

Evaluative Report of the Department
Please provide data for last 5 years

1. Name of the Department: School of Mathematics and Computer Applications
2. Year of establishment : 2002
3. Is the Department part of a School/Faculty of the University?
No
4. Courses / Programmes and subject combinations offered

| Title | Field of Specialization | Sanctioned Intake | Duration (Years) | Year of Starting |
|--------------|-------------------------------------|--------------------------|-------------------------|-------------------------|
| B.E. | Software Engineering & Management | 60 | 4 | 2014 |
| M.Sc. | Mathematics and Computing | 30 | 2 | 2007 |
| MCA | Computer Applications | 120 | 3 | 2002 |
| M.Tech. | Computer Science & Applications | 30 | 2 | 2009 |
| PhD | Mathematics & Computer Applications | --- | --- | 2002 |

Further school is also engaged in imparting instructions in core courses on Mathematics to UG and PG students of the University.

5. Interdisciplinary programmes and departments involved:

SMCA started BE (Software Engineering and Management) in collaboration with LM Thapar School of Management from session 2014-15. Purpose of this programme was to provide student the necessary leadership qualities alongwith the technical skills.

6. Interdisciplinary programmes and departments involved:

Courses in collaboration with other universities, industries, foreign institutions, etc Queensland University, Australia, for GBI and Advanced Business Application Programming (ABAP) (MCA/MTech students)

7. Details of programmes discontinued, if any, with reasons :

**B.Sc.-M.Sc. Five year Integrated Programme in Mathematics and Computing (Regular Mode)
Due to few takers**

8. Examination System: Annual/Semester/Trimester/Choice Based Credit System :
Semester

9. Participation of the department in the courses offered by other departments :

Teaching mathematics courses to B.E. (All disciplines), M.E./M. Tech, PhD students

10. Number of Teaching posts sanctioned and filled

| | Sanctioned | Filled | Actual (Including CAS and MPS) |
|----------------------|------------|--------|---------------------------------|
| Professors | 03 | 02 | 02 |
| Associate Professors | 6 | 04 | 04 |
| Assistant Professors | 12 | 24 | 24 |
| Others | -- | 10 | 10 |

11. Faculty profile with name, qualification, designation, area of specialization, experience and research under guidance :

| S. No | Name of Teacher | Qualification | Designation | Area of Specialization | Experience | No. of Ph.D/ M-Tech/ MSc. students guided |
|-------|-------------------------|---------------|----------------------------|--|------------|---|
| 1) | Dr. R.K. Sharma | Ph. D. | PROFESSOR | Statistical Computing, Pattern Recognition, NLP | 23 years | PhD: 10 M-Tech: 25, MSc: 4 |
| 2) | Dr. S.S. Bhatia | Ph. D. | PROFESSOR | Functional Analysis | 28 years | PhD:10 MSc: 7 |
| 3) | Dr. Rajesh Kumar | Ph. D. | ASSOCIATE PROFESSOR & HEAD | Software Engineering, Cloud Computing | 19 Years | PhD: 6 MTech: 09 MSc: 07 |
| 4) | Dr. A.K. Lal | Ph. D. | ASSOCIATE PROFESSOR | Applied Mathematics (Theoretical Astrophysics, Reliability and Numerical Analysis) | 20 years | PhD: 6 M.Sc.: 11 M.Phil: 01 |
| 5) | Dr. Mahesh Kumar Sharma | Ph. D. | ASSOCIATE PROFESSOR | Astrophysics, Operations Research | 16 years | PhD: 4 MSc: 20 |
| 6) | Dr. Deepak Gumber | Ph. D. | ASSOCIATE PROFESSOR | Algebra | 13 years | PhD: 1 MSc: 5 |
| 7) | Dr. Rajesh kumar Gupta | Ph. D. | ASSISTANT PROFESSOR | Differential Equations | 11.5 years | PhD: 6, MSc:11 |

| S. No | Name of Teacher | Qualification | Designation | Area of Specialization | Experience | No. of Ph.D/ M-Tech/ MSc. students guided |
|-------|-------------------------|----------------------------|---------------------|---|------------|---|
| 8) | Dr. Rajiv Kumar | Ph. D. | ASSISTANT PROFESSOR | Component Based Software Development, Software Engineering, Algorithm Analysis and Design | 17 years | MSc: 3 MTech: 7 |
| 9) | Dr. Singara Singh | M.Tech. (CSE) Ph. D. | ASSISTANT PROFESSOR | Data Compression, Information Security | 14.3 years | MTech/MSc : 14 |
| 10) | Dr. Meenakshi Rana | Ph. D. | ASSISTANT PROFESSOR | Partition Theory | 10.8 years | MSc: 6 |
| 11) | Dr. Maninder Kaur | M. Tech. | ASSISTANT PROFESSOR | VLSI physical design Automation, Evolutionary algorithms, Swarm Intelligence, | 13.5 years | MTech: 5 |
| 12) | Ms. Vineeta Bassi | M.E. | ASSISTANT PROFESSOR | Software Engineering | 11 years | MTech: 6 |
| 13) | Dr. Amit Kumar | Ph. D. | ASSISTANT PROFESSOR | Operations Research | 7.5 years | PhD: 9 MTech/MSc : 11 |
| 14) | Dr. Satish Kumar Sharma | Ph. D. | ASSISTANT PROFESSOR | Elasticity | 17 years | MSc: 10 |
| 15) | Dr. Rupali Bhardwaj | Ph. D. | ASSISTANT PROFESSOR | Cellular Automaton | 15 years | NIL |
| 16) | Dr. Ankush Pathania | Ph. D. Post-doc | ASSISTANT PROFESSOR | Numerical Astrophysics | 5.5 years | MSc:3 |
| 17) | Ms. Sanmeet Kaur | M.E. | ASSISTANT PROFESSOR | Network Security, Software Engineering | 13 years | MTech: 11 |
| 18) | Ms. Sunita Garhwal | M. Tech. | ASSISTANT PROFESSOR | Theory of Computation, Software Engineering | 7 years | MTech: 9 |
| 19) | Dr. Vivek | Ph. D. | ASSISTANT PROFESSOR | Numerical Analysis | 3 years | MSc: 3 |
| 20) | Dr. Jatinderdeep Kaur | Ph. D. | ASSISTANT PROFESSOR | Fourier Analysis, Fixed Point Theory | 8 years | PhD: 1 MSc: 6 |
| 21) | Dr. Sanjeev Kumar | Ph. D. | ASSISTANT PROFESSOR | Numerical Analysis | 11 years | NIL |
| 22) | Dr. Sharad Saxena | Ph. D. | ASSISTANT PROFESSOR | Networks | 12 years | M.Tech: 2 |
| 23) | Dr. Paramjeet Singh | Ph. D. | ASSISTANT PROFESSOR | Numerical analysis of PDE | 2.5 years | MSc: 1 |
| 24) | Dr. Vikas | Ph. D. | LECTURER | Operation Research/Mathematical Programming | 7 years | MSC: 1 |
| 25) | Dr. Hatish Garg | Ph.D., M.Sc. (Mathematics) | Lecturer | Reliability Theory, Fuzzy optimization, Optimization Technique | 1.5 years | NIL |

| S. No | Name of Teacher | Qualification | Designation | Area of Specialization | Experience | No. of Ph.D/ M-Tech/ MSc. students guided |
|-------|------------------------------|--------------------------------------|----------------------|--|------------|---|
| 26) | Dr. Mohammad Salahuddin Khan | PhD | ASSISTANT PROFESSOR | Ring Theory | 0.6 years | Nil |
| 27) | Dr. Rajesh Kr. Sharma | M.Sc., M.Tech., Ph.D. | ASSISTANT PROFESSOR | Fluid Dynamics | 4 years | Nil |
| 28) | Dr. Raj Nandkeolyar | Ph. D. | ASSISTANT PROFESSOR | Fluid Dynamics, Heat Transfer, Numerical Methods | 04 Years | 01 |
| 29) | Dr. Sachin Kumar | PhD | ASSISTANT PROFESSOR | Partial Differential Equations | 3 year | Nil |
| 30) | Dr. Anil Gaur | PhD | ASSISTANT PROFESSOR | Nonparametric Statistical Inference | 0.6 years | Nil |
| 31) | Dr. Anju Sharma | Ph. D. | LECTURER | Grid Computing/ Cloud Computing | 6.8 years | M.Tech: 4 |
| 32) | Ms. Anshu Singla | MCA, PhD (Pursuing) | LECTURER | MCA | 11 years | NIL |
| 33) | Ms. Pratima Singla | MCA, PhD (Pursuing) | LECTURER | Computer Networks | 9.5 years | NIL |
| 34) | Ms. Geeta Kasana | MCA, PhD (Pursuing) | LECTURER | Information Security | 7 years | MSc: 1 |
| 35) | Ms. Palika Chopra | MCA, Ph.D. (Pursuing) | Lecturer Contractual | Neural Computing Techniques | 8 years | NIL |
| 36) | Mr .Gurpal Singh Chhabra | M. Tech., PhD (Pursuing) | LECTURER | Software Engineering | 6 years | MTech: 05 |
| 37) | Mr. Pritpal Singh | MCA, PhD (Pursuing) | LECTURER | SOFT COMPUTING | 1.5 years | M.Tech: 2 |
| 38) | Mr. Shatrughan Modi | M.E (Software Engg.), PhD (Pursuing) | LECTURER | Software Engineering | 3 years | NIL |
| 39) | Dr. Taskeen Zaidi | Ph.D., M.Sc. (Computer Science) | Lecturer | Distributed Computer Networking and Object-Oriented Modeling | 1.5 years | NIL |
| 40) | Dr. Navdeep Kailey | Ph.D. (Optimization) | Lecturer | Duality Theory, Nonlinear Programming, Multiobjective Programming Problems | 4 Years | Nil |

11. List of senior Visiting Fellows, adjunct faculty, emeritus professors : Nil
12. Percentage of classes taken by temporary faculty – programme-wise information : Nil
13. Programme-wise Student Teacher Ratio :

| | |
|---------------------|------|
| M.Tech. (CSA) : | 15:1 |
| MCA | 21:1 |
| M.Sc.(Math & Comp.) | 8:1 |

14. Research thrust areas as recognized by major funding agencies :
Reliability, availability and maintainability (RAM); Fuzzy Reliability; Development of OHWR for Indian Languages; Cloud computing; L-1 convergence of trigonometric series.

15. Number of faculty with ongoing projects from a) national b) international funding agencies and c) Total grants received. Give the names of the funding agencies, project title and grants received project-wise:

Ongoing Sponsored Projects:

| S. No | Name of project | Year of sanction | Funding agency | Project cost (lacs) | Principal investigator |
|-------|---|------------------|--------------------------|---------------------|---|
| 1 | Algorithms for solving some single and multi criteria decision making problems in Fuzzy environment | 2010 | UGC | 10.01 | Dr. M. K. Sharma |
| 2 | Development of Indradhanush: In integrated wordnet for Bengali,...., Punjabi and Urdu | 2010 | MoCIT | 17.55 | Dr. R. K. Sharma |
| 3 | Development of OHWR for Indian Languages- Phase II | 2010 | MoCIT | 60.23 | Dr. R. K. Sharma & Dr. Rajesh Kumar |
| 4 | Development of prosodically guided phonetic engine for searching speech database in Indian languages | 2011 | MoCIT | 30.015 | Dr. R. K. Sharma |
| 5 | Green cloud computing framework for efficient and robust management of Resources | 2012 | UGC | 12.92 | Dr. Anju Sharma Dr. Rajesh Kumar |
| 6 | L-1 convergence of trigonometric series | 2013 | UGC | 9.72 | Dr. Jatinderdeep Kaur Dr. S. S. Bhatia |
| 7 | Automorphisms of finite p-groups | 2013 | UGC | 3 | Dr. Deepak Gumber |
| 8 | Application software development to evaluate thermal performance of tube type, air to air heat exchangers for caca high rated electrical motors | 2013 | Crompton Greaves, Mumbai | 13.50 | Dr. Gangacharyulu Dr. Rajiv Kumar |

| S. No | Name of project | Year of sanction | Funding agency | Project cost (lacs) | Principal investigator |
|-------|--|------------------|---|---------------------|------------------------|
| 9 | Design and Implementation of Digital Watermarking Techniques through Random Number Generator using Cellular Automata | 2014 | Thapar Institute of Engineering & Technology University | 2.30 | Dr. Rupali Bhardwaj |
| 10 | Finite volume approximations of conservation laws arising in neuronal variability | 2014 | Thapar Institute of Engineering & Technology University | 3.26 | Dr. Paramjeet Singh |
| 11 | Finding Energy Efficient Acoustic Communication in 3D Underwater Sensor Networks | 2014 | Thapar Institute of Engineering & Technology University | 4.39 | Dr. Sharad Saxena |

16. Inter-institutional collaborative projects and associated grants received a) National collaboration b) International collaboration: NIL

17. Departmental projects funded by DST-FIST; UGC-SAP/CAS, DPE; DBT, ICSSR, AICTE, etc.; total grants received:

| S. No. | Project Title | Funding Agency | Duration | Grant (Rs. Lakhs) | Principal Investigator |
|--------|--|----------------|-----------|-------------------|---|
| 1 | Algorithms for solving some fuzzy network flow problems | U.G.C | 2011-13 | 10.068 | Dr. Amit Kumar |
| 2 | Reliability, Availability and Maintainability (RAM) Analysis of Industrial Process | UGC (Major) | 2009-2012 | 9.085 | Dr. A. K. Lal |
| 3 | Development of WordNet for Punjabi | MoCIT | 2010 | 17.55 | Dr. R.K.Sharma |
| 4 | Numerical Analysis of Structures and Oscillations of Rotating Stars | UGC (Major) | 2006-2008 | 0.9 | Dr. M. K. Sharma Dr. A. K. Lal (Co-PI) |

| | | | | | |
|----|--|-------------|-----------|--------------------|----------------|
| 5 | Mathematical Modeling of Structures and Oscillations of stellar Systems in the Rotating Frame of Reference | UGC (Major) | 2003-2006 | 3.59 | Dr. A. K. Lal |
| 6 | RC-ILTS (Punjabi) | MoCIT | 2000-2004 | 88.8 | Dr. R.K.Sharma |
| 7 | Eigenfrequencies of Differentially Rotating White Dwarf Stars | UGC (Minor) | 2001-2002 | 0.06 | Dr. A. K. Lal |
| 8 | On mixing-type estimators | UGC | 1999-2000 | 0.12 | Dr. R.K.Sharma |
| 9 | Project Impact-SSS | MoCIT | 1998-2002 | 8.0 lakhs per year | Dr. R.K.Sharma |
| 10 | Website Development for PSEB | PSEB | 2000-2001 | 0.87 lakhs | Dr. R.K.Sharma |

18. Research facility / centre with state recognition national recognition international recognition :

Our faculty and students are using latest hardware and software for their research work.

