

Curriculum Vitae

Personal Information:



Dr. Raj Kumar

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Haryana, India.

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📞 +919818964362, +919466026059 (India)

📧 [rao.rajkumar](#)

Gender: Male

Date of birth: 24.08.1972

Nationality: Indian

Passport No: R5619653

Date of Issue: 15/12/2017

Place of Issue: Delhi

Present Job:
(March, 19, 2024 - Till Date)

Professor,
School of Electrical and Communication Engineering
Papua New Guinea University of Technology, Lae
Papua New Guinea.

Work Experience:

**July 22, 2019 to
March 12, 2024**

Deputy Director
Shri Vishwakarma Skill University, Palwal, Haryana, India

**Feb. 28, 2017 to
July 19, 2019**

Associate Professor and Head,
Department of Electrical and Communication Engineering,
Papua New Guinea University of Technology, Lae
Papua New Guinea.

**Jan. 22, 2011 to
Feb. 27, 2017**

Associate Professor/Director (Approved M.D. University, Rohtak)
MRK Institute of Engineering & Technology,
Rewari, Haryana, India. **(On Leave from Nov. 23 – Jun 04, 2015)**

**Nov. 23, 2014 to
Jun 04, 2015**

Professor of Electrical Engineering
College of Engineering and Information Technology,
Buraydah Colleges, Buraydah, Kingdom of Saudi Arabia.

**Jan. 15, 1999 to
Jan. 21, 2011**

Associate Professor/Lecturer
Department of Electronics & Communication Engineering,
Haryana, India.

**Jan. 01, 1998 to
Jan. 11, 1999** Maintenance Engineer
Amtek Auto Ltd., Gurgaon, Haryana, India.

Qualifications:

2012 **Ph.D. (Electronics Engineering)**
Faculty of Engineering, Banasthali University, Banasthali
Rajasthan, India

Thesis Title: Smart Instrument for Battery Monitoring

1998 **Masters - M. Tech. (Instrumentation)**
REC Kurukshetra (Present National Institute of Technology),
(Kurukshetra University, Kurukshetra)
Haryana, India

Thesis Title: Electronic Measurement of Horizontal Curvature of Roads
using Rate Gyro and Inclometers

2010 **B.Tech. (Electronics and Telecommunication Engineering)**
Janardan Rai Nagar Rajasthan Vidyapeeth University, Udaipur,
Rajasthan, India.

Additional Professional Qualification:

2018 **Post Graduate Certificate in Student Centered Teaching**
Papua New Guinea University of Technology, Papua New Guinea

Academic Awards and Honours

- **2022: Invited talk** on Applied Machine Learning at Mid Sweden University Sundsvall, Sweden
- **2019: Invited** by university of Nottingham Ningbo, China for **academic knowledge and research exchange in the area of Electrical and Electronics Engineering**
- **2018:** Selected for **Academic STAFF Mobility** at University of Valladolid, Spain*.
- **2009:** Received Best Teacher award at GITM, Gurgaon
- **1998:** Awarded Graduate Fellowship by MHRD, Govt. of India
- **1997:** Research Scholarship at CSIO, Chandigarh
- **1997:** Graduate Aptitude Test in Engineering (**GATE**)

* **Erasmus+ Staff Mobility for Teaching and Training** is International Credit Mobility Project coordinated by the University of Valladolid, Spain promoted by the European Commission. It is a project of mobility of undergraduate, master and doctorate mobility, in addition to academic and administrative staff, between the University of Valladolid and the Partner universities from the targeted countries.

Guest Editor/Advisory Committee Member of Special Issues of Journals:

- Advisory Committee Member of “International Journal on Electronics Advancements”, DPG Institute of Technology & Management, Gurgaon, India.
- Recent Advancements in Information Technology for Sustainable Development
<https://benthamscience.com/journal-files/special-issue-details/RPCSENG-SII20180927-01.pdf>
- Smart Sensors for sustainable Internet of Every things (IoE)
<https://benthamscience.com/journal-files/special-issue-details/ISWCC-SII20181009-01.pdf>

Conference Technical Program Committee Member:

- 3rd International Conference on Advanced Informatics for Computing Research (ICAICR-2019). (<http://informaticsindia.co.in/ConferenceCommittee.html>)
- International Conference on Computational Modelling, Simulation and Optimization will be held at Singapore during June 27-29 June, 2019.
(<http://www.iccmso.com/about/committee/>)

Paper Review Committee Member of Journals/Conferences:

- IEEE SENSORS, organized by IEEE Sensors Council.
- International Conference on Communication, Computing and Energy Efficient Technologies, Greater Noida, Gautam Buddha Nagar (UP), India.

Technical/IT Skills:

- **Hardware:** µp8085, µp 8086, MCU 8051 family, PIC 16F877
- **Operating System/Package:** MS-Office, Electronic Workbench, LAB VIEW, MP LAB, Multisim, MAT LAB and PSPICE

Professional Achievements

- **DHERST Panel of Experts for Quality Assessments under the Higher Education, Government of Papua New Guinea.** (The Department of Higher Education, Research, Science and Technology (DHERST) has selected some experts across the country)
- **Session Chair in 8th Houn Seminar at PNG University of Technology on 7-8 Nov., 2017**
- **Working Committee Member of Sustainable Energy Research Institute (SERI) Conference on June, 27-28, 2018.** (Asia Pacific International Conference on Energy, Climate Change and Green Energy Technology Transfer organized by SERI, PNG University of Technology.)
- **MKR Institute of Engineering & Technology, *Founder Director***

I was the key technical person to establish this new engineering college starting from Approval from All India Council for Technical Education (AICTE), Directorate of Technical Education, Government of Haryana to affiliation to M. D. University, Rohtak.

