

### BIO-DATA (Summary)

<b>Name in Full:</b> Dr. Krishna Raj	<b>Father's Name:</b> Sh.Chauhari Lal
<b>Date of Birth:</b> 06.06.1969	<b>Place of Birth:</b> Allahabad
<b>Phone:</b> 09450607840, <b>Fax No.</b> 0512-2533812 <b>e-mail:</b> <a href="mailto:kraj_biet@yahoo.com">kraj_biet@yahoo.com</a>	
<b>Present Position:</b> Professor & Head, Department of Electronics Engineering, Harcourt Butler Technological Institute, Kanpur , U.P., 208002.	
<b>Areas of Specialization:</b> Digital Signal Processing, VLSI, Computer Arithmetic	



#### Academic Record

Degree (Subjects)	Institution	Year	Division	%
High School	U.P. Board (G.I.C. Allahabad)	1985	I <sup>st</sup> Hons.	81.3
Intermediate	U.P. Board (G.I.C. Allahabad)	1987	I <sup>st</sup> Div	72.4
B.E.(Electronics)	M.M.M.E.C. Gorakhpur; University of Gorakhpur	1992	I <sup>st</sup> Div, Hons.	75.8
M.E. (Control & Instrumentation)	M.N.R.E.C. Allahabad	1995	I <sup>st</sup> Div	74.8
Ph.D. (Electronics Engineering)	M.M.M.E.C. Gorakhpur; D.D.U. University of Gorakhpur	2003	Awarded	-

**Employment Record: Total teaching experience 20 years and 05 Months**

S.N.	Organization	Period of service (Duration)	Designation & Pay-scale
1.	H.B.T.I. Kanpur	25.01.2015 to Till date	Professor (37400-67000) AGP 10000
2.	H.B.T.I. Kanpur	11.04.2008 to 24.01.2015	Associate Professor (37400-67000) AGP 9000
3.	H.B.T.I. Kanpur	25.01.2007 to 10.04.2008	Assistant Professor (12000-18300) (Vth Pay Commission)
4.	B.I.E.T. Jhansi	11.04.2005 to 24.01.2007	Reader (selection grade) 12000-18300 (Vth Pay Commission)
5.	B.I.E.T. Jhansi	11.04.2001 to 10.04.2005	Senior Lecturer 10000-15200 (Vth Pay Commission)
6.	B.I.E.T. Jhansi	11.04.1996 to 10.04.2001	Lecturer 8000-13500 (Vth Pay Commission)

#### Achievements:

Sl.No.	Achievements	Numbers	Page no	
1.	Papers published International & National Journals , International conferences, and in National conferences	International & National Journals	30	2-4
		International conferences	21	5-6
		National conferences	30	7-9
		<b>Total</b>	74	
2.	Books published	03	09	
3.	Books chapters published	05	09-10	
4.	Sponsored Research Projects	Total 03: completed	10	
5.	M.Tech Supervised	36	10-12	
6.	Ph.D. Supervision	03	12	
7.	Invited Lectures and Chairmanships at National or International Conference/Seminar/Symposia	More than 50	13-17	
8.	Workshops/Seminars/Conferences/courses organized	43	17-23	
9.	Participation in workshops/Training/ FDPs	42	23-26	
10.	Membership:	FIETE(F209730), Life member of IE(M136419-1), Member of IEEE		
11.	Details of Conducted Webinar/Prepared Lab Demonstrations/E-Videos during lockdown and uploaded on YOUTUBE	89	26-33	
12.	Details of administrative duties performed	More than 45 types of duties	34-36	

**S.No. 1: Publications (Research Papers)**

**A.Number of research papers or Articles published in journals (30)**

	Author(s)	Year	Title	Complete Reference of Journal
1.	Hema Tekwani, <b>Krishna Raj</b>	December 2021	Role Of Pattern Characteristics In Cross Correlation Based Motion Estimation	Indian Journal of Science and Technology 14(41):3114-3125
2.	Ajeet Kumar Srivastav, <b>Krishna Raj</b>	November 2021	An Efficient FIR Filter Based on Hardware Sharing Architecture Using CSD Coefficient Grouping for Wireless Application	Springer: Wireless Personal Communications DOI: 10.1007/s11277-021-09296-0
3.	Akanksha Katiyar, <b>Krishna Raj</b>	2021	An approach of Extended Kalman Filter in Cooperative Localization	International Journal & Research Paper Publisher
4.	Hema Tekwani, Krishna Raj	June 2021	STUDY OF TEMPLATE COMPRESSION IN IMAGE CORRELATION BASED MOTION ESTIMATION	INTERNATIONAL JOURNAL OF ELECTRICAL ENGINEERING & TECHNOLOGY 12(6)  DOI: 10.34218/IJEET.12.6.2021.029
5.	Sonal Yadav, Krishna Raj	July 2020	A Review of Enhancement Techniques for Underwater Images	International Journal for Research in Applied Science & Engineering Technology (IJRASET) ISSN: 2321- 9653; IC Value: 45.98; SJ Impact Factor: 7.429 Volume 8 Issue VII July 2020- Available at www.ijraset.com  DOI: 10.22214/ijraset.2020.7033
6.	Anamika Tiwari, Krishna Raj	2019	Underwater Image Enhancement Using Hybridized Concept of White Balancing And Image Fusion	International Journal of Advance Research, Ideas and Innovations in Technology, Volume 5, Issue 4, Page no. 160-162, July 2019
7.	Jyoti Pandey, Krishna Raj	2019	Peak Signal to Noise Ratio Analysis in Single Image Restoration Technique	International Journal of Advance Research, Ideas and Innovations in Technology, Volume 5, Issue 4, Page no. 160-162, July 2019
8.	Divya Srivastava, Krishna Raj	2019	Floating-Point Butterfly Architecture Representation using Hybrid Number Representation	Journal of Emerging Technologies and Innovative Research (JETIR) June 2019, Volume 6, Issue 6

9.	Vipul Goel, Krishna Raj,	2018	Removal of Image Blurring and Mix Noises Using Gaussian Mixture and Variation Models	I.J. Image, Graphics and Signal Processing, 2018, 1, 47-55 Published Online January 2018 in MECS ( <a href="http://www.mecspress.org/">http://www.mecspress.org/</a> ) DOI: 10.5815/ijigsp.2018.01.06
10.	Vishal Awasthi, Krishna Raj	2017	Compensated CIC-Hybrid Signed Digit Decimation Filter	World Academy of Science, Engineering and Technology: International Journal of Electrical, Computer, Energetic, Electronic and communication Engineering, Vol:10, No.12, pp.1483-1492.
11.	Krishna Raj, Kapil Dev Tiwari, Vipul Goel, Pragya Gautam	2017	Variational Techniques for Image De-noising: A Review	International Journal for Research in Applied Science and Engineering Technology ISSN: 2321-9653; Vol. 5; Issue VII, July 2017 pp.2168-2172
12.	Krishna Raj, Pragya Gautam, Kapil Dev Tiwari, Vipul Goel	2017	A Review Paper on Various Edge Detection Techniques	International Journal for Research in Applied Science and Engineering Technology ISSN: 2321-9653; Vol. 5; Issue VIII, August 2017 pp.534-537
13.	Jitendra K. Pathak, Krishna Raj	March 2016	Survey on Echo Cancellation using Adaptive Filter Algorithm	International Journal of Computer & Mathematical Sciences, ISSN 2347-8527 Vol:5, Issue 3, pp.745-752.
14.	Vishal Awasthi, Krishna Raj	2014	Application of Hardware Efficient CIC Compensation Filter in Narrowband Filtering	World Academy of Science, Engineering and Technology: International Journal of Electrical, Computer, Energetic, Electronic and communication Engineering, Vol:8, No.9, pp.1468-1474.
15.	Vishal Awasthi, Krishna Raj	2014	Design of an Efficient Retimed CIC Compensation Filter	World Academy of Science, Engineering and Technology: International Journal of Computer, Information, Systems and Control Engineering, Vol:8, No.5, pp.745-752.
16.	Vishal Awasthi, Krishna Raj	2014	Design of Efficient Digital Filter Using Cutset Retiming Technique	International Journal of Electronics, Electrical and Computational System (IJECS), Academic Science, Volume2 (1), pp.25-33.
17.	Vishal Awasthi, Krishna Raj	2013	A New Approach to Design an Efficient CIC Decimator Using Signed Digit Arithmetic	World Academy of Science, Engineering and Technology: International Journal of Computer, Information, Systems and Control Engineering, Vol:8, No.5, pp.745-752.
18.	Rajkumar Tomar <sup>1</sup> , Praveen Kumar Singh <sup>2</sup> , Krishna Raj <sup>3</sup>	2013	A Review of CORDIC Algorithms and Architectures with Applications for Efficient Designing	International Journal of Scientific & Engineering Research, Volume 4, Issue 8, AUGUST 2013 ISSN 2229-5518 PP 236-246

19.	Vishal Awasthi, Krishna Raj	2011	A Survey on the algorithms of Fast Digital Adders	VSRD International Journal of Electrical, Electronics & Communication Engineering (VSRD_IJEECE), pp. 1-5, Vol. 1(7)
20.	Vishal Awasthi, Krishna Raj	2011	Performance Analysis of Compensated CIC Filter in Efficient Computing Using Signed Digit Number System	International Journal of Electronics Engineering, 3 (2), 2011, pp. 323– 329 ISSN : 0973-7383
21.	Vishal Awasthi, Krishna Raj	2011	A Survey on the Algorithms of Kalman Filter and Its Variants in State Estimation	International Journal VSRD-TNTJ, Vol. 2 (2), 2011, pp. 73-88, ISSN No.0976-7967
22.	Vishal Awasthi, Krishna Raj	2011	A Comparison of Kalman Filter and Extended Kalman Filter in State Estimation	International Journal of Electronics Engineering, 3(1), pp. 67-71
23.	Vishal Awasthi, Krishna Raj	2011	Performance Comparison of Hybrid Signed Digit Arithmetic in Efficient Computing	International Journal of Engineering Science and Technology (IJEST) ISSN : 0975-5462, vol. 3, n0.10, pp.7623-7632, 2011
24.	Vibhav Kumar Sachan, Krishna Raj	Jan' 2010.	Interference Cancellation Based Turbo Equalizer for Wireless Communication Systems,	International Journal of Active and Passive Electronics Devices, USA, Jan' 2010.
25.	Vibhav Kumar Sachan, Krishna Raj;	2010	Performance analysis of MLSE Equalizer for MIMO wireless Communications system	International Journal of Radio Engineering, Czech Republic
26.	Krishna Raj, Suman Lata	2010	Fast Processing using Signed digit Number system	International Journal of Electronics Engineering (IJEE) 2(1) ISSN 0973-7283 pp 173-175
27.	Vibhav Kumar Sachan, Krishna Raj	Sep' 2009.	Performance Analysis of orthogonal space-Time Block Codes for Wireless Communication systems,	International Journal of Active and Passive Electronics Devices, USA, Sep' 2009.
28.	Krishna Raj, Brijesh Kumar, Poornima Singh	2009	“FPGA implementation and mask level CMOS layout design of Redundant Binary Signed Digit Comparator.”	International Journal of Computer Science and Network security, ISSN 1738-7906, pp. 107-115.
29.	Krishna Raj	December-2006.	FIR Filter Design Techniques”	LE Lab Experiments, Vol-6, No.-4, December-2006.
30.	Krishna Raj	September-2006	Analysis of clipper circuit using PSPICE simulation”	LE Lab Experiments, Vol-6, No.-3, September-2006.