19. Special research laboratories sponsored by / created by industry or corporate bodies : NO

20 Publications:

List of research publications in SCI Journals year 2014-15

| S.N. | Title of the paper | Name of Journal with volume, page nos., year | Name of the Author | Impact factor and Citation Index |
|------|--|---|---|----------------------------------|
| 1. | Efficient Feature Extraction Techniques for Offline Handwritten Gurmukhi Character Recognition | National Academy Science Letters, 37(4), 381-91, 2014 | Munish Kumar, R. K. Sharma and M. K. Jindal | 0.24 |
| 2. | A Novel Hierarchical Technique for Offline Handwritten Gurmukhi Character Recognition | National Academy Science Letters, 37(6), 567-72, 2014 | Munish Kumar, R. K. Sharma and M. K. Jindal | 0.24 |
| 3. | Symmetry Analysis and Some Solutions of Gowdy Equation | Romanian Journal of Physics 60 (2015) 15 – 21 | Rajeev, R.K. Gupta and S. S. Bhatia | 0.745 |
| 4. | Exact and Numerical Solutions of Coupled Short Pulse Equation with Time Dependent Coefficients | Nonlinear Dynamics 79 (2015) 455 – 464 | R.K. Gupta Vikas Kumar and Ram Jiwari | 2.419 |
| 5. | Painleve Analysis and Some Solutions of Variable Coefficients Benny Equation | Parmana-Journal of Physics, Accepted | Rajeev, R.K. Gupta and S. S. Bhatia | 0.72 |

| S.N. | Title of the paper | Name of Journal with volume, page nos., year | Name of the Author | Impact factor and Citation Index |
|------|--|---|--|----------------------------------|
| 6. | Lie Symmetry Analysis and Exact Solutions for a Variable Coefficient Generalized Kuramoto-Sivashinsky Equation | Romanian Reports in Physics 66 (2014) 923 – 928 | Rajeev, R.K. Gupta and S. S. Bhatia | 1.137 |
| 7. | Recognition of Multi-Stroke Based Online Handwritten Gurmukhi Aksharas | Proceedings of the National Academy of Sciences, India Section A: Physical Sciences, Online: http://link.springer.com/article/10.1007/s40010-014-0183-z , 2014 | Ravinder Kumar, R. K. Sharma and Anuj Sharma | 0 |
| 8. | A new class of distribution-free tests for testing ordered location parameters based on sub-samples | Statistics and Probability Letters, 90 (2014) 53-59 | Anil Gaur | 0.669 |
| 9. | A class of integer linear fractional programming problems | Optimization, 63 (10) 1565-1581, 2014 | Vikas Sharma, Kalpana Dahiya, Vanita Verma | 0.707 |
| 10. | Linear programming approach for solving fuzzy critical path problems with fuzzy parameters | Applied Soft Computing, Vol. 21, pp. 309-319, 2014 | Parmpreet Kaur and Amit Kumar | 2.679 |
| 11. | Mehar methods for fuzzy optimal solution and sensitivity analysis of fuzzy linear programming with symmetric trapezoidal fuzzy numbers | Mathematical Problems in Engineering, Vol. 2014, Article ID 697085, 8 pages, doi:10.1155/2014/697085 | Sukhpreet Kaur, Amit Kumar and S.S. Appadoo | 1.082 |
| 12. | A note on “A methodology for matrix games with payoffs of triangular intuitionistic fuzzy number” | Journal of Intelligent and Fuzzy Systems, Vol. 27, pp. 1689-1691, 2014 | Tina Verma and Amit Kumar | 0.936 |
| 13. | Fuzzy optimal solution of fully fuzzy linear programming problems using ranking function | Journal of Intelligent and Fuzzy Systems, Vol. 26, pp. 337-344, 2014 | Amit Kumar and Jagdeep Kaur | 0.936 |
| 14. | Optimal way of selecting cities and conveyances for supplying coal in uncertain environment | Sadhana - Academy Proceedings in Engineering Sciences, Vol. 39, pp. 165-187, 2014 | Amit Kumar and Amarpreet Kaur | 0.587 |
| 15. | A new method for solving single and multi-objective fuzzy minimum cost flow problems with different membership functions | Sadhana - Academy Proceedings in Engineering Sciences, Vol. 39, pp. 189-206 , 2014 | Amit Kumar and Manjot Kaur | 0.587 |

| S.N. | Title of the paper | Name of Journal with volume, page nos., year | Name of the Author | Impact factor and Citation Index |
|------|---|--|---|----------------------------------|
| 16. | A method for unbalanced transportation problems in fuzzy environment | Sadhana - Academy Proceedings in Engineering Sciences, Vol. 39, pp. 573-581, 2014 | Deepika Rani, T.R. Gulati and Amit Kumar | 0.587 |
| 17. | A note on the paper "A simplified novel technique for solving fully fuzzy linear programming problems" | Journal of Optimization Theory and Applications, Vol. 163, pp. 685-696, 2014 | Bindu Bhardwaj and Amit Kumar | 1.406 |
| 18. | An approach for analyzing the reliability of industrial system using fuzzy Kolmogorov's differential equations, | The Arabian Journal for Science and Engineering, 40(3), 975 - 987, 2015, Springer. | Harish Garg | 0.367 |
| 19. | Analyzing the behavior of an industrial system using fuzzy confidence interval based methodology | National Academy Science Letters, 37(4), 359 - 370, 2014, Springer | Harish Garg | 0.240 |
| 20. | A novel approach for analyzing the behavior of industrial systems using weakest t-norm and intuitionistic fuzzy set theory, | ISA Transaction, 53, 1199 - 1208, 2014, Elsevier | Harish Garg | 2.256 |
| 21. | Performance and behavior analysis of repairable industrial systems using Vague Lambda-Tau methodology | Applied Soft Computing, 22, 323 - 338, 2014, Elsevier | Harish Garg | 2.679 |
| 22. | Bi-objective optimization of the reliability-redundancy allocation problem for series-parallel system | Journal of Manufacturing Systems, 33(2), 353 - 367, 2014, Elsevier | Harish Garg, Monica Rani, S.P. Sharma and Yashi Vishwakarma | 1.847 |
| 23. | Reliability, availability and maintainability analysis of industrial systems using PSO and fuzzy approach | MAPAN - Journal of Metrology Society of India, 29(2), 115 - 129, 2014, Springer. | Harish Garg | 0.477 |
| 24. | An approach for analyzing the reliability of industrial systems using soft computing based technique | Expert systems with Applications, 41(2), 489 - 501, 2014, Elsevier. | Harish Garg, Monica Rani and S.P. Sharma | 1.965 |
| 25. | Performance analysis of industrial systems using artificial bee colony and fuzzy methodology | International Journal of Artificial Intelligence and tools, 23 (5), 1450008 (23 pages), 2014, World Scientific | Harish Garg, Monica Rani and S.P. Sharma | 0.321 |

| S.N. | Title of the paper | Name of Journal with volume, page nos., year | Name of the Author | Impact factor and Citation Index |
|------|--|--|---|----------------------------------|
| 26. | Cost minimization of butter-oil processing plant using artificial bee colony technique | Mathematics and Computers in Simulations, 97C, 94 - 107, 2014, Elsevier. | Monica Rani, Harish Garg, S.P. Sharma | 0.856 |
| 27. | "PUNJARPabet: A New Phonetic Alphabet for Speech Processing in the Punjabi Language | Journal of Circuits, Systems, and Computers, WorldScientificPublishing Co.; JCSC Vol. 23, No. 5 (June 2014 | Surinder Dhanjal & Satvinder Singh Bhatia | 0 |
| 28. | Generalized Sequence Spaces in 2-Normed Spaces Defined by Ideal and a Modulus Function, | Accepted Annals of the Alexandru Ioan Cuza University - Mathematics, DOI: 10.2478/aicu-2014-0024 , July 2014 | Sudhir Kumar¹ Vijay Kumar¹ S.S. Bhatia | 0 |
| 29. | Generalized sequential convergence in fuzzy neighborhood spaces | accepted for publication in National Academy Science Letters, 2014 | Pankaj Kumar, S.S. Bhatia, V. Kumar | 0.24 |
| 30. | The role of screening and treatment in the transmission dynamics of HIV/AIDS and tuberculosis co-infection: a mathematical study | J Biol Phys, DOI 10.1007/s10867-014-9342-3, (Jan 2014) | Navjot Kaur · Mini Ghosh · S. S. Bhatia | 1.152 |
| 31. | Forecasting stock index price based on M-factors fuzzy time series and particle swarm optimization | International Journal of Approximate Reasoning (Elsevier), 55, 812-833, 2014. | Pritpal Singh and Bhogeswar Borah | 1.729 |
| 32. | UML Modeling and Validation of Object-Oriented Database for Water Bill Deposit System | MAGNT Research Report (SCI Indexed (ISSN No.: 1444-8939), Vol 2(5), 100-104, DOI: dx.doi.org/14.9831/1444-8939.2014/2-5/MAGNT.13 , Sept., (2014). | Zaidi, Taskeen, Saxena, Vipin and Sudhir Kumar Singh | 0.68 |
| 33. | "Modeling and Validation of Light Dependent Reaction of Photosynthesis" | Wulfenia journal, Klagenfurt, Austria, Vol.2 2, No.1; Jan, 2015 | Zaidi Taskeen | 0.267 |
| 34. | Modeling for Minimization of Loneliness of People on the Social Networking Websites) | (Accepted to be appeared in March, 2015, Journal of Psychiatry | Zaidi Taskeen, Saxena Vipin | 0.871 |
| 35. | Four-Way Combinatorial Interpretations Of Some Rogers-Ramanujan Type Identities | Ars -Combinatoria, 2014, (Accepted) | J. K. Sareen And M. Rana | 0.268 |

| S.N. | Title of the paper | Name of Journal with volume, page nos., year | Name of the Author | Impact factor and Citation Index |
|------|---|--|--|----------------------------------|
| 36. | Coincidence and Common Fixed Point Results For Generalized α - ψ Contractive Type Mappings With Applications | Bulletin of the Belgian Mathematical Society Simon Stevin accepted | Priya Shahi, Jatinderdeep Kaur, S.S. Bhatia | I.F. 0.36 |
| 37. | Integrability and L1-convergence of fuzzy Trigonometric series with special fuzzy coefficients | Journal of Non- Linear Science and Applications, in Press | Sandeep Kaur and Jatinderdeep Kaur | 1.0756 |
| 38. | Generalized (ξ, α) -expansive mappings and related fixed-point theorems | Journal of Inequalities and Applications.2014, 2014:22 | Erdal Karapınar, Priya Shahi, Jatinderdeep Kaur, S.S. Bhatia, | 0.77 |
| 39. | Common Fixed Points of Expansive Mappings in Generalized Metric Spaces, | Journal of Applied Research and Technology,12(3), 2014,607-614. | Priya Shahi, Jatinderdeep Kaur, S.S. Bhatia, | 0.44 |
| 40. | Reducing Mutation Testing Endeavor using the Similar Conditions for the same Mutation Operators Occurs at Different Locations | Appl. Math. Inf. Sci. 8, 2389-2393, 2014 | T. Singla, A. Kumar, S. Garhwal | 1.23 |
| 41. | Temperature Predictive Technique for workload Scheduling in Green Clouds | The Scientific world Journal, 2014, pp. 1-10 | Rajesh Kumar Supriya Kinger, Anju Sharma | 1.219 |
| 42. | Efficient Dynamic Replication Algorithm using Agents in Data Grids | The Scientific world Journal , 2014, pp.1-10 | Rajesh Kuma Priyanka Vashisht, Anju Sharma | 1.219 |
| 43. | Fuzzy Entropy based Framework for Multi-Faceted Test Case Classification and Selection: An Empirical Study" | IET Software, Volume 8, Issue 3, June 2014, pp. 103 - 112 | Rajesh Kumar Manoj Kumar, Arun Sharma, | 0.536 |
| 44. | A Cooperative Network Framework for Multi-UAV Guided Ground Ad Hoc Networks, | Journal of intelligent and Robotic Systems, Volume 77, Issue 3-4, March 2015, pp. 629-652, 2015. | Rajesh Kumar, Vishal Sharma | 0.81 |
| 45. | Estimation-Based Queue Scheduling Model to Improve QoS for End Users in MANETs", | Computing and Informatics (IF 0.30)(In Press.). | Rajesh Kumar, Vishal Sharma | 0.319 |
| 46. | Dimensions and equilibrium structures of the primary components of the nonsynchronous binary systems | New Astronomy (NA), 26, 1-11, 2014 | Pathania, A and Medupe, T | 1.244 |