- **Curriculum Design Post Graduate Degree in Electrical Engineering/ Electronics and Communication Engineering, Core Committee Member**, M.D. University, Rohtak, Haryana, INDIA.
- **Member of Board of Studies of Engineering and Technology**, M. D. University, Rohtak, Haryana, INDIA.
- **Staffing Committee and Council Committee on Salary and Conditions of Services. Member**, PNG University of Technology, Lae, Morobe Province, Papua New Guinea.
(These two committees look after the recruitments and Salary Scales of National and International employees of the university.)

Professional Teaching Learning and Evaluation

- Delivered lectures, tutorials, practical's and seminars
- Developed lab manuals, lecture notes and ICT based materials
- Used ICT in teaching learning process with computer aided methods like power point/simulation/software
- Organized training course/workshops in web-based learning
- University/college examination work like paper setting, evaluation of answer books, flying squad, superintendent/deputy superintendent

Curriculum, Extension and Professional Development

- Organized Institutional Co-curricular activities for students such as Educational Tours/Industrial Visits/ Quiz Contests etc
- Organized/Participated in various Conferences, Seminars and Workshops
- Delivered invited Lectures in Colleges/Workshops/Conferences
- Participated in various Short-Term Programs
- Worked as Chief Warden (2007-2011)
- Member of Board of Studies (both UG and PG), M.D. University, Rohtak (2014-16)
- Convener of Admission Committee (both online and offline)
- Member of Anti-ragging, Discipline, Student Guidance and Counseling Committee
- Member of Time Table, Campus Development, Library Committee
- Member of Editorial Board of Journals

Area of Research:

- Smart Instrumentation
- Embedded System Design
- Green Energy Vehicle
- Battery Management System

- Energy Storage Systems
- Machine Learning
- Communication Engineering

Personal Attribute:

- Knowledge of Planning and Development of University Academic Structure
- Curriculum Design and Programme Development Experience
- Knowledge / Experience in International Higher Education
- Engagement with Professional Community
- Engagement with University Outreach/Community Programme
- Strong Teaching and Research Interest

Additional Information: Attached as Annexures

1. Positions held and responsibilities handled in different universities in India and Abroad.
2. List of subjects taught at under graduate and post graduate levels and teaching goals.
3. Research Projects, Research Guidance and Consultancy
4. Publication List/Workshops/Faculty Development Programmes
5. List of memberships in professional organizations
6. University Approval Letter for Appointment of Director
7. List of references

I, Dr. Raj Kumar declare that above mentioned details are known to my conscience and are true. If my personal details are found eligible to your requirements, kindly grant me an opportunity to serve in your organization and I assure you of my best performance.

Date: 07.08.2024

Place: Rewari, Haryana, India



Dr. Raj Kumar

Annexure - 1
Positions held and Responsibilities handled in different Universities in India and Abroad

(a.) PNG University of Technology, Lae, Papua New Guinea

- Head of Electrical and Communication Engineering
- Member Various University Committees
 - Staffing Committee member
 - Council Committee on Salary and Conditions of Services
 - Sustainable Energy Research Institute (SERI)
 - Engineering Program Accreditation Committee
- Expert Panel Member of Department of Higher Education Research Science and Technology (DHERST), Government of Papua New Guinea
- Session Chair in Huon Seminar
- Working Committee Member SERI Conference

(b.) MRK Institute of Engineering and Technology

- Administrative Head of the Institute/Director
- Handled AICTE/DTE/University Work
- Academic Program Supervision
- Development of new programmes
- Research Projects
- Member of Academic Council

(c.) Gurgaon Institute of Technology and Management, Gurgaon

- Member of Academic Council
- Head of Electronics and Communication Engineering Department
- Convener of Online-Off Campus Admission Committee
- Convener of Anti Ragging Committee
- Member Discipline, Library, Time Table Committee
- President, Robotics Society of GITM, Gurgaon
- Chief Warden (Jan 2007 – Jan 2011) GITM, Gurgaon

(d.) M. D. University, Rohtak

- Member of Board of Studies in Engineering and Technology.
- Subject Expert in Faculty Selection Committee of Various Colleges/Institutes
- Member Curriculum Development Committee
- Member of Paper Setter / Evaluator Panel
- External Practical Examiner of the University
- Member of Flying Squad in University Examination
- Acted as Centre Superintendent/Dy. Superintendent in University Examination

(e.) Banasthali University, Banasthali, Rajasthan

- Member of Board of Studies in Electronics and Computer Science

- MoU Coordinator between CEERI, Pilani and Banasthali University
- Member of Paper Setter / Evaluator Panel / External Practical Examiner
- Member of Curriculum Design Committee

(f.) External Practical Examiner, Member of Paper Setter/Evaluator Panel

- GGSIP University, New Delhi
- M.J.P. Rohilkhand University, Bareilly, U.P.
- Amity University, Noida, U.P.
- Amity University, Manesar, Haryana
- IETE, New Delhi

(g.) Shri Vishwakarma Skill University, Palwal, Haryana

- Academic Affairs Activities
- Work closely with the Dean Academics for academic resources, and other university leaders, faculty, and staff in formulating and implementing the school's academic goals and policies
- Skill based curriculum development
- Self-Learning Course ware development and delivery for Online Teaching
- Delivery of online talks/lectures on online teaching learning
- Admission Committee Coordinator
- Ph.D. Coordinator
- Conduct Training need Analysis for university staff/faculty
- Conduct training programs for staff/faculty
- Member of Affiliation policy committee
- Conduct faculty development program

Annexure-2

List of Subjects Taught and Teaching Goals

(a.) Postgraduate Program (M. Tech.)

- Advanced Microprocessors and Microcontrollers
- Embedded System Design
- Information and Communication Theory
- Advanced Signal Processing
- Neural Networks and Fuzzy Logic
- Advanced Control systems
- Transducer and Measurement Techniques
- Measurement and Instrumentation
- Mechatronics

(b.) Undergraduate Program (B. Tech.)