**B.Number of research papers or Articles published in International Seminars or Conferences (21)**

S.No.	Author(s)	Year	Title	Name and Place of Conference
1.	Sonal yadav, Krishna Raj	November 2020	Underwater Image Enhancement via Color Balance and Stationary Wavelet Based Fusion	DOI: 10.1109/INOCON50539.2020.9298231  Conference: 2020 IEEE International Conference for Innovation in Technology (INOCON)
2.	Prakhar K Sonkar, Krishna Raj	November 2020	Single Image Dehazing Using Dark Channel Prior With Median Filter and Contrast Enhancement	DOI: 10.1109/INOCON50539.2020.9298408  Conference: 2020 IEEE International Conference for Innovation in Technology (INOCON)
3.	Hema Tekwani, Krishna Raj	February 2020	Non-contact motion estimation using image correlation	DOI: 10.1109/SPIN48934.2020.9071255  Conference: 2020 7th International Conference on Signal Processing and Integrated Networks (SPIN)
4.	Divya Srivastava and Krishna Raj	2019	Comparative analysis of Hybrid Signed Digit adder to Redundant Signed Digit Adder	IEEE International Conference on Defence and Space Technologies (ICDST-2019) at IET Lucknow.
5.	Hema Tekwani, Krishna Raj	2018	Compression using Thresholding on Signal/Image by applying Wavelet Analysis	IEEE International Conference CCTES-18, at Integral University Lucknow, on Sept. 14- 15,2018
6.	Vishal Awasthi, Krishna Raj	2013	Development of Optimum Addition Algorithm Using Modified Parallel Hybrid Signed Digit (MPHSD) Technique	3 <sup>rd</sup> IEEE International Advance Computing Conference (IACC-2013), at AKGEC Gaziabad (U.P.), February 22-23,2013
7.	Krishna Raj, Praveen Kumar Singh, Rajkumar Tomar	2012	A review of low cost multiplier using CORDIC subsystem	IEEE International Conference ICPCES-2012, MNNIT Allahabad 978-1-4673-1049-9/12/\$31.00 ©2012
8.	Vidyadhar Gupta, Krishna Raj	March 15- 17, 2012	An Efficient Modified Lifting Based 2-D Discrete Wavelet Transform Architecture	1 <sup>st</sup> International Conference on “ Recent Advances in Information Technology (RAIT-2012), March 15-17, 2012
9.	Ashish Chaturvedi, Krishna Raj, Amrish Kumar	2012	A Comparative Analysis of LMS and NLMS Algorithm for Adaptive Filtration of compressed ECG Signal	International Conference ICPCES-2012, MNNIT Allahabad

10.	Ashish Chaturvedi, Krishna Raj, Madhuri Mishra	2012	Power-Spectrum Analysis of 50 Hz cancellation of ECG signal using Adaptive filtering	International Conference ICES-2012, SASTRA UNIVERSITY in Tamil Naidu
11.	Krishna Raj, Vedvrat	2010	DWT Architectures for Image Applications	International conference ICMARS- 2010, Jodhpur
12.	Krishna Raj, Vedvrat	2010	A study of VLSI Architectures for 2-D Discrete Wavelet Transform	IEEE International conference on Power, Control and Embedded Systems (ICPCES),Nov.29-Dec1, 2010
13.	Krishna Raj, V.Yadav	2010	A tutorial on universal look-ahead algorithm for pipelining IIR filter	IEEE International conference on Power, Control and Embedded Systems (ICPCES),Nov.29-Dec1, 2010
14.	Krishna Raj	June 18-19, 2009	Signed Digit Number System for Fast Processing	IEEE International conference on Innovative Technologies (ICIT-09) at PDM College of Engineering. Bahadurgarh and IEEE-IMS/EMBS (Delhi)
15.	Krishna Raj	July 26-28, 2007	“Low Power VLSI Circuit Design of First Stage of RBSD Parallel Adder”,	<b>International conference</b> on Information & Communication Technology (IICT-07), July 26-28, 2007, at DIT Dehradun.
16.	T.R.Lenka, K. Raj	2007	A Novel Approach for an Efficient Multiplier using Redundant Binary Signed Digit Number System	11 <sup>th</sup> IEEE International Symposium on VLSI design at Kolkota, Aug 8-11, 2007
17.	T.R.Lenka, K. Raj	2007	Performance Comparison of 4 Bit parallel RBSD adder with 4 bit QSD adder	International conference on Embedded Systems, Mobile Communication and Computing, August 3-5, 2007
18.	Amit Mishra, zahiruddin, Krishna Raj	2007	Implementation Of A Digital Neuron With Nonlinear Activation Function Using Piecewise Linear Approximation Technique	IEEE ICM-December 2007, 978-4244-1847-307/52500@2007 IEEE PP.73-76
19.	Krishna Raj	November 14-16,2005.	“Detection and correction of limit cycle oscillations in second order recursive digital filter ”,	The 1 <sup>st</sup> <b>IEEE</b> International conference on computers, communications and signal processing (CCSP 2005), University Teknology, <b>Kuala Lumpur, Malaysia.</b>
20.	Krishna Raj	Jan, 22-25,2001.	Modeling the effect of the introduction of fault tolerance on the performances of VLSI system”	First international conference on industrial and applied mathematics in Indian Subcontinents at Guru Nanak Dev University, Amritsar <b>India,</b>
21.	Krishna Raj, B.P. singh	1999	“Arithmetic and logic implementation of RBSD number system”, Number system”	International conference of “Cognitive system” ICCs- 99, R&D/IRIs, NIIT Ltd., New Delhi, <b>India.</b>

**C.Number of research papers or Articles published in National conferences (30)**

S.No.	Author(s)	Year	Title	Name and Place of Conference
1.	Krishna Raj, Praveen Kumar Singh, Rajkumar Tomar	2013	Power Saving in FIR Filter using CORDIC Subsystem as a Multiplier	NCECS-2013, IPEC Ghaziabad
2.	Krishna Raj, Rajkumar Tomar, Praveen Kumar Singh	2013	Arithmetic of CORDIC and its scaling free Generalized Micro- rotation selection operation	NCECS-2013, IPEC Ghaziabad
3.	Ashish Chaturvedi, Krishna Raj	August 24- 25, 2012	An Overview of Adaptive Filtering as Noise Cancellation of ECG Signal	Advances In Materials & Material Selection In Design (AMMSD 2012), HBTI Kanpur
4.	Madhuri Mishra, Krishna Raj	Sep 01-02, 2012	VLSI Algorithms for Implementation of High Speed Digital Filters	Recent Trends In Communication Systems And Devices(NCRTCD 2012), MEERUT
5.	Vishal Awasthi, Krishna Raj	March 26- 27, 2011	An Application of Kalman Filter in state Estimation of a Dynamic System	Signal Processing And Real Time Operating System (SPRTOS-11), HBTI Kanpur
6.	Vedvrat, Krishna Raj	March 26- 27, 2011	A tutorial on Image Compression Technique	Signal Processing And Real Time Operating System (SPRTOS-11), HBTI Kanpur
7.	V. Yadav, Krishna Raj	March 26- 27, 2011	Different Look- Ahead Algorithm for Pipelined Implementation of Recursive Digital Filter	Signal Processing And Real Time Operating System (SPRTOS-11), HBTI Kanpur
8.	Krishna Raj, Ekta Agrawal	2011	Performance Evaluation of Systolic and Semi-systolic Multiplier	National Conference on Signal Processing, Communication and VLSI Designing-2010 (NCSCV-2010), at <b>S.D.M. College of Engineering and Technology , Dharwad, Karnatka</b> pp. 182-185
9.	Krishna Raj, Suman Bhatt	2011	“Noise Reduction using wiener filtering for speech signal’ in	National conference at Thapur University Patiyala, Punjab,
10.	Vivek Kumar, Krishna Raj	March 26- 27, 2011	Optimal Receiver Filter Design	Signal Processing And Real Time Operating System (SPRTOS-11), HBTI Kanpur
11.	Vidyadhar Gupta, Krishna Raj	March 26- 27, 2011	Comparative Study of Lifting Based Discrete Wavelet Transform Architectures	Signal Processing And Real Time Operating System (SPRTOS-11), HBTI Kanpur
12.	Krishna Raj, Suman Bhatt	13-14 May, 2009.	<i>Use of Smoothing and Magnitude &amp; Phase Estimation in Spectral Subtraction,</i>	Proceeding of the IEEE National conference Advanced Communication Technologies and Application(NCACA2009), Geetanjali Institute of Technical Studies Dabok, Udaipur

13.	Krishna Raj	October 17-19, 2009	<i>Redundant Signed Digit Number System for Fast Addition</i>	Proceeding of IE All India Seminar on Energy Management in Indian Perspective, IE Lucknow
14.	Krishna Raj , Abhinav Tiwari	October 17-19, 2009	<i>Low Cost Digital Filter Design using Microcontroller</i>	Proceeding of IE All India Seminar on Energy Management in Indian Perspective, IE Lucknow
15.	Krishna Raj, Vibhav Mishra and Vedvrat	2008	<i>Color Image Enhancement by Histogram Equalization Using MATLAB</i> , Proceeding of 2 <sup>nd</sup>	National conference Wireless and Optical Communication (WOC-2008), Panjab Engineering College Chandigarh, India, session IV pp.29-33.
16.	T.R. Lenka, Krishna Raj, Sanjay Agrawal	2007	“FPGA implementation of 2 Bit Redundant Binary Signed Digit Multiplier & A Comparison With Conventional Binary Multiplier”	National conference on ADTECH-GLOS 2007 at GLAITM Mathura, 25-26, Feb. 2007.
17.	Krishna Raj, Vishal Goyal, T.R. Lenka	2006	“VLSI implementation of 4Bit Redundant Binary Signed Digit parallel adder and its application”	National conference on RAECT-06 at GNDEC, Ludhiana, PB, Nov.9-10 ,2006. Pp 101-106
18.	Krishna Raj, Vishal Goyal, T.R. Lenka	2006	“VLSI implementation of RBSD adder and its application”	National conference on EMITECHMAN at GLA I TM Mathura, 18-19, Feb. 2006.PP 358-363
19.	T.R. Lenka, Amit Mishra, Vishal Goyal, Krishna Raj,	2006	“FPGA implementation of 2 Bit RBSD Multiplier by using 4 Bit Parallel RBSD Adder ”	AICTE Sponsored National conference on Advances in Electrical Engineering (AEE 06) at M.I.T.S. Gwalior, November 29-30, 2006 PP. 620-625.
20.	Krishna Raj	2006	“Design of carry free redundant binary signed adder”	National conference at MNNIT Allahabad
21.	Krishna Raj	Feb. 5-6, 2000.	Design of fast VLSI redundant binary signed multiplier”,	National seminar on intelligent systems (IS-2000) CSI gwalior chapter, IETE Gwalior subcentre,
22.	Krishna Raj	Feb. 5-6, 2000.	“Design of redundancy binary universal multiplier”	National seminar on intelligent systems (IS-2000) CSI gwalior chapter, IETE Gwalior subcentre,
23.	Krishna Raj	Feb. 5-6, 2000.	Design of FIR filter”	National seminar on intelligent systems (IS-2000) CSI gwalior chapter, IETE Gwalior subcentre,
24.	Krishna Raj	Feb. 5-6, 2000.	“Design of high speed generalized cellular arithmetic arrays.”	National seminar on intelligent systems (IS-2000) CSI gwalior chapter, IETE Gwalior subcentre,
25.	Krishna Raj	Jan. 14-16,2000.	“Power spectrum estimation by parametric methods”,	Fourth annual conference of Indian society of Information theory and applications., Bundelkhand University, Jhansi.
26.	Krishna Raj	Jan. 14-16,2000	“Design of standard and recoded multiplier”,	Fourth annual conference of Indian society of Information theory and applications., Bundelkhand University, Jhansi.

27.	Krishna Raj	11-12 Feb. 1999.	“Emerging trends in satellite communication”	National seminar on “Role of information technology in 21 <sup>st</sup> century challenges and strategies” Engineering collage, Jabalpur,
28.	Krishna Raj	17-18 April 1998.	“Electronics approach to control the exhaust emission of automobiles”	National seminar of environmental aspects of engineering practices (ENAEP-98),
29.	Krishna Raj	Dec. 15-17,1998	“RBSD number system for high speed processor”	8th Annual conference of VPI,IET Lucknow, Dec. 15-17,1998.
30.	Krishna Raj	28-28 Dec. 1996.	“Discrete circuit modeling of switching devices.”	The sixth annual conference of VPI at B.I.E.T. Jhansi, 28-28 Dec. 1996.