List of research publications in Non-SCI Journals (2014-2015)

| S. N. | Title of the paper | Name of the Journal with volume, page nos., year | Name of the authors |
|--------------|---|---|---|
| 1. | Viscous dissipation and Newtonian heating effects on free non-linear convection in a nanofluid saturated porous media | Open Journal of Heat, Mass & Momentum Transfer, 2(3) (2014) 87-97 | R. Nandkeolyar, A Sutradhar, PVSN Murthy, P Sibanda |
| 2. | Dynamic task allocation in distributed computing systems by heuristic algorithms | Int. J. of Operational Research. 21 (4), 391-408, 2014. | Deepak Garg and Paramjeet Singh |
| 3. | Finite volume approximations for size structured neuron model | To appear in "Differential Equations and Dynamical Systems" | Paramjeet Singh and Santosh Kumar |
| 4. | Fuzzy Approach for Component Selection and Classification: An Empirical Study | Research Journal of Applied Sciences, Engineering and Technology (RJASET), Volume 7(9) March 2014, pp. 1832-1836 | Rajesh Kumar Vinay, Manoj Kumar Pachariya, Prashant Johari |
| 5. | Service-Oriented Middleware for Multi-UAV Guided Ad Hoc Networks | IT Convergence Practice, volume 2(3), pp. 24-33, 2014 | Rajesh Kumar, Vishal Sharma |
| 6. | Energy Efficient Routing Protocol For Manets | i-manager's Journal on Information Technology, Volume 3(3), June-Aug 2014, pp. 40-52 | Rajesh Kumar, Shivam Kapoor |
| 7. | A Cuckoo Search based Approach for Solving Standard Cell Placement Problem | Journal of VLSI Design Tools & Technology (4)2, 1-7, 2014 | Maninder Kaur, Amanpreet Singh. |
| 7. | "Regression Models for the Prediction of Compressive Strength of Concrete with & without Fly ash" | International Journal of Latest Trends in Engineering and Technology (IJLTET), Vol. 3 Issue 4 March 2014/page no. 400-406 | Palika Chopra Dr.R.K.Sharma Dr.Maneek Kumar |
| 8. | PREDICTING COMPRESSIVE STRENGTH OF CONCRETE FOR VARYING WORKABILITY USING REGRESSION MODELS | International Journal of Engineering & Applied Sciences (IJEAS) Vol.6, Issue 4(2014)/page no. 10-22 | Palika Chopra Dr.R.K.Sharma Dr.Maneek Kumar |
| 9. | "A Distributed Load Balancing Scheme Based On Complex Network Model of Cloud Servers" | ACM SIGSOFT (ISSN No.: 0163-5948), USA, Vol. 39(6), Nov. (2014) doi:10.1145/2674632.2674639. | Narander Kumar, Shalini Agarwal, Zaidi, Taskeen and Saxena, Vipin |
| 10. | A Validation Technique for UML Activity Mode | "Accepted for Publication" in International Journal of Computer Applications (IJCA) March 2015 Edition. | Sudhir Kumar Singh, Taskeen Zaidi and Vipin Saxena |
| 11. | Modified Single Pass Clustering with Variable Threshold Approach | International Journal of Innovative Computing, Information and Control, 11(1), 375-86, 2015 | Mamta Mittal, R. K. Sharma and V. P. Singh |

| S. N. | Title of the paper | Name of the Journal with volume, page nos., year | Name of the authors |
|-------|--|---|---|
| 12. | Validation of k-means and threshold based clustering methods | International Journal of Advancements in Technology, 5(2), 153-60, 2014 | Mamta Mittal, R. K. Sharma and V. P. Singh |
| 13. | Predicting gender using Iris images | Research Journal of Recent Sciences, 3(4), 20-26, 2014 | A. Bansal, R. Agrawal and R. K. Sharma |
| 14. | Segmentation of isolated and touching characters in offline handwritten Gurmukhi script documents | I.J. Information Technology and Computer Science, 02, 58-63, 2014, DOI: 10.5815/ijitcs.2014.02.08 | Munish Kumar, M.K. Jindal and R.K. Sharma |
| 15. | A Proactive Technique for Automatic Detection and Signature Generation for Zero Day HTTP Attacks on Web Server of an Educational Institute | Computer Fraud & Security, Elsevier, Feb 2015. | Sanmeet Kaur and Maninder Singh, |
| 16. | On Ideal Version of Lacunary Statistical Convergence of Double Sequences | Gen. Math. Notes, Vol. 17, No. 1, July, 2013, pp.32-44 | Sudhir Kumar, Vijay Kumar and S.S. Bhatia |
| 17. | Mathematical Analysis of the Transmission Dynamics of HIV/AIDS: Role of Female Sex Workers | Appl. Math. Inf. Sci. 8, No. 5, 1-11 (2014) | Navjot Kaur, Mini Ghosh and S.S. Bhatia |
| 18. | I and I* convergence of multiple sequences of fuzzy numbers | accepted for publication in Boletim da sociedade Paranaense de Matematica, 2014 | Pankaj Kumar, V. Kumar, S.S. Bhatia |
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| 23. | "Reliability based design optimization of concrete mix proportions using generalized ridge regression model", | International Journal of Science and Engineering , Vol.8(1), 2015. | Rachna Aggarwal, M.K. Sharma, R.K. Sharma and Maneek Kumar, |
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| 2. | "Enhanced swarm intelligence-based scheduler to improve QoS for MANETs | Confluence The Next Generation Information Technology Summit (Confluence), 2014 5th International Conference-. IEEE, 2014, pp. 340 - 346 | Rajesh Kumar, Priya Sharma |
| 3. | Efficient Scheduling Algorithm based on Priority Scheduling Mechanism in Cloud Environment. | ICCC-2014, Dec. 27-28, Odisha. (Accepted for publication in IEEE) | Jyoti Kumari, Anju Sharma |
| 4. | A Context Sensitive Thresholding Technique for Automatic Image Segmentation | ICCIDM 2014 Conference, VSSUT, Odhisa, India, December 20-21(2014),Computational Intelligence in Data Mining - Volume 2,Smart Innovation, Systems and Technologies Volume 32, 2015, pp 19-25 | Anshu Singla, Swarnajyoti Patra |
| 5. | Offline Handwritten Gurmukhi Character Recognition System using RBF-SVM | International Workshop on Document Analysis and Recognition, IISc, Bangalore, 14 DEC 2014 (Accepted for publications in ACM Digital Library). | Munish Kumar, M. K. Jindal and R. K. Sharma |
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| 12. | “Modeling and Performance Estimation of Static Step Topology Under Distributed Environment” | In Proceedings of 101 th Indian Science Congress 2014 Held on Feb. 3-7, 2013, University of Jammua, Jammu, India. | Zaidi Taskeen |
| 13. | Implementation of Bankers’ Algorithm for Avoidance of Deadlock Across National Knowledge Network (NKN) through UML | In Proceedings of International Conference of the 8 th INDIACOM on Computing for Sustainable Global Development, (ISBN 978-93-80544-06-9), PP. 745-747, Organised by Bharti Vidyapeeth Institute of Computer Application and Management, New Delhi from 5-7 th March 2014 | Zaidi Taskeen, Saxena Vipin |
| 14. | Necessary and Sufficient condition for L1-convergence of certain sine sums, | international Conference on Special Functions and their Applications Thapar Institute of Engineering & Technology University, Patiala, 2014 , 27 | Sandeep Kaur and Jatinderdeep Kaur |
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| 16. | Rational type in complex valued metric spaces with applications, | International Conference on Special Functions and their Applications Thapar Institute of Engineering & Technology University, Patiala, 2014 , 26. | Priya Shahi, Jatinderdeep Kaur and S.S. Bhatia |
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| 1 | Painlevé Analysis, Lie Symmetries and Exact Solutions for Variable Coefficients Benjamin-Bona-Mahony-Burger (BBMB) Equation | <i>Communication in Theoretical Physics</i> 60 (2013) 175-182 | Vikas Kumar, R.K. Gupta and Ram Jiwari | .954 |

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| 2 | On Certain New Exact Solutions of Einstein Equations for Axisymmetric Rotating Fields | <i>Chinese Physics B</i> 22 (2013) 100203 (6pp) | Lakhveer Kaur and R.K. Gupta | 1.148 |
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| 5 | Some Invariant Solutions of Field Equations with Axial Symmetry for Empty Space Containing an Electrostatic Field | <i>Applied Mathematics and Computation</i> , 231 (2014) 560-565 | Lakhveer Kaur and R.K. Gupta | 1.349 |
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| 10 | Generalized (ξ, α) -expansive mappings and related fixed-point theorems | <i>Journal of Inequalities and Applications</i> 2014, 2014:22 | Erdal Karapinar, Priya Shahi, Jatinderdeep Kaur and S. S. Bhaia | 0.82 |

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| 15 | A new ranking approach for intuitionistic fuzzy numbers and its application | Journal of Applied Research and Technology. Vol. 11, pp. 381-396, 2013 | Amit Kumar and Manjot Kaur | 0.353 |
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| 4 | Quadruple fixed point theorems for nonlinear contractions in partially ordered G-metric spaces | Tbilisi Mathematical Journal, 6, (2013), 29-44. | Jatinderdeep Kaur |
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| 14 | Combinatorial interpretation of a generalized basic series | HMS-Volume (Accepted), Springer, 2013 | A.K. Agarwal and M Rana |
| 15 | Impact of security over System performance | IJARCSSE, Volume 3, Issue 6, June 2013 | Vaibhav Shrivastava, Gurpal Singh |
| 16 | Computer trend with security by RSA, DES and BLOWFISH Algorithm | IJCST, Volume 4, Issue 2, June 2013 | Vaibhav Shrivastava, Gurpal Singh |
| 17 | Applying soft computing Approaches to predict defect density in software product release | Computing and Informatics. Accepted | Vijai Kumar, Arun Kumar, Rajesh Kumar |
| 18 | Fuzzy Entropy based Framework for Multi-Faceted Test Case Classification and Selection: An Empirical Study | IET software, Accepted | Manoj Kumar, Arun Kumar, Rajesh Kumar |
| 19 | Devnagari Numerals Classification and Recognition using an Integrated Approach | International Journal in Foundations of Computer Science, vol 3, pp. 61-66, 2013 | Rajiv Kumar and Kanika Bansal |
| 20 | K-Algorithm A Modified Technique for Noise Removal in Handwritten Documents | International Journal of Information Sciences and Techniques (IJIST) Vol 3. No. 3, pp. 1-8, 2013 | Rajiv Kumar and Kanika Bansal |
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| 2 | Promoting Rural Education through Cloud Computing - An Analysis | Proc. of "Wilkes100- international Conference on Computing Sciences (ICCS)", at Lovely Professional University, Phagwara, India., Nov. 15-16, 2013, | Sharad Saxena, Shilpi Saxena, Vishal Raj Kohli, and Deepak Mehta |
| 3 | Rough Set Vs Entropy - Feature Selection Methods | Proc. Of International Conference on Advance Computing and Communication Technologies (ICACCT) (Asia Pacific Institute of Information Technology SD Panipat, India) Nov. 16, 2013, | Prahlad Modi, Sharad Saxena |

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| 2 | On the use of Roche equipotentials in analyzing the problems of binary and rotating stars | Journal of Astrophysics and Astronomy (JOAA), 2013, In Press | Pathania, A, Lal, A K and Mohan, C | 0.4 |
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| 18 | Mehar's method for solving fully fuzzy linear programming problems with L-R fuzzy parameters | Applied Mathematical Modelling, 37 (2013) 7142-7153 | Jagdeep Kaur and Amit Kumar | 1.579 |
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List of research publications in year 2011-2012

List of SCI Publications

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Publication of papers in conference proceedings and other publications 2011-12

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| 1 | Performance Analysis of Industrial System under Corrective and Preventive Maintenance | International Conference on Quality and Reliability Engineering (ICQRE-11) held from December 20-22, I.S.I, Bangalore,2011 | Manwinder Kaur, Arvind Kumar Lal, Satwinder Singh Bhatia and A. S. Reddy |
| 2 | Equilibrium structure of differentially rotating gaseous sphere with generalized rotation law | National Conference on Recent Trend in Mathematics and its Applications (RTMA-11) held from Dec. 16-17,SLIET, Longowal 2011 | Arvind Kumar Lal, Seema Saini, V. P. Singh and C. Mohan |

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| 4 | A Genetic Algorithm based Technique for Efficient Scheduling of Tasks on Multiprocessor System | International Conference on Soft Computing for Problem Solving (SocProS-2011) held from December 20-22, I.I.T., Roorkee, 2011 | Poonam Pawar, A. K. Lal, Jugwinder Singh |
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| 12 | Classification of Characters and Grading Writers in Offline Handwritten Gurmukhi Script | in Proc. of ICIIP-2011 (IEEE), 2011 | Munish Kumar, R. K. Sharma, and M. K. Jindal |
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| 14 | Challenges in Creation of Punjabi WordNet and Bilingual Dictionaries | in Proc. of the Second National Workshop of Indradhanush WordNet Consortium, Goa University, August 8-10, 2011, 105-112 | R.K. Sharma, Parteek Bhatia, Rekha Rattan |
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| 18 | Cultural Computing: A Case study of Northern Indian Culture | International conference on Culture and Computing, Japan, pp. 131-132. 2011 | Bhupinder Kochhar, Anju Sharma, Ashish Jolly, |
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List of research publications in year 2010-2011