- Basics of Electronics/Analog Electronics/ Analog Electronic Circuits
- Digital Electronics
- Microelectronic Devices and Circuits/Semiconductor Devices and Circuits
- Microprocessor and Programming/Microprocessor and Interfacing
- Embedded System Design
- Signals and Systems/Digital Signal Processing
- Information Coding Theory/Information Theory and Coding
- Computer Architecture and Organization
- Soft Computing/Fuzzy Logic and Control
- Network Analysis and Synthesis
- Electronic Measurement and Instrumentation
- Control System Engineering
- Communication Engineering
- Electromagnetic Field Theory/Antenna and Wave Propagation
- Circuit Theory

Academic Goals

I am hardworking, truthful, dedicated and result oriented professional. I have experience and attitude to excel in the teaching and research. My Teaching goals will contribute to the following basic areas.

- **Academics:** I have the strong academic background of the subject. I have taught from basic to advanced papers to the undergraduate, graduate as well as postgraduate students. I know MATLAB and other academic software. I teach the student through the process of “**Learning by doing**” and motivate them for doing small- small projects, which in turn sometimes leads to a good research.
- **Research and Development:** I am very keen towards the research and development. I have guided various projects to both graduate as well as postgraduate students. I am supervising six Ph.D. students. If given an opportunity, I can help the existing research or can start new research in the areas like Green Energy Vehicle, Solar Energy, Battery management Embedded System and Smart Instrumentation.
- **Policy Development and Planning:** I have the exposure of policy development and planning. I was involved in development of guidelines for various new schemes for higher education. I was involved in development of Ph.D. guidelines as per University Grants Commission (UGC) new regulations.
- **Management and Administration:** Previously I was holding a good administrative position in India. I can assist you in day today’s departmental activities. I can prepare course file, course report and course specification for accreditation.
- **Students Counselling:** I can counsel the students through class room teaching and motivate them to do better in their career. This will enhance the reputation of the department and hence the college/university.
- **Training and Development:** I am involved in training of faculty/staff of the university to enhance efficiency, productivity at work place. Also, I have the experience of training on outcome-based skill education. This can be useful to develop internal capacity to make teaching learning process effective.

Annexure-3

Research Projects, Guidance and Consultancy

Research Projects Completed and Guided

• CSIO Chandigarh	02
• NIT Kurukshetra	01
• Banasthali University	02
• Post Graduate Projects Supervised	40
• Graduate Projects Guided	120

Research Projects

1. DST sponsored project- **Electronic Measurement of Horizontal Curvature of Roads using Rate Gyro and Inclinometers**, Carried out at Central Scientific Instruments Organization (CSIO), Chandigarh.
2. **Development of 3-D Holographic Non-Destructive Techniques for Defect Diagnosis of Precious Objects**, Carried out at Central Scientific Instruments Organization (CSIO), Chandigarh.
3. **Filter Circuit Design, Simulation using PSPICE Package and Fabrication**, carried out at National Institute of Technology, Kurukshetra.
4. **Automation of CNG and Petrol Switches in Vehicles**, Department of Science and Technology (DST), Govt. of Rajasthan sponsored project under Student Project Scheme.
5. **Battery Monitoring System Design**, sponsored by Exide Battery, Research and Development Centre, Kolkata carried out Banasthali university, Rajasthan.

Research Guidance

(a.) Ph.D. Thesis: 09 (6 Awarded+3 in Progress)

1. 2017: Ms Awani Khatkar: Investigation of Security Techniques for QoS in Wimax. (M.D. University Rohtak)-**Awarded**
2. 2017: Mr. Manish Sharma: Design of Passive Components and Antenna with DGS on Si Substrate. (Banasthali University, Rajasthan)- **Awarded**
3. 2018: Mr. Ashwani Yadav: Symlet Wavelet based Texture analysis of Medical Images (Amity University, Jaipur) - **Awarded**
4. 2018: Mr. Deepak: Design and Analysis of Secure Routing Protocol for Vehicular Ad hoc Networks. (M.D. University Rohtak) - **Awarded**
5. 2019: Mr. Manoj Kumar: Study and Analysis of Ultra Low Power SAR Analog to Digital Converter for Bio-potential Signals. (M.D. University Rohtak) - **Awarded**
6. 2021: Mr. Pradeep Kumar: Studies on the beam wave interaction for a high power, sub-THz co-axial cavity Gyrotron. (Banasthali University, Rajasthan) –**Awarded**

7. Mr. Sarad Jain: Performance Analysis and Optimization of Spectrum Sensing Techniques for Wireless Regional Area Network (Amity University Rajasthan) - **in progress** (Amity University, Jaipur)
8. Mr. Rahul Ohlan: Design and Development of Narrow Band IOT Network for Enhanced power utilization (Amity University, Haryana) - **in progress**

(b.) M. Tech. Thesis Supervised: 40 Completed

1. Digital implementation of Battery's SoH
2. Battery Parameter Circuit Testing and their Interface with Microcontroller
3. Automation of CNG and Petrol Switch in a vehicle
4. Car Security System
5. A 3 - Bit Flash Analog to Digital Converter

(c.) B. Tech. Projects Supervised: More than 120 Completed

1. Design of Decorative Sign Board
2. Home Security System
3. Automatic Multilevel Car Parking
4. Line follower Robot
5. Water Level Controller
6. Battery Charge Regulator

Consultancy:

1. Consultancy to research project entitled “**Design and Implementation of online Battery Monitoring System**” sponsored by Exide R&D Centre, Kolkata.
2. Consultancy to research project entitled “**Automation of Petrol and CNG switches in Vehicles**”, sponsored by Department of Science and Technology, Govt. of Rajasthan.
3. **Consultancy/guidance** to various newly established colleges in and around National Capital Region (NCR).
4. **Developed Electronics and Communication labs** in various newly established colleges in and around NCR.

