

Dr. Raj Kamal (b. 1949)

Ph.D. (1972) IIT Delhi

Senior Member IEEE, CSI, ISTE, IAPT, Fellow IETE

Senior Professor, Prestige Institute of Engineering Management and Research, Indore
Former Vice Chancellor and Professor in Computer Science and Electronics, Devi
Ahilya University, Indore 452001, M.P. India

(Research and Teaching Since August 1967 at age of 18 Yrs, still active with same zeal
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Education

Ph.D. 1972 Indian Institute of Technology, Delhi

Diploma in Numerical Analysis, Fortran and Analog and Digital Electronics, 1979
Uppsala University, Sweden

Post M.Sc. Diploma, 1967 Indian Institute of Technology, Delhi .Applied Solid State
Physics

M.Sc.1966 K.G.K. College, Moradabad, UP, Agra University Physics with Wireless
Specialisation

B.Sc. 1964 Hindu College Moradabad, Agra University, Physics, Chemistry Maths

Academic Appointment and Other Assignments

1. Professor, “Electronics and Communication Engineering”, Prestige Institute of Engineering, Management and Research, Indore, – July 15, 2017 – this Date
2. Professor, Computer Science and Engineering, Medi-Caps University, Indore, – March. 3, 2014 – July 14, 2017, Also advised Medi-Caps University formation
3. Professor Computer Science and Electronics, Devi Ahilya University, Indore, – March 13, 1989 – Feb. 28, 2014
4. Professor-in-Charge, 1996-2000 at Institute of Engineering and Technology, Devi Ahilya University, Indore, 1996-2000,
5. Professor, Physics, Devi Ahilya University, Indore, – March 03, 1989 –March. 13, 1989;
6. Professor, Computer Science and Engineering and Dean Academics and R & D, GNEC, Hyderabad, from 1 Oct. 2007 to 15 Sept 2008 during leave period.;
7. Professor and Head, Department of Electronics and Communication Engineering and Director, “TIFAC Govt. of India Project for Excellence in Network Engineering”, AKCE now ‘Kalasalingam University’, Krishnanakoil, Srivilliputtur, Tamilnadu June 2002 – April 2004 during leave period.
8. Visiting Professor: Department of Electrical Engineering Education, King

- Mongkut Institute of Technology, Bangkok, Thailand, March to June 1997
9. Reader, Physics, Punjabi University, Patiala – Jan. 01, 1982 – Feb. 26, 1989;
 10. Lecturer Physics, Punjabi University, Patiala – June 01, 1972 – Dec. 31, 1981
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ADMINISTRATIVE Appointments

1. **Mentor, Atal Incubation Centre-** Prestige Inspire Foundation, PIEMR Indore Since Sept. 2018,
 2. **Mentor,** Prestige University Formation Project, Indore Since July 2017,
 3. **Coordinator,** Internal Quality Assurance Cell, PIEMR Since Dec. 2017
 4. **Director/Coordinator,** University Internal Quality Assurance Cell, Devi Ahilya University, Indore – Since Feb.2, 2011 to Feb. 28, 2014, PIEMR Since Dec. 2017
 5. **Vice Chancellor,** Devi Ahilya University, Indore –Dec. 08, 2011 — June 27, 2012, March 20, 2009 — June 01, 2009, Aug. 5, 2006 — March, 5 2007;
Pro-Vice Chancellor/Rector, Devi Ahilya University, Indore – Since Aug. 28, 2011 —June 27, 2012
 6. **Head of University Teaching Departments in Electronics, Computer Science,** for the period 01.04.1990 to Feb. 2011 (except Jan1993 to April 1994, June 2002 to April 2004, Oct. 2007 to November 2008); Director, Center for Potential of Excellence in e-Management Studies, Feb. 2011 to Jan. 2012,
 7. **Dean, Engineering Sciences,** 1992-1994
 8. **Expert,** National Board of Accreditation: Since 2008 in Subjects: Computer Science and Engineering, Information Technology, Electronics and Communication Engineering Since 2007. (33rd Visit will be in February 2018)
 9. **Chairman, Peer Team and Expert,** National Accreditation and Assessment Council: Since 2016
 10. **Board of Management Member Kalasalingam University,** Krishnan Koil, Srivilliputtur, Virudhunagar Distt, Near Madurai, Tamilnadu Since 2013
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SELECT ACADEMIC HONORS AND AWARDS

