

## BIO-DATA

### Official Address

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### Research Specialization

- Reliability Theory and Modeling, Sampling Theory and Applied Statistics

### Teaching Interests

- Statistical Methods, Probability Theory and Applied Statistics
- Linear & Non-Linear Programming
- Real & Complex Analysis and Measure Theory
- Stochastic Processes- Reliability Theory & Modeling

### Experience

- Teaching : **25 Years** (Post Graduate Classes including 08 Years as Professor)
- Research : **26 Years**
- Administrative: **3 Years & 5 Months** as **NSS Coordinator**, M.D. University, Rohtak

### Research Supervision

- Ph.D. Thesis Guided : **28**
- Ph.D. Thesis in Progress : **7**
- M. Phil Dissertations : **23**

### Research Publications

- Research Papers Published : **152**
- Book Authored : **03**

### Participation at the Conferences/ Workshops

**Total: 72** (National Level: **24** and International Level: **48**)

### Country Visited

- USA, Portugal, U.K, Germany, Singapore, Canada, Hong Kong, Italy, Vatican City, Austria, Liechtenstein, Switzerland, Netherland, Belgium, France, Spain and Russia.

### Member of Academic Bodies

- Proctor, M.D. University, Rohtak w.e.f. 18-02-2016
- Academic Council (AC, since Nov., 2008), M.D. University, Rohtak
- Elected member Executive Council (EC), M.D. University, Rohtak
- Elected member University Court (2 times), M.D. University, Rohtak
- UGC Advisory Committee for SAP Programs
- UG/PG Board of Studies, Dept. of Statistics, M.D. University, Rohtak
- Member Selection Committees at Various Universities in India
- Reviewer of Various Research Journals
- Member Expert Committee Nominated by UGC for SAP & Travel Grants
- Coordinator UGC SAP (DRS-II), Dept. of Statistics, M.D. University, Rohtak

### Research Project Completed

- UGC Major Research Project on “Reliability Modeling and Analysis of Computer Systems with H/w and S/w Failures” of Amount Rs. 9.02 Lakhs for a Period of Three Years w.e.f. 01-02-2011.(F.No. 39-68/2010(SR))

## Research Publications

### A. Research Papers Published in Journals

1. Cost-Benefit Analysis of a Cold Standby System with Preventive Maintenance and Repair Subject to Inspection. *Journal of Mathematics and Statistical Science*, Vol. 2(5), pp. 274-285, 2016 (Indexed, with Sudesh. K. Barak & M.S. Barak)
2. Analysis of a Single-Unit System with Degradation and Maintenance. *Journal of Statistics & Management Systems*, Vol. 19(2), pp. 151-161, 2016. DOI: 10.1080/09720510.2014.927609 (ISSN: 0972-0510, Indexed, Taylor & Francis, with Ashish Kumar and S.K. Chillar)
3. Reliability indices of a redundant system with standby failure and arbitrary distribution for repair and replacement Times. *International Journal of System Assurance and Engg. Management*, Vol. 7(2), March, 2016. (ISSN: 0975-6809, SCI, Springer), DOI 10.1007/s13198-016-0445-z. (with R.K. Bhardwaj and Komaldeep Kaur)
4. A 2-out-of-2: G System with Single Cold Standby and Priority to Repair over Replacement. *International Journal of Statistics and Systems*, Vol. 11(1), pp. 27-36, 2016 (with Permila and V.J. Munday, ISSN: 0973-2675)
5. Reliability Modeling of a Parallel System with Maximum Operation and Repair Times. *International Journal of Operational Research*, Vol. 25(1), pp. 131-142, 2016 (with R. Rathee, ISSN online: 1745-7653, Indexed in Scopus (Elsevier)).
6. A 2-out-of-2: G System with Single Cold Standby and Arrival Time of the Server Using Weibull Distribution. *International Journal of Statistics and Reliability Engineering*, Vol.2(2), pp. 103-116, 2015 (with Permila, ISSN:2350-0174).
7. Stochastic Analysis of a Parallel System with Failure of Service Facility. *Journal of Reliability and Statistical Studies*, Vol. 8(2), pp-97-106, 2015 (with Poonam, ISSN: 0974-8024, Indexed).
8. Stochastic Modelling of a Computer System with Hardware Redundancy Subject to Maximum Repair Time. *International Journal of Computer Science Engineering*, Vol. 4(5), pp.228-236, Sept. 2015 (with V.J. Munday and Permila, ISSN: 2319-7323, Indexed)
9. Reliability Measures of a Computer System with Priority for Repair and Hardware Redundancy. *International Journal of Computer Applications*, Vol. 125 (8), pp. 32-37, September 2015 (with V.J. Munday, ISSN: 0975-8887, Indexed, IF. 0.82).
10. Performance Analysis of Stochastic System with Standby Failure and Maintenance. *International Journal of Computer Applications*, Vol. 125 (1), pp. 6-11, September 2015 (with R.K. Bhardwaj and Komaldeep Kaur, ISSN: 0975-8887, Indexed, IF. 0.82).
11. Stochastic Modeling of a Computer System with Software Redundancy. *International Journal of Engineering and Management Research*, Vol. 5(1), pp.295-302, 2015 (with V.J. Munday, ISSN: 2394-6962, Indexed)