#### D. Number of books published (03)

Sl.No.	Author(s)	Title of book	Name of publisher	Place of publication	Year of publication	ISBN No.
1.	Krishna Raj , Vibhav Kumar Sachan	Digital Electronics	Acme Learning	New Delhi	2010	978-93-804081-9-4
2.	Krishna Raj , Vibhav Kumar Sachan	Digital Logic Design	Acme Learning	New Delhi	2011	978-93-80408-52-1
3.	Krishna Raj	Signal and system	Dhanpat Rai & Co.	New Delhi	Ist Edition –2002, 2 <sup>nd</sup> Edition-2003.	

#### Number of book Chapters published (05)

Sl.No.	Author(s)	Title of book-Chapter	Name of publisher/book	Year of publication
1.	Hema Tekwani, Krishna Raj	Brightness Intensity-Based Transient Motion Prediction	Springer, Singapore In: Somani, A.K., Mundra, A., Doss, R., Bhattacharya, S. (eds) Smart Systems: Innovations in Computing. Smart Innovation, Systems and Technologies, vol 235. Springer, Singapore. <a href="https://doi.org/10.1007/978-981-16-2877-1_27">https://doi.org/10.1007/978-981-16-2877-1_27</a> DOI: <a href="https://doi.org/10.1007/978-981-16-2877-1_27">https://doi.org/10.1007/978-981-16-2877-1_27</a> Print ISBN:978-981-16-2876-4 Online ISBN: 978-981-16-2877-1	September 2021
2.	Vishal Awasthi, Krishna Raj	Study on Application of Hardware Efficient CIC Compensation Filter in Narrow Band Filtering	DOI: 10.9734/bpi/nper/v2/1986C  In book: Novel Perspectives of Engineering Research Vol. 2	October 2021
3.	Vishal Awasthi, Krishna Raj	Hybrid Signed Digit Arithmetic in Efficient Computing: A Comparative	DOI: 10.9734/bpi/nper/v2/1985C. In book: Novel Perspectives of Engineering Research Vol. 2, Publisher: Book Publisher International	October 2021

		Approach to Performance Assay,		
4.	Hema Tekwani, Krishna Raj	Brightness Intensity-Based Transient Motion Prediction	DOI: 10.1007/978-981-16-2877-1_27 In book: Smart Systems: Innovations in Computing	September 2021
5.	Vishal Awasthi, Krishna Raj	A Survey of Kalman Filter Algorithms and Variants in State Estimation	DOI: 10.9734/bpi/castr/v15/11912D In book: Current Approaches in Science and Technology Research Vol. 15	August 2021

### Sponsored research projects

Sl.No.	Project Investigator	Title of project	Sponsoring agency	Duration	Amount
1.	Dr. Krishna Raj	Design and Implementation of Efficient Digital Filter for Biomedical Signal processing	MHRD Scheme for Design Innovation Centre	FY 2017-2018	Rs.7.03 Lacs
2.	Dr. Krishna Raj	Establishment of Design Innovation Centre as Spoke partner at HBTU Kanpur	MHRD Scheme for Design Innovation Centre	FY 2017-2018	Rs.4.44 Lacs
3.	Dr. Krishna Raj	Design and Implementation of Efficient Hybrid Signed Digit Digital Filter	DRDO, New Delhi	Oct 2010 to Oct 2013	Rs. 18.84 Lacs

### M.Tech. Supervision (36)

S.No.	Name of student	Year of Completion	Title of Thesis
1.	Akanksha Katiyar	2021	Kalman filtering based cooperative localisation
2.	Anshika Kaushal	2021	<b>Survey of Non-conventional techniques for Low voltage Low power circuit OTA based</b>
3.	Prabhakar K. Sonkar	2020	
4.	Sonal Yadav	2020	
5.	Anamika Tiwari	2019	Underwater Image Enhancement Using Hybridized Concept of White Balancing and Image Fusion
6.	Divya Srivastava	2019	Floating Point Butterfly Architecture using Hybrid Signed Digit Representation

7.	Jyoti Pandey	2019	Digital Image Restoration Using Edge Preserving And Smoothing Refining Based On Dark Channel Prior
8.	Asmita Gautam	2018	
9.	Vipul Goyal	2017	Removal of Blurring and Mixed Noise From Images Using Gaussian mixture and Total Variation Model
10.	Pragya Gautam	2017	Edge Detection Using Ant Colony Optimization With Adaptive Threshold
11.	Kapil Dev Tiwari	2017	Canvas Noise Removal in Acquisition of Digital Paintings Using Power Law and Notch Filter
12.	Devendra Kumar	2016	Secure Information Transmission Using Reversible Data Hiding Technique
13.	Shailendra Saini	2016	Removal Periodic and Quasi-Periodic Noises from Digital Gray Level Images
14.	Ghanshyam	2016	Skin Detection Using Probablistic and Texture Model
15.	Prateek Srivastava	2015	Sparse Adaptive Filtering by an Adaptive Convex Combination of the LMS Algorithm and the RZA-LMS Algorithm
16.	Peeyush Mishra	2015	To Analyse Reduced Circuit Area Analog-to-Digital Converters Using Pseudo Aliasing Signal in All-Digital-Background Calibration Technique
17.	Jitendra Kumar Pathak	2015	
18.	Apurv Kumar	2014	Design of Hybridized H-Infinity Optimal Valuable Fractional Delay Digital Filter Using H-Infinity and PCLS (peak constrained Least square) Optimization Algorithm
19.	Rahul Kumar Gupta	2014	Design and Implementation of Optimal Recursive Digital Filter Using QSD Number System for low Power consumption
20.	Indu Yadav	2014	Scene Segmentation Using Flow Analysis
21.	Praveen Kumar Singh	2013	Design and Implementation of All Digital Phased Locked Loop using CORDIC Algorithm.
22.	Raj Kumar	2013	Design of CORDIC Algorithm. And its application for Parametric Audio Equalizer.
23.	Ashish Chaturvedi	2012	Design Of LMS-NLMS Adaptive Filter For 50 Hz Noise Cancellation of ECG Signal
24.	Amrish Kumar	2012	Computational Complexity Reduction In Fir Digital Filter Using CSD Representation
25.	Madhuri Mishra	2012	Design & Implementation of Low Power Efficient non-Recursive Filter on FPGA
26.	Anupam Jaiswal	2011	Design of Pipelined Integer Recursive Digital Filter Using QSD Number System
27.	Vidyadhar Gupta	2011	An Efficient Modified Lifting based Discrete wavelet Transformed Architecture
28.	Suman Lata	2011	Speech Modeling Using Different Filters and Improving SNR Using Wiener Filter

29.	Vivekanand Yadav	2010	Pipeline and Parallel Processing in Recursive Filter for Power Minimization
30.	Vedvrat	2010	VLSI Architecture for Discrete Wavelet Transform
31.	Ekta Agrawal	2010	1-D Type-IV Implementation using systolic array
32.	Mr. Brijesh Kumar Yadav 0433009	2009	CMOS design of a 4-bit comparator using redundant binary signed digit number
33.	Mr. Sanjay Agrawal 0433025	2007	Design and Simulation of quaternary Signed Digit Fast Adder and its FPGA implementation
34.	Mr. Vivek Kumar	2007	Optimal Receiver Filter Design to enhance the Signal to Interference Ratio
35.	Mr. T.R. Lenka	2006	Design and simulation of RBSD fast multiplier and its VLSI implementation
36.	Mr. Vishal Goyal	2005	Design and implementation of RBSD adder using dynamic CMOS technology

### Ph.D. Supervision

S.No.	Name	Year	Title of Thesis
1.	Mr. Vishal Awasthi	Awarded in 2017	Research Studies in Computationally efficient CIC Decimation Filter
2.	Mr. Ajeet Srivastav	Registered in 2017	Design and Implementation of Canonic Signed Digit Computationally Efficient Reconfigurable Cascaded Integrated Comb Decimation Filter
3.	Ms Hema Tekwani	Registered in 2018	Development of Advance Unified Content Type Adaptive System for the Quality/Parameter Computation of Compressed Images.
4.	Mr. Sher Singh	Registered in 2021	Field of work: VLSI Implementation of DSP System
5.	Mr. Braj Kishor	Registered in 2021	Field of work: VLSI Implementation of DSP System

**Invited Lectures and Chairmanships at National or International Conference/Seminars etc.**

Sl.No.	Title of lecture/ academic session	Title of Conference/Seminar/ Workshop etc.	Organized by	Whether National or International
1.	Overview of Video Compression and Standards Date : 14.10.2019	Seminar on, "Video Standards Create A Global Stage" on the occasion of World Standards Day (14.10.2019)	Buereau of Indian Standards at HBTU Kanpur	National
2.	Computational Complexity Reduction In FIR Digital Filter Using Canonical Signed Digit (CSD) Representation Date : 27.09.2019	TEQIP-III sponsored Two Weeks Short Term Course on Control & Machine Intelligence 16 - 28 September, 2019	Organized at EED, HBTU, Kanpur, under twinning arrangement with Thiagarajar College of Engineering, Madurai, Tamilnadu	National
3.	Design and Implementation of Digital Signal Processing Algorithms Date : 16.09.2019	One week faculty development Programme (FDP) on VLSI for Signal Processing & Communication from 16th -20th Sep'2019, at Rajkiya Engineering College, Kannauj under TEQIP III program	Rajkiya Engineering College, Kannauj	National
4.	Concepts of Designing and Implementation of Efficient DSP Systems	IEEE conference in issue International Conference on Defence and Space Technologies (ICDST-2019)	IET Lucknow	International
5.	Design & Implementation of Efficient System	FDP on "Recent Advances in Communication Engineering" Dec 26-30, 2018	Deptt of Electronics Engineering, BIET Jhansi	National
6.	Communication Networks	A Research Perspective Feb 27th to Mar 04th 2017	Deptt of Electronics Engineering HBTU, Kanpur	National
7.	Modeling and Simulation of Systems	International Conference on Advance Computational Techniques in Information and Communication Technology, 23- 24 September 2016	Institution of Engnees and K.N.I.T. Sultanpur	International
8.	Chaired the session	International Conference on Advance Computational Techniques in Information and Communication Technology, 23- 24 September 2016	Institution of Engnees and K.N.I.T. Sultanpur	International
9.	Research Methodology Using Data Analytical Tool	AICTE sponsored Two weeks Faculty Development Programme On 15 <sup>th</sup> January, 2016	Department of Electronics Engineering, K.N.I.T. Sultanpur	National
10.	Simulation and Mathematical Tools for Engineering	AICTE sponsored Two weeks Faculty Development Programme	Department of Electronics Engineering, K.N.I.T.	National

