

One week FDP on  
Fundamentals of Signal Processing  
January 1<sup>st</sup>-5<sup>th</sup>, 2020

Application form

1. Name in full : \_\_\_\_\_
2. Date of birth : \_\_\_\_\_
3. Designation : \_\_\_\_\_
4. Institution : \_\_\_\_\_

5. Whether the Institution is AICTE/UGC recognized: YES/NO
6. Highest Educational Qualification: \_\_\_\_\_
7. Experience in Years: Teaching/Research/ Industry: \_\_\_\_\_
8. Subjects Taught over last three years:

\_\_\_\_\_

\_\_\_\_\_

\_\_\_\_\_

9. Demand Draft details: \_\_\_\_\_
10. Address for correspondence: \_\_\_\_\_

E-mail ID: \_\_\_\_\_

alternate email ID: \_\_\_\_\_

Mobile and Phone No.: \_\_\_\_\_

Declaration : The information provided above is true to the best of my knowledge. If selected, I agree to abide by the rules and regulations of the course and shall attend the course for the entire duration. I also undertake to inform the Coordinators in case I am unable to attend the course, if selected.

Place: \_\_\_\_\_ Date: \_\_\_\_\_

Name and Signature of Applicant

Sponsorship Certificate

Mr./Ms. \_\_\_\_\_ is an employee of this Institute and is hereby sponsored to participate in the One week FDP on Fundamentals of Signal Processing.

Place: \_\_\_\_\_ Date: \_\_\_\_\_

Name and Signature of Head of Institution with seal

Please send completed application forms (with DD as detailed) to the coordinator on or before 15th December, 2019. (The coordinators may also be contacted for clarifications, if any).

Dr. Sanjay Nalbalwar  
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Dr. Babasaheb Ambedkar Technological University, Lonere – 402 103, Dist. Raigad, M.S.  
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One week FDP on  
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Coordinator  
**Dr. Sanjay Nalbalwar**  
Department of Electronics &  
Telecommunication Engineering

Patron  
**Prof. Vedala Rama Sastry**  
Hon'ble Vice-Chancellor

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## Introduction

The field of Digital Signal Processing (DSP) has continued to have a major and increasing impact in many key areas of technology, including telecommunication, digital television and media, biomedicine, digital audio and instrumentation. DSP is now at the core of many new and emerging digital products and applications in the information society such as mobile phones, digital cameras, TVs and audio systems etc. Almost every Electrical, Computers, IT and Electronics & Telecommunication department in this country and abroad now offers one or more courses in DSP at UG & PG levels. It is now needed and expected for Engineers in the mentioned field to be competent in DSP.

It is necessary to upgrade the faculty and research scholars with the latest developments in DSP since this field has become a major and fast-growing thrust area in Engineering & Technology.

We expect that participant teachers will pass on the knowledge to the students in the years to come which in turn will motivate some of the students to make contributions to this field.

## Objectives

- The course intends to review the fundamentals of Discrete Time Signal Processing quickly and proceed to actual design of discrete time filters.
- The participants are expected to design and demonstrate an example of meeting filter specifications using both, the Finite Impulse Response approach and the Infinite Impulse Response Approach. It is also desired that some discussion ensure pertaining to pedagogical approaches in teaching Discrete Time processing related subjects.

## Course Content

- Introduction to Discrete Sequences and Systems.
- System Properties: Linearity, Shift Invariance, Causality, Stability.
- Rational Systems and their realization.
- Discrete Time Fourier Transforms and Discrete Fourier Transforms
- Ideal frequency responses and filter specifications
- Infinite Impulse Response Filter Design
- Finite Impulse Response Filter Design
- Filter Realization
- Selected Applications of Discrete Time Signal Processing
- Pedagogical Techniques and their application in DSP teaching
- Tutorial and/or laboratory exercises
- This course will be conducted by the resource persons consist of experts from reputed industries, IITs and DBATU.

## Eligibility and Selection Criteria

Faculty members / Research Scholars from AICTE approved Engineering Degree/Diploma colleges are eligible to participate. The number of participants is limited to forty and selection will be done on first-cum-first-served basis

## About the University

[Dr. Babasaheb Ambedkar Technological University](#), with its head quarters situated at Lonere, is now a statutory State Technical University established by Government of Maharashtra through special Dr. Babasaheb Ambedkar Technological University Act. The university has been accorded the status of an 'affiliating' university of the entire State of Maharashtra from March 2, 2016, by the Maharashtra Act No. XXIX of 2014. A total of 180 colleges offering Engineering and Technology, Pharmacy, Architecture, Hotel Management and Catering Technology courses from the state are affiliated to the University. The campus covers an area of 468 acres.

[Department of Electronics & Telecommunication Engineering](#) was established in the year 1995 and offering B.Tech, M.Tech and Ph.D programmes. The department has received handfull amount of funding from AICTE, UGC, TEQIP and State Government for various research projects. Department has state-of-the-art laboratories in various areas of Electronics & Communication Engineering. The focus of the department is to produce graduates & post graduates with strong fundamentals in Electronics and Communication domain. The University is surrounded by State Industrial areas (MIDC): Roha, Mahad, Lote Parshuram, Patalganga and Taloja. The University is about 160 km from Mumbai and 140 km from Pune. The University is well connected by road (Mumbai Goa Highway, No. NH -66, University is only 2 km off this highway) and on Konkan railway, Nearest stations: Veer (5 km) and Mangaon (12 km). The University is located at the lotus feet of Raigad Fort, where Shivaji Maharaj was coroneted. Mahabaleshwar and Panchgani are the nearest hill stations in the close vicinity.

## Important Inforamtaion

Submission of Registration Form: **On or before 15th December, 2019**

Outstation participants will be paid TA/DA as per AICTE norms.

The completed registration form with signature of Principal/Director and institute seal, is to be sent to Programme Coordinator.

## Course Fees

Rs. 1000/- for Industry participants.

Rs. 1000/- for Faculty member and Rs. 500/- for Research Scholar (refundable after completion of STTP).

The participants will be provided shared accommodation on request at DBATU campus