12. Stochastic Modeling of a System with Maintenance and Replacement of Standby Subject to Inspection. *American Journal of Theoretical and Applied Statistics*, Vol. 4(5), pp. 339-346, Aug. 2015 (with R.K. Bhardwaj and Komaldeep Kaur, ISSN: 2326-8999, Indexed)
13. Stochastic Analysis of a Redundant System with Server Failure and Conditional Arrival Time. *International Journal of Statistics and Reliability Engineering (IJSRE)*, Vol.2(1), pp.94-102, 2015(with Jyoti Nandal and R.Rathee,ISSN:2350-0174)
14. Reliability and MTSF Evaluation of Series and Parallel Systems. *International Journal of Statistics and Reliability Engineering (IJSRE)*, Vol.2(1), pp.74-80, 2015(with Jyoti Nandal and S.K. Chauhan, ISSN:2350-0174)
15. Reliability Measures of a system of Two Non-Identical Units with Priority Subject to Weather Conditions. *Journal of Reliability and Statistical Studies (JRSS)*, Vol. 8(1), pp. 181-190, 2015 (with Savita Deswal, ISSN: 0974-8024, Indexed).
16. Stochastic Analysis of a System with Replacement of Unit and Server Subject to Inspection. *International Journal of Agricultural and Statistical Sciences*, Vol. 11(1), pp. 81-87, 2015. (SCI, Indexed, NAAS Rating- 6.1, ISSN:0973-1903 )(with A.K. Dhankhar and J.K. Sureria)
17. Economic Analysis of a Computer System with Software Up-gradation and Priority to Hardware Repair over Hardware Replacement Subject to Maximum Operation and Repair Times. *International Journal of Scientific and Engineering Research*, Vol. 6(4), pp. 1661-1668, April, 2015 (ISSN: 2229-5518, Indexed in Copernicus, with Ashish Kumar and Monika S. Barak)
18. A Parallel System with Priority to Preventive Maintenance over Repair Subject to Maximum Operation and Repair Times. *International Journal of Scientific and Engineering Research*, Vol. 6(2), pp. 1651-1661, Feb. 2015 (ISSN: 2229-5518, Indexed in Copernicus, with R. Rathee)
19. Performance Analysis of a Computer System with Imperfect Fault Detection of Hardware. *Procedia Computer Science*, Vol. 45(c), pp. 602-610, 2015 (ISSN: 1877-0509, Indexed in Scopus, Elsevier, with Ashish Kumar and Monika Saini)
20. Reliability Measures of a Computer System with Priority to PM over the H/W Repair Activities Subject to MO and MRT. *Management Science Letters*, Vol. 5(1),pp.29-38,2015(ISSN:1923-9343, with Ashish Kumar)
21. A Parallel System with Priority to Preventive Maintenance over Replacement Subject to Maximum Operation and Repair Times. *International Journal of Engineering Development and Research*, Vol. 2(3), pp. 3199-3206, 2014 (ISSN: 2321-9939, Indexed in Copernicus, IF: 1.79, with R. Rathee)
22. Generalized Ratio Type Estimator of Population Mean Under Ranked Set Sampling. *International Journal of Statistics and Reliability Engineering*, Vol. 1(2), pp. 179-193, 2014 (ISSN: 2350-0174, with Sarbjit S. Barar)

23. Impact of HR Practices on Job Satisfaction Level of Managerial Employees in Textile Units. *International Journal of Statistics and Reliability Engineering*, Vol. 1(2), pp. 140-154, 2014 (ISSN: 2350-0174, with Harsh Purohit and Poonam Malik)
24. Statistical Modeling of a Computer System under Priority in Repair Disciplines of Components. *International Journal of Mathematical Archive*, Vol. 5(11), pp. 64-72, 2014 (ISSN: 2229-5046, with Jyoti Anand and Geeta)
25. A Single-Unit System with Preventive Maintenance and Repair Subject to Maximum Operation and Repair Times. *International Journal of Applied Mathematics and Computation*, Vol. 6(1), pp. 25-36, 2014 (ISSN: 0974-4665, with Ashish Kumar and Monika Saini)
26. Reliability modeling of a Computer System with Priority to H/W Repair over Replacement of H/W and Up-gradation of S/W Subject to MOT and MRT. *Jordan Journal of Mechanical and Industrial Engineering*, Vol. 8(4), pp. 233-241, August 2014, (ISSN: 1995-6665, Scopus, with Ashish Kumar)
27. Improved Estimator of Population Mean using Auxiliary Information under Rank Set Sampling. *International Journal of Statistics and Reliability Engineering*, Vol. 1(1), pp. 1-11, April 2014, (ISSN: 2350-0174, with Sarbjit S. Brar)
28. Reliability Measures of a Computer System with Different Repair and Redundant Policies for Components. *International Journal of Statistics and Reliability Engineering*, Vol. 1(1), pp. 26-35, April 2014, (ISSN: 2350-0174, with V.J. Munday)
29. A Parallel System with Priority to Repair over Preventive Maintenance subject to Maximum Operation and Repair Times. *International Journal of Statistics and Reliability Engineering*, Vol. 1(1), pp. 57-68, April 2014, (ISSN: 2350-0174, with R. Rathee)
30. Cost-Benefit Analysis of a Computer system with Priority to S/W Replacement over H/W Repair Activities Subject to Maximum Operation and Repair Times. *Journal of Scientific & Industrial Research*, Vol. 73, pp. 653-655, October 2014. (ISSN: 0022-4456, Indexed in Scopus, IF-0.5, SJR-0.28, with A. Kumar)
31. Reliability Analysis of a Single-Unit System with Inspection subject to Different Weather Conditions. *Journal of Statistics and Management Systems*, Vol. 17, No. 2, pp. 195-206, August 2014, DOI: 10.1080/09720510.2014.914292. (ISSN: 0972-0510, Indexed, Taylor & Francis, with A.K. Barak and M.S. Barak)
32. Stochastic Analysis of a Cold Standby System with Priority to Preventive Maintenance over Repair. *Advances in Industrial Engineering and Management*, Vol. 3(2), pp. 33-38, August 2014 (ISSN: 2222-7059, with Sudesh K. Barak and M.S. Barak)
33. Comparison of Reliability Measures of a System under Different Failure and Repair Policies. *American Journal of Mathematics and Statistics*, Vol. 4(4), pp. 179-185, 2014 (ISSN: 2162-948X, DOI: 10.5923/j.ajms.20140404.01, Indexed, with Joginder, Akash Varshney and Lalit Kumar)