	Research		Sultanpur	
11.	Curriculum Design for Efficient Teaching-Learning Process for	State level Faculty Interaction Seminar, 26-27 June, 2015	TEQIP II at K.N.I.T. Sultanpur	State Level
12.	Teaching-Learning Process	State level Faculty Interaction Seminar, 8-9 June, 2015	TEQIP II at H.B.T.I. Kanpur.	State Level
13.	Lectures on, “ Basic Concepts of DSP Algorithms”	May 23, 2015	Bharat Electronics Limited (BEL) Gaziabad, U.P.	National
14.	Lectures on, “ Designing LTI Systems and Adaptive Filters”	May 23, 2015	Bharat Electronics Limited (BEL) Gaziabad, U.P.	National
15.	Lectures on, “Designing Concepts of Multirate Filters and Filter Bank”	May 23, 2015	Bharat Electronics Limited (BEL) Gaziabad, U.P.	National
16.	Lectures on, “ Design and Implementation of DSP Algorithms”	May 23, 2015	Bharat Electronics Limited (BEL) Gaziabad, U.P.	National
17.	VLSI Implementation of Digital Signal Processing System I	April 12, 2015	PSIT, Kanpur	National
18.	VLSI Implementation of Digital Signal Processing System II	April 12, 2015	PSIT, Kanpur	National
19.	MATLAB Functions and Coding	2-days workshop on, "MATLAB Programming and Its Applications" (25-26 February 2015)	TEQIP II at H.B.T.I. Kanpur.	National
20.	MATLAB programming	2-days workshop on, "MATLAB Programming and Its Applications" (25-26 February 2015)	TEQIP II at H.B.T.I. Kanpur.	National
21.	Design and Implementation of Systems Using MATLAB	2-days workshop on, "MATLAB Programming and Its Applications" (25-26 February 2015)	TEQIP II at H.B.T.I. Kanpur.	National
22.	MATLAB Toolbox for Filter Design and Analysis	2-days workshop on, "MATLAB Programming and Its Applications" (25-26 February 2015)	TEQIP II at H.B.T.I. Kanpur.	National
23.	VLSI Implementation of DSP Algorithms	“Recent Advances in Metamaterials Antennas for Biomedical, Optical and Sensing Applications (RAMABOSE-2015), Feb. 13-14,2015	DST at GCET Gr.Noida	National Seminar
24.	Design and Implementation of VLSI implementable	IEEE International Conference on Advances in Engineering & Research, August 1-2, 2014	VSGOI, Kanpur	International

	DSP algorithms (Key-Note speaker)			
25.	Teaching-Learning Process by Objectives	FDP on, "Engineering Education: Opportunities, challenges & Future Directions" March 7-12 , 2014.	TEQIP II at H.B.T.I. Kanpur.	National
26.	Employability of Engineering Graduates	FDP on, "Engineering Education: Opportunities, challenges & Future Directions" March 7-12 , 2014.	TEQIP II at H.B.T.I. Kanpur.	National
27.	MATLAB of Modeling, and Simulation of Systems (January 06 , 2014)	FDP on, " Digital Signal Processing using MATLAB" January 06-10 , 2014.	TEQIP II at H.B.T.I. Kanpur.	National
28.	Design and Simulation of Digital Filters (January 07 , 2014)	FDP on, " Digital Signal Processing using MATLAB" January 06-10 , 2014.	TEQIP II at H.B.T.I. Kanpur.	National
29.	Implementation of DSP Algorithm using TMS 320C6713 (January 08 , 2014)	FDP on, " Digital Signal Processing using MATLAB" January 06-10 , 2014.	TEQIP II at H.B.T.I. Kanpur.	National
30.	Concepts of MATLAB Programming (October 25, 2013)	FDP on Modeling, Simulation and Analysis of Engineering, October 25-30, 2013	TEQIP II at H.B.T.I. Kanpur.	National
31.	Modeling and Simulation of Engineering Systems using MATLAB (October 27, 2013;)	FDP on Modeling, Simulation and Analysis of Engineering, October 25-30, 2013	TEQIP II at H.B.T.I. Kanpur.	National
32.	Design and Implementation of Digital Systems using MATLAB (October 29 2013)	FDP on Modeling, Simulation and Analysis of Engineering, October 25-30, 2013	TEQIP II at H.B.T.I. Kanpur.	National
33.	Digital Signal Processing Algorithms and Their Implementation (10 lectures and 05 lab sessions), July 3-8, 2013	Workshop on Digital Signal Processing Algorithms and Their Implementation, July 3-8, 2013	PSIT Kanpur	National
34.	How to become an Effective Teacher (March 19 2013)	FDP on Essentials of Teaching-Learning Process, March 18-19, 2013	TEQIP II at H.B.T.I. Kanpur.	National
35.	Development of VLSI Implementable DSP System	Recent Trends In Communication Systems And Devices (NCRTCDCD 2012) sep 01-02, 2012	Radha Govind Group of Institutions, Meerut	National Conference
36.	Educational Technology for efficient teaching	National Seminar	Eshan Engineering College	Seminar

37.	Concepts of Modelling and simulation	Prof. P.N.Tandon memorial Weekend Lecture series on Modelling and Computing, 2012	Department of Maths, HBTI Kanpur	Organized by HBTI Kanpur
38.	Matlab Basics Background to Matlab Interactive calculations	Prof. P.N.Tandon memorial Weekend Lecture series on Modelling and Computing, 2012	Department of Maths, HBTI Kanpur	Organized by HBTI Kanpur
39.	Matlab Basics Vectors and matrices Graphical illustrations	Lecture Series on “Mathematical Modeling and System Simulation”, Feb.20-31, 2010	Department of Maths, HBTI Kanpur	Organized by HBTI Kanpur
40.	Matlab Programing and applications	Lecture Series on “Mathematical Modeling and System Simulation”, Feb.20-31, 2010	Department of Maths, HBTI Kanpur	Organized by HBTI Kanpur
41.	Basic Concepts of MATLAB	Expert Lecture , September 05, 2010	IETE local centre Kanpur at HBTI Kanpur,	Organized by IETE local centre Kanpur at HBTI Kanpur,
42.	Design concepts of Digital Filters	Workshop on, “DSP & Its Real Time Applications”, 6 <sup>th</sup> -7 <sup>th</sup> Nov., 2009	Electronics & Instrumentation Engg. Deptt. Anand Engineering College Agra,	National Workshop
43.	Concepts of Signals, Systems, DSP algorithm, Design concepts of Digital Filters, Concepts of Fast Processing etc. (08 Days @ 02 lectures daily)	Design and Implementation of VLSI Digital signal processing system” Dec.22, 2008 to Jan. 02, 2009.	H.B.T.I. Kanpur	AICTE sponsored faculty development program
44.	Assembly and Maintenance of Emergency Light and Voltage Stabilizer	September 25, to October 01,2008	TEQIP at H.B.T.I. Kanpur.	National
45.	Design concepts of Digital Filters	Signal processing and filter designing , May 9 <sup>th</sup> & 11 <sup>th</sup> , 2007	Technical Education quality improvement program aided by World Bank at H.B.T.I. Kanpur	Faculty Development Program
46.	Embedded system	Embedded system, May 4 <sup>th</sup> & 5 <sup>th</sup> , 2007	M.M.M.E.C. Gorakhpur	National
47.	MATLAB Functions and Their applications	Neurocomputing and algorithms with application,08-20 January, 2007	BIET Jhansi, Jhansi,	AICTE sponsored faculty development program

48.	DSP algorithms	Neurocomputing and algorithms with application,08-20 January, 2007	BIET Jhansi, Jhansi,	AICTE sponsored faculty development program
49.	Embedded system	Embedded system, May 4 <sup>th</sup> & 5 <sup>th</sup> , 2007	M.M.M.E.C. Gorakhpur	National
50.	VLSI Design	Supply chain management using RFID, December 8-9, 2005	M.M.M.E.C. Gorakhpur	TEQIP
51.	Chaired the session	computers, communications and signal processing (CCSP 2005),	IEEE and University Teknology, Kuala Lumpur, Malaysia.	IEEE International conference
52.	Concepts of MATLAB for modeling and Simulation	MATLAB and its applications, October 9 <sup>th</sup> & 10 <sup>th</sup> , 2005	B.I.E.T. Jhansi	TEQIP

### Workshops/Seminars/Conferences/courses/Trainings organized

S.N.	Program(Event) & Period	Sponsoring Organization	Title (Outcome)
1.	<b>05 Days FDP cum STTP July 05-09,2021 on “Simulation, Modeling and Application of Advanced Semiconductor Devices”</b>	No financial burden	Total participants 267
2.	<b>02 Days Webinar July 12 &amp; 14,2021 on “ MATLAB for Signal Processing”</b>	No financial burden	98 + 86 participants
3.	<b>01 Day Webinar July 13, 2021 on “ Let’s Crack the GATE”</b>	No financial burden	402 participants
4.	<b>One Day Seminar on “Design and Analysis of Electronic Systems”, 13<sup>th</sup> August, 2021</b>	No financial burden	<b>Total No of Participants: 258</b>

5.	On 28.08.2019 & 29.05.2019 Organized <b>Incubation Council's meeting</b> to discuss and decide the progress, policies and plan for the entrepreneurship & Innovation and Incubation	Incubation Hub HBTU, Kanpur	Summary about the following progress, policies and plan were discussed: <ul style="list-style-type: none"> <li>•The implementation of the scheme "National Initiative for Setting up of Design Innovation Centre</li> <li>•Innovation and Incubation Center established in Civil Engineering Department</li> <li>•Initiation of Innovation and Incubation Center established in Mechanical Engineering Department</li> <li>•Grant for the building of Incubation Hub</li> <li>•MOU Between HBTU, Kanpur and IIT Kanpur for Incubation</li> <li>•Establishment of student startup Cell and Startup Policies</li> <li>•Constitution of Incubation Council</li> <li>•Plan for furthering Innovation and Start-ups in HBTU, Kanpur</li> <li>•Proposal Submitted for the establishment of Atal Incubation Centre</li> </ul>
6.	Workshop for the Selection of Student Executives for Incubation Hub for the session 2019-20, dated on 26.08.2019	Organized the workshop for the Selection of Student Executives for Incubation Hub. About 100 students participated in the workshop for selection purposes.	Approx. 40 students were selected as Student Executives for Incubation Hub
7.	Uththaan-16 November 2018	Uththaan was organized in joint collaboration of HBTU, Amar Ujala, IIT Kanpur and Tie-UP. It was an entrepreneurial conclave which included talk sessions, panel discussion and pitching events. The inaugural session started with the lightning of lamp by Cabinet Minister Shri Satish Mahana Ji.	A new enthusiasm was seen in students regarding entrepreneurship and startup culture.

8.	Talk Sessions ( Uththaan) 16 November, 2018 By - 1.Dr. Ashutosh Khanna 2.Prof. Deepu Phillip	The talk was focused on "idea generation and it's presentation". Both the delegates put great emphasis on searching and listing common problems and their potential solutions. They also described steps in this idea generation process and how to filter promising ideas from random thoughts.	Students learned about the basics as well as minute details about idea generation process as well as their effective representation.
9.	Panel Discussion (Uththaan)- 16 November, 2018 By- 1.Prof. Amitabha Bandopadhyay(Moderator), 2.Ms. Nupur Tandon, 3.Sh. Aditya Raj Bhatia, 4.Capt. S.C. Tripathi, 5.Ms.Vaishali Biyani	Panel discussion was pivoted on topic "waste management and eco-system. Delegates explained techniques of effective waste management, it's need and impacts on economy. Discussion was forwarded on waste segregation and channels to turn it into productive materials.	Students were made aware regarding the seriousness of problems like waste management and how to solve it using effective techniques and a bit of responsibility.
10.	Pitching (Uththaan)- 16 November, 2018 <b>Judges and Investors:</b> 1. <b>Dr. Apoorv Ranjan</b> Sharma(Angel investor, Co-founder and President at Venture Catalysts) 2. <b>Mr. Vinayak Nath</b> (Managing Director, Venture Catalysts)	Event was divided into two categories: Ideation Stage and Growth Stages. The students were required to present their startup ideas under the suitable category. It helped in strengthening the startup culture among students.	The competition turned out to be quite familiar among young Entrepreneurs and we received a total of 53 entries for Ideation stage out of which 10 were selected for finals. The Ideas given by the participants proposed to solve some important issues.
11.	14.09.2019 Workshop for the Selection of Student Executives for Incubation Hub for the session 2018-19	Organized the workshop for the Selection of Student Executives for Incubation Hub. About 150 students participated in the workshop for selection purposes.	53 students were selected as Student Executives for Incubation Hub
12.	10.09.2018 Workshop for awareness about Incubation	Organized the workshop and participants were benefitted by the informative discussion about Innovation & Incubation.	38 participants (Student and faculty members) participated in the workshop and it was for the culture building. Policies of Incubation were also discussed in the workshop.
13.	Kerala Floods Collection Drive: 29-30 <sup>th</sup> August 2018	Students of GIIEC had brought a Fundraiser for Kerala floods victims. They had put drop boxes at different locations in our college for students and other college members to donate the required items.	Our motto of collection drive was successfully fulfilled. Students were able to lend helping hands. Our event was held at a large scale as there was a massive participation of students as well as faculty members.