List of SCI Publications

| S. No. | Title of the paper | Name of the Journal with volume, page nos., year | Name of the authors | Impact Factor and Citation Index (SCI) |
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| 4 | A new method for solving fuzzy transportation problems using ranking function | Applied Mathematical Modelling, Vol. 35, pp. 5652-5661,2011 | Amarpreet Kaur and Amit Kumar | 1.579 |
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| 1 | An intersection theorem in free group rings | International Journal of Algebra Vol. 4, No. 162010769-775 | Deepak Gumber |
| 2 | A Numerical Scheme for singularly perturbed Burger-Huxley Equation, | J. Appl. Math. & Informatics 29 (2011), No. 3-4, 813-829 | R.C. Mittal and Ram Jiwari |
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| 4 | Application of linear programming for solving fuzzy transportation problems | Journal of Applied Mathematics and Informatics, Vol. 29, pp. 831-846, 2011 | Amit Kumar and Amarpreet Kaur |
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| 7 | Methods for solving unbalanced fuzzy transportation problems | Operational Research-An International Journal, Vol. 11, 2011 | Amit Kumar and Amarpreet Kaur |
| 8 | Application of classical transportation methods to find the fuzzy optimal solution of fuzzy transportation problems | Fuzzy Information and Engineering , Vol. 3, pp. 81-99,2011 | Amit Kumar and Amarpreet Kaur |
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| 12 | A new algorithm for solving network flow problems with fuzzy arc lengths | Turkish Journal of Fuzzy Systems, Vol. 2, pp. 1-13,2011 | Amit Kumar and Manjot Kaur |
| 13 | Methods for solving Fuzzy assignment problems and fuzzy traveling salesman problems with different membership functions | Fuzzy Information and Engineering, Vol. 3, pp. 3-21,2011 | Amit Kumar and Anila Gupta |
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Publication of papers in conference proceedings and other publications 2010-11

| S. No. | Title of the paper | Name of the conference with venue, date and year, page nos. | Name of the authors |
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| 1 | Fuzzy optimal solution of fuzzy transportation problems with transshipments | <u>Rough Sets, Fuzzy Sets, Data Mining and Granular Computing</u> , Lecture Notes in Computer Science, Springer Berlin / Heidelberg 2011, Vol. 6743, pp. 167-170 | Amit Kumar, Amarpreet Kaur and Manjot Kaur |
| 2 | Fuzzy optimal solution of fully fuzzy project crashing problems with new representation of LR flat fuzzy numbers, | <u>Rough Sets, Fuzzy Sets, Data Mining and Granular Computing</u> , Lecture Notes in Computer Science, Springer Berlin / Heidelberg 2011, Vol. 6743, pp. 171-174. | Amit Kumar, Parmpreet Kaur and Jagdeep Kaur |
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| S. No. | Title of the paper | Name of the Journal with volume, page nos., year | Name of the authors | Impact Factor and Citation Index |
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| 46 | Differential Quadrature Method for Two Dimensional Burgers' Equations, | Int. J. for Comput. Methods in Eng. Science and Mech 10 (2009), 450-459 | R.C. Mittal and Ram Jiware | |
| 47 | Use of Wavelet Transform Extension for Graphics Images | International Journal of Image Processing, Vol. 3, No. 1, pp. 55-60, 2009 | Singara Singh, R. K. Sharma, and M. K. Sharma | NA |
| 48 | On segmentation of touching characters and overlapping lines in degraded printed Gurmukhi script | International Journal of Image and Graphics, World Scientific Publishing Company, 9(3), 321-353, 2009 | M. K. Jindal, G. S. Lehal and R. K. Sharma | |
| 49 | Online handwritten Gurmukhi strokes preprocessing | International Journal of Machine Graphics and Vision, 18(1), 105-20, 2009 | Anuj Sharma, R. K. Sharma and Rajesh Kumar | |
| 50 | Modeling vibration frequencies of annular plates by regression based neural network | Applied Soft Computing Journal, 9(1), 439-447, 2009 | V. P. Singh, S. Chakraverty, R. K. Sharma and G. K. Sharma | |
| 51 | Information systems and decision making across functional areas in manufacturing sector | Business Perspectives, 11(1), 47-54, 2009 | Khushdeep Dharni, R. K. Sharma and Ravi Kiran | |
| 52 | Generation of case markers for UNL-Punjabi Deconverter | International Journal of Systemics, Cybernetics and Informatics (ISSN: 0973-4864), 44-48, 2009 | Parteek Bhatia and R. K. Sharma | |
| 53 | Use of computer based applications: A study at different levels of management | The Icfaian Journal Management Research, 8(7), 45-55, 2009 | Khushdeep Dharni, Ravi Kiran and R. K. Sharma | |
| 54 | Use of computer applications across functional areas of management | Gyan Management, 2(2), 103-16, 2009 | Khushdeep Dharni, Ravi Kiran and R. K. Sharma | |
| 55 | Information systems in Indian manufacturing sector: extent of use and support for managerial roles | International Journal of Business Information Systems, 4(6), 673-87, 2009 | Khushdeep Dharni, Ravi Kiran and R. K. Sharma | |
| 56 | Recognizing online handwritten Gurmukhi characters using comparison of small line segments | International Journal of Computer Theory and Engineering, 9(1), 136-141, 2009 | Anuj Sharma, R. Kumar and R. K. Sharma | |

List of research publications in National Journals

| S. No. | Title of the paper | Name of the Journal with volume, page nos., year | Name of the authors |
|--------|---|--|------------------------------------|
| 1. | Integrability and L1-convergence of Ram-Kumari Sums | Punjab Academy of Sciences, vol 5, 12-16, 2009 | Jatinderdeep Kaur and S. S. Bhatia |

Publication of papers in conference proceedings and other publications

| S. No. | Title of the paper | Name of the conference with venue, date and year, page nos. | Name of the authors |
|--------|---|--|---|
| 1. | An improved genetic based Routing Protocol for VANETs | Confluence The Next Generation Information Technology Summit (Confluence), 2014 5th International Conference-. IEEE, 2014, pp. 347 - 353. | Rajesh Kumar , Divya Gupta |
| 2. | "Enhanced swarm intelligence-based scheduler to improve QoS for MANETs | Confluence The Next Generation Information Technology Summit (Confluence), 2014 5th International Conference-. IEEE, 2014, pp. 340 - 346 | Rajesh Kumar, Priya Sharma |
| 3. | Efficient Scheduling Algorithm based on Priority Scheduling Mechanism in Cloud Environment. | ICCC-2014, Dec. 27-28, Odisha. (Accepted for publication in IEEE) | Jyoti Kumari, Anju Sharma |
| 4. | A Context Sensitive Thresholding Technique for Automatic Image Segmentation | ICCIDM 2014 Conference, VSSUT, Odhisa, India, December 20-21(2014),Computational Intelligence in Data Mining - Volume 2,Smart Innovation, Systems and Technologies Volume 32, 2015, pp 19-25 | Anshu Singla, Swarnajyoti Patra |
| 5. | Offline Handwritten Gurmukhi Character Recognition System using RBF-SVM | International Workshop on Document Analysis and Recognition, IISc, Bangalore, 14 DEC 2014 (Accepted for publications in ACM Digital Library). | Munish Kumar, M. K. Jindal and R. K. Sharma |
| 6. | Performance analysis of zone based features for online handwritten Gurmukhi script recognition using support vector machine | In Proc: Progress in Systems Engineering Advances in Intelligent Systems and Computing Volume 330, 747-753, August 2014 | Karun Verma and R. K. Sharma |
| 7. | Mobile agent information security in ad-hoc network | April 2014, doi: 10.1109/ICCPEIC.2014.6915343 (IEEE), pp.77-80, | Jasleen Kaur, Sharad Saxena, Anu Jain |
| 8. | Securing mobile agent's information in ad-hoc network | Sept 25-26, 2014, doi: 10.1109/CONFLUENCE.2014.6949352 pp. 442-446, (IEEE) | Jasleen Kaur, Sharad Saxena, Mohd Abuzar Sayeed |

| S. No. | Title of the paper | Name of the conference with venue, date and year, page nos. | Name of the authors |
|--------|--|---|--|
| 9. | Data agglomeration in wireless sensor networks | Dec 11-13, 2014, International Conference on Parallel, Distributed and Grid Computing (PDGC), 2014, pp.285-289 (IEEE). | Sandhu Jasminder Kaur, Saxena Sharad |
| 10. | Challenges and issues in underwater acoustics sensor networks: A review | Dec 11-13, 2014, International Conference on Parallel, Distributed and Grid Computing (PDGC), pp. 251-255 (IEEE). | Jindal Himanshu, Saxena Sharad, Singh Singara |
| 11. | Acoustic communication characteristics in UWDBCSN | Dec 11-13, 2014, International Conference on Parallel, Distributed and Grid Computing (PDGC), pp. 176-180 (IEEE). | Saxena Sharad, Mehta Deepak, Kaur Jasminder, Jindal Himanshu |
| 12. | "Modeling and Performance Estimation of Static Step Topology Under Distributed Environment" | In Proceedings of 101 th Indian Science Congress 2014 Held on Feb. 3-7, 2013, University of Jammua, Jammu, India. | Zaidi Taskeen |
| 13. | "Implementation of Bankers' Algorithm for Avoidance of Deadlock Across National Knowledge Network (NKN) through UML" | In Proceedings of International Conference of the 8 th INDIACOM on Computing for Sustainable Global Development, (ISBN 978-93-80544-06-9), PP. 745-747, Organised by Bharti Vidyapeeth Institute of Computer Application and Management, New Delhi from 5-7 th March 2014 | Zaidi Taskeen, Saxena Vipin |
| 14. | Necessary and Sufficient condition for L1-convergence of certain sine sums, | international Conference on Special Functions and their Applications Thapar Institute of Engineering & Technology University, Patiala, 2014 , 27 | Sandeep Kaur and Jatinderdeep Kaur |
| 15. | Fixed Point Theorems for α - ψ - contractive mappings, | International Conference on Special Functions and their Applications Thapar Institute of Engineering & Technology University, Patiala, 2014 , 24 | Kapil Chawla and Jatinderdeep Kaur. |
| 16. | Rational type in complex valued metric spaces with applications, | International Conference on Special Functions and their Applications Thapar Institute of Engineering & Technology University, Patiala, 2014 , 26. | Priya Shahi, Jatinderdeep Kaur and S.S. Bhatia |
| 17. | Lebesgue Integrability of Fuzzy Trigonometric Sine Series | International Conference on Mathematical Sciences, Sathyabama University, Chennai, 2014, 491-494 | Sandeep Kaur and Jatinderdeep Kaur |
| 18. | Analysis of various direction lifting schemes for JPEG2000 Standard | IEEE International Conference on Recent Advances and Innovations in Engineering, Jaipur, May 9-11, 2014, pp 1-6 | Chirag Garg and Singara Singh Kasana |
| 19. | Challenges and Issues in Underwater Acoustics Sensor Networks: a review | IEEE International Conference on Parallel, Distributed and Grid Computing, Solan (HP), 16-17 Dec 2014, pp 251-255 | Himanshu Jindal, Sharad Saxena, Singara Singh Kasana |

| S. No. | Title of the paper | Name of the conference with venue, date and year, page nos. | Name of the authors |
|--------|--|---|--|
| 20. | A Novel Image Zooming Technique Using Wavelet Coefficients | International Conference on Recent Cognizance in Wireless Communication & Image Processing, Jaipur, 16-17 Jan, 2015 | Himanshu Jindal, Singara Singh Kasana, Sharad Saxena |

Publication of papers in conference proceedings and other publications

| S. No. | Title of the paper | Name of the conference with venue, date and year, page nos. | Name of the authors |
|--------|---|--|--|
| 1 | Optimal, Maintenance of Scheduling of Textile Weaving Process | National Meet of Research Scholars in Mathematical Sciences held at IIT, Roorkee from December 19-23, 2009 (Awarded best paper) | Manwinder Kaur, A. K. Lal, S. S. Bhatia & A. S. Reddy |
| 2 | Availability Analysis of Polytube Industry | National conference on mathematical modeling and simulation (MMSim10) held from March 20 - 21, 2010 at Department of Mathematics, Guru Jambheshwar University of Science and Technology, Hissar. | Shakuntala, Rachana Khurana, A. K. Lal, S. S. Bhatia, and Jai Singh, |
| 3 | Rearrangement of strokes in recognition of Online Handwritten Gurmukhi words | Published in IEEE Proceedings of 10th International Conference on Document Analysis and Recognition (ICDAR-2009) held at Barcelona, Spain, pp. 1241-1245, July 26-29, 2009. | Anuj Sharma, Rajesh Kumar, R. K. Sharma |
| 4. | Fuzzy Genetic Optimal Control for Four Degree of Freedom Robotic Arm Movement | Published and presented at World Congress on Science, Engineering and Technology held at Bangkok, Thailand pp: 409-412, December 22-25, 2009. | Vijay Banga;Yaduvir Singh;Rajesh Kumar |
| 5 | A Heuristic for Multi-Objective Chinese Postman Problem | 39th International Conference on Computers and Industrial Engineering University of Troyes, Troyes, France DOI:10.1109/ICCIE.2009.5223529 | M. K. Sharma Satya Prakash; Amarinder Singh; |
| 6 | An Efficient Heuristic for Multi-Objective Bulk Transportation Problem | 39th International Conference on Computers and Industrial Engineering University of Technology of Troyes, Troyes, France DOI:10.1109/ICCIE.2009.5223526 | M. K. Sharma Satya Prakash; Amarinder Singh; |
| 7 | Mathematical Modelling of HIV/TB Coinfection: Effect of Treatment and Awareness", | Proceeding of International Conference on Challenges and Applications of Mathematics in Science and Technology (CAMIST), p 796-804 (2010). | Navjot Kaur, Mini Ghosh |
| 8 | Challenges in Segmentation of Text in Handwritten | BAIP 2010, Kerala, March, 2010, CCIS 70, 2010, 388, Springer-Verlag Berlin Heidelberg 2010 | Rajiv Kumar; Amardeep Singh |
| 9 | Detection and Segmentation of Lines and Words in Gurmukhi | IEEE 2nd International Advanced Computing Conference, Feb 2010, Thapar Institute of Engineering & | Rajiv Kumar;Amardeep Singh; |

| S. No. | Title of the paper | Name of the conference with venue, date and year, page nos. | Name of the authors |
|--------|---|--|---|
| | Handwritten Text | Technology University, 353, IEEE Xplore Digital Library | |
| 10 | Explicit Exact Solutions of a Non Evolution Equation | Interdisciplinary Mathematics on Interdisciplinary Mathematical and Techniques (IMST 2009 - FIM XVIII), August 2-4, 2009 | R K Gupta K Singh |
| 11 | Modified b-equation: Classical Lie Approach and Exact Solution | Interdisciplinary Mathematics on Interdisciplinary Mathematical and Techniques (IMST 2009 - FIM XVIII), August 2-4, 2009 | R K Gupta Sachin Kumar |
| 12 | A Priori Error Estimates for a Three-step Taylor Galerkin Finite Element Method for a Time-dependent Singularly Perturbed Convection-Diffusion equation | Indo-German Conference on PDE, Scientific Computing and Optimization in Applications, October 07-09, 2009, IIT Kanpur. | Vivek Sangwan, B. V. Rathish Kumar, S. K. Murthy, Mohit Nigam |
| 13 | Integrability and convergence of double sine series | Eighteenth International Conference of Forum for Interdisciplinary Mathematics on Interdisciplinary Mathematical and Statistical Techniques (IMST 2009-FIM XVIII) held at JUIT, Solan, August 02-04, 2009. | Jatinderdeep kaur |
| 14 | Algorithm for fuzzy efficient solutions for bi-objective warehouse problem | 8 th triennial Conference of Association of Asian Pacific Operational Research Society held at Jaipuriya Institute of Management, Jaipur Dec. 6-9, 2009. | Amit Kumar, Anila Gupta, M. K. Sharma |