34. Stochastic Modeling of a Concrete Mixture Plant with Preventive Maintenance. *Applications and Applied Mathematics: An International Journal (AAM)*, Vol. 9(1), pp. 13-27, June 2014 (ISSN: 1932-9466, Indexed in Mathematical Review, with Ashish Kumar and Monika Saini)
35. Reliability Measures of a Standby System with Arrival Time of the Server Subject to Maximum Operation and Repair Times. *International Journal of Simulation: Systems, Science and Technology, UK (IJSSST)*, Vol. 14 (5), pp. 55-62, 2014 (ISSN: 1473-8031, Indexed: Scopus, H Index-3, SJR: 0.11, with A. Barak).
36. A Stochastic System with Possible Maintenance of Standby Unit and Replacement of the Failed Unit Subject to Inspection. *International Journal of Computer Applications*, Vol. 97 (8), pp. 26-30, July 2014 (ISSN: 0975-8887, Indexed, IF. 0.791, with Anju Dhall and V.J. Munday).
37. Cost-Benefit Analysis of a Single –Unit System Subject to Random Shocks. *Journal of Reliability and Statistical Studies*, Vol. 7(Special Issue),pp. 69-76,2014 (with A.K. Barak and S.K. Chhillar, ISSN: 0974-8024, Indexed).
38. Reliability Measures of a Single-unit System under Preventive Maintenance and Degradation with Arbitrary Distributions of Random Variables. *Journal of Reliability and Statistical Studies*, Vol. 7(Special Issue), pp. 77-78, 2014 (with Jitender Kumar, M.S. Kadyan and Chetan Jindal, ISSN: 0974-8024, Indexed).
39. A Parallel System with Arrival Time of Expert Server Subject to Maximum Repair and Inspection Times of Ordinary Server. *Journal of Reliability and Statistical Studies*, Vol. 7(1), pp.103-112, 2014 (with Gitanjali, ISSN: 0974-8024, Indexed).
40. Stochastic Analysis of Parallel System under Maintenance and Repair Subject to Random Shocks. *Research Journal of Applied Sciences, Engineering and Technology*, Vol. 7(16), pp. 3280-3285, 2014 (with A.K. Barak and S.K. Chhillar, ISSN: 2040-7459, Indexed in ISI Thomson: Elsevier (Scopus))
41. A Stochastic System with Different Maintenance Policies for Standby Unit. *International Journal of Statistics and Analysis (IJSAA)*, Vol. 4(1), pp. 71-81, 2014 (ISSN: 2248-9959, with Anju Dhall)
42. A Standby System with Priority to Repair over Preventive Maintenance. *International Journal of Engineering Research (IJER)*, Vol. 3(4), pp. 241-244, 2014 (ISSN: 2319-6890, with Sudesh K., Barak)
43. Stochastic Modeling of a Computer System with Hardware Redundancy. *International Journal of Computer Applications*, Vol. 89(7), pp. 26-30, 2014 (ISSN: 0975-8887, Indexed, IF. 0.835, with V.J. Munday).
44. Reliability Measures of a Parallel System with Repair by an Expert Server Subject to Maximum Repair and Inspection Times of Ordinary Server. *International Journal of Mathematical Archive*, Vol. 5(1), pp. 162-169, 2014 ((ISSN: 2229-5046, Indexed, ICV 5.09, with Gitanjali).
45. Reliability Measures of a Cold Standby System with Priority to Repair over Corrective Maintenance Subject to Random Shocks. *International Journal of*

- Statistics and Economics*. Vol. 13(1), pp. 79-89, 2014 (ISSN 0975-556X) (with A.K. Barak and S.K. Chhillar)
46. Stochastic Analysis of a System of Non-Identical Units with no Repair Activity in Abnormal Weather. *International Journal of Agricultural and Statistical Sciences*, Vol. 9(Supplement 1), pp. 193-201, 2013. (SCI, Indexed, NAAS Rating- 6.1, ISSN:0973-1903 )(with Savita Deswal and J.K. Sureria)
  47. Reliability Analysis of a Two-Unit Cold Standby System with Arrival Time of the Server Subject to MOT. *International Journal of Physical Sciences*, Vol. 25(3)A, pp. 391-398, 2013. (Indexed, ISSN: 2231-346X, with A.K. Barak)
  48. Reliability Measures of a Cold Standby System with Preventive Maintenance and Repair. *International Journal of Reliability, Quality and Safety Engineering*, Vol. 20, No. 6 (2013) (DOI: 10.1142/S0218539313500228)(with Sudesh K. Barak)
  49. A Parallel System with Priority to Preventive Maintenance Subject to Maximum Operation and Repair Times. *American Journal of Mathematics and Statistics*, Vol. 3(6), pp. 436-444, 2013. (Indexed, e-ISSN: 2162-8475)(with Reetu)
  50. Weathering Server System Operations. *Indian Journal of Science and Technology*, Vol. 6(10), pp. 5325-5330, October 2013 (Indexed, ISSN: 0974-6846) (with D. Pawar and Reetu).
  51. Stochastic Analysis of a Computer System with Priority in Repair Disciplines. *Software Engineering: An International Journal(SEIJ)*, Vol. 3 (2), pp. 21-28, Sept., 2013. (ISSN:2249-9342, Indexed)(Joginder).
  52. Analysis of a Parallel System with Priority to Maintenance over Repair Subject to Random Shocks. *American Journal of Mathematics and Statistics*, Vol. 3(5), pp. 258-264, 2013. (Indexed, e-ISSN: 2162-8475) (with S.K. Chhillar and A.K. Barak)
  53. Stochastic Modeling of a Computer System with Priority to Up-gradation of Software over Hardware Repair Activities. *International Journal of Agricultural and Statistical Sciences*, Vol. 9(1), pp. 117-126, 2013. (SCI, Indexed, NAAS Rating- 6.1, ISSN:0973-1903 )(with Ashish Kumar and Jyoti Anand )
  54. Profit Analysis of a 2-out-of-2 redundant System with Single Standby and Degradation of the Units after Repair. *International Journal of System Assurance and Engg. Management*, Vol. 4(4), pp.424-434, 2013. (ISSN: 0975-6809, SCI, Springer), DOI 10.1007/s13198-012-0127-4. (with M.S. Kadyan and Jitender Kumar)
  55. Reliability Modeling of a Computer System with Priority to PM over H/W Replacement Subject to MOT and MRT. *Journal of Rajasthan Academy of Physical Sciences*, Vol. 12(2), pp. 199-212, 2013. (ISSN: 0972-6306, Indexed) (with Ashish Kumar)
  56. Reliability Modeling and Cost-Analysis of a System with Replacement of the Server and Unit subject to Inspection. *Journal of Statistics and Management Systems*, Vol. 16, No. 2&3, pp. 137-162, 2013. (ISSN: 0972-0510, Indexed, Taylor & Francis) (with A.K. Dhankar)