14.	Business Quiz (E-SUMMIT 2018): 28-29 April 2018	Its objective was to test the Intelligence Quotient of the candidates by giving them various conditions and questions so that they can test their knowledge	All the participants and their friends were motivated towards business and its huge world.
15.	Build Your Design. (E-SUMMIT 2018): 28-29 April 2018	It was designed to test the ability of the aspiring candidates as to how they gather together all their existing knowledge about design and to figure out their focus to make their portfolio successful.	A few students who had a keen mind in design and innovation were motivated towards innovation.
16.	Can You be A CEO? (E-SUMMIT 2018): 28-29 April 2018	It was designed to test the ability of leadership in the students	We got the leaders of the university, who we nurtured for a better tomorrow.
17.	Pivot (E-SUMMIT 2018): 28-29 April 2018	The participants were given a Javelin Board, they had to jot down their ideas on the board, survey people about what they think of their idea and optimize for their idea to become feasible.	A Culture of idea discussion was formulated in the university.
18.	Game of Thrones (E-SUMMIT 2018): 28-29 April 2018	Teams were given virtual money which they used to buy virtual weapons from a large Arsenal which they have to use in a simulated War conditions.	Students learned the basics of resource handling and deploying resources according to the situation.
19.	Shurut Bus: 24 <sup>th</sup> April 2018	Students were first given brief description through a workshop about Elevator Pitching and its elements and then they had to pitch their business idea inside a Bus under 2 minutes	Students Understood the importance and relevance of Elevator Pitch.
20.	27.01.2018	HBTU Kanpur	<b>Coordinated the program for signing the MOU Between HBTU Kanpur and IIT Kanpur on 27.01.2018 for a period of 5years and according to this MoU, IIT Kanpur agrees to incubate students/ incubatee/company that will be shortlisted and recommended by HBTU. This was witnessed by Hon'ble Chief Minister Sir.</b>

21.	08.08.2017	Pravidhik Shiksha, Uttar Pradesh	The processing of fund transfer for 1st year funding <b>for the Implementation of the scheme "National Initiative for Setting up of Design Innovation Centre"</b> . The program was witnessed by <b>Hon'ble Chief Minister Sir, on 08.08.2017 at Lucknow during the program "Pravidhik Shiksha Ke Badhte Kadam"</b> .
22.	16 February 2017	HBTU Kanpur and IIT Kanpur	<b>For Taking up projects in the areas, Education</b> (Learning content for disadvantaged communities) <b>Healthcare</b> (Assistive technology and Designing of low cost medical equipment) <b>Livelihood</b> (Sustainable agricultural technologies, Precision manufacturing at affordable costs, Appropriate Technology for SMEs and Cottage industry) <b>Environment</b> (Treatment of water, Health monitoring of environment, Disposal-Segregation-Recycling of waste). By efforts and motivations 15 Faculty members' proposals and 03 students' proposals were received and submitted for presentation. Based on project proposals presented before PAAB members on 16 February 2017, 6 projects (1 Main Project along with 5 sub projects) were selected for DIC activities.
23.	04.01.2017.	HBTU Kanpur and IIT Kanpur	For the purpose of Implementation of the scheme "National Initiative for Setting up of Design Innovation Centre" coordinated the event and as a outcome HBTU Kanpur collaborated with IIT Kanpur by signing a MOU with IIT Kanpur dated on 04.01.2017.
24.	8-9 June, 2015	Technical Education quality improvement program (TEQIP II) at H.B.T.I. Kanpur	State level Faculty Interaction Seminar
25.	January 06-10, 2014	Technical Education quality improvement program (TEQIP II) at H.B.T.I. Kanpur	FDP on, " Digital Signal Processing using MATLAB"

26.	October 25-30, 2013	Technical Education quality improvement program (TEQIP II) at H.B.T.I. Kanpur	FDP on, “ Modeling, Simulation and Analysis of Engineering Systems”
27.	Sep 01-02, 2012	Radha Govind Group Of Institutions, Meerut	National Conference on Recent Trends In Communication Systems And Devices (NCRTCD 2012)
28.	August 24-25, 2012	Institution of Engineers at IE Center, HBTI Kanpur	All India Seminar on Advances in Materails & Material Selection in Design (AMMSD 2012)
29.	2011-12	IETE, Student Forum (ISF) HBTI Kanpur	Tech-Era 2012
30.	15 <sup>th</sup> April 2012	IETE	Workshop on applications of MATLAB and Design of digital filter using FDA tool
31.	Feb. 01, 2012	IETE	IETE Student’s day
32.	March 26-27, 2011	HBTI Kanpur, IEEE UP section, Wind River Inc.	Conference on, “Signal Processing and Real Time Operating System (Sptros-11)”
33.	2010-11	IETE, Student Forum (ISF) HBTI Kanpur	Anuvartan 2011
34.	2009-10	IETE, Student Forum (ISF) HBTI Kanpur	Anuvartan 2010
35.	April 4, 2010	IETE & IEEE	Sensors and automation
36.	April 04, 2010	Organized by: IETE & IEEE	Seminar On “Sensors And Automation”
37.	Dec.22, 2008 to Jan. 02, 2009.	AICTE(F.N. 1-78/FD/SDP(51)/2007-2008 Date 29/10/2007	Design and Implementation of VLSI Digital signal processing system”
38.	25 <sup>th</sup> Sept – 01 Oct., 2008	Technical Education quality improvement program at HBTI Kanpur	Assembly and Maintenance of Emergency Light & Voltage Stabilizer
39.	07 <sup>th</sup> July -09 <sup>th</sup> July., 2007	Technical Education quality improvement program at HBTI Kanpur	Assembly and Maintenance of Emergency Light & Voltage Stabilizer
40.	May 9 <sup>th</sup> & 11 <sup>th</sup> , 2007	Technical Education quality improvement program aided by World Bank at H.B.T.I. Kanpur	Signal processing and filter designing
41.	May 4 <sup>th</sup> & 5 <sup>th</sup> , 2007	TEQIP at M.M.M.E.C. Gorakhpur jointly organized with H.B.T.I. Kanpur.	Embedded system
42.	December 08 <sup>th</sup> & 09 <sup>th</sup> , 2005	Technical Education quality improvement program aided by World Bank at M.M.M.E.C. Gorakhpur jointly organized with B.I.E.T. Jhansi.	Supply chain management using RFID

43.	October 9 <sup>th</sup> & 10 <sup>th</sup> , 2005	Technical Education quality improvement program aided by World Bank at B.I.E.T. Jhansi	MATLAB and its applications
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**Participation in workshops/Training/Soft skills development programs/Faculty development programs etc**

Sl. No.	Name of the Course	Name of the organization	Period		Sponsoring authority
			From	To	
6.	Outcome based Accreditation for Undergraduate Engineering Programs	HBTU, Kanpur & UPTTI Kanpur at HBTU, Kanpur	22.03.2018	23.03.2018	TEQIP-III
7.	Summer Training Program on Active Learning	Knowledge Incubation for TEQIP, IIT Kanpur	11 June 2018	15 June 2018	TEQIP
8.	Startup Activities & Preparation of Action Plan	AKTU Lucknow	26 Dec. 2017	27 Dec. 2017	TEQIP
9.	Workshop on Outcome Based Education and NBA SAR Preparation	HBTU and TCE	Jan 31, 2018	Feb 1, 2018	TEQIP III
10.	Workshop on Intellectual Property Rights (IPR) and Patenting	Engineering Staff College of India and H.B.T.I. Kanpur	27 August, 2016	29 August, 2016	TEQIP II
11.	Workshop on, "Green Energy for Sustainable Development: Role of Educational Institutions"	Madan Mohan Malviya University of Technology, Gorakhpur(U.P.) India	January 21, 2016	January 21, 2016	TEQIP II
12.	Workshop on "Mission Skill Development: Synergy With Technical Education System"	National Institute of Technology Karnataka, Surathkal; P.O. Srinivasnagar-575025, Karnataka	21 <sup>st</sup> August 2015	21 <sup>st</sup> August 2015	TEQIP II
13.	Management Capacity Enhancement Programme for Administrative Heads of Higher Education Institutions	Indian Institute of Management Bangalore	7 <sup>th</sup> September 2015	11 <sup>th</sup> September 2015	TEQIP II

14.	State level Faculty Interaction Seminar	Tech. Education Dept., at HBTI Kanpur	8 June, 2015	9 June, 2015	TEQIP II
15.	Workshop on Virtual Laboratory	IIT Kanpur	Mar. 15, 2015	Mar. 15, 2015	MHRD(National Mission on Education Through ICT)
16.	Spoken Tutorial Project	UPTU Lko in Collaboration with IIT Bombay	23 Feb, 2015	23 Feb, 2015	MHRD (National Mission on Education Through ICT)
17.	Estimation Theory for Communications and Signal Processing	BSNL and IITK	21 <sup>st</sup> Jan, 2015	23 <sup>rd</sup> Jan, 2015	
18.	8-9 June, 2015	Tech. Education Dept. (State level Faculty Interaction Seminar), at HBTI Kanpur	Administrative and academic	Convener-Proceeding Committee	8-9 June, 2015
19.	FDP on, "Engineering Education: Opportunities, challenges & Future Directions" March 7-12, 2014.	TEQIP II at H.B.T.I. Kanpur.	March 7, 2014	March 12, 2014.	TEQIP II
20.	FDP on, " Digital Signal Processing using MATLAB" January 06-10, 2014.	TEQIP II at H.B.T.I. Kanpur.	January 06, 2014.	January 10, 2014.	TEQIP II
21.	FDP on Modeling, Simulation and Analysis of Engineering, October 25-30, 2013	TEQIP II at H.B.T.I. Kanpur.	October 25, 2013	October 30, 2013	TEQIP II
22.	Workshop on Digital Signal Processing Algorithms and Their Implementation, July 3-8, 2013	PSIT Kanpur	July 3, 2013	July 8, 2013	PSIT Kanpur
23.	FDP on Essentials of Teaching-Learning Process, March 18-19, 2013	TEQIP II at H.B.T.I. Kanpur.	March 18, 2013	March 19, 2013	TEQIP II
24.	Recent Trends In Communication Systems And Devices (NCRTC 2012)	Radha Govind Group of Institutions, Meerut	sep 01, 2012	Sept 02, 2012	Radha Govind Group of Institutions, Meerut
25.	National Seminar 2012	Eshan Engineering College Mathura			-
26.	Prof. P.N.Tandon memorial Weekend Lecture series on	Department of Maths, HBTI Kanpur			HBTI Kanpur

	Modelling and Computing, 2012				
27.	Prof. P.N.Tandon memorial Weekend Lecture series on Modelling and Computing, 2012	Department of Maths, HBTI Kanpur			HBTI Kanpur
28.	Expert Lecture , September 05, 2010	IETE local centre at HBTI Kanpur,	September 05, 2010	September 05, 2010	IETE
29.	Seminar on “Sensors and Automation”	Organized by: IETE & IEEE	April 04, 2010	April 04, 2010	IETE & IEEE
30.	AICTE sponsored faculty development program Design and Implementation of VLSI Digital signal processing system”	H.B.T.I. Kanpur	Dec.22, 2008	Jan. 02, 2009.	AICTE
31.	Faculty Development Program on Signal processing and filter designing	H.B.T.I. Kanpur	May 9 <sup>th</sup> , 2007	May 11 <sup>th</sup> , 2007	TEQIP Scheme of <b>world bank</b>
32.	<b>Two days</b> workshop on Embedded system	M.M.M.E.C. Gorakhpur	May 4 <sup>th</sup> , 2007	May 5 <sup>th</sup> , 2007	TEQIP Scheme of <b>world bank</b>
33.	<b>Short term course on, “ VLSI Signal Processing”</b>	IIT Kharagpur	December 23, 2006	December 29, 2006	IIT Kharagpur
34.	<b>One day</b> Training program on “ <b>Multisim, Commsim &amp; Ultiboard Electronics Workbench software”</b>	Organized by Trident Techlabs Pvt. Limited, New Delhi at B.I.E.T.Jhansi	September 11, 2006	September 11, 2006	TEQIP Scheme of <b>world bank</b>
35.	<b>Three days</b> workshop on “ <b>Mathematica Software”</b>	Organized by Sierra Atlantic Software Services Limited Hyderabad	September 8, 2006	September 10, 2006	TEQIP Scheme of <b>world bank</b> at B.I.E.T.Jhansi
36.	<b>Two days</b> workshop on “ <b>Environmental Management”</b>	B.I.E.T.Jhansi.	October 20, 2005	October 21, 2005	TEQIP Scheme of <b>world bank</b>
37.	<b>One week</b> workshop on “ <b>VHDL (Active HDL)”</b>	MNNIT Allahabad	June 01, 2005,	June 05, 2005,	MNNIT Allahabad
38.	MATLAB and its applications	B.I.E.T. Jhansi	October 9 <sup>th</sup> , 2005	October 10 <sup>th</sup> , 2005	TEQIP Scheme of <b>world bank</b>
39.	Two week AICTE-ISTE Short Term Training Programme on “ <b>Neural</b>	B.I.E.T. Jhansi, U.P.	Dec. 18, 2000.	Dec. 30, 2000.	AICTE-ISTE

