunities to faculty members, research scholars and post graduate students to enrich their teaching skill and research in the field of Mobile Computing. The Programme also intends to develop the knowledge of participants in the relevant field for inculcating learning values in students and guiding and monitoring their progress. The FDP was attended by 104 participants from faculty members of Electronics and Telecommunication department, PG students and Research scholar.

FDP Objective:

Sr. No.	FDP Objective
1	This FDP provides a platform to learn Wireless technologies and planning Ad-hoc Network.
2	An ability to study the basics of wireless, cellular technology and the working of Mobile IP, ad hoc network, features of mobile operating systems.
3	An ability to understand the use of M-Commerce application

FDP Brochure:

Inaugural Session:

Inaugural Session	
Date	**27th March 2023**
Time	**1:45 PM**

The esteemed personalities present on the inauguration of the Programme:

Dr. V.V. Shete	Chairman, IETE, Pune Centre	Chief Guest
Dr. M. M. Jadhav	Chair, IEEE Communication Society, Pune Chapter	Chief Guest
Dr. T.K. Nagaraj	Principal, BSIOTR	Host
Dr. Y. S. Angal	HOD(E&TC), BSIOTR	Host

In welcome speech, Hon. Principal Dr. T. K. Nagaraj shared his views with the faculty participants that if faculty wants to develop themselves and their students, then attending such faculty development programmes would enhance their skills of teaching concepts practically. Sir further shared that it helps to improve the performance of faculty in teaching and highlighted the importance and objectives of organizing faculty development programmes. He briefed the participants about the subjects chosen for the FDP and highlighted the reasons and importance of the same. In the inaugural speech, Hon. Dr. V.V. Shete shared his views on faculty development. He further added that this programme will provide special benefits to faculty members. The inauguration programme ended with vote of thanks by Mrs. Jayshree Suryawanshi.

Inaugural Session of the FDP with Dr. V.V. Shete Chairman, IETE, Pune Centre and Dr. M. M. Jadhav Chair, IEEE Communication Society, Pune Chapter.
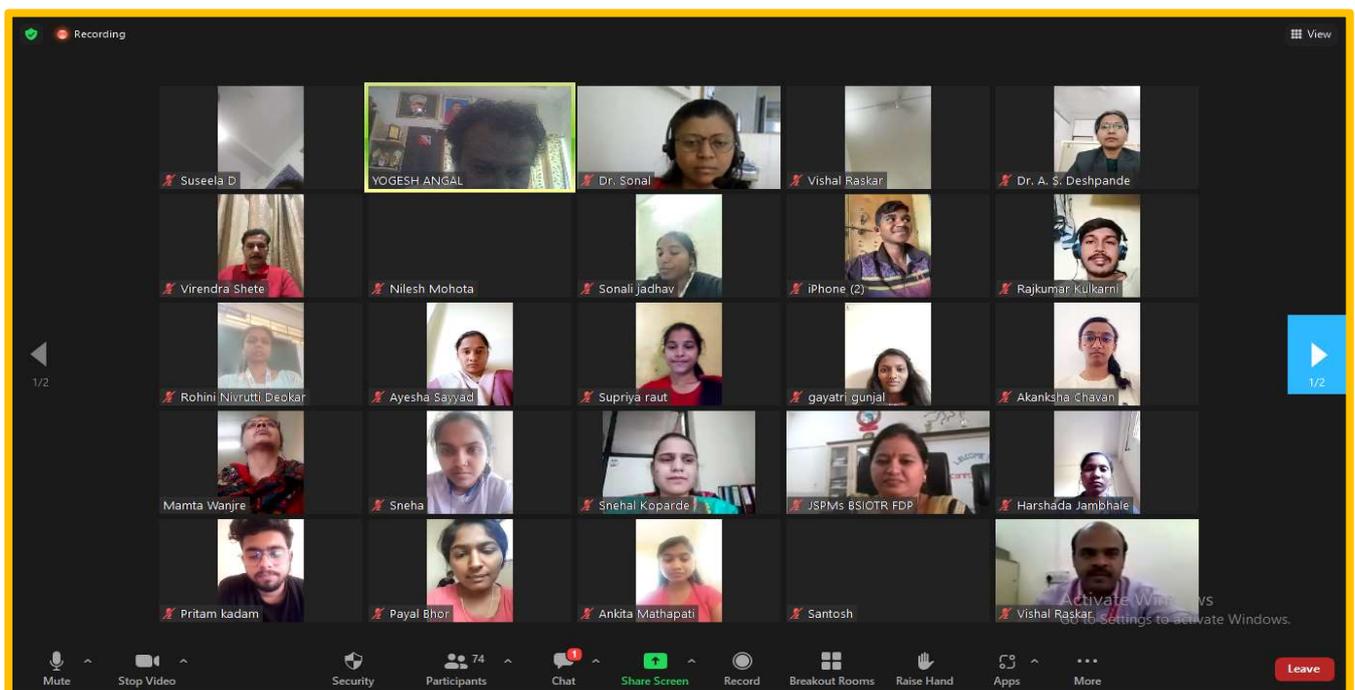
Date	27th March 2023 (Day One)
Session	One
Topic	Basic of Mobile Computing
Resource Person	Dr S. K. Jagtap Professor and HOD(E&TC), SKNCOE, Pune
Time	2:00 PM To 3:30 PM