Annexure-4

Publications/Faculty Development Programs/Invited Talks

a. Book Publication:

i. Title: Smart Instrument for Battery Monitoring: Design and Implementation

(ISBN: 978-3-639-71791-4) June, 2014

Scholars' Press, KG Heinrich-Bocking-Str. 6- 8, 66121, Saarbrücken, Germany.

(<https://my.scholars-press.com/catalog/details/store/gb/book/978-3-639-71791-4/smart-instrument-for-battery-monitoring>)

ii. Book Chapter: Texture Segmentation and Features of Medical Images

(<https://www.igi-global.com/chapter/texture-segmentation-and-features-of-medical-images/26333>) (Chapter-23) IGI Global Publishers, 2021

iii. Book Chapter: Performance of Cooperative Spectrum Sensing with Energy

Detection using Discrete Wavelet Packet Transform in IEEE 802.22 WRAN

(Wavelet Theory and Modern Applications) - Intech Open. Rijeka: Janeza Trdine 9, 51000 Rijeka, Croatia, London: 5 Princes Gate Court, London, SW7 2QJ, UK

b. Journal/Conference/Workshop/Seminar Publications

Journal Publications: 43 (list attached)

Conference Publications: 31 (list attached)

Workshops/Seminars: 06 (list attached)

c. Faculty Development Programs (Orientation/Short Term Programs): 45 (list attached)

d. Conference(s)/Workshop(s) Session Chair at International/National Level: 07

S. No	Title	Name of Conference/ Seminar	National/ International	Date and Year
1.	Technical Session	Fourth International conference on Advance Informatics for computing research	International (within Country)	Dec. 26-27,2020
2.	Smart Battery Management System	Fourth International conference on Advance Informatics for computing research	International (within Country)	Dec. 26-27,2020
3.	Paper Writing and Anti plagiarism	National Workshop, RBS College of Rewari, Haryana	State	March 01, 2020
4.	Technical Session	The 8th Huon Seminar, PNG University of Technology, Papua New Guinea	International (abroad)	Nov. 7-8, 2017

5.	Technical Session- Expert Talk	MATLAB-BOTRIX Workshop, Gurgaon Institute of Technology & Management, Gurgaon	State	Oct. 25-26, 2013
6.	Digital Signal Processing in Battery Monitoring	National Conference on Emerging Technologies and Research in Communication, Networking and Signal Processing, Bikaner ISBN 978-82307-07-6	National	Feb. 8-9, 2013
7.	Technical Session	Emerging Trends in Science, Engineering and Management- Vision2020 Gurgaon Institute of Technology & Management, Gurgaon	State	Jan 18-19, 2013

e. Latest Professional Development Programme:

SWAYAM - AICTE approved FDP course, Annual Refresher Programme in Teaching (ARPIT)

S.No.	Workshop/Program	Date and Year
1.	NBA Accreditation and Teaching - Learning in Engineering	Jan. 18, 2021- April 09, 2021
2.	MATLAB Programming for Numerical Computation	Jan.18,2021-March 21, 2021
3.	Leadership and Governance in Higher Education	Dec.01,2020-March 31,2021
4.	Quality Assurance in Engineering Education	March 02, 2020-April 24, 2020
5.	Curriculum, Pedagogy and Evaluation for Higher Education	Sept. 01, 2019-Jan. 15, 2020
6.	Developing Life Skills	June 22, 2020-Sept. 24, 2020
7.	Assessment of Practical and Social Skills in Higher Education	Oct. 15, 2019 - Feb. 15, 2019

Faculty Development/Administrative Programs:

S. No	Workshop/Program	University
1.	Four-week Training Programme on Enrichment of Administrative Skills/ Methods	SMVD University, Katra Jammu and Kashmir
2.	Two-week Capacity building program on Teaching, Learning and Research	MDU Rohtak
3.	Excel Skill for Business: Essentials	Macquarie, Australia
4.	Indian Universities and Institutions Networks for Disaster Risk Management	NIDM, New Delhi
5.	IT Embedded System Design using MSP 430 MCU	Texas Instruments
6.	MATLAB Master Classes	IETE, Mumbai
7.	New Education Policy 2020	Ministry of Information & Broadcasting, Govt. of India
8.	E-conclave	SVSU, Gurugram
9.	Strategies for Tender Process	SVSU, Gurugram
10.	Administrative processes and procedures	HIPA, Gurugram
11.	Academic Induction Program	NITTTR, Bhopal

Workshops/Seminars/Orientation/Short Term Programs

S.No.	Workshop/Short Term Program	Organization	Date and Year
1.	Microcontroller & Embedded Systems including PIC	IIT Kharagpur	June 30-July 05, 2014
2.	Signals and Systems	IIT Kharagpur	June 4-June14, 2013
3.	Signals and Systems	IIT Kharagpur	Sep. 30-Oct. 4, 2013
4.	Advanced DSP with MATLAB and its Applications	BRCM college of Engg. & Tech., Bahal	Aug. 23-24, 2013
5.	Signal Processing and Image Processing using Scilab	NITTTR Chandigarh	Aug. 5-16, 2013
6.	Database Management System	IIT Bombay	May 21-31, 2013
7.	Analog Electronics	IIT Khargpur	June 4-14, 2013
8.	Analog Electronics	IIT Khargpur	April 1-5, 2013
9.	Research Methods in Educational Technology	IIT Bombay	February 2 & 9, 2013
10.	Aakash for Education	IIT Bombay	Nov. 11-12, 2012
11.	Introduction to Research Methodologies	IIT Bombay	June 25 - July 4, 2012
12.	Modeling and Simulation using Simulink with Engineering Applications	BRCM College of Engg & Tech., Bahal	Oct. 13, 2012
13.	Embedded System: A Design Approach	Gurgaon Institute of Technology and Management, Gurgaon	Feb. 26-27, 2010
14.	Wireless Networks and Embedded Systems	Chitkara Institute of Engineering and Technology, Rajpura	Oct.24-24,2009