	<b>Networks of Advanced Computing Techniques”</b>				
40.	Two week AICTE-ISTE Winter School on “Repair & Maintenance of PCs”	M.M.M.E.C. Gorakhpur, U.P.;	15 <sup>th</sup> March 1999	28 <sup>th</sup> March 1999	AICTE-ISTE
41.	Two days short term course on “Modern Trends in Electronics & Telecommunications” T.I.E.T. Patiala, on January10-11,1998	T.I.E.T. Patiala,	January10,1998	January 11,1998	T.I.E.T. Patiala
42.	One day workshop on “Improving Teaching Effectiveness”	M.N.R.E.C., Allahabad U.P.	Sept. 23, 1996	Sept. 23, 1996	M.N.R.E.C., Allahabad U.P.

**Details of Conducted Webinar/Prepared Lab Demonstrations/E-Videos during lockdown and uploaded on YOUTUBE**

S.No	Faculty	Name of Expt./Seminar/Project/Dissertation/Industrial Training/Webinar	Organized Webinar / Virtual lab conducted	Date of Display	Remarks
1.	Prof. Krishna Raj	Lecture of Prof. Krishna Raj dated on 28.02.2021		Mar 5, 2021	<a href="https://www.youtube.com/watch?v=KqmPpH_diUc">https://www.youtube.com/watch?v=KqmPpH_diUc</a>
2.	Prof. Krishna Raj	Lecture of Prof. K Raj on 23.02.2021		Mar 5, 2021	<a href="https://www.youtube.com/watch?v=pNAsiDlIFPU">https://www.youtube.com/watch?v=pNAsiDlIFPU</a>
3.	Prof. Krishna Raj	Lecture of Prof Krishna Raj on the topic DFT and FFT 19.11.2020		Dec 7, 2020	<a href="https://www.youtube.com/watch?v=_nGX8wGyhKY">https://www.youtube.com/watch?v=_nGX8wGyhKY</a>
4.	Prof. Krishna Raj	Lecture of Prof Krishna Raj on the topic coefficient quantization 04.11. 2020		Dec 7, 2020	<a href="https://www.youtube.com/watch?v=KxS48m5JxsA">https://www.youtube.com/watch?v=KxS48m5JxsA</a>
5.	Prof. Krishna Raj	Lecture of Prof Krishna Raj on the topic Digital IIR filter 2020 11 08		Dec 7, 2020	<a href="https://www.youtube.com/watch?v=gSRoTP20EA4">https://www.youtube.com/watch?v=gSRoTP20EA4</a>
6.	Prof. Krishna Raj	Lecture of Prof Krishna Raj on the topic creation and		Dec 7, 2020	<a href="https://www.youtube.com/watch?v=XaWoudAXhvg">https://www.youtube.com/watch?v=XaWoudAXhvg</a>

		implementation of Digital Filter 2020 11 22		
7.	Prof. Krishna Raj	Lecture of Prof Krishna Raj on the topic Quantization, 2020 11 16	Dec 7, 2020	<a href="https://www.youtube.com/watch?v=Tr_kj8LejqQ">https://www.youtube.com/watch?v=Tr_kj8LejqQ</a>
8.	Prof. Krishna Raj	Lecture of Prof Krishna Raj on the topic implementation issues on 2020 10 25	Nov 26, 2020	<a href="https://www.youtube.com/watch?v=vGRwgXR5xjA">https://www.youtube.com/watch?v=vGRwgXR5xjA</a>
9.	Prof. Krishna Raj	Lecture of Prof Krishna Raj on the topic Linear Phase FIR filter 2020 10 07	Nov 26, 2020	<a href="https://www.youtube.com/watch?v=4FitGx_JG5Q">https://www.youtube.com/watch?v=4FitGx_JG5Q</a>
10.	Prof. Krishna Raj	Lecture of Prof Krishna Raj on 2020 09 30: Concepts of Digital Filters	Nov 26, 2020	<a href="https://www.youtube.com/watch?v=AlHACXGG77g">https://www.youtube.com/watch?v=AlHACXGG77g</a>
11.	Prof. Krishna Raj	Lecture of Prof Krishna Raj on the topic Linear Filter Design 2020 09 23	Nov 26, 2020	<a href="https://www.youtube.com/watch?v=xWLGcGRHseY">https://www.youtube.com/watch?v=xWLGcGRHseY</a>
12.	Prof. Krishna Raj	Lecture of Prof Krishna Raj on the topic Details of FIR Filters B Tech Final yr ET 2020 21	Nov 26, 2020	<a href="https://www.youtube.com/watch?v=NdlDo1mthsBE">https://www.youtube.com/watch?v=NdlDo1mthsBE</a>
13.	Prof. Krishna Raj	Lecture of Prof Krishna Raj on the topic DESIGN OF FILTER USING fdatool	Nov 26, 2020	<a href="https://www.youtube.com/watch?v=FVMIDfCPot4">https://www.youtube.com/watch?v=FVMIDfCPot4</a>
14.	Prof. Krishna Raj	LECTURE OF PROF KRISHNA RAJ ON DESIGN OF DIGITAL FILTER, B Tech Final yr ET 2020 21 odd semester	Nov 26, 2020	<a href="https://www.youtube.com/watch?v=s4VaP-osfcI">https://www.youtube.com/watch?v=s4VaP-osfcI</a>
15.	Prof. Krishna Raj	Lecture of Prof Krishna Raj on the topic Design of digital Filter using windowing method	Oct 23, 2020	<a href="https://www.youtube.com/watch?v=rEGSwmNNdRQ">https://www.youtube.com/watch?v=rEGSwmNNdRQ</a>
16.	Prof. Krishna Raj	Lecture of Prof Krishna Raj on the topic Design and realization of Digital filters	Oct 23, 2020	<a href="https://www.youtube.com/watch?v=R3cbQtAh5T8">https://www.youtube.com/watch?v=R3cbQtAh5T8</a>
17.	Prof. Krishna Raj	Lecture of Professor Krishna Raj in B Tech Final yr ET 2020_21 odd semester on 13_09_2020	Sep 15, 2020	<a href="https://www.youtube.com/watch?v=DvsGnXnSLS0">https://www.youtube.com/watch?v=DvsGnXnSLS0</a>
18.	Prof. Krishna Raj	Lecture of Prof. Krishna Raj on System Transfer Function of Analog & Digital Filters	Sep 11, 2020	<a href="https://www.youtube.com/watch?v=-HAFKsHrmb0">https://www.youtube.com/watch?v=-HAFKsHrmb0</a>

19.	Prof. Krishna Raj	Lecture of Prof. Krishna Raj on Three Dimensional (3D) Plots in MATLAB	Sep11, 2020	<a href="https://www.youtube.com/watch?v=D50zEVXA27A">https://www.youtube.com/watch?v=D50zEVXA27A</a>
20.	Prof. Krishna Raj	Lecture of Prof. Krishna Raj on Analog and Digital Filter Design	Sep11, 2020	<a href="https://www.youtube.com/watch?v=L_LsVrS8OO4">https://www.youtube.com/watch?v=L_LsVrS8OO4</a>
21.	Prof. Krishna Raj	Lecture of Prof Krishna Raj on Basic Concepts of MATLAB	Sep11, 2020	<a href="https://www.youtube.com/watch?v=HeqWtsmtAis">https://www.youtube.com/watch?v=HeqWtsmtAis</a>
22.	Prof. Krishna Raj	Lecture of Prof Krishna Raj on Laplace Transform and z-Transform	Sep11, 2020	<a href="https://www.youtube.com/watch?v=0IAkXqPn3iw">https://www.youtube.com/watch?v=0IAkXqPn3iw</a>
23.	Prof. Krishna Raj	Lecture of Prof. Krishna Raj on Objectives of Digital Signal Processing	Sep11, 2020	<a href="https://www.youtube.com/watch?v=hrCvQ8KUWZc">https://www.youtube.com/watch?v=hrCvQ8KUWZc</a>
24.	Prof. Krishna Raj	Lecture of Prof. Krishna Raj on Discussion of Syllabus, Lecture Plan and Teaching Learning Process	Sep11, 2020	<a href="https://www.youtube.com/watch?v=koQuESjhwg4">https://www.youtube.com/watch?v=koQuESjhwg4</a>
25.	Prof. Krishna Raj	Lecture of Professor Krishna Raj on Examples of LTI IIR system architectures dated 16 July 2020	Sep 4, 2020	<a href="https://www.youtube.com/watch?v=QDgQIht33Ec">https://www.youtube.com/watch?v=QDgQIht33Ec</a>
26.	Prof. Krishna Raj	Representation of DSP algorithms using graphical representation dated 15 July 2020	Sep 4, 2020	<a href="https://www.youtube.com/watch?v=AyP6mfc83Ew">https://www.youtube.com/watch?v=AyP6mfc83Ew</a>
27.	Prof. Krishna Raj	Lecture of Prof Krishna Raj on categorization of discrete time signal and systems 07 07 2020	Sep 4, 2020	<a href="https://www.youtube.com/watch?v=kczRO6l7YDk">https://www.youtube.com/watch?v=kczRO6l7YDk</a>
28.	Prof. Krishna Raj	Lecture of Professor Krishna Raj on Architecture of IIR LTI filters	Aug 1, 2020	<a href="https://www.youtube.com/watch?v=C-BCVEi-7H4">https://www.youtube.com/watch?v=C-BCVEi-7H4</a>
29.	Prof. Krishna Raj	Lecture of Prof. Krishna Raj on Linear Time Invariant System described in time and frequency domain	Jul 13, 2020	<a href="https://www.youtube.com/watch?v=d7ZSk2XDpsY">https://www.youtube.com/watch?v=d7ZSk2XDpsY</a>
30.	Prof. Krishna Raj	Summary of Webinar Series organized by Professor Krishna Raj	Jul 12, 2020	<a href="https://www.youtube.com/watch?v=S19HmGfLT1U">https://www.youtube.com/watch?v=S19HmGfLT1U</a>
31.	Prof. Krishna Raj	Lecture of Professor Krishna Raj on Representation of signals in	Jul 12, 2020	<a href="https://www.youtube.com/watch?v=BPBhF3S3L0s">https://www.youtube.com/watch?v=BPBhF3S3L0s</a>