Dr S. K. Jagtap Professor and HOD E&TC), SKNCOE, Pune has delivered an interactive lecture on "Basic of Mobile Computing". In this session participants were learned the Applications of Mobile Computing- Generations of Mobile Communication Technologies, Multiplexing: Spread spectrum, MAC Protocols: SDMA, TDMA, FDMA, and CDMA.

Date	27th March 2023 (Day One)
Session	Two
Topic	Introduction to 5G & Recent trends in Telecommunication Industries
Resource Person	Dr. Anuradha S. Deshpande Professor, E&TC, JSPM's ICOER Wagholi, Pune
Time	3:30 PM To 5:00 PM

An informative lecture on "Introduction to 5G & Recent trends in Telecommunication Industries" was discussed by Dr. Anuradha S. Deshpande Professor, E&TC, JSPM's ICOER Wagholi, Pune. In this session participants were learned the Introduction of 5G, 5G –Architecture, Key Enabling Technologies for 5G and Recent trends in Telecommunication Industries.

Date	28th March 2023 (Day Two)
Session	One
Topic	Ad-Hoc Networking
Resource Person	Dr. Araddhana A. Deshmukh Head& Associate Professor, AI & DS Department, MMCOE, Pune
Time	2:00 PM To 5:00 PM

Dr. Araddhana A. Deshmukh Head& Associate Professor, AI & DS Department, MMCOE, Pune
has delivered an informative lecture on "Ad-Hoc Networking". In this session participants were taught Mobile IP, DHCP, AdHoc, Proactive protocol-DSDV, Reactive Routing Protocols: DSR, AODV, Hybrid routing: ZRP, Multicast Routing: ODMRP, Vehicular Ad Hoc networks VANET, MANET Vs VANET: Security

Date	29th March 2023 (Day Three)
Session	One
Topic	Mobile IP and Transport Layer
Resource Person	Dr. Vijay M. Birari Professor and HOD(E&TC) NDMVP KBTCOE, Nashik.
Time	2:00 PM To 5:00 PM

Dr. Vijay M. Birari Professor and HOD(E&TC) NDMVP KBTCOE, Nashik, has illuminated on "Mobile IP and Transport Layer".In this session participants were gained with the knowledge of the on Mobile IP: Need of mobile IP, IP packet delivery, Agent Discovery, Registration, Tunnelling and encapsulation, Route optimization, IP Handoff. Transport Layer: Overview of Traditional TCP and implications of mobility control. Improvement of TCP: Indirect TCP, Snoop TCP, Mobile TCP, Fast Retransmit/fast recovery, Time-out freezing, Selective retransmission, Transaction-oriented TCP.