Books/Chapters in Books

| S. No. | Name of Book | Month/ Year of Publication | Name of Publisher, Country | Authors | ISBN |
|--------|--|----------------------------|-----------------------------|---------------|----------|
| 1 | Computational Intelligence for Big Data Analysis: Frontier Advances and Applications | 2015 | Springer-Verlag/ Heidelberg | Pritpal Singh | In Press |
| 2 | Hybrid Soft Computing Approaches: Research and Applications | 2015 | Springer-Verlag/ Heidelberg | Pritpal Singh | In Press |

| | | | | | |
|---|--|------|--|---------------------------|--|
| 3 | Software Development Technique for Constructive Information Systems Design: Information System and System Development Life Cycle | 2013 | IGI Global Publisher, USA pp. 118-127 | Monika Sethi, Anju Sharma | |
|---|--|------|--|---------------------------|--|

21. Details of patents and income generated : Nil

22. Areas of consultancy and income generated : Nil

23. Faculty selected nationally / internationally to visit other laboratories / institutions / industries in India and abroad : **Nil**

24. Faculty serving in a) National committees b) International committees c) Editorial Boards d) any other (please specify)

Dr. Sharad Sexena Journal Editor (STM Journals)

- **Journal of Web Engineering & Technology**
- **Journal of Image Processing & Pattern Recognition Progress**
- **Journal of Mobile Computing, Communications & Mobile Networks**

Dr. Taskeen Jaidi

- **Expert member of National Institute of Electronics and Information Technology (NIELIT) (DOEACC) (Expert Sl. No.3264), New Delhi;**
- **Expert Member of Indira Gandhi National University (IGNOU), New Delhi**

Dr. Anju Sharma

- **TCM of International Conference on Contemporary Computing and Informatics (iCATccT 2014) is being organized in Myore-570 006 Karnataka, India, 2014.**

Dr. Rupali Bhardwaj

- **Technical committee member in 3rd International Conference on Recent Trends in Computing, SRM University, Modi Nagar , Ghaziabad**

25. Faculty recharging strategies (UGC, ASC, Refresher / orientation programs, workshops, training programs and similar programs) :

| S. No | Name of the Faculty member | Name of the Conference/Workshops/short term programs | Place and Dates |
|-------|----------------------------|--|---|
| 1. | Sanmeet Kaur | Security and Privacy Symposium | from February 13-14, 2015 IIIT Delhi |
| 2. | Dr. Paramjeet Singh | XV International Conference on Hyperbolic Problems | July 27th to August 1st in the Rio de Janeiro, Brazil |

| S. No | Name of the Faculty member | Name of the Conference/Workshops/short term programs | Place and Dates |
|-------|----------------------------|--|---|
| 3. | Dr. R. K. Sharma | Progress in Systems Engineering Advances in Intelligent Systems and Computing | August 18-24, 2014, UNLV, USA |
| 4. | Dr. Rajesh Kr. Gupta | NCM Workshop on "Conservation Laws with Applications to Continuum Mechanics" organized by National Center of Mathematics and Department of Mathematics, Punjab University, CHD | Department of Mathematics, Punjab University, Chandigarh on 2-7 December, 2014. |
| 5. | Anshu Singla | ICCIDM 2014 Conference | VSSUT, Odhisa, India, December 20-21(2014), |
| 6. | Taskeen Zaidi | "ICT in Higher Education:Need of the Hour"; | B. B. Ambedkar University, Lucknow, India, on 20 th Jan., 2014 |
| 7. | Taskeen Zaidi | "Science Camp under INSPIRE Internship Scheme"; | Organised by Bundelkhand University, Jhansi, from January 20-24, 2014. |
| 8. | Taskeen Zaidi | "101 th Indian Science Congress"; | organized by University of Jammu, Jammu, India, 3-7 Feb. 2014. |
| 9. | Taskeen Zaidi | "National Conference on Recent Trends in Software Engineering Research (RTSER 2014)"; | Organised by Shri Ram Murti Smarak College of Engineering and Technology, Bareilly, 8 th March 2014. |
| 10. | Taskeen Zaidi | "International Conference on Modeling and Computing (ICMC-2014)"; | Organised by Department of Computer Science, Babasaheb Bhimrao Ambedkar University, Lucknow, India from July 10-11, 2014. |
| 11. | Taskeen Zaidi | "National Conference on Recent Advances in Mathematics and Applications"; | Organised by Department of Applied Mathematics, Babasaheb Bhimrao Ambedkar University, Lucknow, India from October 30-31, 2014. |
| 12. | M.Rana | 18 th Punjab Science Academy Annual Conference, | 7-9 February, 2015, Desh Bhagat University, Mandi Gobingarh, Punjab, India. |
| 13. | M.Rana | International Conference of Special Functions and Their Applications, | 16-18 October, 2014, Thapar Institute of Engineering & Technology University, Patiala, India |

List of various faculty members who attended various conferences/ workshops/ short-term programs in 2013-2014

| S. No. | Name of the Faculty member | Name of the Conference/Workshops/short term programs | Place and Dates |
|--------|----------------------------|---|--|
| 1 | Dr. Rajiv Kumar | Embedded System Design using Atmel XMEGA XPLD A1 and ARM based SAM 4L | July 15-16, 2013 at Thapar Institute of Engineering & Technology University, Patiala |
| 2. | Dr. Rajiv Kumar | Applications of MATLAB in engineering | Aug 24-25, 2013 at Thapar Institute of Engineering & Technology University, Patiala. |
| 3 | Dr. Rajiv Kumar | Role and Relevance of Ethics & IPR in Dynamic Business Environment | Aug 29, 2013 at Thapar Institute of Engineering & Technology University, Patiala |
| 4 | Dr. Rajiv Kumar | Basics and Application of Computational Fluid Dynamics (BCFD-2013 | Aug 30-31, 2013 at Thapar Institute of Engineering & Technology University, Patiala |
| 5 | Dr. Rajiv Kumar | Introduction to MATLAB | Oct 26-27, 2013 at Thapar Institute of Engineering & Technology University, Patiala. |
| 6 | Dr. Rajiv Kumar | Natural Language Processing | Dec 6-7, 2013 at Thapar Institute of Engineering & Technology University, Patiala. |
| 7 | Khushneet Jindal | Embedded System Design using Atmel XMEGA XPLD A1 and ARM based SAM 4L | July 15-16, 2013 at Thapar Institute of Engineering & Technology University, Patiala |
| 8 | Khushneet Jindal | Applications of MATLAB in engineering | Aug 24-25, 2013 at Thapar Institute of Engineering & Technology University, Patiala. |
| 9 | Khushneet Jindal | Role and Relevance of Ethics & IPR in Dynamic Business Environment | Aug 29, 2013 at Thapar Institute of Engineering & Technology University, Patiala |
| 10 | Khushneet Jindal | Basics and Application of Computational Fluid Dynamics (BCFD-2013 | Aug 30-31, 2013 at Thapar Institute of Engineering & Technology University, Patiala |
| 11 | Khushneet Jindal | Introduction to MATLAB | Oct 26-27, 2013 at Thapar Institute of Engineering & Technology University, Patiala. |

| S. No. | Name of the Faculty member | Name of the Conference/Workshops/short term programs | Place and Dates |
|--------|----------------------------|---|---|
| 12 | Khushneet Jindal | Natural Language Processing | Dec 6-7, 2013 at Thapar Institute of Engineering & Technology University, Patiala. |
| 13 | Khushneet Jindal | Advance Topics in Fluid Flow and Heat Transfer | Sep 17-18, 2013 at Thapar Institute of Engineering & Technology University, Patiala |
| 14 | Khushneet Jindal | Hands on Training on Computational Fluid Dynamics (CFD-2013) | Oct 18-20, 2013 at Thapar Institute of Engineering & Technology University, Patiala |
| 15 | Khushneet Jindal | Multilingual Technologies | Nov 11-17, 2013 at Punjabi University, Patiala |
| 16 | Taskeen Jaidi | Science Camp under INSPIRE Internship Scheme | Bundelkhand University, Jhansi, from January 20-24, 2014 |
| 17 | Dr. Vivek Sangwan | Mathematical Foundation of Advanced Finite Element Methods | BITS Goa campus organized by Dept. of Mathematics, IIT Bombay, 2013 |
| 18 | Dr. Vivek Sangwan | Workshop on Optimization with PDE constraints | TIFR Bangalore, 2013 |
| 19 | Dr. Sharad Saxena | Induction Training Programme | NITTTR Chandigarh, Jan 20-24, 2014 |
| 20 | Dr. Sharad Saxena | Role and Relevance of Ethics and IPR in Dynamic Business Environment | Thapar Institute of Engineering & Technology University, Patiala, 2013 |
| 21 | Dr. Sharad Saxena | Natural Language Processing | Dec 6-7, 2013 at Thapar Institute of Engineering & Technology University, Patiala. |
| 22 | Dr. Rajesh Gupta | Basics and Application of Computational Fluid Dynamics (BCFD-2013) | Aug 30-31, 2013 at Thapar Institute of Engineering & Technology University, Patiala |
| 23 | Dr. Rajesh Gupta | Introduction to MATLAB | Oct 26-27, 2013 at Thapar Institute of Engineering & Technology University, Patiala. |
| 24 | Dr. Rajesh Gupta | Applications of MATLAB in Engineering | Thapar Institute of Engineering & Technology University, Patiala on 24-25 August, 2013 |
| 25 | Dr. Rajesh Gupta | Hands on Training on Computational Fluid Dynamics" (CFD-2013) | Thapar Institute of Engineering & Technology University, Patiala held on 18-20 October 2013 |
| 26 | Dr. Rajesh Gupta | Embedded System Design using Atmel XMEGA XPLD A1 and ARM based SAM 4L | Atmel India University Program at Thapar Institute |

| S. No. | Name of the Faculty member | Name of the Conference/Workshops/short term programs | Place and Dates |
|--------|----------------------------|---|---|
| | | | of Engineering & Technology University, Patiala from 15-7-2013 to 16-07-2013 |
| 27 | Dr. Rajesh Kumar | Curriculum Design | Thapar Institute of Engineering & Technology University, Patiala held on April 12, 2013 |
| 28 | Dr. Rajesh Kumar | International Conference on Issues and Challenges in Intelligent Computing Techniques | KIET, Ghaziabad from Feb. 7-8, 2014 |

List of various faculty members who attended various conferences/ workshops/ short-term programs in 2012-2013

| S. No. | Name of the Faculty member | Name of the Conference/Workshops/short term programs | Place and Dates |
|--------|----------------------------|--|---|
| 1 | Dr. Abhishek Kumar Singh | National Conference on Recent Advances in Mathematics and its Applications | Department of Applied Mathematics, Indian School of Mines, Dhanbad, Feb 14-16, 2013 |
| 2 | Dr. Anju Sharma | Think Parallel: Parallel Programming for Engineers and Scientists | CDAC- Bangalore, 10-20 June, 2013 |
| 3 | Dr. Ram Jiwari | New Frontiers in Numerical Analysis and Scientific Computing (Conference) | Kent State University, USA, April 17-18, 2013 |
| 3 | Dr. Ram Jiwari | NUMDIFF-13 (2012) Conference & Symposium | Martin-Luther University, Halle, GERMANY, Sep 10-14, 2012 |
| 4 | Dr. Anju Sharma | International Workshop on Cloud Computing and HPC (CCHPC-2012) Computer Science and Engineering Department | Thapar Institute of Engineering & Technology University, Patiala 05 - 08 December, 2012 |
| 5 | Dr. Rajesh Kumar | National Conference (RIET-12) | Amritsar College of Engineering & Technology, Amritsar from August 17-18, 2012 |