		MATLAB and Implementation of system		
32.	Prof. Krishna Raj	Lecture of Professor Krishna Raj Part:2 Mathematical representation of Fourier series.	Jul 2020	12, <a href="https://www.youtube.com/watch?v=7IAO6D19bdY">https://www.youtube.com/watch?v=7IAO6D19bdY</a>
33.	Prof. Krishna Raj	Lecture of Professor Krishna Raj Part:1 Mathematical representation of Fourier series ( in 2010).	Jul 2020	12, <a href="https://www.youtube.com/watch?v=CxBUyppSWjM">https://www.youtube.com/watch?v=CxBUyppSWjM</a>
34.	Prof. Krishna Raj	Lecture of Professor Krishna Raj on Convolution, Fourier series, Fourier Transform, DFT and FFT	Jul 2020	12, <a href="https://www.youtube.com/watch?v=bth8iDwtA1M">https://www.youtube.com/watch?v=bth8iDwtA1M</a>
35.	Prof. Krishna Raj	Lecture of Professor Krishna Raj on Specification and Design of Analog & Digital Filter	Jul 2020	11, <a href="https://www.youtube.com/watch?v=988VJyeEHDE">https://www.youtube.com/watch?v=988VJyeEHDE</a>
36.	Prof. Krishna Raj	Lecture of Prof. Krishna Raj on practical aspects of Ordinary Differential Equation ODE with MATLAB	Jul 2020	11, <a href="https://www.youtube.com/watch?v=iqoIt_Vg-nY">https://www.youtube.com/watch?v=iqoIt_Vg-nY</a>
37.	Prof. Krishna Raj	Lecture of Professor Krishna Raj on the MATLAB Toolbox Filter Design and Analysis	Jul 2020	11, <a href="https://www.youtube.com/watch?v=SHsHfp-AlgA">https://www.youtube.com/watch?v=SHsHfp-AlgA</a>
38.	Prof. Krishna Raj	Lecture of Professor Krishna Raj on solutions of ordinary differential equations ODE Using MATLAB	Jul 2020	11, <a href="https://www.youtube.com/watch?v=qDEzRqVedbs">https://www.youtube.com/watch?v=qDEzRqVedbs</a>
39.	Prof. Krishna Raj	Lecture of Professor Krishna Raj on more complex functions for the solutions of Linear Equation and	Jul 2020	11, <a href="https://www.youtube.com/watch?v=YReztWem6Z8">https://www.youtube.com/watch?v=YReztWem6Z8</a>
40.	Prof. Krishna Raj	Lecture of Professor Krishna Raj on Solutions of Linear Equation and Nonlinear Equation Using MATLAB	Jul 2020	11, <a href="https://www.youtube.com/watch?v=pD4cYjxPDK0">https://www.youtube.com/watch?v=pD4cYjxPDK0</a>
41.	Prof. Krishna Raj	Lecture of Professor Krishna Raj on the topic Basic MATLAB Functions for 2-D and 3-D Plots	Jul 2020	11, <a href="https://www.youtube.com/watch?v=IQf9RPq4QQQ">https://www.youtube.com/watch?v=IQf9RPq4QQQ</a>
42.	Prof. Krishna Raj	Lecture of Professor Krishna Raj on Basic MATLAB functions for the Mathematical Operations	Jul 2020	11, <a href="https://www.youtube.com/watch?v=pCZYtHH2Y3A">https://www.youtube.com/watch?v=pCZYtHH2Y3A</a>

43.	Prof. Krishna Raj	Lecture of Professor Krishna Raj on Mathematical representation of Discrete Time LTI System	Jul 10, 2020	<a href="https://www.youtube.com/watch?v=Q_laThW9z68">https://www.youtube.com/watch?v=Q_laThW9z68</a>
44.	Prof. Krishna Raj	Lecture of Professor Krishna Raj on the topic "Discrete Convolution"	Jul 9, 2020	<a href="https://www.youtube.com/watch?v=iNKqXOt--oA">https://www.youtube.com/watch?v=iNKqXOt--oA</a>
45.	Prof. Krishna Raj	Lecture of Prof Krishna Raj on categorization of discrete time signal and systems	Jul 7, 2020	<a href="https://www.youtube.com/watch?v=RPQ_DrgQN4E">https://www.youtube.com/watch?v=RPQ_DrgQN4E</a>
46.	Prof. Krishna Raj	Lecture of Prof Krishna Raj on Teaching-Learning as a System	Jul 6, 2020	<a href="https://www.youtube.com/watch?v=3xLLe8lrQBQ">https://www.youtube.com/watch?v=3xLLe8lrQBQ</a>
47.	Prof. Krishna Raj	Lecture of Professor Krishna Raj on presentation of discrete time signals	Jul 4, 2020	<a href="https://www.youtube.com/watch?v=PqHGqfZtTWA">https://www.youtube.com/watch?v=PqHGqfZtTWA</a>
48.	Prof. Krishna Raj	Anubhav	Jul 1, 2020	<a href="https://www.youtube.com/watch?v=ygV0BY1yFSk">https://www.youtube.com/watch?v=ygV0BY1yFSk</a>
49.	Prof. Krishna Raj	Lecture of Professor Krishna Raj on Review of Discrete Time Signals	Jun30, 2020	<a href="https://www.youtube.com/watch?v=Me51WX7Mp9M">https://www.youtube.com/watch?v=Me51WX7Mp9M</a>
50.	Prof. Krishna Raj	Lecture of Professor Krishna Raj on Review of Discrete and Digital Signals	Jun23, 2020	<a href="https://www.youtube.com/watch?v=QK-HnxfFAhc">https://www.youtube.com/watch?v=QK-HnxfFAhc</a>
51.	Prof. Krishna Raj	Lecture of Prof Krishna Raj on introduction of Digital Signal Processing	Jun22, 2020	<a href="https://www.youtube.com/watch?v=bFiKrjVmqME">https://www.youtube.com/watch?v=bFiKrjVmqME</a>
52.	Prof. Krishna Raj	Lecture of Prof Krishna Raj on Review of Signals	Jun18, 2020	<a href="https://www.youtube.com/watch?v=c6-GoygnkFU">https://www.youtube.com/watch?v=c6-GoygnkFU</a>
53.	Prof. Krishna Raj	Lecture of Prof Krishna Raj on Design and Analysis of Quantized FIR Digital Low-pass Filter	Jun16, 2020	<a href="https://www.youtube.com/watch?v=ISSkbKf0t_w">https://www.youtube.com/watch?v=ISSkbKf0t_w</a>
54.	Prof. Krishna Raj	Lecture of Professor Krishna Raj on "Design of Lowpass Filter using MATLAB Functions"	Jun15, 2020	<a href="https://www.youtube.com/watch?v=xJIxgm_QFK4">https://www.youtube.com/watch?v=xJIxgm_QFK4</a>
55.	Prof. Krishna Raj	Designing of Digital Filter using Filter Design and Analysis Tool of MATLAB by Professor Krishna Raj	Jun13, 2020	<a href="https://www.youtube.com/watch?v=vKFyKtp3LKO">https://www.youtube.com/watch?v=vKFyKtp3LKO</a>
56.	Prof. Krishna Raj	Lecture of Prof Krishna Raj on more complex mathematical	Jun 4, 2020	<a href="https://www.youtube.com/watch?v=PJvxzQwbKP8">https://www.youtube.com/watch?v=PJvxzQwbKP8</a>

		model of systems		
57.	Prof. Krishna Raj	Lecture of Prof Krishna Raj on the topic solution of linear and nonlinear mathematical model	Jun 2020	4, <a href="https://www.youtube.com/watch?v=oxTAWw2ta_M">https://www.youtube.com/watch?v=oxTAWw2ta_M</a>
58.	Prof. Krishna Raj	Lecture of Prof. Krishna Raj on, "Concepts of Designing and implementation of filter"	Jun 2020	4, <a href="https://www.youtube.com/watch?v=_JDI7_mL6PY">https://www.youtube.com/watch?v=_JDI7_mL6PY</a>
59.	Prof. Krishna Raj	Lecture of Prof. Krishna Raj on "Design and Implementation of Filters using MATLAB"	Jun3, 2020	<a href="https://www.youtube.com/watch?v=Qgh335Uw5eM">https://www.youtube.com/watch?v=Qgh335Uw5eM</a>
60.	Prof. Krishna Raj	Design and Implementation of DSP algorithms	May31,2020	<a href="https://www.youtube.com/watch?v=mw3-v3u7IHs">https://www.youtube.com/watch?v=mw3-v3u7IHs</a>
61.	Prof. Krishna Raj	Webinar 1: Introduction to MATLAB Programming On May 18 <sup>th</sup> , 2020: 01:20-03:00 PM	May 23,2020 on youtube channel	<a href="https://www.youtube.com/watch?v=J16HpzHixuE&amp;t=5441s">https://www.youtube.com/watch?v=J16HpzHixuE&amp;t=5441s</a>
62.	Prof. Krishna Raj	Webinar 2: Linear Equations and Nonlinear Equations On May 19 <sup>th</sup> , 2020: 01:20-03:00 PM	May 21, 2020 on youtube channel	<a href="https://www.youtube.com/watch?v=hTEH2nUBmOM&amp;t=3501s">https://www.youtube.com/watch?v=hTEH2nUBmOM&amp;t=3501s</a>
63.	Prof. Krishna Raj	Webinar 3: Ordinary Differential Equations (ODE) – Part 1 On May 21 <sup>st</sup> , 2020: 01:20-03:00 PM	May 21, 2020 on youtube channel	<a href="https://www.youtube.com/watch?v=XctcJtl-4ok&amp;t=4314s">https://www.youtube.com/watch?v=XctcJtl-4ok&amp;t=4314s</a>
64.	Prof. Krishna Raj	Webinar 4: Ordinary Differential Equations (ODE) – Part 2: Practical aspects On May 22 <sup>nd</sup> , 2020: 01:20-03:00 PM	May 22, 2020 on youtube channel	<a href="https://www.youtube.com/watch?v=aVVnloFl_Sk&amp;t=2695s">https://www.youtube.com/watch?v=aVVnloFl_Sk&amp;t=2695s</a>
65.	Prof. Krishna Raj	Webinar 5: Representation of signals in MATLAB On May 23 <sup>rd</sup> , 2020: 03:00 -03:15 PM	May 23, 2020 on youtube channel	<a href="https://www.youtube.com/watch?v=c47cEEUBY_4&amp;t=6578s">https://www.youtube.com/watch?v=c47cEEUBY_4&amp;t=6578s</a>
66.	Prof. Krishna Raj	Design and Analysis of Quantized FIR Digital Low-pass Filter	Virtual Lab	16.06.2020 <a href="https://www.youtube.com/watch?v=ISSkbKf0t_w">https://www.youtube.com/watch?v=ISSkbKf0t_w</a>
67.	Prof. Krishna Raj	Design of Lowpass Filter using MATLAB Functions	Virtual Lab	15.06.2020 <a href="https://www.youtube.com/watch?v=xJIxgm_QFK4">https://www.youtube.com/watch?v=xJIxgm_QFK4</a>
68.	Prof. Krishna Raj	Designing of Digital Filter using Filter Design and Analysis	Virtual Lab	13.06.2020 <a href="https://www.youtube.com/watch?v=vKFyKtp3LKo&amp;t=14s">https://www.youtube.com/watch?v=vKFyKtp3LKo&amp;t=14s</a>