57. Analysis of a Parallel System with Priority to Repair over Maintenance Subject to Random Shocks. *International Journal of Computer Science Issues*, Vol. 10(3), pp. 298-303, 2013. (ISSN: 1694-0784, Indexed) (with S.K. Chhillar and A.K. Barak)
58. Analysis of a System Reliability Model Subject to Degradation and Random Shocks. *International Journal of Statistics and Applications*, Vol. 3(3), pp. 64-70, 2013. (ISSN:2168-5193, Indexed) (with S.K. Chhillar and Jyoti Nandal)
59. Reliability Measures of a Standby System with Priority to Maintenance over Repair Subject to Random Shocks. *International Journal of Mathematical Sciences & Engineering Applications*, Vol. 7(III), pp.89-100, 2013.(ISSN: 0973-9424, Indexed, IF 0.2172) (with S.K. Chhillar)
60. Reliability Measures of a Cold Standby System with Priority for Operation and Preventive Maintenance *International Journal of Mathematical Archive*, Vol. 4(3), pp.84-91, 2013. (ISSN: 2229-5046, Indexed, ICV 5.09 )(with Jyoti Nandal and J.K. Sureria)
61. Cost-Benefit Analysis of a Computer System with Priority to Preventive Maintenance over Hardware Repair Subject to Maximum Operation and Repair Times. *Indian Journal of Science and Technology*, Vol. 6(3), pp. 4226-4234, 2013 (ISSN No. 0974-6846, SCOPUS, NAAS Rating 3.2)(with Ashish Kumar)
62. Reliability Measures of a Computer System with Arrival Time of the Server and Priority to H/w Repair over S/w Up-gradation. . *International Journal of Computer Applications*, Vol. 65(13), pp. 44-48, 2013 (ISSN: 0975-8887, Indexed, IF. 0.835). (with J.K. Sureria)
63. MTSF and Profit Analysis of a Computer System with H/w Repair Activities Subject to Inspection and S/w Replacement. *Dronacharya Research Journal*, Vol. V – Issue – I, pp. 19-29, 2013. (ISSN: 0975-3389)
64. Reliability Modeling of a Computer System with Preventive Maintenance and Priority Subject to Maximum Operation and Repair Times. *International Journal of System Assurance Engg. And Management* (ISSN: 0975-6809, SCI, Springer), Vol. 4(1), pp.94-100, 2013, DOI 10.1007/s13198-013-0144-y.
65. SHE Policies: A comparative Analysis of Haryana Textiles Units. *International Journal of Human Resource Development and Management*, Vol. 3(1), pp. 15-31, 2013. (with Poonam Malik, Harsh Purohit and Himanshu Choudhary).
66. Analysis of a Parallel System with Maximum Repair Time and Single Server who Appears and Disappears Randomly. *International Journal of Mathematical Archive*, Vol. 3(11), pp.4700-4707, 2012. (ISSN: 2229-5046, Indexed, ICV 5.09) (with Gitanjali).
67. Profit Analysis of a Cold Standby System under Maintenance and Repair Subject to Random Shocks. *International Journal of Mathematical Archive*, Vol. 3(11), pp. 3975-3981, 2012. (ISSN: 2229-5046, Indexed, ICV 5.09 ) (withS.K.Chhillar).
68. Reliability and Profit Analysis of a Computer System with Software Replacement and Arrival Time of the Server at Hardware Failure. *International Journal of*

- Mathematical Archive*, Vol. 3(10), pp. 3647-3655, 2012.(ISSN: 2229-5046, Indexed, ICV 5.09 ) (with J.K. Sureria).
69. Reliability Modeling of a Computer System with Priority to S/w Replacement over H/w Replacement Subject to MOT and MRT. *International Journal of Pure and Applied Mathematics*, Vol.80 (5), pp. 693-709, 2012(ISSN: 1311-8080, SNIP 0.254,H-Index 15, G-Index 25, Sites per Paper 1.86,SCI)(with Ashish Kumar).
  70. Cost- Benefit Analysis of a Computer System with Priority to H/W Repair over Preventive Maintenance Subject to MOT and MRT. *International Journal of Statistics and Analysis*, Vol.2 (4), pp.417 – 428, 2012(ISSN 2248 - 9959) (with Ashish Kumar).
  71. Analysis of a Computer System with Arbitrary Distributions for H/W and S/W Replacement Time and Priority to Repair Activities of H/W over Replacement of the S/W, *International Journal of System Assurance and Engg. Management* (ISSN: 0975-6809,SCI, Springer), Vol.3(3), pp. 230-236,2012. (with Jyoti Anand).
  72. Cost Analysis of a two-unit Cold Standby System Subject to Degradation, Inspection and Priority, *Eksploatacja i Niezawodnosc- Maintenance and Reliability*(ISSN:1507-2711, SCI, IF-0.986), Vol.14(4), pp.278-283, Sept. 2012. (with J. Khatkar and M.S. Kadyan).
  73. Reliability Modeling of a Computer System with Independent H/W and S/W Failures Subject to Maximum Operation and Repair Times. *International Journal of Mathematical Archive*, Vol.3 (7), pp. 2622-2630, Aug. 2012.(ISSN: 2229-5046, Indexed, ICV 5.09 ) (with Ashish Kumar and M.S.Barak).
  74. Reliability Modeling and Profit Analysis of a Repairable System of Non-Identical Units with no Operation and Repair in Abnormal Weather. *International Journal of Computer Applications*, Vol.51 (11), pp. 43-49, Aug. 2012. (ISSN: 0975-8887, Indexed, IF. 0.835) (with Savita Deswal).
  75. Probabilistic Analysis of a Computer System with Arrival Time of the Server at H/w Failure and Priority for Replacement of the S/w over H/w Repair. *International Journal of Mathematics and Applied Statistics*, Vol. 3 (2), pp. 115-128, 2012. (SCOPUS, ISSN 0973-5739)(With J.K. Sureria)
  76. Stochastic Analysis of a Repairable System of Non-Identical Units with Priority for Operation and Repair Subject to Weather Conditions. *International Journal of Computer Applications*, Vol.49 (14), pp. 33-41, July 2012. (ISSN: 0975-8887, Indexed, IF. 0.835) (with Savita Deswal).
  77. Probabilistic Analysis of a Computer System With Priority to H/w Repair over S/w Replacement. *International Journal of Statistics and Analysis*, Vol.2 (4),pp.379-389,2012(ISSN 2248 - 9959) (with J.K. Sureria).
  78. Reliability Modeling and Profit Analysis of a System With Different Failure Modes and Replaceable Server Subject to Inspection. *International Journal of Statistics and Analysis*, Vol.2(3),pp.245-255,2012(ISSN 2248 - 9959) (with A.K.Dhankar and R.K.Bhardwaj).