1. Professorship in Five Subjects- CSE, ECE, Information Technology, MCA, Computer Sc. and Electronics,
2. Visiting Professor Thailand in Electrical Education,
3. I.I.T. Delhi Scholarship Award 1966-67 Aug. 01, 1966 – May 31, 1967;
Council of Scientific and Industrial Research Fellowships Award 1967-1972 at I.I.T. Delhi – Aug. 01, 1967 – May 31, 1972;

4. Swedish International Development Agency Fellowship Award - Post Doctoral Research Fellow (visiting scientist): Uppsala University, Sweden, Sept. 1978- June 1979, and Feb. 1984- May 1984;
5. Visiting Professorship (Electrical education) Award King Mongkut Institute of Technology, Bangkok, March to June 1997
6. Visiting Scientist Fellowship Award International Center of Theoretical Physics, Italy January 1982-April 1982
7. Best paper award in the field of Statistical Methodology by Indian Society of Agricultural Statistics Paper Rule Promotion: A New Fuzzy Approach for Drawing the Inferences in Rule-based Expert System by Savita Kolhe, Raj Kamal, Harvinder S Saini and GK Gupta published in Volume 65, No.3, December, 2011, pp 359-365

IMPACT TO ACADEMIC WORLD

1. **Recent Best Research Paper:** “Adaptive Fault Diagnosis Algorithm for Controller Area Network (AFDCAN), Supriya Kelkar, Raj Kamal, **IEEE Transactions on Industrial Electronics**, Vol. 61, Issue 10, 5527-5537, Oct. 2014. Impact Factor 6.8
2. **Author of Famous Books from INTERNATIONAL PUBLISHERS**
 - a. McGraw-Hill- “Big Data Analytics” (Feb.. 2019) [Co-Author Dr. Preeti Saxena],
 - b. Oxford Univ. Press, Mobile Computing,3rd Ed. May, 2018
 - c. McGraw-Hill- Internet of Things- Architecture and Design Principles, 2017
 - d. McGraw-Hill- Embedded Systems,3rd ed. 2015
 - e. McGraw-Hill- Schaum Series TMH Computer Architecture and Organization, 2nd Ed. 2010
 - f. McGraw-Hill- Internet and Web Technology, 16th Reprint, 2008 and
 - g. Pearson Ed., Microcontrollers, 2nd ed. 2012
 - h. Pearson Ed. Digital Systems, 2005
3. **Author/Co-Author** of International Journal Papers: 58, Grand Total Research papers: 154)

4. **Total 52 years Research experience** since the age of 18; in areas of Web Services, Machine Learning, AI, Embedded Systems in Industrial Electronics, Mobile Computing, Computer Science, Spectroscopy, Optical Communication, and Material Science
 5. Total 19 PhDs guided successfully, 3 PhDs guiding
 6. Total Number of Papers: 155 (on January 01, 2019) detailed list at www.rajkamal.org
 7. **Author of Books from National Publishers**
 - a. Concepts and Features of Microcontroller, Raj Kamal- 68HC11, 8051 and 8096 (includes Programmable Logic controllers) Latest Reprint 2004, Published by S. Chand & Co. First Recipient of UGC Best Publisher Award, 2002 (Web Site <http://www.schandgroup.com/>)
 - b. Digital Computer Electronics, Raj Kamal (Scholar Publs, Indore 1997)
 - c. Interface and Communication Electronics, Raj Kamal (Scholar Publs, Indore, 1996)
 - d. Basic Electronic Devices and Systems, Raj Kamal (Scholar Publs, Indore, 1995)
 - e. **Books Edited:**
 - a. Proceeding of International Conference on Advanced Computing Networking and Informatics, (Ed. Dr. Raj Kamal, Dr. Michel Hanshaw and Dr. Pramod Nair), ISBN 978-981-13-2672-1, Springer, 2018
 - b. Three Volumes (with Professor K. P. Maheshwari and Professor R. L. Sawhney)
 - c. LASER and Optics b. Energy c. Plasma, Published by Wiley Eastern Limited, New Delhi. 1990.
 - f. **National Level Lessons Authored:**
 - a. Authored Five Chapters on Fundamentals of Computers for Indira Gandhi National Open University, New Delhi in 1995.
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IMPORTANT CONTRIBUTIONS TO ACADEMIC WORLD