Date	30th March 2023 (Day Four)
Session	One
Topic	Mobile System
Resource Person	Dr.R.R.Itkarkar Professor, AISSMS COE, Pune.
Time	11:00 AM To 1:00 PM
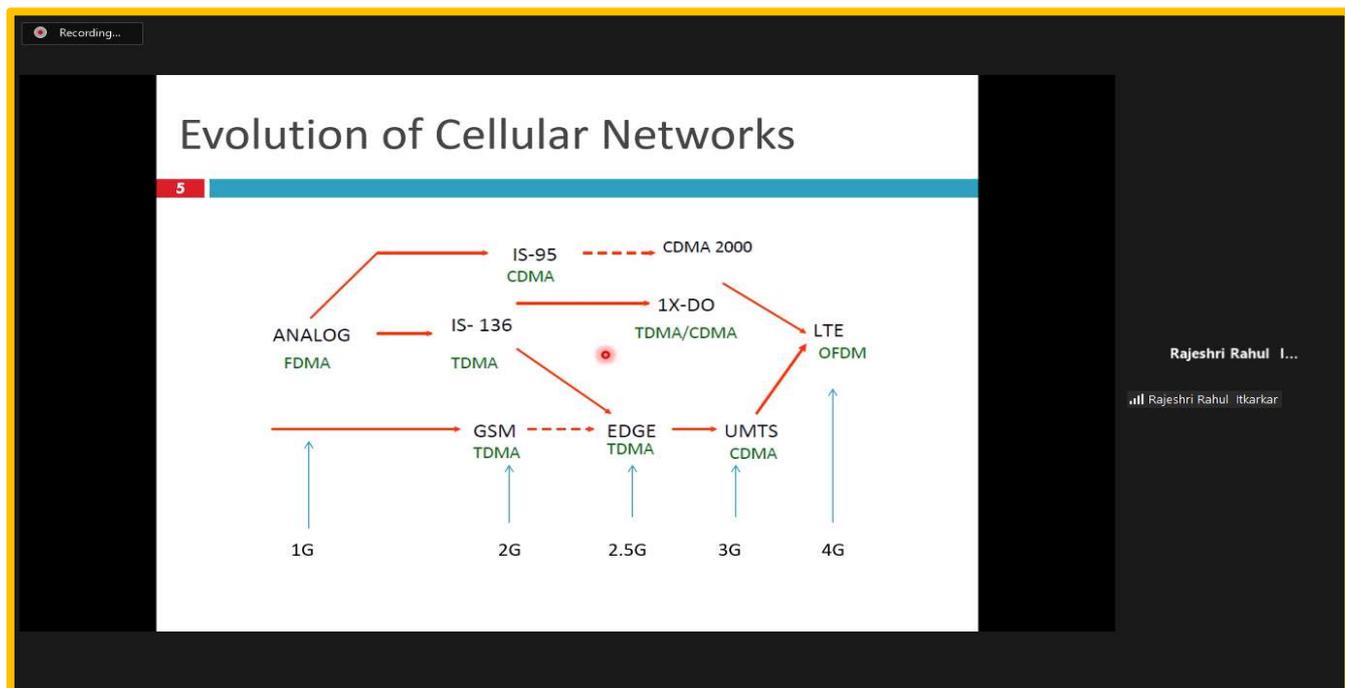
Dr. R. R. Itkarkar Professor, AISSMS COE, Pune has discussed on "Mobile System". In this session she gave insightful talk on Mobile Systems. Her presentation was both informative and engaging, and participants learned a lot from her expertise on the topic. Participants were gained with the knowledge of the on Introduction to Cellular Systems, GSM architecture, Protocols, Connection Establishment, Frequency Allocation, Routing, Mobility Management, Security, GPRS and UMTS: Architecture, Handover, Security. Introduction to 5G: Introduction, 5G network architecture, Applications, 5G enable technologies, Recent trends in Telecommunication Industries.

8

Date	30th March 2023 (Day Four)
Session	Two
Topic	Fading Channels
Resource Person	Dr. Gitimayee Sahu Sr.Manager, JIO Platforms Ltd, Mumbai
Time	2:00 PM To 5:00 PM

Dr. Gitimayee Sahu Sr.Manager, JIO Platforms Ltd, Mumbai has focused on "Fading Channels". In this session participants were familiar with Rayleigh Fading and Statistical Characterization, Properties of Rayleigh Distribution, BER in Fading, Narrowband vs Wideband Channels, Characterization of Multipath Fading Channels, Choice of Modulation, Coherent versus Differential Detection, BER in Fading , Ricean Fading.

Date	31st March 2023 (Day Five)
Session	One
Topic	Computational Intelligence in Mobile Computing
Resource Person	Dr. Vandana M. Rohokale Prof & HOD(E&TC), SIT's, Narhe, Pune
Time	2:00 PM To 4:00 PM

Dr. Vandana M. Rohokale Prof & HOD(E&TC), SIT's, Narhe, Pune has explained "Computational Intelligence in Mobile Computing". In this session participants realized the significance of Recent Trends in Mobile Computing, CI vs AI, principles Computational Intelligence, AI & ML, Deep learning, Uses of Computational Intelligence, Deep Learning Approach for Interference Mitigation in MIMO-FBMC/OQAM Systems.

Date	1st April 2023 (Day Six)
Session	One
Topic	Operating System & Applications of Mobile Computing
Resource Person	Dr. Makarand M Jadhav Prof & HOD(E&TC), NBN STC, Pune
Time	9:00 AM To 11:00 AM

A discussion on "Operating System & Applications of Mobile Computing" was delivered by Dr. Makarand M Jadhav Prof & HOD(E&TC), NBN STC, Pune. In this session participants got the knowledge about Operating System: A Few Basic Concepts, Special Constraints and Requirements of Mobile OS, A Survey of Commercial Mobile Operating Systems, Windows Mobile, Applications: M-Commerce, Business to Consumer (B2C) Applications, Business to Business (B2B) Applications. Structure of M-Commerce, Pros and Cons of M-Commerce, Mobile Payment System, Mobile Payment Schemes, Desirable properties of a Mobile Payment system, Mobile Payment solutions, Process of Mobile Payment, Security Issues.