79. Cost-Benefit Analysis of a System with Server Failure and Replacement of the Unit Different Failure Modes Subject to Inspection. *International Journal of Computer Applications*, Vol.47 (1), pp. 27-33, June 2012(ISSN: 0975-8887, Indexed, IF. 0.835) (with A.K.Dhankhar and Ashish Kumar).
80. Profit Analysis of a Computer System with H/W Repair and S/W Replacement *International Journal of Computer Applications*, Vol.47 (1), pp. 19-26, June 2012(ISSN: 0975-8887, Indexed, IF. 0.835) (with J.K. Sureria).
81. Cost-Benefit Analysis of a Parallel System with Arrival Time of the Server and Maximum Repair Time. *International Journal of Computer Applications*, Vol.46 (5), pp. 39-44, 2012(ISSN: 0975-8887, Indexed, IF. 0.835) (with Gitanjali).
82. Cost-Benefit Analysis of a Computer System with Priority to S/W Replacement over H/W Repair. *Applied Mathematical Sciences*, Vol. 6(75), pp.3723 – 3734, 2012(ISSN: 1312-885X, SCI, IF-0.245, H-Index- 14, G- Index-21) (with J.K.Sureria and Jyoti Anand).
83. Probabilistic Analysis of a Computer System with Inspection and Priority for Repair Activities of H/W over Replacement of S/W. *International Journal of Computer Applications*, Vol.44 (1), pp. 13-21, 2012(ISSN: 0975-8887, Indexed, IF. 0.835) (with Jyoti Anand).
84. Fuzzy Reliability Evaluation of a Fire Detector System. *International Journal of Computer Applications*, Vol.43 (3), pp. 41-46, 2012(ISSN: 0975-8887, Indexed, IF. 0.835) (with R.K. Bhardwaj).
85. Stochastic Modeling of a Computer System with Priority to PM over S/W Replacement Subject to Maximum Operation and Repair Times. *International Journal of Computer Applications*, Vol.43 (3), pp. 27-34, 2012(ISSN: 0975-8887, Indexed, IF. 0.835)(with Ashish Kumar).
86. Cost- Benefit Analysis of System Reliability Models with Server Failure During Inspection and Repair. *International Journal of Statistics & Analysis*, Vol.1(3), pp. 265-278,2011(ISSN 2248 - 9959) ( With A. K. Dhankar).
87. Stochastic Modeling and Performance Analysis of a 2(K)–out-of-3(N) System with Inspection Subject to Operational Restriction. *Journal of Reliability and Statistical Studies*, Vol.4 (1), pp.85-93, 2011(ISSN: 0974-8024, Indexed) (with R.K. Bhardwaj).
88. Profit Analysis of a Computer System with Priority to Software Replacement over Hardware Repair Subject to Maximum Operation and Repair Times. *International Journal of Engg. Science and Technology (IJEST)*, Vol.3 (10), pp.7452-7468, 2011 (ISSN: 0975-5462, Indexed) (with Ashish Kumar).
89. Cost-Analysis Of A Computer System With Hardware Repair Subject To Inspection And Arbitrary Distributions For Hardware and Software Replacement. *International Journal of Engg. Science and Technology (IJEST)*, Vol.3 (9), pp.7191-7204, 2011( ISSN: 0975-5462, Indexed) (with Jyoti Anand & Ashish Kumar).
90. Reliability Modeling of a Computer System with Priority for Replacement at Software Failure over Repair Activities at Hardware Failure. *International Journal*

- of Statistics and Systems*, Vol.6(3), pp. 315-325, 2011(ISSN: 0973-2675) (with Jyoti Anand).
91. Asymptotic Performance Analysis of 2oo3 Cold Standby System with Constrained Repair and Arbitrary Distributed Inspection Time. *International Journal of Applied Engineering Research*. Vol 6(8), pp.1493-1502, 2011(ISSN: 0973-4562)(with R. K. Bhardwaj).
  92. Performance Measure of a Single –Unit System Subject to Different Failure Modes with Operation in Abnormal Weather. *International Journal of Engg. Science and Technology(IJEST)*, Vol.3(5),pp.4084-4089,2011( ISSN: 0975-5462, Indexed) (with D. Pawar).
  93. Economic Analysis of an Operating System with Degradation and Repair Subject to Weather Conditions. *International Journal of Statistics and Systems*, Vol.6(2),pp.229-238,2011(ISSN: 0973-2675) ( with Promila).
  94. Profit Analysis of a Stochastic Model with PM at Partial Failure Stage Subject to MOT. *International Journal of Statistics and Systems*, Vol. 6 (2), pp. 217-228, 2011 (ISSN: 0973-2675) (with Naveen Nandal).
  95. Stochastic Modeling and Analysis of a System with Priority to PM at PFS over Repair Subject to MOT. *International Journal of Statistics and Systems*, Vol.6(2),pp.189-200,2011(ISSN: 0973-2675)( with Naveen Nandal & J. Khatkar).
  96. Reliability and Economic Measures of a System with Inspection for On-line Repair and No Repair Activity in Abnormal Weather. *Bulletin of Pure and Applied Sciences*, Vol. 29 E(2),pp.355-368,2010. (ISSN : 0970-0765) (with Dheeraj Pawar).
  97. Stochastic Modeling of a System with Priority for Operation to New Unit and Preventive Maintenance at PFS Subject to MOT., *Journal of Reliability and Statistical Studies*, Vol.3(2), pp.79-91,2010(ISSN: 0974-8024, Indexed)(with Naveen Nandal and P. Nandal).
  98. Probabilistic Analysis of a System with Server Failure during Repair, *Journal of Reliability and Statistical Studies*, Vol.3(2), pp.1-10,2010(ISSN: 0974-8024, Indexed)(with Anil Kumar).
  99. Analysis of an operating system with inspection subject to degradation and different weather conditions, *International Journal of Engg. Science and Technology (IJEST)*,Vol.2(11),pp.6779-6787,2010( ISSN: 0975-5462, Indexed) (with Promila and M.S. Kadyan).
  100. Probabilistic analysis of a system of two non- identical parallel units with priority to repair subject to inspection. *Journal of Reliability and Statistical Studies*, Vol.3(I), pp.1-11,2010(ISSN: 0974-8024, Indexed)(with R.K. Bhardwaj and A. S. Grewal).
  101. MTSF and cost- effectiveness of 2-out-of-3 cold standby system with probability of repair and inspection. *International Journal of Engineering Science and Technology*, Vol. 2(10), pp.5882-5889, 2010 (ISSN: 0975-5462, Indexed)(with R.K.Bhardwaj).
  102. Analysis of a system working under different weather conditions with on- line repair and random appearance of the server at partial failure stage. *International Journal of*