1. NEW INSTITUTIONS INITIATED AND PLANNED:

Institute of Engineering Technology (in 1994-97) at Devi Ahilya University, Indore, [Other team members: Prof. S. K. Chitale and Dr. M. K. Sahu]

International Institute of Professional Studies (in 1992) at Devi Ahilya University, Indore [Other team members: Prof. S. K. Chitale and Prof. R. D. Agarwal]

2. NEW CENTERS PLANNED AND STARTED: Information

Technology Center at Devi Ahilya University Indore (One of the best center in India) [Other team members: Dr. Mrs. Vrinda Tokekar, Late Dr. M. K. Sahu, Dr. P. Kanungo, Dr. D. S. Bhilare]

3. NEW COURSES PLANNED AND STARTED:

M.Sc. Electronics- One of first six universities in Country Selected by UGC/Department of Electronics, Govt. of India in 1990

M. Tech. Mobile Computing UGC Innovative Programme First in Country in 2008

M. Tech. Embedded Systems First in Country in 2002

M. Tech. Spatial Information Technology First in Country in Computer and Electronics Discipline in 2007

PUBLICATIONS

(Books: 15, Total Research papers in Journals: 94, (International Journal Papers: 60), Conference National and International Papers 61, Grand Total Research papers: 155)

D. Total Number of Research Papers: 155

D1. List of International Journal Research papers List of Research papers from Devi Ahilya Vishwavidyalaya: 19

155 Comparative study of Orchestrated, Centralised and Decentralised Approaches for Orchestrator based Task Allocation and Collision Avoidance using Network Controlled Robots. Raza R., Kamal R. and Chattopadhyaya, M. Journal of King Saud University - Computer and Information Sciences, Pub., Elsevier.2018

154. Orchestration of Robotic Platform and Implementation of Adaptive Self-Learning Neuro-Fuzzy Controller, Journal of Electronic Design Technology, vol. 8, no. 3, pp.17–29, 2017

153. Designing of an Orchestration Mechanism for the Efficient Web-Services Composition, Gupta R, Kamal R, Suman U. In: International Conference on Computing, Analytics and Networking, accepted for publication in Series Title ‘Advances in Intelligent Systems and Computing’, Progress in Computing Analytics and Networking, (Eds. P. K. Patnaik, S.S. Routary, H. Das, J. Nayak), Proc. ICCAN, 2017, Springer, Singapore

152. Dynamic Orchestration Model for Complex Business Processes: An Application to e-SCMS, Gupta R, Kamal R, Suman U, in: Advances in Computing and Data Sciences. ICACDS 2016. Communications in Computer and Information Science, Eds. Singh M., Gupta P., Tyagi V., Sharma A., Ören T., Grosky W., Vol. 721, pp. 482-494, 2017, Springer, Singapore, 2017

151 A QoS-Supported Approach using Fault Detection and Tolerance for achieving Reliability in Dynamic Orchestration of Web Services, International Journal of Information Technology, 2017, Springer, 2017

150. Q-DWSO: Hybrid Approach for QoS-Aware Dynamic Web Services Orchestration, Gupta R, Kamal R, Suman U Accepted In: International Journal of Web Engineering and Technology, 217, Inderscience Publishers, 2017