List of various faculty members who attended various conferences/ workshops/ short-term programs in 2011-2012

| S. No. | Name of the Faculty member | Name of the Conference/Workshops/short term programs | Place and Dates |
|--------|----------------------------|--|--|
| 1 | Dr. Meenakshi Rana | International conference of special functions and applications (ICSFA) | SVNIT, Surat, Gujarat, 27-29 June, 2012. |
| 2 | Dr. Abhishek Kumar Singh | Staff Development Programme on "Disaster Prevention and Mitigation" | Department of Civil Engineering, Thapar Institute of Engineering & Technology University, Patiala (Sponsored by AICTE) , 28 May - 8 June, 2012 |

| S. No. | Name of the Faculty member | Name of the Conference/Workshops/ short term programs | Place and Dates |
|--------|----------------------------|--|--|
| 3 | Dr. Ram Jiwari | Workshop on wavelets | IIT Bombay, 28 Feb - 2 March,2012 |
| 4 | Dr. Ram Jiwari | Workshop on Differential Equations and Mathematical Modelling | Delhi University, Feb 9 - Feb 11 , 2012 |
| 5 | Ms. Sunita Garhwal | Staff Development program on Disaster Prevention and Mitigation | Thapar Institute of Engineering & Technology University, Patiala May28 - June 8, 2012 |
| 6 | Dr. Vivek | Staff Development Programme on "Disaster Prevention and Mitigation" | DepartmentofCivil Engineering,Thapar Institute of Engineering & Technology University,Patiala (Sponsored by AICTE) , 28 May - 8 June, 2012 |
| 7 | Khusneet Jindal | IBM SPSS training program | Dec 14-17, 2011 at Thapar Institute of Engineering & Technology University, Patiala |
| 8 | Dr. Rajesh Kumar | International Conference on Issues and Challenges in Networking, Intelligence and Computing Technologies(ICNICT, 2011) | KIET from September 2-3, 2011 |

List of various faculty members who attended various conferences/ workshops/ short-term programs in 2010-2011

| S. No. | Name of the Faculty member | Name of the Conference | Place and Dates |
|--------|----------------------------|--|---|
| 1 | Dr. Meenakshi Rana | 98th Indian Science congress | SRM University, Chennai, India 3-7 january, 2011 |
| 2 | Dr. Amit Kumar | International congress on Productivity, Quality, reliability, optimization and Modelling | ISI, Delhi, 2011 |
| 3 | Dr. A. K. Lal | 14th Punjab Science Congress | February 7-9, 2011, held at SLIET, Longowal |
| 4 | Dr. S. S. Bhatia | 14th Punjab Science Congress | February 7-9, 2011, held at SLIET, Longowal |
| 5 | Dr. A. K. Lal | Sixth International Conference on Dynamic Systems and Applications | May 25-28, 2011 ,Morehouse College, Atlanta, Georgia, USA , 2011 |
| 6 | Dr. Anju Sharma | Research Promotion Workshop on Introduction to Graph and Geometric Algorithms | Thapar Institute of Engineering & Technology University 28-30 October, 2010 |

List of various faculty members who attended various conferences/ workshops/ short-term programs in 2009-2010

| S. No. | Name of the Faculty member | Name of the Conference | Place and Dates |
|--------|----------------------------|--|---|
| 1 | Mahesh Kumar Sharma | 39th International Conference on Computers and Industrial Engineering | University of Technology of Troyes, Troyes, France July, 2009 |
| 2 | Jatinderdeep Kaur | Eighteenth International Conference of Forum for Interdisciplinary Mathematics on Interdisciplinamathematical and Statistical Techniques | Solan, August 02-04, 2009 |
| 3 | Ankush Pathania | Workshop cum training programme on "Modern Trends in Celestial Mechanics and Astronomy" (WMTCA) | Delhi University (DU), New Delhi, March 17 - 19, 2010. |
| 4 | Mr. Khushneet Jindal | ABAP programming workshop, organized by SAP India Pvt. Ltd. | CISIT, Bhubaneswar, Orissa. From 21 st -23 rd July' 2010 |
| 5 | Dr. Rajesh Kumar | Introduction to Graphs and geometric Algorithms | Jan. 22-24, 2009 at BITS Pilani |

26. Student projects:

percentage of students who have done in-house projects including inter-departmental projects 100% M.Sc. (Maths & Computing), M. Tech (CSA) students percentage of students doing projects in collaboration with other universities/industry / institute 100% MCA students

27. Awards / recognitions received at the national and international level by Faculty Doctoral/ post doctoral fellows Students:

- 1. Dr. Deepak Gumber (Faculty) received UGC Research Award for showing excellence in research field with 2 year fellowship (Equivalent to salary) and 3 Lakhs research grant for duration Jan 2014 -Jan 2016.**
- 2. Khushwant Singh Chahal (Ph.D. Student) got Young Scientist Award in Mathematical Sciences Category in 14th Punjab Science Congress, SLIET, India, 9 Feb 2011**

28. Seminars/ Conferences/Workshops organized and the source of funding (national / international) with details of outstanding participants, if any:

- Five Day Training Programme on "Data Warehouse and Data Mining " on October 3-7, 2009 sponsored by DST.**

- Inspire Programme for the scientific growth of students of Class 12th jointly organized by SMCA and SPMS of Thapar Institute of Engineering & Technology University sponsored by DST.
- Workshop on “Java Learning Program” from Dec. 22, 2008 to Jan. 3, 2009 for Faculty, Students and Employees of the Thapar Institute of Engineering & Technology University at Computer Centre, TU, Patiala.
- Workshop on “A course on java and Advanced Java” from Dec. 20, 2010 to Dec. 31., 2010 for Faculty, Students and Employees of the Thapar Institute of Engineering & Technology University at Computer Centre, TU, Patiala.
- Workshop on “MAD using Andriod” June 2 - 8, 2014 at SMCA, Thapar Institute of Engineering & Technology University, Patiala.
- Two-Day "SAP HANA & APAP for HANA" workshop sponsored by SAP India Pvt. Ltd. from 9th-10th June, 2014 at SMCA, Thapar Institute of Engineering & Technology University Patiala
 “International Conference of Special Functions and Their Applications”, 16-18 October, 2014, Thapar Institute of Engineering & Technology University, Patiala, India. (The information of the conference was also available on AMS and SIAM website.

29. Code of ethics for research followed by the departments:

- The school gives high priority to research as one of its most important contributions to the society.
- The faculty and the students of the school strive for the highest standards of excellence and morality in any research activities.
- The endeavour to publish in reputed journals, as such the ethical norms followed in these journals are fully complied with and efforts are made to teach research students to create awareness of copyright and Plagiarism.
- The University has ethical committee and approval is required for conducting experiments/ tests on human beings.
- Two research papers in SCI Journals before submission of PhD
- No weightage to papers published in paid SCI journal
- Paper has to be properly reviewed
- Anti-plagrisim software certificate or clearance is required before submitting the thesis of M.E./MTECH/ Ph.D.

30. Student profile programme-wise:

| | BRANCH | YEAR | APPLICATION RECEIVED | SELECTED | | PASS PERCENTAGE | |
|-------|--------|------|----------------------|----------|--------|-----------------|--------|
| | | | | MALE | FEMALE | MALE | FEMALE |
| MTECH | CSA | 2014 | 254 | 15 | 14 | | |
| | BRANCH | YEAR | APPLICATION RECEIVED | SELECTED | | PASS PERCENTAGE | |
| | | | | MALE | FEMALE | MALE | FEMALE |
| MSC | MATH | 2014 | 72 | 0 | 20 | | |
| MCA | BRANCH | YEAR | APPLICATION | SELECTED | | PASS PERCENTAGE | |

| | | | RECEIVED | MALE | FEMALE | MALE | FEMALE |
|-----------|--------|------|----------------------|----------|-----------------|------|--------|
| | | 2014 | 266 | 19 | 31 | | |
| MCA-2YEAR | | 2014 | 115 | 8 | 16 | | |
| BE/Btech | BRANCH | YEAR | APPLICATION RECEIVED | SELECTED | PASS PERCENTAGE | | |
| | | | | MALE | FEMALE | MALE | FEMALE |
| | SEM | 2014 | 14908 | 36 | 13 | | |

31. Diversity of students:

| PROG | BRANCH | YEAR | % OF STUDENTS FORM THE SAME UNIVERSITY | % OF STUDENTS FORM THE OTHER UNIVERSITIES WITHIN THE STATE | % OF STUDENTS FORM UNIVERSITIES OUTSIDE THE STATE | % OF STUDENTS FORM OTHER COUNTRIES |
|----------|--------------|------|--|--|---|------------------------------------|
| | BRANCH | YEAR | | | | |
| MSC | MATH | 2014 | 0 | 75 | 25 | 0 |
| | | | | | | |
| MCA | BRANCH | YEAR | | | | |
| | MCA | 2014 | 0 | 46 | 44 | 0 |
| | MCA (2 YEAR) | 2014 | 0 | 60 | 40 | |
| | | | | | | |
| MTECH | CSA | 2014 | | 17 | 83 | |
| BE/Btech | SEM | 2014 | 0 | 46 | 54 | 0 |

32. How many students have cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give details category-wise:

06 students of M.Sc. have cleared JRF/NET so far.

33. Student progression:

| Student Progression | Percentage against enrolled |
|---|--|
| UG to PG | NA |
| PG to M.Phil. | NA |
| PG to PhD | 10% |
| PhD to Post-Doctoral | 10-12% |
| Employed • Campus Selection • Other than Campus recruitment | To be provided as combined list by Placement officer |
| Entrepreneurs | To be provided as combined list by Placement officer |

34. Diversity of staff:

| Percentage of faculty who are graduates | |
|--|-------|
| of the same university | 5/40 |
| from other universities within the State | 11/40 |
| from universities from other States | 24/40 |
| from universities outside the country | 0 |

35. Number of faculty who were awarded M.Phil., Ph.D., D.Sc. and D.Litt. during the assessment period: **Seven**

36. Present details of departmental infrastructural facilities with regard to

a) Library

No. Books. : 116

E-journals (all journals through UGC INFONET, Elsevier Science, IEL, Springer, Wiley, Taylor & Francis etc.)

b) Internet facilities for staff and students University is Wi-Fi (Academic, Hostels, Faculty Accommodation etc.)

c) Total number of class rooms:

The classrooms are centralized at university level; however 8 numbers of classrooms are allocated to the department for conducting classes.

d) Class rooms with ICT facility: N.A. (Pl. check with University Time table coordinator)

e) Students' laboratories : 3

Infrastructure & facilities

Laboratories

- Computer Applications Lab-I & Lab-II with 60 Intel Core i5 machines for M.Tech(CSA), MCA & other programmes of the school.
- Numerical Analysis laboratory with 30 Intel Core2 Duo machines for M.Sc. & B.Tech programmes.
- Two New computer LABs with 60 Intel Core i7 machines are under implementation

Computer Applications Lab-I and Lab-II equipped with Core i5 machines

Major equipment (Including Software)

Quantity / Licenses

- | | |
|---|-----|
| • SAP ERP UCC Academic Alliance (ABAP) | 400 |
| • Microsoft Office Prof. 2010 | 60 |
| • Rational Suite Enterprise Edition | 50 |
| • IBM SPSS Statistics 20.0 (Base + Seven Modules) | 30 |
| • Red hat Linux Enterprise Server 5 Academic Alliance | 01 |
| • MSDN Academic Alliance 7.0 | 01 |
| • HP DL180 G6 Intel Xeon E5640 Servers | 04 |
| • LCD projector | 02 |
| • HP Scanjet 5590 | 01 |
| • GSM Board Programming Kit | 06 |

- RFID Kit 04
- WIFI Kit 06
- Bluetooth Kit 02
- Android Tablet 30

Numerical Analysis laboratory (NALAB) equipped with Intel Core 2 Duo machines

| Major equipment (Including software) | Quantity / Licenses |
|---|---------------------|
| • Dell PowerEdge 2900 & 1800 series Xeon Dual Processor Servers | - 02 |
| • LCD projector | - 01 |
| • HP LaserJet Multifunction Network printer | - 01 |
| • Red hat Linux Enterprise Server 5 Academic Alliance | - 01 |
| • Microsoft Office Prof. 2003 | - 10 |
| • Microsoft Office Prof. 2010 | - 10 |
| • Mathematica 6.0 | - 25 Network |
| • + 25 Individual Licenses | |

f) Research laboratories: Nil

37. List of doctoral, post-doctoral students and Research Associates

a) from the host institution/university

b) from other institutions/universities

Ongoing Ph.D.