- Statistics and Systems*, Vol.5 (4),pp 485-496,2010(ISSN: 0973-2675)(with D.Pawar and Jitender Kumar).
103. Cost-benefit analysis of a two-unit parallel system subject to degradation after repair. *Journal of Applied Mathematical Sciences*, Vol.4(56),pp.2749-2758,2010, (ISSN: 1312-885X, SCI, IF-0.245, H-Index- 14, G- Index-21)(with Jitender Kumar and M.S. Kadyan).
  104. Stochastic analysis of a two-unit parallel system subject to degradation and inspection for feasibility of repair. *Journal of Mathematics and System Sciences*,Vol.6(1),pp.5-13,2010 (ISSN: 0975-5454) ( with M.S. Kadyan and Jitender Kumar).
  105. Steady state analysis of an operating system with repair at different levels of damages subject to inspection and weather conditions. *International Journal of Agricultural and Statistical Sciences*, Vol.6(1),pp.225-234,2010 (ISSN: 0973-1903, SCI )(with D. Pawar and S. Bahl).
  106. Profit analysis of reliability models with inspection at different levels of damages subject to degradation and no operation in abnormal manner. *Journal of Pure and Applied Matematika Sciences*, Vol.LXX1,No.1-2,pp.115-131, March 2010(ISSN: 0379-3168). (with J.K. Dangi and Meena Kumari).
  107. Stochastic analysis of a redundant system subject to degradation and priority for operation to new unit. *Bulletin of Pure and Applied Sciences*, Vol.29E(01),pp.1-12,2010(ISSN : 0970-0765) (with M.S. Kadyan and Jitender Kumar).
  108. Reliability and economic analysis of a computer system with independent hardware and software failures. *Bulletin of Pure and Applied Sciences*, Vol.29E(01),pp.141-153,2010 (ISSN : 0970-0765)(with Jyoti Anand).
  109. Stochastic modeling of a system subject to degradation and no functioning in abnormal weather. *International Journal of Statistics and Systems*, Vol.5(3),pp.277-288,2010(ISSN: 0973-2675).
  110. Stochastic analysis of 2-out-of-3 redundant system with random appearance and disappearance of repair facility. *Journal of Combinatorics, Information And System Sciences*, Vol.35, No.1-2, pp.43-59, 2010, (ISSN: 0250-9628)(with R.K. Bhardwaj).
  111. Cost-analysis of a system under priority to repair and degradation. *International Journal of Statistics and Systems*, Vol. 5(1), pp. 1-10, 2010(ISSN: 0973-2675) (with M.S. Kadyan and Jitender Kumar).
  112. Reliability and economic analysis of 2-out-of-3 redundant system with priority to repair. *African Journal of Mathematics and Computer Science Research*, 2009, Vol. 2 (I), pp. 230-236, December 2009 (ISSN: 2006-9731, Indexed)(with R.K. Bhardwaj).
  113. Cost-benefit analysis of a standby system with inspection subject to degradation. *Aligarh Journal of Statistics (India)*, Vol.29, pp.25-37, 2009 (ISSN: 0971-0388, Indexed) (with P. Chand).
  114. Mathematical Analysis of 3-Units Redundant System under Post-Failure Inspection. *Daronacharya Research Journal (DRJ)*, Vol.1 (1), pp. 31-39, July-December, 2009 (with R.K. Bhardwaj).

115. Reliability modeling of 2-out-of-3 redundant system subject to degradation after repair. *Journal of Reliability and Statistical Studies*, Vol.2(2), pp. 91-104, 2009 (ISSN: 0974-8024) (with Mukender Singh).
116. Reliability modeling and cost-benefit analysis of a system – A case study. *Journal of Mathematics and System Sciences*, Vol. 5(2), pp. 26-38, 2009(ISSN: 0975-5454).
117. Reliability analysis of a system under preventive maintenance. *Journal of Mathematics and System Sciences*, Vol. 5(1), pp. 92-115, 2009 (ISSN: 0975-5454) (with P. Nandal and M.S. Barak).
118. Probabilistic analysis of 2-out-of-3 redundant system subject to degradation. *Journal of Applied Probability and Statistics (USA)*, Vol.4 (1), pp.33-44, 2009 (ISSN: 1930-6792, Indexed) (with Mukender Singh).
119. Reliability and economic analysis of a system operating under different weather conditions. *Journal of the Proc. National Academy of Sciences, India*, Vol. 79, Pt. II, pp.205-213, 2009 (ISSN: 0369-820, SCI, Springer) (with M.S. Barak).
120. Profit analysis of 2-out-of-3 redundant systems with feasibility of repair. *Journal of Mathematics and System Sciences*, Vol.4 (2), pp. 23-36, 2008 (ISSN: 0975-5454) (with R.K. Bhardwaj).
121. Stochastic analysis of an operating system with two types of inspection subject to degradation. *Journal of Applied Probability and Statistics (USA)*, Vol. 3(2), pp. 227-241, 2008(ISSN: 1930-6792, Indexed) (with P. Chand and J. Singh).
122. Reliability and profit evaluation of an operating system with different repair strategy subject to degradation. *Journal of Mathematics and System Sciences*, Vol. 4(1), pp. 127-140, 2008 (ISSN: 0975-5454) (with P. Chand and J. Singh).
123. Profit analysis of a stochastic model of 2-out-of-3 redundant system with inspection by a server who appears and disappears randomly. *International Journal of Business and Engineering Research*, Vol.1 (1), pp. 49-58, 2008(ISSN: 0975-0479) (with R.K. Bhardwaj).
124. Reliability modeling and profit analysis of a single-unit system with inspection by a server who appears and disappears randomly. *Journal of Pure and Applied Mathematika Sciences*, Vol. LXVII(1-2), pp. 135-146, 2008(ISSN: 0379-3168).
125. MTSF and profit analysis of a system of three reliability models with the provision of spare unit. *Journal of Pure and Applied Mathematika Sciences*, Vol. LXVII, No.1-2, pp.83-98, 2008 (ISSN: 0379-3168) (with P. Nandal).
126. Probabilistic analysis of a single-server system operating under different weather conditions. *Journal of Mathematical Analysis and Approximation Theory*, Vol.2 (2), pp.173-182, 2007 (ISSN: 0973-5119) (with M.S. Barak).
127. Reliability and cost benefit analysis of 2-out-of-3 redundant system with general distribution of repair and waiting time. *International Journal for Business and IT (DTR)*, Vol.4, No.1, pp.28-35 (2007) (with R.K. Bhardwaj).