149. An improved random forest classifier for multi-class classification, Archana Chaudhary, Savita Kolhe, Raj Kamal, *Information Processing in Agriculture*, 3(4), 215-222, 2016 Elsevier
148. A Hybrid ensemble for classification in multiclass datasets: An application to oilseed disease dataset. *Computers and Electronics in Agriculture*, Archana Chaudhary, Savita Kolhe, Rajkamal, 124, 65-72, 2016 (Elsevier, Impact Factor = 2.09)
147. Adaptive Fault Diagnosis Algorithm for Controller Area Network (AFDCAN), Supriya Kelkar, Raj Kamal, *IEEE Transactions on Industrial Electronics*, Vol. 61, Issue 10, 5527-5537, Oct. 2014. Impact Factor 6.8
146. Specification for security orchestration, Aradhana Goutam, Raj kamal, Maya Ingle, *Procedia Engineering*, Volume 38, pp. 429-441, Elsevier, 2012
145. Specification of Security Orchestration, Aradhana. Goutam, Raj Kamal, M. Ingle *Journal Procedia Technology*, Elsevier, ISSN: 2212-0173, Pages 429-441, 2012.
144. An intelligent multimedia interface for fuzzy logic based inference in crops, Savita Kolhe, Raj Kamal, Harvinder S. Saini and G. K. Gupta, *Expert System with Applications*, 38:12 (2011) pp. 14592-14601. (5-Year Impact Factor = 3.162)
143. A web-based intelligent disease diagnosis system using a new fuzzy logic approach for drawing the inferences in crop, Savita Kolhe, Raj Kamal, H.S. Saini ,and G.K.Gupta, *International Journal of Computers and Electronics in Agriculture* 76:1, pp. 16-27, 2010. (5-Year Impact Factor = 1.647)
142. A fuzzy-logic based on-line disease diagnosis system for soybean, Savita Kolhe, Raj Kamal, Harvinder S. Saini and G. K. Gupta, *Soybean Research*, Vol 7, 73-81, 2009 (NAAS Rating = 3.4)
141. Web based Fuzzy Expert System for Integrated Pest Management in Soybean, *International Journal of Information Technology*, Vol.8, No.1, 2002 M. (with HSS and ANS).
140. Profile of radial inhomogeneity for stationary self trapped propagation of Laser beams in nonlinear absorbing /amplifying medium with arbitrary nonlinearity. (with SM, SK, AS) *Nuovo Cimento (Italy)* 17,4213,1995
139. Graphical User Interface for a Fuzzy Expert System, Vivek: A Quarterly in *Artif Absorption / Amplification induced self tapering and up-trapping of a laser beam in a saturable nonlinear medium: large nonlinearity (with SM, AS, MS) Optics Letters(USA)* 19(15),110-112,1994.
138. Thermal Performance of a building coupled to an Evaporative cooling Tower(with MS,JK and RLS) *International J. of Energy Research*, 15, 747-762 ,1991.

137. An inexpensive data acquisition system for Solar, Wind and climatological data recording (with MS, UM, SPS & RLS) International Journal of Energy Research, 15,417-423,1991.

D2: List of International Journal Research papers from Punjabi University, Patiala and Uppsala University, Sweden 26

136. A Mossbauer spectroscopic study of effect of Mo during the preparation of Nd-Fe-B magnets(with Lovleen) J.Magnetism and Magn. Materials, 78,L9-L12,1989

135. Novel permanent magnetic materials from rare earth and B containing iron rich alloys and gamma rays resonance fluorescence (with MR) Material Science Forum (Switzerland)30,203- 212,1988.

134. Mossbauer spectroscopic investigation of the Magnetic characteristics of $\text{Nd}_2(\text{Fe}_{0.8}\text{Co}_{0.1}\text{Mn}_{0.1})_{14}\text{B}$ (with Lovleen) J.Magnetism and Magn. Materials, 73,215, 1988.

133. A study of influence of Ti upon Nd-Fe-Co-B magnetic phase by Mossbauer spectroscopic measurements between 100K to 650K (with Lovleen) J.Less Common Metals, 141, 83,1988

132. Study of hyperfine distribution parameters by Mossbauer spectroscopic in $(1-x)(\text{Sr}_{0.2}\text{B}_2\text{O}_3).x\text{Fe}_2\text{O}_3$ glasses for $0.05 < x < 0.45$ (with MSS and SSS)J. Non-Crystalline Solids 10,23, 1988.