Valedictory Session:

Valedictory Session	
Date	1 April 2023
Time	11:00 AM

The esteemed personalities present on the Valedictory of the Programme:

Dr. D. S. Bormane	Member, Governing Council, IETE, New Delhi	Chief Guest
Dr. M. M. Jadhav	Chair, IEEE Communication Society, Pune Chapter	Chief Guest
Dr. T.K. Nagaraj	Principal, BSIOTR	Host
Dr. Y. S. Angal	HOD(E&TC), BSIOTR	Host
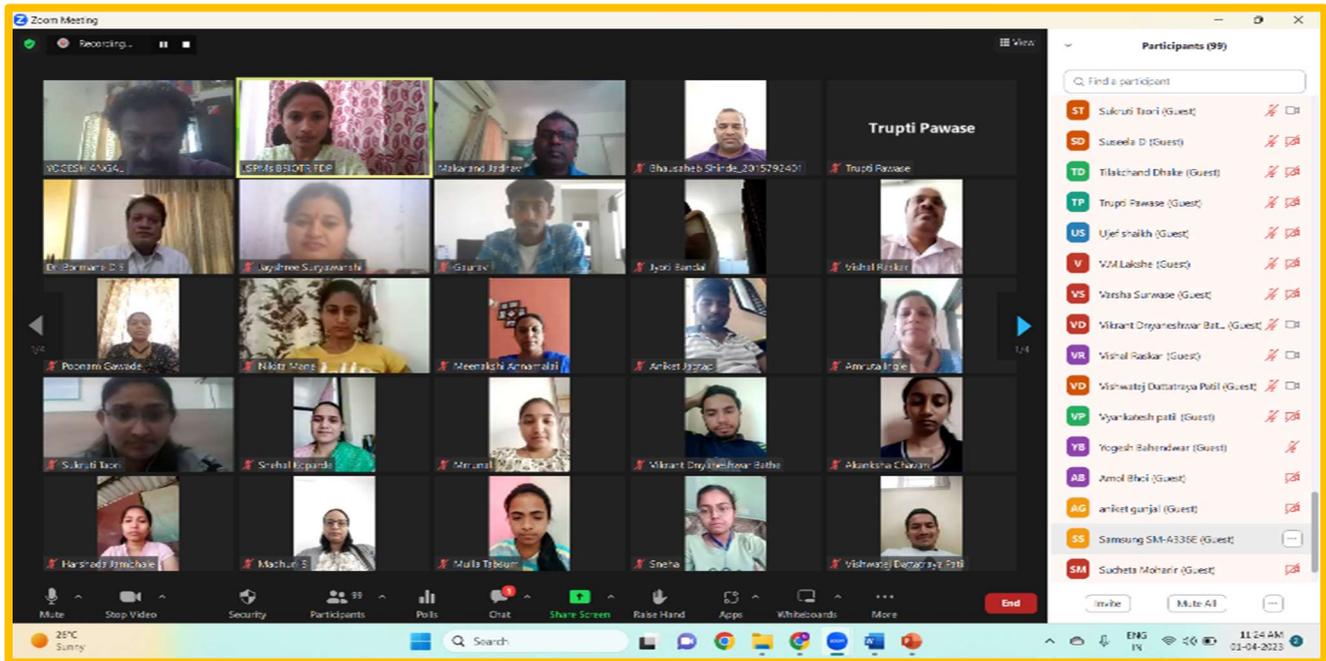
Valedictory Session of the FDP with Dr. D. S. Bormane Member, Governing Council, IETE, New Delhi and Dr. M. M. Jadhav Chair, IEEE Communication Society, Pune Chapter.