128. Availability analysis of cotton mill. *Journal of Mathematics and System Sciences*, Vol.3, No.1, pp. 50-59, 2007 (ISSN: 0975-5454) (with Puran Chand and Jai Singh).
129. MTSF and profit evaluation of an electric transformer with inspection for on-line repair and replacement. *Journal of Indian Soc. Stat. Oper. Res.*, Vol. XXVIII (1-4), pp. 33-43, 2007 (ISSN: 0250-9636).
130. Economic analysis of repairable systems with random appearance and disappearance of the service facility. *Journal of Mathematics and System Sciences*, Vol. 3(1), pp. 36-49, 2007 (ISSN: 0975-5454) (with P. Nandal and R.K. Bhardwaj).
131. Cost-benefit analysis of a stochastic model of an electric transformer and generator. *Journal of Pure and Applied Matematika Sciences*, Vol. LXVI, No. 1-2, pp. 13-25, 2007 (ISSN: 0379-3168) (with Mukender Singh and Meena Kumari).
132. Stochastic analysis of reliability models of non-identical units with priority for repair by server who appears and disappears randomly. *Journal of Punjab Science Academy*, Vol.2, pp. 11-16, 2005 (ISSN: 2229-7014)(with Mukender Singh).
133. Stochastic analysis of reliability models of an electric transformer and generator with priority and replacement. *Journal of Decision and Mathematical Sciences*, Vol.10(1-3), pp. 79-100, 2005 (with Mukender Singh).
134. Profit and reliability analysis of an electric supply system. *Journal of Mathematics and System Sciences*, Vol. 1(2), pp. 30-41, 2005(ISSN: 0975-5454) (with Mukender Singh).
135. Reliability models with priority for operation and repair with arrival time of server. *Journal of Pure and Applied Matematika Sciences*, Vol. LXI (1-2), pp. 9-22, 2005(ISSN: 0379-3168).
136. Stochastic analysis of non-identical units reliability models with priority and different modes of failure. *Journal of Decision and Mathematical Sciences*, Vol. 9(1-3), pp. 59-82, 2004 (with M.S. Kadyan and A.S. Grewal).
137. A system with pre-inspection and two types of repairman. *Microelectronics Reliability*, Vol. 34(2), pp. 373-377, 1994 (SCI, Elsevier, ISSN: 0026-2714, IF. 1.21) (with R.K. Tuteja).
138. Reliability and profit analysis of two single-unit models with three modes and different repair policies of repairman who appears and disappears randomly. *Microelectronics Reliability*, Vol. 32(3), pp. 351-356, 1992 (SCI, Elsevier, ISSN: 0026-2714, IF. 1.21) (with R.K. Tuteja).

**B. Research Papers Published in the Proceedings and Edited Books**

1. Stochastic Modeling of a Repairable System under Different Weather Conditions. Proc. Inc. Recent Advances in Mathematics, Statistics and Computer Science. CUS Patna, DOI:10.1142/9789814704830\_0014, pp.155-163, 2016 (**World Scientific Publishing Company**)

2. Reliability Measures of a Parallel-Unit System with Arbitrary Distributions of Random Variables. Proc. Inc. Recent Advances in Mathematics, Statistics and Computer Science. CUS Patna, DOI: 10.1142/9789814704830\_0032, pp.353-361, 2016 (**World Scientific Publishing Company**, with Jitender Kumar & M.S.Kadyan ).
3. Reliability and Profit Analysis of a Computer System with Arrival Time at H/w Failure and Priority to H/w Repair over S/w Up-gradation. Frontiers of Statistics and its Applications, Edited Book (ISBN: 978-93-82338-78-9), Bonfring Publications, pp. 48-57, 2013 (with J.K. Sureria).
4. Profit Analysis of a Reliability Model with Priority to Repair Over PM at PFS Subject to MOT. Proc. ICPQROM 2011, ISI Delhi, Vol.1, pp. 15-25, 2011 (ISBN: 978-81-8424-708-4, Allied Publisher)(with Naveen Nandal).
5. Probabilistic analysis of a parallel system with degradation and inspection. Proc. International Conference On Operations And Management Sciences (ICOMS-2010), Edited Book, Excel India Publications, Delhi, pp. 333-339 (with M.S.Kadyan and Jitender Kumar).
6. Cost-analysis of stochastic models with priority to repair over preventive maintenance subject to maximum operation time. Learning Manual on Modeling, Optimization and Their Applications, Edited Book, Excel India Publishers, pp 165-178, 17-21 August, 2010 (ISBN: 978-93-80697-08-6) (with P. Nandal).
7. On expected profit of a parallel-unit system subject to degradation and inspection with priority to repair the new unit. Learning Manual on Modeling, Optimization and Their Applications, Edited Book, Excel India Publishers, pp 137-145, 17-21 August, 2010 (ISBN: 978-93-80697-08-6) (with Jitender Kumar and M.S.Kadyan).
8. Profit analysis of reliability models with priority in operation as well as in repair. Edited Book on Statistical Techniques in Life Testing, Reliability, Sampling theory and Quality Control, Narosa Publishing House, New Delhi, pp.153-162, 2007.(ISBN- 13: 978-81-7319-742-0)
9. Reliability modeling and analysis of 2-out-of-3 redundant system subject to conditional arrival time of server. Proc. 13<sup>th</sup> ISSAT International Conference on RQD, Seattle (USA), pp.206-210, 2007 (ISBN: 978-09763486-2-7)(with R.K. Bhardwaj).
10. Profit analysis of single-unit reliability models with repair at different failure modes. Proc. International Conference on Reliability and Safety Engineering, IIT Kharagpur (India), pp. 577-588, 2005(with R.K. Bansal).
11. Cost-benefit analysis of stochastic models with on-line repair and allowed arrival time of server. Edited Book on Recent Advances in Information Theory, Statistics and Computer Applications, pp.92-102, 1998 (with S. Ahlawat).
12. Comparison of profit of two single-unit shock models with different types of repair policies of a single repairman. Proc. National Conference on ORMT, Regional Engg. College, Kurukshetra (India), pp. B(1-9), 1996.
13. Stochastic analysis of a standby system with patience time and two types of repairmen who may work at the same time. Proc. International Conference on Optimization and Statistics, AMU, Aligarh (India), pp.146-151, 1995.

14. Two unit cold standby system with inspection and different types of repair strategy. *Proc. National Symposium on Modeling: Stochastic Processes and O.R.*, K.U.K. (India), pp. 340-349, 1991 (with R.K. Tuteja and Rajeev Kumar).