131. Applications of Mossbauer spectroscopy to the inorganic oxide glasses - A Review Article (with SS) Phys. Chem. Glasses (UK) 29(4),157-167, 1988.

130. Electric field gradient study in $\text{YBa}_2\text{Cu}_3\text{O}_{7-x}$ high T_C superconductors (with Lovleen, Sumanjit, BRS and KSS). Phys. Rev. USA B37, 5928,1988.

129. Effect of substitution of V in $\text{Nd}_2\text{Fe}_{14}\text{B}$ by Mossbauer spectroscopy (with Lovleen) J.Less Common Metals,UK, 141 (1), 83, 1988.

128. A Mossbauer spectroscopic study of $\text{Nd}_2(\text{Fe}_{0.8}\text{Co}_{0.1}\text{Mo}_{0.1})_{14}\text{B}$ (with Lovleen) $\text{Nd}_2\text{Fe}_{14}\text{B}$ J.Less Common Metals.144,227-234,1988

127. Development of a software for Mossbauer spectroscopic analysis of amorphous as well as crystalline phase using a microcomputer, Key Engg. Materials (Switzerland), 15, 596-600,1987.

126. Magnetic hyperfine fields of $\text{Nd}_2(\text{Fe}_{1-x}\text{Co}_x)_{14}\text{B}$ at $x=0.25$ between 100K and 780K (with MR) J.Magnetism and Magn. Materials.,66,379, 1987.

125. Mossbauer spectroscopic Study of $\text{Nd}_2(\text{Fe}_{1-x}\text{Co}_x)_{14}\text{B}$ at $x=0.13$ J.Less Common Metals(UK)128, 343, 1987

124. A study of magnetic hyperfine field changes at different Fe-sites below spin reorientation temperature in polycrystalline untextured $\text{Nd}_2\text{Fe}_{14}\text{B}$ (with MR and MSS) *Physics Letters A (UK)*, 118,103, 1986.
123. Reduction of magnetic hyperfine fields and Curie temperature upon substitution of Si and Al in compounds of the type $\text{Nd}_2\text{Fe}_{14}\text{B}$ (with MR and MSS) *J. Less Common Metals (UK)*, 125, L7, 1986
122. Hyperfine parameters distribution in $45 \text{Na}_2\text{O} \cdot 45 \text{B}_2\text{O}_3 \cdot 10 \text{Fe}_2\text{O}_3$ glass ^{57}Fe Mossbauer spectroscopy (with MSS) *J. Non-Crystalline Solids, (USA)* 87, 103, 1986
121. An ESCA study in $0.9 (\text{PbO} \cdot \text{B}_2\text{O}_3) \cdot 0.1 \text{Fe}_2\text{O}_3$ glass (with SWA) *J. Non-Crystalline Solids*, 87, 415–1986.
120. Interpretation of Mossbauer effect measurements near spin-reorientation temperature and EFG tensor analysis of $\text{Nd}_2\text{Fe}_{14}\text{B}$ (with MR) *J. Less Common Metals (UK)*– 125,97, 1986
119. Mossbauer spectroscopic studies of $\text{Nd}_2\text{Fe}_{14}\text{B}$ (with YA) *Phys. Rev. B* 32, 1756, 1985
118. An experiment for studying the electrical conductivity and critical behavior in ferromagnets (with SS and BRS) *American J. Phys.* 51, 631, 1983.
117. Mossbauer studies of the amorphous ferromagnetic 2826MB (with SB and RW) *Physica Scripta (Sweden)* 23, 57, 1981.
116. Mossbauer studies of amorphous Fe and metglass 2825MB (with SB and RW) *J. Magnetism and Magn. Materials*, 15, 1389, 1980.
115. Simple experiment for studying the properties of a ferromagnetic materials (with BRS and SS) *American J. Phys.* 48, 481, 1980.
114. Magnetic resonance studies of $(\text{PbO} \cdot 2\text{B}_2\text{O}_3)_{1 \pm x} (\text{Fe}_2\text{O}_3)_x$ glasses (with RGM, RGG, SSS, SKS & NK) *J. Non-Crystalline Solids*, 33, 121, 1979.
113. Mossbauer spectra of $x \text{PbO} \cdot (1 \pm x) \text{B}_2\text{O}_3$ doped with Fe_2O_3 (with SSS). *J. Non-Crystalline Solids*, 33, 169, 1979.
112. Mossbauer studies in the glass system $\text{PbO} \cdot 2\text{B}_2\text{O}_3$ (with SSS). *J. Non-Crystalline Solids*, 28, 189, 1978..
111. Mossbauer studies of Fe_2O_3 Crystallite formation in B_2O_3 glass (with SSS) *J. Appl. Phys.* 49, 3444, 1978.