| Sr. No. | Student | Supervisor(s) and doctoral committee members |
|---------|---|---|
| 1. | Mr Vikas Verma (950811005) (Part Time) (URB 22-09-2009) (An efficient framework for web personalization) | Dr S S Bhatia Dr A K Verma Dr R K Sharma Dr Maninder Singh |
| 2. | Ms Geeta Kasana (950811009) (Part Time) (DOA 19-01-2009) (URB 02-06-2010) (Design and analysis of wavelet based steganography algorithms for JPEG 2000) | Dr S S Bhatia Dr Kulbir Singh Dr M K Sharma Dr Anil Verma |
| 3. | Ms Nueafun Pimwong (950911013) (Part Time) (URB 06-07-2010) (Improving quality of service through buffer optimization in VOIP networks) | Dr R K Sharma Dr Sakshi Kaushal Dr Rajesh Kumar Dr Deepak Garg |
| 4. | Ms Palika Chopra (950911002) (Part Time) (DOA June 2009) (URB 27-07-2010) (Neuro-computing techniques for prediction of compressive strength of concrete) | Dr R K Sharma Dr Maneek Kumar Dr Naveen Kwatra Dr Deepak Garg |
| 5. | Mr Vijender Singh (950811003) (Part Time) (DOA 26-08-2008) (URB 14-10-2010) (An efficient algorithm for frequent patterns in graph mining) | Dr Deepak Garg Dr R K Sharma Dr A K Lal Dr Anil Kumar Verma |

| Sr. No. | Student | Supervisor(s) and doctoral committee members |
|---------|---|--|
| 6. | Mr Neeraj Juneja (950911003) (Part Time) (URB 20-10-2010) (Some soft computing techniques for quality prediction in aspect oriented systems) | Dr Rajesh Kumar Dr P S Grover Dr R K Sharma Dr Amit Kumar Dr V P Singh |
| 7. | Ms Reetu Gupta (900911016) (Regular) (DOA 23-06-2010) (URB 07-10-2011) (An evaluation quality of component based autonomic system) | Dr Rajesh Kumar Dr Avadhesh Kumar Dr R K Sharma Dr Deepak Gumber Dr Deepak Garg |
| 8. | Ms Supriya Kinger (951011005) (Part Time) (URB 27-03-2012) (Energy efficient resource management algorithms for green clouds) | Dr Rajesh Kumar Dr Anju Sharma Dr R K Sharma Dr Inderveer Channa Dr Seema Bawa |
| 9. | Ms Priyanka Vashisht (951011001) (Part Time)(URB 21-10-2011) (Agent based efficient consistency control and replica management in data grids) | Dr Rajesh Kumar Dr Anju Sharma Dr R K Sharma Dr A K Lal Dr Anil Kumar Verma |
| 10. | Mr Ram Paul (950911008) (Part Time) (DOA Jan 2010) (URB 04-10-2011) (Efficient algorithms for image denoising using wavelets) | Dr Rajesh Gupta Dr S S Bhatia Dr R K Sharma Dr Deepak Garg |
| 11. | Ms Poonam Panwar (951011002) (Part Time) (DOA 16-08-2010) (URB 04-10-2011) (Optimal software reliability and optimal multiprocessor scheduling problems) | Dr A K Lal Dr C Mohan Dr M K Sharma Dr Rajesh Gupta Dr Deepak Garg |
| 12. | Ms. Monika Sethi (951111005) (Pat Time) (DOA Dec 2011) (URB 16-05-13) (Development of QoS Metrics for Software-as-a-Service) | Dr. Meenakshi Rana Dr. Anju Sharma Dr. R.K. Sharma Dr. Rajesh Kumar Dr. Inderveer Channa |
| 13. | Mr. Jatender Kumar (951111001) (Pat Time) (DOA July 2011) (URB 16-05-13) (Improved software reliability growth model using soft computing) | Dr. Rajesh Kumar Dr. R.K. Sharma Dr. Rajiv Kumar Dr. Deepak Garg |
| 14. | Mr. Khushneet Jindal (951211001) (Part Time) (DOA July 2012) (URB 23-9-2013) (Optical Character Recognition of Machine Printed Dogri Language Documents) | Dr. Rajiv Kumar Sharma Dr. R.K Sharma Dr. Sharad Saxena Dr. Sunil Singla |
| 15. | Ms. Anshu Singla (951211003) (Part Time) (Development of advanced techniques for pattern recognition) | Dr. Swarnjyoti Patra Dr. Singara Singh Dr. Sharad Saxena Dr. Prateek Bhatia |

| Sr. No. | Student | Supervisor(s) and doctoral committee members |
|---------|--|---|
| 16 | Mr. Ashok Kumar (901311001) (Regular) (URB 14-08-2014) (Energy-Efficient Resource Allocation in Green Clouds) | Dr. Rajesh Kumar Dr. Anju Sharma Dr. R. K. Sharma Dr. Rajiv Kumar Dr. Inderveer Channa (CSED) |
| 17 | Ms. Parminder Kaur (901311002) (Regular) (URB 13-08-2014) (Direction and Differentiation between Human beings and Animals present in same Frame using Thermals Images) | Dr. Rajiv Kumar Dr. R. K. Sharma Dr. Singara Singh Dr. Deepak Garg (CSED) |
| 18 | Mr Pankaj Kumar (950911011) (Part Time) (DOA Aug 2010) (URB 29-10-2010) (On generalized convergence and related concept for sequences of Fuzzy numbers) | Dr S S Bhatia Dr Vijay Kumar Dr Amit Kumar Dr Meenakshi Rana Dr Rajesh Khanna |
| 19 | Mr Sudhir Kumar (951011006) (Part Time) (DOA Jan 2011) (URB 25-11-2011) (On generalized convergence in sequence spaces) | Dr S S Bhatia Dr Vijay Kumar Dr Deepak Gumber Dr Meenakshi Rana Dr Rajesh Khanna |
| 20 | Mr. Sandeep Singh(901111003) (Full Time) [DOA Aug 2011] [URB 17-09-2012] [On Automorphism groups of finitely generated groups] | Dr Deepak Gumber Dr S S Bhatia Dr Meenakshi Rana Dr A.K.Verma |
| 21 | Ms. Rashmi (950911014) (Part Time) (DOA 11-01-2010) (URB 29-05-2012) (The geometry of slant lightlike submanifolds) | Dr. S.S.Bhatia Dr. Rakesh Kumar Dr. Deepak Gumber Dr. Meenakshi Rana Dr. Manoj Sharma |
| 22 | Ms. Jasdeep Kaur (901211002) (Full Time) (URB 29-01-2014) (Rogers - Ramanujan Type Identities and Combinatorics) | Dr. Meenakshi Rana Dr. Deepak Gumber Dr. Jatinderdeep Kaur Dr. Ajay Kumar (CSED) |
| 23 | Mr. Mandeep Singh (951211004) (Part Time) (URB 13-03-2014) (On Derivations In Rings) | Dr. Deepak Gumber Dr. Meenakshi Rana Dr. Vivek Dr. Ajay Kumar (CSED) |
| 24 | Mr. Rohit Garg (951211006) (Part Time) (URB 13-03-2014) (On Centralizers and Derivations In Rings) | Dr. Deepak Gumber Dr. Meenakshi Rana Dr. Vivek Dr. Ajay Kumar (CSED) |
| 25 | Mr Rajeev (950811008) (Part Time) (DOA 19-08-2008) (URB 13-11-2009) (Group theoretic techniques and their applications to some non-linear systems) | Dr S S Bhatia Dr Rajesh Gupta Dr Deepak Gumber Dr Manoj K Sharma |
| 26 | Ms Neetu (900911005) (Part Time) (DOA August 2009) (URB 27-07-2010) Efficient methods for solving fuzzy linear | Dr Amit kumar Dr R K Sharma Dr Deepak Garg |

| Sr. No. | Student | Supervisor(s) and doctoral committee members |
|----------------|--|--|
| | systems) | |
| 27. | Ms Rachana Agarwal (950911006) (Part Time)(DOA 17-8-2009) (URB 25-08-2010) (Reliability based single multi-objective optimization of concrete mix design parameters) | Dr R K Sharma Dr M K Sharma Dr Maneek Kumar Dr Amit Kumar Dr Naveen Kwatra |
| 28. | Ms Rachna (950911010) (Part Time) (DOA June 2010) (URB 27-04-2011) (Stochastic modeling and cost analysis of some industrial systems) | Dr A K Lal Dr S S Bhatia Dr R K Tuteja Dr R K Sharma Dr Ravi Kiran |
| 29. | Mr. Gaurav Gupta (901111001) (Regular) [DOA 18-08-2011] [URB 16-08-2012] [Phased transportation problems in Fuzzy Environment.] | Dr M.K. Sharma Dr Amit Kumar Dr. Sanjeev Kumar Dr Meenakshi Rana Dr Maneek Kumar |
| 30. | Ms. Anjali Verma (901111005) (Regular) (DOA Dec 2011) (URB 22-02-2013) (Solutions of some nonlinear partial differential equations) | Dr. Ram Jiwari Dr. Satish Kumar Dr. Rajesh Kumar Gupta Dr. Ankush Pathania Dr. Bhupendra Kumar |
| 31. | Mr. Vikas Sharma (951211002) (Part Time) (DOA July 2012) (URB 17-7-2013) (Some Dynamical Problems in Elastic Continua with Micro Structures) | Dr. Satish Kumar Dr. Ankush Pathania Dr. Vivek Dr. Prem Pal Bansal |
| 32. | Ms. Pooja Giotra (95111103) (Part Time) (URB 7-10-13) (Similarity Reductions and Exact Solutions of Some Nonlinear Systems from Mathematical Physics) | Dr. Rajesh Gupta Dr. A.K Lal Dr. Sanjeev Kumar Dr. Manoj Sharma |
| 33. | Ms. Tanupreet Kaur (901211006) (Regular) (URB 10-01-14) (Study on Some Elastodynamic Problems in Materials with Microstructure and with Reinforced Fibres) | Dr. Satish Kumar Dr. Ankush Pathania Dr. Jatinderdeep Kaur Dr. Prempal Bansal |
| 34. | Ms. Bikramjeet Kaur (901211004) (Full Time) (Symmetry analysis and conservation laws for some systems of nonlinear partial differential equations) | Dr. Rajesh Kumar Gupta Dr. Sanjeev Kumar Dr. Vivek Dr. Manoj Kumar Sharma |
| 35. | Ms. Sukhpreet Kaur (901311004) (Full Time) (URB 19-8-2014) (Efficient Methods for Solving some Mathematical Programming Problems with Fuzzy Parameters) | Dr. Amit Kumar Dr. Vikas Sharma Dr. Sanjeev Kumar Dr. Ajay Kumar (CSED) |
| 36. | Ms. Tina Verma (901311003) (Full Time) (URB 19-8-2014) (Methods for Solving Non-cooperative Games with Fuzzy Payoffs) | Dr. Amit Kumar Dr. S. S. Appaddoo Dr. Vikas Sharma Dr. Sanjeev Kumar Dr. Ajay Kumar (CSED) |

PhD Students Registered but URB still not held

| S.NO. | STUDENTS NAME | REGN. NO. | STATUS | SUPERVISOR NAME |
|-------|--------------------------|-----------|---------|--|
| 1 | SUMAN SHEOREN | 901211003 | REGULAR | DR. MAHESH KR. SHARMA DR. RAMJIWARI |
| 2 | SANTOSH KUMAR | 901311010 | REGULAR | DR. PARAMJEET SINGH |
| 3 | JEEVAN JOT KAUR | 901311011 | REGULAR | DR. AMIT KUMAR |
| 4 | HARWINDER KAUR | 901311012 | REGULAR | DR. AMIT KUMAR |
| 5 | GAGANDEEP KAUR | 901311008 | REGULAR | DR. MAHESH KR. SHARMA |
| 6 | TARUN KUMAR | 901311006 | REGULAR | DR. A. K. LAL DR. ANKUSH PATHANIA |
| 7 | KOMAL SINGLA | 901311009 | REGULAR | DR. RAJESH KR. GUPTA |
| 8 | POOJA DHAWAN | 901411002 | REGULAR | DR. JATINDERDEEP KAUR DR. SANJEEV KUMAR |
| 9 | DIPTY SHARMA | 901411003 | REGULAR | DR. PARAMJEET SINGH |
| 10 | SONIA | 901411004 | REGULAR | DR. JATINDERDEEP KAUR DR. SANJEEV KUMAR |
| 11 | JASMINDER KAUR SANDHU | 901411005 | REGULAR | DR. SHARAD SAXENA |
| 12 | ISHA SINGLA | 901411006 | REGULAR | DR. SINGARA SINGH |
| 13 | ROOPAM BAMAL | 901411008 | REGULAR | DR. SINGARA SINGH |
| 14 | HIMANSHU JINDAL | 901411009 | REGULAR | DR. SHARAD SAXENA DR. SINGARA SINGH |
| 15 | MONIKA BHARTI | 901411011 | REGULAR | DR. RAJESH KUMADR. SHARAD SAXENA |
| 16 | AMANPREET SINGH | 901411012 | REGULAR | DR. MAINDER KAUR |
| 17 | DIVYA KHANNA | 901411010 | REGULAR | DR. RUPALI BHARDWAJ |
| 18 | SANDEEP KAUR | 901411013 | REGULAR | DR. JATINDERDEEP KAUR DR. S. S. BHATIA |

Completed PhD.

| S.No. | Title of Thesis | Name of student & year of award | Supervisor |
|-------|--|---------------------------------|-------------------------------------|
| 1 | Mathematical Analysis of Reliability and Availability of some Process Industries | Pawan Gupta,2004 | Dr. R. K. Sharma |
| 2 | Application of Neuro-Computing Paradigms for Prediction of a Certain Class of Real-Life Problems | Adesh Kumar Sharma,2007 | Dr. R. K. Sharma |
| 3 | Soft Computing Techniques in Distributed Environment | V. P. Singh,2007 | Dr. R. K. Sharma |
| 4 | Recognition of Degraded Gurmukhi Text | Manish Kumar,2008 | Dr. R. K. Sharma |
| 5 | Design and Analysis of Metrics for Component-Based Software Systems | Arun Sharma, 2009 | Dr. Rajesh Kumar, DR. P S Grover |
| 6 | Modeling and Analysis of Traffic Control Mechanisms in ATM Networks | Sakshi Kaushal, 2009 | Dr. R. K. Sharma |

| S.No. | Title of Thesis | Name of student & year of award | Supervisor |
|-------|--|---------------------------------|---|
| 7 | Online Handwritten Gurmukhi Character Recognition | Anuj Sharma,2009 | Dr. R. K. Sharma, Dr. Rajesh Kumar |
| 8 | Computer Based Information System (CBIS) in Manufacturing Sector: A study of Procurement, Implementation, Use and Evaluation | Khushdeep Kumar Dharni,2010 | Dr. R. K. Sharma |
| 9 | Analysis and Design of Metrics for Aspect Oriented Systems | Avadhesh Kumar, 2010 | Dr. Rajesh Kumar, DR. P S Grover |
| 10 | Analytic and Computational Studies of Structures and Oscillations of Stars and stars in Binary system | Ankush Pathania, 2010 | A. K. Lal |
| 11 | Modeling and Analysis of Software Reliability using Markovian Method | Navdeep Singh Jaggi, 2010 | A. K. Lal, R. K. Bawa |
| 12 | Vibrational Stability of Differentially Rotating Gaseous Sphere | Sunil Kumar, 2011 | A. K. Lal, V. P. Singh and Rajendra Kumar |
| 13 | Multi-objective Optimization Problems With a Bearing on Real Life | Amarinder Singh, 2011 | Dr. M. K. Sharma, S. Parkash |
| 14 | Duality in mathematical programming under generalized convexity | Navdeep Kailey, 2011 | S. K. Gupta, Dr. M. K. Sharma |
| 15 | Algorithms for solving some single and multi-criteria decision making problems in fuzzy environment | Anila Gupta, 2012 | Dr. M. K. Sharma, Amit Kumar |
| 16 | Linear programming problems with generalized fuzzy sets | Pushpinder Singh, 2011 | Dr.Amit Kumar |
| 17 | Some algorithms for solving transportation problems in fuzzy environment | Amarpreet Kaur, 2012 | Dr.Amit Kumar |
| 18 | Efficient algorithms for solving some fuzzy network flow problems | Manjot Kaur, 2012 | Dr.Amit Kumar |
| 19 | Methods for solving linear programming problems with fuzzy parameters | Jagdeep Kaur, 2012 | Dr.Amit Kumar |
| 20 | Some algorithms for solving scheduling problems in fuzzy environment using CPM | Parmpreet Kaur, 2012 | Dr.Amit Kumar |
| 21 | Some linear programming techniques in fuzzy environment | Neha Bhatia, 2012 | Dr.Amit Kumar |
| 22 | Reliability analysis of power systems using fuzzy sets and their extensions | Manjit Verma, 2012 | Dr.Amit Kumar, Dr. Yaduvir Singh |
| 23 | Symmetries and Exact Solutions of Nonlinear Partial Differential Equations | Mr. Sachin Kumar, 2012 | Dr. Rajesh Kumar Gupta, Dr. Karanjeet Singh |