15.	AICTE sponsored Two-week Faculty Development Program on Fundamental of Theoretical Computer Science	Lal Bahadur Shastri Institute of Management, Delhi	July, 13-24, 2009
16.	AICTE sponsored STTP on Virtual Instrumentation	NSIT, New Delhi	June 9-13, 2008
17.	Faculty Awareness Camp on Entrepreneur	NSIT, New Delhi	June 14-16, 2008
18.	Tanner Tools - A Complete VLSI Design System	Tanner Research Inc. (USA) and Banasthali University, Banasthali	Dec.23, 2007
19.	Models of Embedded Computation	Banasthali University, Banasthali	March 15-19,2007
20.	Faculty Development Program	Amity university, Noida	Sept.23,2006
21.	Recent Trends in Combinatorics and its Applications	Banasthali University, Banasthali	March 5-6, 2006
22.	Updates of Sensors and Sensor Instruments	University of Pune, Pune	Feb. 25-26, 2006
23.	Fabrication and Packaging of Sensors	University of Pune, Pune	Feb. 25-26, 2006
24.	Bio-informatics Basics - Applications in Biological Sciences	Banasthali University, Banasthali	Feb. 19-20,2005
25.	Optical Fiber and its Applications	National Institute of Technical Teachers' Training and Research, Chandigarh	Jan. 5-9, 2004
26.	Web Based Engineering System-A Consortium for Technical Institute	National Institute of Technology, Kurukshetra	Sept., 2003

f. Invited Talk Delivered (online/offline)

- Invited to visit and deliver talk for academic, knowledge and research in Electrical and Electronics Engineering at Nottingham University Ningbo, China from January 27-28, 2019
- Invited to visit and deliver an invited talk on Applied Machine Learning at Mid Sweden University, Sundsvall, Sweden from May 28-31, 2022
- Online Classroom – The Need of Hour
- Effective Teaching Learning Processes
- Awareness of Digital Platform and Online Tools for Faculty in Higher Education
- E-Resources Available on Public Domain
- Outcome based Education
- Training on Teaching Pedagogy
- Teaching Content Development and Pedagogical Methods
- Outcome Based Curriculum Design: Mapping of COs and POs
- National Skill Qualification Framework (NSQF) Training

g. Journal Papers

S. No	Name of Article/Paper	Author(s)	Name of Journal	Year/ Vol./pp.
1.	Artificial Neural Network Based Spectrum Sensing in Wireless Regional Area Network	Sharad Jain, Ashwani Kumar Yadav, Raj Kumar , Indra Kumar Shah, Prashant Kumar, Saurabh Singh, In-Ho Ra	IEEE Access https://ieeexplore.ieee.org/document/10489974	2024 Vol.12, pp. 48941 - 48950
2.	Design of Microcontrollers Based Smart Battery Management System Enhancement for Off - Grid Remote Homes	Sylvester Tirones and Raj Kumar	International Journal of Science and Research	2024 Vol. 13 Issue 4, pp.379-86
3.	Performance Analysis of Cooperative Spectrum Sensing using Empirical Mode Decomposition and Artificial Neural Network in Wireless Regional Area Network	Sharad Jain, Ashwani K Yadav, Raj Kumar and Vaishali Yadav	Recent Advances in Computer Science and Communications	Vol. 17, Issue 6, pp.48-60
4.	Future Intelligent Communication with 6G Technology: A Review	Sharad Jain, Ashwani Kumar Yadav, Raj Kumar , Vaishali Yadav and Dilbag Singh	International Journal of Sensors, Wireless Communications and Control	2023 Vol. 13, Issue 6, pp.361-84
5.	Cooperative Spectrum Sensing in Cognitive Radio Networks: A Systematic Review	Sharad Jain, Ashwani Yadav, Raj Kumar Vaishali Yadav	Recent Advances in Computer Science and Communications ISSN (Print): 2666-2558 ISSN (Online): 2666-2566	2022 Vol. 16, Issue 4, pp.2-32
6.	Editorial: Recent Advancements in Information Technology for Sustainable Development	Ashish Kr. Luhach, Raj Kumar and Aditya Kamparia	Recent Advances in Computer Science and Communications ISSN (Print): 2666-2558 ISSN (Online): 2666-2566	2021 Vol. 14, Issue 1 pp. 3 - 5
7.	Mode Selection for conventional Cavity based High Frequency, High Power Gyrotron	P. Kumar, CM Negi, Raj Kumar	European Journal of Molecular and Clinical Medicine, Elsevier ISSN: 2515-8260	2020 Vol. 7, No. 8, pp. 1963-71
8.	Honey Bee Optimization based Sink Mobility Aware Heterogeneous Protocol for Wireless Sensor Network	Ashis Kumar, A. Khamparia, Ravindra, Raj Kumar	Scalable Computing: Practice and Experience ISSN: 1895-1767	2019 Vol. 4, No. 20, pp.591-98