D3: List of International Journal Research papers from Indian Institute of Technology Delhi: 11

110. Mossbauer spectroscopic studies in BaO- Fe₂O₃ glass systems (with NK and RGM) J. Non-Crystalline Solids, 69, 213, 1985
109. Mossbauer spectra in the xNa₂O.(1-x-y) B₂O₃ . Fe₂O₃. glass system (with SSS, NK & RGM) J. Non-Crystalline Solids, 53, 227, 1982
108. Infrared spectra of sodium and barium borate glasses doped with iron (with NK, KA and RGM) J. Phys. Chem. Glasses, 23, 202, 1982
107. Electron paramag. reson. and d. c. resistivity studies in x BaO.(1 ± x) B₂O₃ containing iron (with NK and RGM) J. Phys. Chem. Glasses, 25, 52, 1982
106. Mossbauer studies in uncoloured and coloured ⁵⁷Co diffused single crystals of KBr and KI (with RGM) Physica 85B, 134, 1977.
105. On the structure of amorphous Ge_xTe_{1-x} system (with KA and RGM). J. Non-Crystalline Solids, 23, 357, 1977.
104. Mossbauer studies in coloured and uncoloured ⁵⁷Co diffused single crystals of KCl and NaCl (with RGM) Phys. Rev. B7, 80, 1972.
103. Magn. induced electr. field grad. at the nucleus of an high spin Fe²⁺ ion in distorted cubic crystal field (with RGM) Phys. Rev. B3, 1649 1971.
102. Vibrational spectrum and specific heat of TiCl₃ (with RGM) J. Phys. Soc. Japan 26, 621, 1969.
101. Magnetically induced nuclear quadrupole interaction in cubic Fe²⁺ Pseudoquadruple interaction (with RGM) J. Phys. Chem. Solids, 31, 872, 1969.
100. The recoilless fraction and the thermal shift for ¹²⁹I: 26.6keV transition in CsI (with RGM, SBR, LMT) Physics Letters 25A, 503, 1967

D4. List of National Journal Research papers List of Research papers from Devi Ahilya Vishwavidyalaya: 28

99. Mobile Learning and Evaluation: A New Paradigm of Teaching and Learning, Kirti Panwar and Raj Kamal IUP Journal of Information Technology, 12(2) 1-13, 2016
98. A QoS-Aware Optimal Selection Scheme for Web Services with a Trusted Environment. Gupta R, Kamal R, Suman U, CSI Transactions on ICT 3(1):13-21, 2015, Springer, India [1 citation till 01.08.17]
97. Computational Orchestrator: A Super Class for Matrix, Robotics and Control System Orchestration, Shweta Agrawal, Raj Kamal, International Journal of Computer Applications, 117(10), 2015 Pubs. Foundations of Computer Science [1 citation till 1.08.17]