| S.No. | Title of Thesis | Name of student & year of award | Supervisor |
|-------|--|---------------------------------------|--|
| 24 | Symmetries and Exact Solutions of Einstein Vacuum Field Equations and Einstein Maxwell Equations | Ms. Nisha, 2012 | Dr. Rajesh Kumar Gupta |
| 25 | Reliability analysis of some industrial systems in crisp and fuzzy environments | Sneh Lata, 2013 | Dr. Amit Kumar |
| 26 | Lie Group Applications to Some Nonlinear Systems | Ms. Anupma, 2013 | Dr. Rajesh Kumar Gupta |
| 27 | Group theoretic techniques for solutions of Einstein equations | Ms Lakhveer Kaur 2014 | Dr. Rajesh Kumar Gupta |
| 28 | UNL Based Machine Translation System for Punjabi Language | Parteek Kumar, 2012 | Dr. R. K. Sharma |
| 29 | Reliability Modeling and Analysis of Some Industrial Process Systems | Sakuntala 2013 | A. K. Lal , S. S. Bhatia |
| 30 | On class-preserving automorphisms for finite groups | Hemant Kalra 2013 | Dr Deepak Gumber |
| 31 | Fitted mesh methods for the numerical solutions of singularly perturbed problems | Vinod Kumar 2013 | Dr A K Lal Dr R K Bawa |
| 32 | EXISTENCE OF FIXED POINTS FOR SOME MAPPINGS IN VARIOUS SPACES | Ms. Priya Shahi 2014 | Dr. S.S. Bhatia Dr. Jatinderdeep Kaur |
| 33 | Exact and Numerical Solutions of Nonlinear PDEs | Mr. Vikas Kumar 2014 | Dr. Rajesh Kr. Gupta Dr. Ramjiwari |
| 34 | Multi-objective optimization of software test cases using Evolutionary and Soft Computing Techniques | Manoj Kumar May 2014 | Dr. Rajesh Kumar Dr. Arun Sharma |
| 35 | Design and Analysis of Software metrics using soft computing approach | Vijai Kumar August 2014 | Dr. Rajesh Kumar Dr. Arun Sharma |
| 36 | Speech Analysis And Synthesis Of The Punjabi Language | Surinderpal Singh Dhanjal August 2014 | S.S.Bhatia |
| 37 | Design And Analysis of Variable Digital Filters Using fractional Fourier Transform | Pooja August 2014 | S.S. Bhatia Rajesh Khanna; |
| 38 | Deterministic Mathematical Modelling of Tuberculosis and HIV Diseases | Navjot Kaur October 2014 | S.S. Bhatia Mini Ghosh; |
| 39 | Fixed Point Theorems for Mappings In some Abstract Spaces | Saurabh Manro July 2014 | S.S. Bhatia Sanjay Kumar |

38. Number of post graduate students getting financial assistance from the university:

2013-14 : 9
2014-15 : 8

39. Was any need assessment exercise undertaken before the development of new programme(s)? If so, highlight the methodology :

Yes, looking at need of the requirement of IT industry and after conducting formal faculty meetings and need to start new courses like MTech(CSA), M. Sc. (Maths & Computing) and BCA-MCA integrated was found.

40 Does the department obtain feedback from faculty on curriculum as well as teaching-learning-evaluation? If yes, how does the department utilize the feedback? students on staff, curriculum and teaching-learning-evaluation and how does the department utilize the feedback? alumni and employers on the programmes offered and how does the department utilize the feedback?

Yes

Department does take the feedback from faculty, students and alumni.

- a) **It utilizes the feedback from faculty by revising the curriculum from time to time.**
- b) **The feedback from students is taken in the form of SRS (Students Reaction Survey) after the end of each semester for each individual subject they study which helps faculty and department to improve the quality of teaching, curriculum and infrastructure required.**
- c) **The feedback is taken from alumni through informal discussions**
The department adopts remedial measures on the basis of the feedback.

41. List the distinguished alumni of the department (maximum 10):

| S. No. | Name of the Alumni | Passing year | Current Position/Achievements | Contact Details |
|--------|--------------------|--------------|---|--|
| 1 | Prashant Beniwal | 2000 | Amdocs, Director | prashantb@amdocs.com |
| 2. | Tarun Khemka | 2008 | Senior Software Engineer, ORACLE India | khemkatarun@gmail.com |
| 3. | Varun Saxena | 2008 | Huawei Technologies, Technical Project leader | Vsaxena.varun@gmail.com |
| 4 | Narinder Kaur | 2009 | Wipro | narinder.kaur47@gmail.com |
| 5 | Kamal Goyal | 2010 | Aricent Technologies | kamal.grt143@gmail.com |
| 6 | Gurdeep Kaur | 2010 | TCS | gwalia07@gmail.com |
| 7 | Saurabh Kapoor | 2010 | Nucleus Software | k.saurabh86@gmail.com |
| 8 | Bharat Gupta | 2011 | Aricent Technologies | Bharatgupta27@gmail.com |
| 9 | Honey Sharma | 2011 | Infogain | Honey.gemini6@gmail.com |
| 10 | Prateek bansal | 2011 | Sapient | keetarp0123@gmail.com |
| 11 | Divesh Goyal | 2012 | TCS | divesh_goyal76@yahoo.com |
| 12 | Manisha Garg | 2012 | SEL | Mishgarg1@gmail.com |
| 13 | Sukhwinder | 2013 | D.E. Shaw | mmc.sukhwinder@gmail.com |

42. Give details of student enrichment programmes (special lectures / workshops / seminar) involving external experts:

- i) Organised a workshop on "A course on java and advanced java" for faculty, students and employee of the Thapar Institute of Engineering & Technology University at Computer Center, Thapar Institute of Engineering & Technology University, Patiala from Dec 20-31, 2010.
- ii) Lecture delivered by Prof. C. R. Bector, Faculty of Management, University of Manitoba, Canada in 2012.
- iii) Lecture delivered by Prof. Vanita Verma, Department of Mathematics, Punjab University, Chandigarh in 2012.
- iv) Lecture delivered by Prof. R. K. Nagiach, Department of Mathematics, Punjabi University, Patiala in 2011.
- v) LECTURED DELIVERED BY PROFESSOR AMITABH TRIPATHI, IIT DELHI ON 'COMBINATORICS' ON SEPTEMBER 13, 2013.
- vi) LECTURED DELIVERED BY PROFESSOR A.K. AGARWAL, EMERITUS SCIENTIST, CSIR DEPT. OF MATHEMATICS, PANJAB UNIVERSITY, CHANDIGARH ON 'NUMBER THEORY & SPECIAL FUNCTIONS' ON SEPTEMBER 13, 2013.
- vii) LECTURED DELIVERED BY PROFESSOR V. D. SHARMA, IIT MUMBAI ON 'GENERAL RELATIVITY' ON NOVEMBER 11, 2013.
- viii) LECTURED DELIVERED BY PROFESSOR MOHAN K. KADALBAJOO, IIT KANPUR ON 'NUMERICAL MODELING AND ANALYSIS OF GENERALIZED BLACK-SCHOLES EQUATIONS' ON NOVEMBER 12, 2013.

43. List the teaching methods adopted by the faculty for different programmes :

- a. **Multimedia- PowerPoint presentations.**
- b. **Problem based learning (for practicals and other courses).**
- c. **Group discussions, Group presentations.**
- d. **Project based learning (to develop inquiry based learning).**
- e. **Skills practices.**
- f. **Use of open courseware.**

44. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored:

- a) **The Head of Dept and the faculty of the department meet frequently by organizing formal meetings in which the objectives of the department, the programmes to be implemented, the achievement of learning outcomes and the remedial measures to be adopted (if relevant) are discussed.**
- b) **Course meeting are done every week to synchronize teaching of bigger courses.**
- c) **Student feedbacks on various programmes are obtained on a regular basis both orally and in writing.**
- d) **Course File (ISO-Standard) are maintained for every subject.**
- e) **Continuous Evaluation System**
- f) **Revision of Courses regularly**

45. Highlight the participation of students and faculty in extension activities:

- Faculty strength has been doubled in last five years.
- Started MTech (Computer Science and Applications) in 2009.
- Established study centre for M.Sc (Mathematics with Applications in Computer Science) programme conducted by IGNOU, New Delhi
- Started B. E. (Software Engg. & Management) from 2014.

46. Give details of “beyond syllabus scholarly activities” of the department :

Following activities constitute the part of curriculum in addition to normal classroom teaching for MCA/M.Sc.students:

- a) Six months project semester training in the industry with stipend to most of the eligible students.
- b) In built flexibility to specialize in different streams through a system of free professional electives
- c) Finishing school has been part of students training and counseling to make them fit for modern competitive industrial environment. Herein the students are made aware with the various ethical, psychological, professional and personal traits so that they can excel later in their professional life.
- d) In addition to above mentioned activities the regular practices in the department for the overall academic enhancement of the students involves seminars, debates, assignments, projects, and participation in the various students events in India and abroad, for which faculty of the school continuously assist and motivate the students.
- e) The University also makes use of electronic media both in class-room teaching and administrative of the academic activity. All class-rooms have been furnished with latest electronic aids for more effective teaching.
- f) Academics and scholars from all over the world have been invited to the school. The students and the faculty got an opportunity to share the views of the luminaries of the world.

The objective of the Counseling Cell is to help students in overcoming their specific problems related to academics, physical, psychological etc. For general counseling, students can approach any member of the counseling team with their problems. A committee of faculty members of SMCA counsels weak students (around nine to ten students) per semester on the basis of their performance in the examination. It was observed that these students have improved their performance.

47. State whether the programme/ department is accredited/ graded by other agencies? If yes, give details:

MCA and M. Tech. (CSA) are AICTE approved

48. Briefly highlight the contributions of the department in generating new knowledge, basic or applied:

SMCA faculty is committed for maintaining high standards in curriculum and computer applications knowledge to the students so essential in the new Information Technology era. For production of quality manpower, it is imperative to work at the cutting edge of science and technology; research and development and exemplary careers in academia and high-tech industries. The faculty of the School is highly qualified with world class research to its credit in the areas of Mathematics and Computer Applications.

The school offers PG programs leading to

- **M.Tech in Computer Science & Applications (Regular & Part-Time Education mode)**
- **MCA (Regular & Distance Education Mode)**
- **M.Sc. in Mathematics and Computing (Regular Mode)**
- **BCA-MCA Five year Integrated Programme (Regular Mode)**

School also offers doctoral programme in Mathematics and Computer Applications leading to Ph.D degree. Further school is also engaged in imparting instructions in core courses on Mathematics to UG and PG students of the whole University.

Objectives

- **To accomplish proficiency through exposure of knowledge and provision of sound academic platform for IT professionals**
- **To promote Industry-University interaction through consultancy/ project semester.**
- **To promote the research activities in the field of Mathematics and its applications in Computer Science.**

49. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department

SWOC Analysis

Strengths

- 1) **Running core courses of Mathematics for BE/ BTech students.**
- 2) **Well established programmes like Masters in Computer Applications, MTech(Computer Science and Applications) and MSc (Maths and Computing) .**
- 3) **Well established infrastructure: Good lab facilities and basic instrumentation for conducting both undergraduate and postgraduate practicals and research projects.**
- 4) **Quality teaching reflected in high SRS (Student Reaction Survey) scores.**
- 5) **Well qualified faculty members.**
- 6) **Good student-teacher ratio.**
- 7) **Placements in reputed companies with handsome packages.**
- 8) **Research oriented environment**
 - a. **Publications(2009-13):**

- b. PhDs completed/Ongoing:
- c. Projects Completed/Ongoing:
- 9) Mentoring of students on career, academic and personal issues.
- 10) Good working atmosphere in the school.

Weaknesses

- 1) Less number of Conferences and Workshops organized in this time span.
- 2) Less Interdisciplinary work.
- 3) Few Research and Development Projects.

Opportunities

- 1. Research opportunities:
 - a. More publications in refereed journals to be made.
 - b. More projects to be written.
 - c. Non PhD faculty members to be encouraged to complete their PhDs.
- 2. Collaboration with more industries to increase the exposure of students to the real world scenario.

Challenges

- 1. To provide Quality and research oriented education to students.
- 2. To find ways and means to survive the competition and increase number of quality-student intake.

50. Future plans of the department:

- To organize one International Conference, two National Conferences, two to three Refresher Courses and two to three Workshops
- To Encourage faculty members and PhD students to write new projects.
- To encourage faculty members for higher studies and to publish quality research in reputed journals.
- Invited Lectures by the speakers from the Institute of repute.