9.	Energy Storage Estimation and Feasibility Analysis for Solar Power Generation	Raj Kumar , Praveen K Yadav, S. Aiau	Journal of Emerging Technologies and Innovative Research (International open Access)	2018 Vol. 6, No. 5, pp. 307-313
10.	Performance Analysis of ECDSA Based SE-AODV Routing Protocol in VANETS	Deepak Raj Kumar	International Journal of Engineering and Technology, UAE	2018 Vol. 7, No. 3.16, pp. 76-80
11.	High Frequency Measurements of Dielectric Behavior of Ceramic Materials Using Free Space Method	Pradeep Kumar, Chandra Mohan Singh Negi, Raj Kumar	Journal of Advances and Scholarly Researches in Allied Education ISSN 2230-7540	2018 Vol. 15, Issue No. 7, pp.652-656
12.	Key shaped planar UWB monopole antenna with dual band-notch characteristics	Manish Sharma, Y.K. Awasthi, Himanshu Singh, Raj Kumar , Sarita Kumari	International Journal of Ultra-Wideband Communications and Systems (Inderscience, Switzerland)	Vol. 3, No. 4, pp. 225–236
13.	Performance Analysis of AODV Routing Protocol in Vehicular Ad Hoc Networks	Deepak, Raj Kumar	International Journal of Research in Electronics and Computer Engineering	Vol. 6, Issue 2, pp. 2105-2110
14.	An Ultra Low Power 12 Bit Successive Approximation Register for Bio-Medical Applications	Manoj Kumar, Raj Kumar	International Journal of Engineering and Technology	Vol. 7, No. 3.4 pp. 98-101
15.	Performance Comparison of Routing Protocols in VANETs using Network Simulator-NS3	Deepak, Raj Kumar	International Journal of Research in Electronics and Computer Engineering	Vol. 6, Issue 2, pp. 2097-2104
16.	Performance Analysis of Various Wavelets in Terms of Features Extraction and Classification of Brain MR Images	Ashwani KYadav, Ratnadeep Roy, Raj Kumar , C. S. Kumar, A. Praveen Kumar	International Journal of Pure and Applied Mathematics	Vol. 118, No. 20, pp.995-1002
17.	An Ultra-Low Power Segmented Digital-to-Analog Converter	Manoj Kumar, Raj Kumar	International Journal of Applied Engineering Research	Vol. 13, Issue 4, pp.1833-37
18.	Design of Compact Flower Shape Dual Notched-Band Monopole Antenna for Extended UWB Wireless Applications	Manish Sharma, Y.K. Awasthi, Himanshu Singh, Raj Kumar , Sarita Kumari	Journal of RF Engineering and Telecommunication Engineering (Frequenz, Germany)	Vol. 70, Issue 11-12, pp. 499-506
19.	Compact UWB Antenna with High Rejection Triple Band-Notch Characteristics for Wireless Applications	Manish Sharma, Y. K. Awasthi, Himanshu Singh, Raj Kumar , Sarita Kumari	International Journal of Wireless Personal Communication (SPRINGER)	Vol.97, Issue 3, pp. 4129-4143

20.	Vase Shape UBB Antenna	R. Kumar , Y.K. Awasthi, H. Singh, M. Sharma, and S. Kumari	Advanced Science Letters (American Scientific Publishers)	Vol. 22, No. 11, pp. 3714-18
21.	Compact Printed High Rejection Triple Band-Notch UWB antenna with multiple wireless applications	Manish Sharma, Y. K. Awasthi, Himanshu Singh, Raj Kumar , Sarita Kumari	An International Journal of Engineering Science and Technology (Elesvier)	Vol. 19, Issue 3, pp.1626-1634
22.	Comparative analysis of Classification Techniques for Magnetic Resonance Images	Ashwani K Yadav Ratnadeep Roy, Raj Kumar , Cheruku Sandesh Kumar, Archek Praveen Kumar	International Journal of Control Theory and Applications	Vol. 9, Issue 22, pp. 215-222
23.	CPW-Fed Dual Notched-Band UWB Antenna on Silicon Substrate	Manish Sharma, Yogendra Kumar Awasthi, Himanshu Singh, Raj Kumar , Sarita Kumari	International Journal of Innovative Research in Computer and Comm. Engineering	Vol. 4, Special Issue 4, pp.132-138
24.	Effect of Length on Correlation of PN Sequence and Gold Sequence	Yogita Kumari, Raj Kumar	International Journal of Innovative Research in Computer and Communication Engineering	Vol. 4, Issue 7, pp. 4087-91
25.	BER Calculation for CDMA System Using PN and Gold Sequence	Yogita Kumari, Raj Kumar	International Journal of Innovative Research in Computer and Communication Engineering	Vol. 4, Issue 7, pp. 14082-86
26.	A Study on Facts Device and STATCOM Mathematical Modelling	Pooja Yadav, Raj Kumar	International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering	Vol. 5, Issue 6, pp. 5614-5618
27.	Proposed Model of DSTATCOM using Modified SVPWM	Pooja Yadav, Raj Kumar	International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering	Vol. 5, Issue 6, pp. 5619-5625
28.	CPW-Fed Micro-Size Phase Shifters on Silicon Substrate	Manish Sharma, YK Awasthi, Himanshu Singh, Raj Kumar , Sarita Kumari	International Journal of Innovative Research in Computer and Comm. Engineering	Vol. 4, Special Issue 4, pp.139-143

29.	Characteristic analysis of QoS parameters of WiMAX using VBR traffic	Avani, R. Kumar , Yudhvir	International Journal of Advanced Research in Computer Science and Software Engineering	Vol. 6, Issue 5, pp. 901-905
30.	Design of Compact Flower Shape Dual Notched-Band Monopole Antenna for Extended UWB Wireless Applications	Manish Sharma, Y.K. Awasthi, Himanshu Singh, Raj Kumar , Sarita Kumari	Frequenz: Journal of RF-Engineering and Telecommunications	Vol. 70, No. 11-12, pp. 499-506
31.	Analysis Based on Inset and Transformer feed Microstrip Patch Antennas	Rakesh Chauhan, Raj Kumar ,	Progress In Science and Engineering Research Journal (International Journal)	Vol.2, pp. 236-242
32.	Iteration based power control in CDMA system	R. Bhatia, R. Kumar	International Journal of Advanced Research in Electrical, Electronics and Instrumentation Engineering	Vol. 3, Issue:5 pp. 9468-9471
33.	Single Band Notched Ultra-Wideband Monopole Antenna	Manish Sharma, Y.K. Awasthi, Himanshu Singh, Raj Kumar , Sarita Kumari	YMCAUST International Journal of Research	Vol. 2, pp. 36-39
34.	Simulation and Design Analysis of Integrated Receive System for Millimetres Wave Analysis	Rekha. Rajesh Kumar, Raj Kumar	International Journal of All Research Education and Scientific Methods	Vol.2, Issue 8, PP.12-17
35.	Design and synthesis of 32-bit linear feedback shift register architecture with power optimization	Rajesh Kumar, Raj Kumar	International Journal of Enhanced Research in Science Technology and Engineering	Vol.3, Issue 7 pp. 217-222
36.	Ultra-Wideband Dual Notch Antenna	Manish Sharma, Y.K. Awasthi, Himanshu Singh, Raj Kumar , Sarita Kumari	World Academics Journal of Engineering Sciences	Vol. 1, pp. 10031-10033
37.	Automation of CNG and Petrol Switches in automotive application	R. Kumar , Bijender, Parminder, Bharti Gupta	International Journal for Scientific Research and Development	Vol.1, Issue 3 pp. 574-575
38.	Digital Video Broadcasting-Satellite to Hand held Services	Bharti Gupta, Narender Kaur, Raj Kumar	International Journal on Innovation in Engineering and Technology	Vol. 2, Issue 1, pp. 125-129
39.	Interpretation of MPLS Enabled Network with QOS Model	Narender Kaur, Raj Kumar , Bharti Gupta	International Journal on Innovation in Engineering and Technology	Vol. 2, Issue 1, pp. 130-137