All the personalities appreciated the department for organizing the FDP. The program was ended with vote of thanks by Mrs. Suchipriya Malge, Asst. Prof., Electronics & Telecommunication Dept., JSPM'S BSIOTR & Coordinator of the FDP. The FDP received a lot of positive feedback from faculty members, PG students and research scholars from many universities of India. There were 104 enthusiastic participants in total, who took part in the 6-day online FDP. Each session was of Minimum 90 minutes & Maximum 180 minutes and included open questions, answer session. Zoom meeting was the platform used for each session links (Join Zoom Meeting https://us02web.zoom.us/j/83443301126?pwd=c1V6eWdDUU9BcDVLMWVjZHlsYU5xUT09); feedback links were shared, MCQ Test was conducted at the end of FDP. The registered participants were engaged in a special WhatsApp group. The recordings are being uploaded on the Google Drive. (https://drive.google.com/drive/folders/1E0-QfZB-is5pjq51jJKe4m85nnD7FebA?usp=share_link). 104 E-certificates were awarded to all registered participants by sharing Google Drive Link. The FDP was concluded on the tanks giving note to the Chief Guest, Management, Campus Director, Principal, Deans and all the Participants.
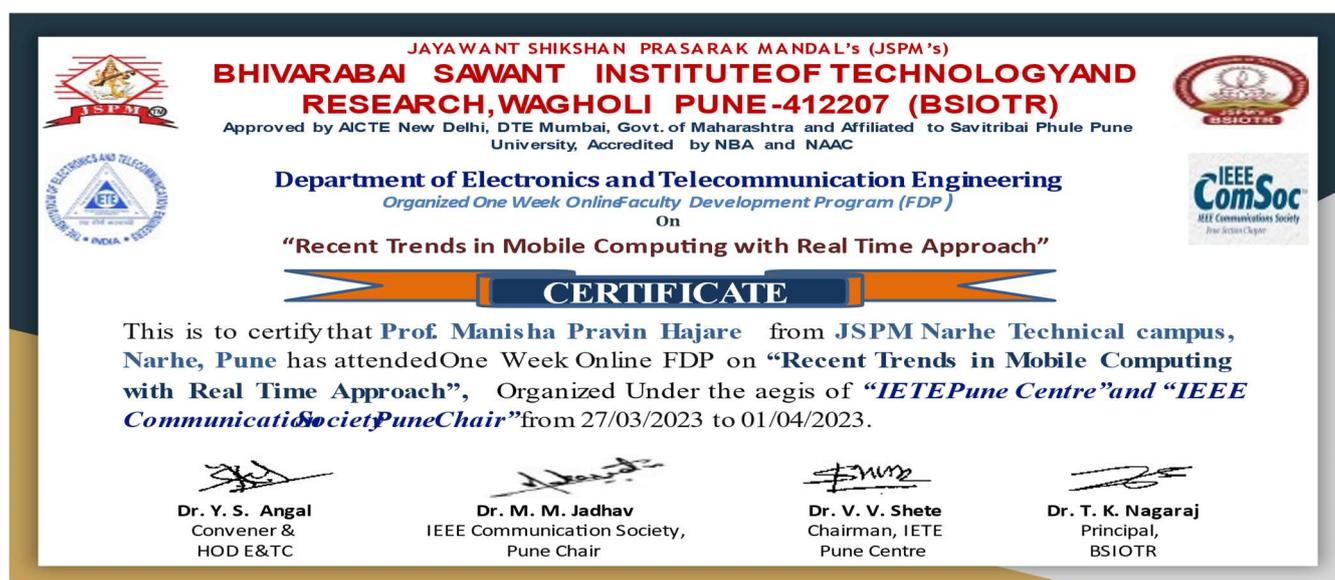
Sample FDP Certificate:

FDP Outcome:
All the sessions were very much informative. The discussed areas are of great benefit for the participants as the topics match with the current working domain. Participants were enlightened with the most widely used advance technologies in this domain. This in turn will help in research activity.

Sr. No.	FDP Outcome
1	Understand concepts of Mobile Communication.
2	Analyze next generation Mobile Communication System
3	Understand network layers of Mobile Communication
4	Understand IP and Transport layers of Mobile Communication
5	Study of different mathematical models
6	Understand different mobile applications.

Sr. No.	FDP Outcome	PO	PSO
1	Understand concepts of Mobile Communication.	PO1	PSO1
2	Analyze next generation Mobile Communication System	PO2	PSO2
3	Understand network layers of Mobile Communication	PO1	PSO1
4	Understand IP and Transport layers of Mobile Communication	PO1	PSO1
5	Study of different mathematical models	PO2, PO3, PO4, PO5	POS3
6	Understand different mobile applications.	PO11, PO12	PSO3

Programme Co-Ordinator	Asst. Prof. S. V. Malge (E&TC) BSIOTR	
	Asst. Prof. P. V. Gawade (E&TC) BSIOTR	
	Asst. Prof. J. Y. Suryawanshi (E&TC) BSIOTR	
Programme Convenor	Dr. Y. S. Angal, HOD (E&TC), BSIOTR	
Principal	Dr. T. K. Nagaraj, Principal, BSIOTR	