96. Performance Examination of Feature Selection methods with Machine learning classifiers on mobile devices, A. Chaudhary, S. Kolhe, Rajkamal, International Journal of Innovative Research in Electrical, Electronics, Instrumentation and Control Engineering, Vol. 1, Issue 8, November 2013, pages 354-358. [Impact Factor 1.112]
95. Machine Learning Techniques for Mobile Devices: A Review, A. Chaudhary, S. Kolhe, Rajkamal, International Journal of Engineering Research and Applications, Vol. 3, Issue 6, Nov-Dec 2013, pages 913-917. [Impact Factor 1.325]
94. Performance Evaluation of feature selection methods for Mobile devices, A. Chaudhary, S. Kolhe, Rajkamal, International Journal of Engineering Research and Applications, Vol. 3, Issue 6, Nov-Dec 2013, pages 587-594.[Impact Factor 1.325]
93. Emerging Technologies in Random Access Memories, Manju K Chattopadhyay, Raj Kamal, International Journal of Advances in Engineering Science and Technology, 2 (1), 84-88, 2013
92. Emerging Technologies in Random Access Memories, Manju K. Chattopadhyay, Raj Kamal, International Journal of Advances in Engineering Science and Technology, 2(1), pp.84-88, 2013 ISSN: 2319-1120
91. Expert System for Disease Diagnosis in Soybean-ESDDS, Savita Kolhe, Raj Kamal, Harvinder S Saini, GK Gupta, Journal of the Indian Society of Agricultural Statistics, 67(1), 79-88 2013 [Citations 5 on 1.08.17]
90. Knowledge Management in Expert System of Crop diseases, Savita Kolhe, Raj Kamal, Harvinder Singh and G.K. Gupta, International Journal on Advanced Computer Theory and Engineering ISSN (Print) : 2319 – 2526, Volume-2, Issue-4, 2013 [Also awarded best paper award]. [Citation 1, on 01.08.17]
89. Strategic Approach towards System Security using Orchestration, Aradhana. Goutam, Raj Kamal, M. Ingle, International Journal of Research in Management & Technology (IJRMT), Volume1 Number 2, December, 2011, pp135-140, ISSN: 2249-9563.
88. An Orchestrator Model for System Security, Aradhana. Goutam, Raj Kamal, M. Ingle International Conference on Computing, Communication and Control, Springer, Germany, Volume 125, Part 1, 195-199, 2011. Springer, Germany, Volume 125, Part 1, 195-199, 2011. IJESM, Vol. I Issue II, Jul-Dec 2011, pp. 120-126
87. Analytical study of auto run Worm killer: A strategic approach, Aradhana Goutam, Raj Kamal, Maya Ingle, International journal of Engineering Sciences and Management, 1(2) , pp. 120-125, 2011 ISSN No. 2231-3273

86. Study of autorun worm : an analytical approach Towards Orchestrator model for system security, Aradhana Goutam, Raj Kamal, Maya Ingle CIT Journal of Research, Volume 1, Issue 4, Pages 83-88, Impact Factor, 0.569, ISSN : 0976-3244
85. A decision centric approach using orchestrator model for system security, Aradhana Goutam, Raj Kamal, Maya Ingle, CIT International journal of Engg. & Research, 1(1), pp. 62-68, 2011, ISSN 2230-9144
84. Rule Promotion: A new fuzzy logic approach for drawing inferences in Rule Based expert System, Savita Kolhe, Raj Kamal, H.S. Saini ,and G.K.Gupta, www.isas.org.in/isas Journal of Indian Society of Agricultural Statistics, 65(3) (2011) 359-365 [NAAS Impact Rating 5.1]
83. Knowledge Engineering for an Expert System on Crop Disease Management, Savita Kolhe, Raj Kamal, Harvinder S. Saini and G. K. Gupta, Journal of Computer Science. (Accepted in Sep 2010)
82. Touch Screen and Multi-touch HCIs for Emerging Mobile and Computing Systems, Vision & Quest Vol.1, No.2 July-Dec.2010
81. Low-power LFSR Kernel Architecture in Mobile Transmitter and Receiver Protocols and Software Defined Radios, C N Khairnar, Sanjiv Tokekar and Raj Kamal, International Journal of Recent Trends in Engineering (ISSN: 1797-9617), Vol. 2, No. 1, pp20-26, Nov 2009
80. Modeling and Implementation of a Location Based Service Engine using XML filtering system”, Preeti Saxena, and Raj Kamal , 1st national Conference on Architecture Future IT Systems (NCAFIS-2008), Indore, pp. 162 – 172, Oct. 17-18, 2008
79. Power consumption estimation per unit performance in high speed restoring and non-restoring divider arrays for CDMA mobile communication systems, C N Khairnar, Sanjiv Tokekar and Raj Kamal, International Journal of Systemics, Cybernetics and Informatics (IJSCI), (ISSN: 0973-4864), pp 48-51, October 2007
78. Developing Embedded Software for Robots using Microsoft Robotics Studio 1.0 and 1.5, Raj Kamal, CSI Communications, Sept. 2007
77. On the Fuzzy Expert System for Integrated Pest Management, Journal of I.E.T.E. in Vol.20 (1), Jan-Feb issue, 2003. (with HSS and ANS).
76. SOYPEST: An expert system for Insect Pest Management in Soybean Crop, CSI Communications, pp21-24, April, 1998. (with HS and ANS)
75. Self Trapping and uptrapping of a self guided Laser beam in an absorbing / gain medium with nonlinearity (with SM and SK) Pramana, 44(3), 249-256,1995