40.	Enhancement in Active Power by the Application of Capacitor Compensation of a Three Phase Line AC Transmission Line	Vashno Dutt, Md. F Ansari Raj Kumar Pardeep	International Organization of Scientific Research (IOSR) Journal of Electrical and Electronics Engineering	Vol. 2, Issue 1, PP. 17-20
41.	Dynamic periphery Multicast Routing Protocol	P. Arora, Raj Kumar , G.N. Purohit	International Journal of Mobile and Adhoc Network	Vol. 2, Issue 1, pp. 57-60
42.	Multicast Generating Zone Routing Protocol	P. Arora, G. N. Purohit, Raj Kumar , Garima Chugh	International Journal of Mobile and Adhoc Network	Vol. 2, Issue 1, pp. 111-114
43.	Artificial Neural Network Model for Battery SoC Indication	Raj Kumar	International Journal for research practices in emerging technology and computer science	Vol. 1, Issue 2 pp. 69-73

h. Full Paper in Conference Invited lectures/Resource Person/Paper Presentation in Seminars/Conferences

S. No	Title of Paper	Author(s)	Name of Conference	Conference Organizer
1.	Investigating Possibilities for Sustainability in Higher Education by using Cutting-Edge Digital Technologies: Implications for Emerging Economies	K. Muduli, Ravindra Luhach, Raj Kumar	The 7th PNG National Science & Technology Conference	PNG Science and Technology Council and PNG University of Technology, Lae, Papua New Guinea
2.	A Refractometric Biosensor for the detection of Cancer Cells using 1D Photonic crystals	Sanjeev Sharma, Raj Kumar, Arun Kumar, MP Srinivasa Rao	The 7th PNG National Science & Technology Conference	PNG Science and Technology Council and PNG University of Technology, Lae, Papua New Guinea
3.	Particle Swarm Optimization and Empirical Mode Decomposition based Cooperative Spectrum Sensing in Cognitive Radio Networks	Ashwani Kumar Yadav, Vaishali Yadav, Raj Kumar	International Conference on Inclusive Growth: Science, Sustainable Engineering and Management Solutions	GNIOT Institute of Management Studies (GIMS), Greater Noida
4.	Energy Storage Estimation and Feasibility Analysis for Solar Power Generation	Raj Kumar, S. Aiaa, Praveen K. Yadav	International Conference on Recent Innovation in Engineering and Technology, Brisbane, Australia	

5.	GSM Based Remote Distribution Transformer Condition Monitoring System	Raj Kumar, Wilson Kepa	World Conference on Multidisciplinary Research and Innovation, Dubai, United Arab Emirates	ISSN:978-81-939399-8-7
6.	A Grey Relation for Selection of Industrial Robot	K. Muduli, J. Pumwa, Raj Kumar, S. Tripathy	IEEE International Conference on Information Technology, Bhubaneswar, India	ISSN: 978-1-7281-0259-7
7.	Energy Storages Technologies for Standby Electrical Power System	Raj Kumar, K. Muduli, Sammy Aiau Herman Kunsie	Asia Pacific International Conference on Energy, Climate Change and Renewable Green Energy Technology Transfer	Sustainable Energy Research Institute, PNG University of Technology, Lae, Papua New Guinea
8.	Renewable Energy Resources Mapping in Papua New Guinea: Solar and Wind Power, Case Study in Makham Valley, Morobe Province, Papua New Guinea	Sammy Aiau, Raj Kumar, J. Fisher, G. Kupale	Asia Pacific International Conference on Energy, Climate Change and Renewable Green Energy Technology Transfer SERI	Sustainable Energy Research Institute, PNG University of Technology, Lae, Papua New Guinea
9.	Thresholding and morphological based segmentation techniques for medical images	Ashwani Kumar Yadav, Ratnadeep Roy, Raj Kumar, Vaishali	International Conference on Recent Advances and Innovations in Engineering (ICRAIE), Jaipur	DOI:10.1109/ICRAIE.2016.7939573
10.	Routing and security analysis in vehicular ad-hoc networks (VANETs)	Deepak, Raj Kumar, Rahul Rishi	IEEE International Conference on Power Electronics, Intelligent Control and Energy Systems (ICPEICES), DTU Delhi	10.1109/ICPEICES.2016.7853606
11.	CPW-fed Dual Notched-Band UWB antenna on Silicon Substrate	Manish Sharma, YK Awasthi, Himanshu Singh, Raj Kumar, Sarita Kumari	National Conference on Emerging Trends in Electronics and Telecommunication Engineering, MRU, Faridabad (ETIETE-2016)	
12.	CPW-fed Micro-Size Phase Shifter on Silicon Substrate	Manish Sharma, YK Awasthi, Himanshu Singh, Raj Kumar, Sarita Kumari	National Conference on Emerging Trends in Electronics and Telecommunication Engineering, MRU, Faridabad (ETIETE-2016)	
13.	Design of all Optical AND Gate based on Polystyrene/SiO ₂ 1D Nonlinear Photonic Crystal	Arun Kumar, Raj Kumar	The Fifth Saudi International Meeting on Frontiers of Physics, Jazan University, Saudi Arabia	pp.45-46,