		Tool of MATLAB			
69.	Prof. Krishna Raj	Solution of linear and nonlinear mathematical model	Virtual Lab	04.06.2020	<a href="https://www.youtube.com/watch?v=oxTAwW2ta_M&amp;t=690s">https://www.youtube.com/watch?v=oxTAwW2ta_M&amp;t=690s</a>
70.	Prof. Krishna Raj	Lecture of Prof Krishna Raj on more complex mathematical model of systems	Virtual Lab	04.06.2020	<a href="https://www.youtube.com/watch?v=PJvxzQwbKP8&amp;t=1211s">https://www.youtube.com/watch?v=PJvxzQwbKP8&amp;t=1211s</a>
71.	Prof. Krishna Raj	Concepts of Designing and implementation of filter	Virtual Lab	04.06.2020	<a href="https://www.youtube.com/watch?v=JDI7_mL6PY&amp;t=124s">https://www.youtube.com/watch?v=JDI7_mL6PY&amp;t=124s</a>
72.	Prof. Krishna Raj	Design and Implementation of Filters using MATLAB	Virtual Lab	03.06.2020	<a href="https://www.youtube.com/watch?v=Qgh335Uw5eM&amp;t=7s">https://www.youtube.com/watch?v=Qgh335Uw5eM&amp;t=7s</a>
73.	Prof. Krishna Raj	Design and Implementation of DSP algorithms	<b>E-Video</b>	31.05.2020	<a href="https://www.youtube.com/watch?v=mw3-v3u7IHs&amp;t=469s">https://www.youtube.com/watch?v=mw3-v3u7IHs&amp;t=469s</a>
74.	Prof. Krishna Raj	Solution of MSE Question paper	<b>E-Video</b>	09.05.2020	<a href="https://www.youtube.com/watch?v=KrBsV4TcXYA&amp;t=331s">https://www.youtube.com/watch?v=KrBsV4TcXYA&amp;t=331s</a>
75.	Prof. Krishna Raj	Solution of question bank and tutorials	<b>E-Video</b>	03.05.2020	<a href="https://www.youtube.com/watch?v=Lrz0KJQRnao&amp;t=565s">https://www.youtube.com/watch?v=Lrz0KJQRnao&amp;t=565s</a>
76.	Prof. Krishna Raj	Basic concepts of Design and implementation of systems and use of MATLAB	<b>E-Video</b>	Apr 30, 2020	<a href="https://www.youtube.com/watch?v=9vS9VEvuLvo&amp;t=555s">https://www.youtube.com/watch?v=9vS9VEvuLvo&amp;t=555s</a>
77.	Prof. Krishna Raj	data compression using JPEG and JPEG 2000	<b>E-Video</b>	Apr 27, 2020	<a href="https://www.youtube.com/watch?v=iQIaRougy0&amp;t=291s">https://www.youtube.com/watch?v=iQIaRougy0&amp;t=291s</a>
78.	Prof. Krishna Raj	Description of Programming tool used in Code Composer Studio (CCS)	<b>E-Video</b>	Apr 24, 2020	<a href="https://www.youtube.com/watch?v=dwZl5zH1tHs&amp;t=23s">https://www.youtube.com/watch?v=dwZl5zH1tHs&amp;t=23s</a>
79.	Prof. Krishna Raj	Memory Map, AMR, Linear And Circular Addressing Modes	<b>E-Video</b>	Apr 21, 2020	<a href="https://www.youtube.com/watch?v=QHhncrr-UM&amp;t=3s">https://www.youtube.com/watch?v=QHhncrr-UM&amp;t=3s</a>

		And Instruction			
80.	Prof. Krishna Raj	Image data compression using DCT and JPEG standard	<b>E-Video</b>	Apr 18, 2020	<a href="https://www.youtube.com/watch?v=w_y5ddHm8Xw&amp;t=776s">https://www.youtube.com/watch?v=w_y5ddHm8Xw&amp;t=776s</a>
81.	Prof. Krishna Raj	FIRST PART BY PROF KRISHNA RAJ ON FEATURES OF DSP PROCESSORS	<b>E-Video</b>	Apr 17, 2020	<a href="https://www.youtube.com/watch?v=sIeXMwgKcwo&amp;t=142s">https://www.youtube.com/watch?v=sIeXMwgKcwo&amp;t=142s</a>
82.	Prof. Krishna Raj	SECOND PART BY PROF KRISHNA RAJ ON FEATURES OF DSP PROCESSORS	<b>E-Video</b>	Apr 17, 2020	<a href="https://www.youtube.com/watch?v=wowOmgvLasU&amp;t=67s">https://www.youtube.com/watch?v=wowOmgvLasU&amp;t=67s</a>
83.	Prof. Krishna Raj	Concept of Fetching, Dispatching and decoding etc	<b>E-Video</b>	Apr 14, 2020	<a href="https://www.youtube.com/watch?v=pvxtYQeJsN4&amp;t=825s">https://www.youtube.com/watch?v=pvxtYQeJsN4&amp;t=825s</a>
84.	Prof. Krishna Raj	Block Diagram description of TMS320c6713 Floating Point DSP Processor	<b>E-Video</b>	Apr 6, 2020	<a href="https://www.youtube.com/watch?v=PIKn_sUo1Is">https://www.youtube.com/watch?v=PIKn_sUo1Is</a>
85.	Prof. Krishna Raj	DSP hardware & software architecture	<b>E-Video</b>	Apr 6, 2020	<a href="https://www.youtube.com/watch?v=CHYEzAXsOsE&amp;t=1282s">https://www.youtube.com/watch?v=CHYEzAXsOsE&amp;t=1282s</a>
86.	Prof. Krishna Raj	Concepts of Speed-up Algorithms for DSP Applications	<b>E-Video</b>	Apr 4, 2020	<a href="https://www.youtube.com/watch?v=sgmWO0bZM_8&amp;t=34s">https://www.youtube.com/watch?v=sgmWO0bZM_8&amp;t=34s</a>
87.	Prof. Krishna Raj	Performance enhancement concept for Designed DSP algorithms	<b>E-Video</b>	Apr 3, 2020	<a href="https://studio.youtube.com/video/drJnqe-H-KM/edit">https://studio.youtube.com/video/drJnqe-H-KM/edit</a>
88.	Prof. Krishna Raj	Designing of LMS Adaptive Digital Filter	<b>E-Video</b>	Apr 1, 2020	<a href="https://www.youtube.com/watch?v=s9gdGS_6Vu4&amp;t=1313s">https://www.youtube.com/watch?v=s9gdGS_6Vu4&amp;t=1313s</a>
89.	Prof. Krishna Raj	Design and analysis of Digital Signal Processing Algorithms	<b>E-Video</b>	Mar 30, 2020	<a href="https://www.youtube.com/watch?v=k6gWd6z4aMs&amp;t=1127s">https://www.youtube.com/watch?v=k6gWd6z4aMs&amp;t=1127s</a>

### Administrative Experiences

S.N	Period	Organization	Nature of Responsibility	Designation
1.	2021	HBTU Kanpur	Planning, Documentation, Leading, Administrative responsibilities for the purpose of commemorative coin	Coordinator, commemorative coin for centenary year celebration 2021
2.	2021	HBTU Kanpur	Planning, Documentation, Leading, Administrative responsibilities for the purpose of commemorative stamp	Coordinator, commemorative stamp for centenary year celebration 2021
3.	2021	HBTU Kanpur	Planning, Documentation, Presentation, Leading, Administrative responsibilities for the purpose of data uploading	Coordinator, data uploading for India Today ranking 2021
4.	2020-2021	HBTU Kanpur	Planning, Documentation, Presentation, Leading, Administrative responsibilities for the purpose of data uploading	Coordinator, data uploading for NIRF ranking 2021
5.	22.09.2019	IET Lucknow	Administrative and academic	External Expert (Auditor) to audit the academic performance of EC Department of IET Lucknow
6.	15 <sup>th</sup> October, 2018 to 13 <sup>th</sup> October, 2021	HBTU Kanpur	Administrative and academic	Head of the Department, Electronics Engineering
7.	15 <sup>th</sup> October, 2018 to 13 <sup>th</sup> October, 2021	HBTU Kanpur	Administrative and academic	Chairman Board of Studies, Department of Electronics Engineering
8.	15 <sup>th</sup> October, 2018 to 13 <sup>th</sup> October, 2021	HBTU Kanpur	Planning, Documentation, Presentation, Leading, Administrative and academic responsibilities for the purpose of Accreditation	B.Tech Program of Electronics Engineering Department was accredited since May 2019 to June 2022 (In the capacity of HOD: Role of leadership and management as well as Administrative and academic)
9.	September 2017 to till date	HBTU Kanpur	Administrative and academic	Coordinator, for Planning, Organizing and Applying for Accreditation to NAAC
10.	February 2017 to 07.09.2019	Spoke DIC at HBTU Kanpur as per the MOU with IIT Kanpur	Administrative and academic	Coordinator, Spoke DIC at HBTU Kanpur

11.	16th Nov 2016 to 07.09.2019	HBTU Kanpur	Administrative and academic	Dean of Incubation Hub
12.	Year 2016	HBTI Kanpur	Administrative and academic	Chairman of Scholarship committee for OBC
13.	2015 to 2016	Govt. Engineering college Kannauj at HBTI Kanpur	Administrative and academic	Nodal Officer
14.	8-9 June, 2015	Tech. Education Dept. (State level Faculty Interaction Seminar), at HBTI Kanpur	Administrative and academic	Convener-Proceeding Committee
15.	8-9 June, 2015	Tech. Education Dept. (State level Faculty Interaction Seminar), at HBTI Kanpur	Administrative and academic	Designer & Editor of Souvenir
16.	September 12, 2014 to till date of Jan	Dr.Bhimrao Ambedkar Engineering college of Information Technology, Bijnore at HBTI Kanpur	Administrative and academic	Nodal Officer for Scholarship
17.	June 2012 to June 2014	IETE	Administrative and academic	Executive member
18.	June 2012 to June 2014	IE	Administrative and academic	Executive member
19.	July 22-31, 2012	U.P.T.U. Lucknow	Administrative and academic	Observer in SEE- 2012 at KIT kanpur
20.	June 2010 to June 2012	IETE	Administrative and academic	Executive member
21.	June 2010 to June 2012	IE	Administrative and academic	Executive member
22.	May 2011 to till date	IETE	Administrative and academic	IETE Student Forum Coordinator
23.	27.01. 10 to May 2011	H.B.T.I. Kanpur	Administrative and academic	Head of the Department
24.	July-August, 2010	U.P.T.U. Lucknow	Administrative and academic	Dy. Centre In-charge, SEE-2010 Counselling
25.	03.04.97 to April 2000.	B.I.E.T. Jhansi	Administrative and academic	Head of the Department
26.	2009	U.P.T.U. Lucknow	Conduction of entrance examination of UPTU	Nodal officer (Confidential)
27.	February 2007 to 2009	H.B.T.I. Kanpur	Examination work	Assistant centre superintendent
28.	2008	U.P.T.U. Lucknow	Conduction of entrance examination of UPTU	Nodal officer (Confidential)

29.	Nov. 01, 2004 to Jan., 2007	B.I.E.T. Jhansi	Examination work	Assistant centre superintendent of exam.
30.	2007	U.P.T.U. Lucknow	Conduction of entrance examination of UPTU	Nodal officer (Confidential)
31.	2007 & 2008	U.P.T.U. Lucknow	Conduction of examination	Group Leader of Centre controllers
32.	2006-2009	U.P.T.U. Lucknow	Conduction of entrance examination of UPTU	Nodal officer (Confidential)
33.	2007	U.P.T.U. Lucknow	Evaluation of answer books	Head Examiner
34.	2008	H.B.T.I. Kanpur	Enquiry	Member of Enquiry committee
35.	August 2007 to August 2009	H.B.T.I. Kanpur	Hostel administration	Warden
36.	Feb. 10, 2004 to Jan., 2007	B.I.E.T. Jhansi	Hostel administration	Warden
37.	June 22, 1996 to Jan., 2000	B.I.E.T. Jhansi	Hostel administration	Warden
38.	Aug. 22, 1998 to Jan., 2007	B.I.E.T. Jhansi	Management of student activity	Officer-in-charge Literary and Magazine
39.	May 03, 1998 to May 1999	B.I.E.T. Jhansi	Management of central store facilities	Officer-in-charge Store
40.	May 16, 1996 to May 2000	B.I.E.T. Jhansi	Management of PA system & telephone facilities	Officer-in-charge P.A. & telephone system
41.	August 1996	B.I.E.T. Jhansi	Counseling work	Member of Counseling committee of CEE
42.	Oct., 1996 to 2000	B.I.E.T. Jhansi	Counseling of students	Student councilor
43.	Nov., 1996 to 2000	B.I.E.T. Jhansi	Planning and implementation of policies to provide medical facilities to employees and students	Member
44.	April 1999	B.I.E.T. Jhansi	Advise etc	Member of advisory committee
45.	July 1996 to 2000	B.I.E.T. Jhansi	Purchasing of items	Member of Departmental Purchase Committee