74. Propagation of Gaussian Laser Beams in Nonlinear Radially inhomogeneous Absorbing Medium with Arbitrary Non linearity (with SM and AS). Indian J.Pure and Appl.Phys.31, 605-609, 1993
73. Computer Aided Learning Techniques in Higher Physics Education, Bull IAPT 201-204,1992.
72. A Robotics Teaching Aid-VaraHasta (with DK) Bull IAPT, 15, 417-423, 1990. (IBM PC)

D5. List of National Journal Research papers List of Research papers from Punjabi University Patiala: 11

71. 8085 Microprocessor based data acquisition for nuclear instruments (with MSS). J.Instr. Soc. of India, 18, 31, 1988.
70. Fabrication of vacuum furnace and simple controller circuit for the Mossbauer spectroscopic studies at high temperature (with MSS). J.Instr. Soc.India, 18, 148, 1988.
69. A simple experiment to study ferro-para electric transition (with BRS) Bull. IAPT, (12), 352, 1987.
68. Microprocessor based wave-form generator for Mossbauer spectrometer with region of interest capability (with MSS& MR) J. Instr. Soc. India, 16,314,1986.
67. Diamonds (with SB) Vigyan De Nakash, 16, 1982, and also in Bull.IAPT, October 1986.
66. A continuous flow cryostat for Mossbauer spectroscopic studies (with MR) J. Instrument Soc. of India, 17, 66, 1987.49.
65. Metallic glasses (with BRS) Physics News,Mumbai, pp 20, 1980.
64. Construction of digital clock as class-room experiment J. Phys. Education 6, 36, 1978.
63. A simple material Physics experiment for studying phase diagrams and solid state transformation in alloys (with SK) J. Phys. Education, 5, 7, 1977.
62. Single crystals and their growth (with SSS) Physics News, Mumbai, pp 29,1977.

D6. List of International and National Conferences Papers from Devi Ahilya Vishwavidyalaya: 56

61. Future Embeddeed Systems, Raj Kamal, Proc. of National Conference of Advances in Electronics, Feguesson College, Pune, Sept. 19, 20, 2014

60. Performance of Machine learning techniques in teaching learning process, Archana Chaudhary, Savita Kolhe, Raj Kamal, IEEE sponsored National Conference on Innovative Trends in Soft Computing (ITSC – 2013) organized by Oriental University, 25th – 26th of October, Indore, 2013.
59. Implementation of Data Reduction Technique in Adaptive Fault Diagnosis Algorithm for Bus based Controller Area Network, Supriya Kelkar, Raj Kamal, Proceeding in IEEE Explore. International Conference on Circuits, Systems, Communication and Information Technology Applications (CSCITA), pp. 156-161, 2014
58. Boundary of Fifteen Compression Algorithm for Controller Area Network Based Automotive Applications, Supriya Kelkar, Raj Kamal, Proceeding in IEEE Explore. International Conference on Circuits, Systems, Communication and Information Technology Applications (CSCITA), pp. 162-167, 2014
57. Dual Message Based Improved Quotient Remainder Compression Algorithm for Automotive Applications, Supriya Kelkar, Raj Kamal, (Communicated)
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