14.	Algorithm for de-noising of colour images based on median filter	Ashwani Kumar Yadav, Ratnadeep Roy, Raj Kumar, Cheruku Sandesh Kumar, Archek P.		DOT:10.1109/ICI IP.2015.7414811
15.	Compact Microstrip Monopole Vase Shaped Ultra-Wideband Antenna	Manish Sharma, YK Awasthi, Himanshu Singh, Raj Kumar, Sarita Kumari	8th National Conference on Thermo-physical properties (NCTP – 2015)	Malviya National Institute of Technology, Jaipur,
16.	SAR analog to digital converter for bio-potential signals: A review	Wazir Singh, Raj Kumar Manoj Kumar	IEEE Xplorer: https://ieeexplore.ieee.org/document/7489544	DOI: 10.1109/ICS CTI.2015.7489544
17.	GPS receiver with corner truncated patch	Manish Sharma, YK Awasthi, Himanshu Singh, Raj Kumar, Sarita Kumari	1st conference on Recent Developments in Science, Engineering and Technology	pp. 283-285
18.	T-Shaped Stub Single Band Notched Ultra-Wideband Antenna	Manish Sharma, YK Awasthi, Himanshu Singh, Raj Kumar	ANSYS Convergence Conference, LeMeridian, New Delhi	pp. 1-5
19.	Ultra-Wideband Dual Notch Antenna	Manish Sharma, YK Awasthi, Himanshu Singh, Raj Kumar, Sarita Kumari	International conference on Emerging Trends in Instrumentation, Communication, Electrical and Electronics	SVITS, Indore
20.	Edge Detection by Fuzzy Intensification	Vashno Dutt, Raj Kumar	International Conference on Evolution in Science and Technology and Eyne on Educational Methodologies	PPIMT, Hissar
21.	Digital Signal Processing in Battery Monitoring	Raj Kumar	National Conference on Emerging Technologies and Research in Communication, Networking and Signal Processing, Bikaner	ISBN 978-82307-07-6
22.	Smart instrument of Automotive Battery Application	R. Kumar, N. Khare	IEEE Xplorer: DOI: 10.1109/CICN.2012.186	pp. 671-675 ISBN: 978-0-7695-4850-0
23.	Application of Artificial Neural Network for Battery Monitoring	Raj Kumar, Neeta Khare	International Joint National conference on Information and Communication Technology	IIMT, Bhubaneswar
24.	Design and Implementation of Cheque Receiver System	Raj Kumar, Manish Sharma	International Conference on Wireless Networks and Embedded Systems	Citkra IET, Rajpura, Punjab.

25.	SoC Power Consumption Refinement and Analysis	Raj Kumar, Parminder Singh, Manish Sharma	International Conference on Wireless Networks and Embedded Systems	Citkra IET, Rajpura, Punjab
26.	Battery Parameter Sensors for Battery Monitoring System	Raj Kumar, Neeta Khare, Shailly Sharma	National Seminar on Physics and Technology of Sensors	University of Pune, Pune
27.	Paper Writing and Anti plagiarism	Raj Kumar	RBS College of Rewari, Haryana	
28.	Introduction to Microprocessors	Raj Kumar	University of Valladolid, Spain	
29.	The 8th Huon Seminar	Raj Kumar	PNG University of Technology, Papua New Guinea	
30.	DAE Facility for Mankind	Raj Kumar	DAE, Bombay	MRK Institute of Engineering and Technology, Rewari

Annexure-5

Memberships of Professional Organizations

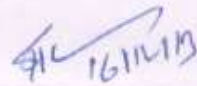
Life Memberships

- IEEE, 2018-24
- IE PNG, 2017-20
- Indian Society for Technical Education (ISTE), New Delhi.
- Institution of Electronics and Telecommunication Engineers (IETE), New Delhi.

Remote Centre Coordinator for NMEICT: Online education

- National Mission on Education through ICT IIT Bombay
- National Mission on Education through ICT IIT Kharagpur

Annexure-6
Director Approval Letter from M.D. University, Rohtak

	MAHARSHI DAYANAND UNIVERSITY, ROHTAK (A State University established under Haryana Act No. 25 of 1975) NAAC Accredited 'A' Grade
CB-VIII/MRKIET-R/13/ <u>31363</u> Dated: <u>18-12-2013</u>	
To	The Chairman/Principal, Mata Raj Kaur Institute of Engineering & Technology, Saharanwas, Distt. Rewari.
Sub:	Approval of appointment of Dr. Raj Kumar for the post of Director at Mata Raj Kaur Institute of Engineering & Technology, Saharanwas, Rewari.
Sir,	Appointment approval in respect of Dr. Raj Kumar for the post of Director at Mata Raj Kaur Institute of Engineering & Technology, Saharanwas, Rewari submitted by your office. I am pleased to inform you that the Vice-Chancellor has approved his appointment as Director w.e.f. 25.09.2013. Yours faithfully,  Superintendent (Colleges) For DCDC
Endst.No.CB-VIII/MRKIET-R/13/_____ Dated : _____	
Copy of the above is forwarded to Dr. Raj Kumar, Director, Mata Raj Kaur Institute of Engineering & Technology, Saharanwas, Rewari for information.	
Superintendent (Colleges) For DCDC	

Annexure-7

Names and Contact details of Referees

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VP Technology

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