### Published Books

#### (i) Authored Books

The Books “*Analysis*” and “*Real and Complex Analysis*” for UG/PG students of Mathematics and Statistics, 2010. Published by Jeevansons Publications, Daryaganj, New Delhi (India).

#### (ii) Edited Books

The Learning Manual on “*Modeling, Optimization and Their Applications*”, Excel India Publishers, New Delhi (August 2010).

### Participation in Orientation / Refresher Courses

Name of the Course	Duration	Name of the Institution Where attended
1. Refresher Course	15-11-1994 to 05-12-1994 (Three weeks)	Indian Statistical, Institute, Kolkata
2. Orientation Course	08-11-1995 to 05-12-1995 (Four weeks)	CPDHE University of Delhi, Delhi
3. Refresher Course	02-02-1999 to 26-02-1999 (Three weeks)	Indian Statistical Institute, Kolkata
4. Refresher Course	08-03-1999 to 28-03-1999 (Three weeks)	Department of Mathematics, M.D. University, Rohtak

### Conferences/Seminars/Workshops/Symposium attended and Research Papers presented

(i)	National Level	: 24
(ii)	International Level	: 48
	TOTAL	: 72
(iii)	Research papers presented	: 67

1. 103<sup>rd</sup> Indian Science Congress held at University of Mysore, Mysore during Jan. 03-07, 2016.

**Invited Lecture:** Statistical Approach for Reliability Evaluation of Systems.

2. 7<sup>th</sup> International Conference on Quality, Reliability, Infocom Technology & Business Operations (ICQRITBO'2015) organised by Department of Operational Research, University of Delhi & SREQOM during Dec. 28-30, 2015.

**Session Chaired:** Reliability and Maintenance.

3. International Conference on Celebrating Statistical Innovation and Impact in a World of Big & Small Data organized by Department of Statistics & Centre for Advanced Studies, Savitribai Phule Pune University, Ganeshkhind, Pune (India) in conjunction with International Indian Statistical Association (IISA) during Dec. 20-24, 2015.

**Invited Talk:** Reliability Measures of a Parallel System with Priority and Arbitrary Distributions for Repair Activities (Also chaired a session).

4. 24<sup>th</sup> International Conference on Interdisciplinary Mathematical and Statistical Techniques (IMST 2015-FIM XXIV) organized jointly by the Forum for Interdisciplinary Mathematics (FIM) & The Spanish Royal Academy of Economic and Financial Sciences at University of Barcelona, Spain during Nov. 18-20, 2015.

**Plenary Talk:** System Reliability Modelling under Preventive Maintenance and Priority.

5. International Conference on Communication Systems organised by B.K. Birla Institute of Engineering & Technology, Pilani during October 18-20, 2015.

**Invited Talk:** An Overview of Reliability Modeling of a Parallel System

6. International Conference on Soft Computing Techniques and Implementations organised by Department of Electronics and Communication Engineering, Manav Rachna International University, Faridabad during October 8-10, 2015.

**Invited Talk:** Probabilistic Analysis of a System of two Non-Identical Units using Regenerative Point Technique (Also chaired a session on Communication)

7. International Conference on Recent Advances in Mathematics, Statistics and Computer Science held at School of Mathematics, Statistics and Computer Science, Central University of South Bihar, Patna during May 29-31, 2015.

**Invited Talk:** Stochastic Modeling of Repairable Systems under Different weather Conditions (Also chaired a session).

8. National Conference on Advances in Theoretical and Applied Statistics held at Department of Statistics, Panjab University, Chandigarh during Feb. 12-13, 2015.

**Invited Talk:** Stochastic Modeling of a System with Possible Maintenance of Standby Unit Subject to Inspection.

9. 102<sup>nd</sup> Indian Science Congress held at University of Mumbai, Mumbai during Jan. 03-07, 2015.

**Paper Presented:** Stochastic Analysis of a System Reliability Model with Priority to Preventive Maintenance over Repair.

10. 23<sup>rd</sup> International Conference of Forum for Interdisciplinary Mathematics (FIM) on Interdisciplinary Mathematical, Statistical and Computational Technique (IMSCT 2014) organized by Department of Mathematical and Computational Sciences, NIT Karnataka, Surathkal during December 18-20, 2014.



**Paper Presented:** Reliability Measures of a Stochastic System with Possible Maintenance of Standby.

11. International Conference on Statistics & Information Technology for a Growing Nation organized by Department of Statistics, SV University, Tirupati (A.P.) during November 30 – December 02, 2014 along with XXXIV Annual Convention of ISPS.

**Invited Talk:** System Reliability Modelling under Preventive Maintenance and Repair (Also chaired a session).

12. 32<sup>nd</sup> Annual National Conference of Indian Society for Medical Statistics on Recent Advances in Statistical Methods and Their Applications in Health Sciences organized by Department of Statistics, University of Jammu, Jammu during Nov. 1-3, 2014.

**Invited Talk:** Stochastic Modeling of a System with Preventive Maintenance and Repair (Also chaired a session).

13. National Conference on Advances in Mathematical Sciences & Their Applications organized by Department of Mathematics, Hindu Girl College, Sonapat sponsored by DGHE, Haryana during March 28-30, 2014.

**Invited Talk:** An Overview of System Reliability Models with Different Failure and Maintenance Policies (Also chaired a session).

14. National Conference on Recent Trends and Developments in Operations Research organized by Department of Mathematics, BITS, Pilani-333031, Rajasthan during Feb. 22-23, 2014.

**Invited Talk:** Reliability Measures of a Cold Standby System with Preventive Maintenance and Repair.

15. 101<sup>st</sup> Indian Science Congress held at University of Jammu, Jammu during Feb. 3-7, 2014.

**Invited Lecture:** Reliability Measures of Parallel Systems using semi-Markov Approach (Also chaired a session and worked as recorder of the section of Mathematical Sciences).

16. International Conference on Recent Advances in Statistics and their Applications (ICRASTAT-2013) and 33<sup>rd</sup> Annual Convention of ISPS Organized by Department of Statistics, Dr. Babasaheb Ambedkar Marathwada University, Aurangabad (M.S.), India during Dec. 26-28, 2013.

**Invited Talk:** Probabilistic Analysis of a Shock Model under Maintenance and Repair (Also chaired a session).

17. International Conference on Role of Statistics in the Advancement of Science & Technology organized by the Department of Statistics and Centre for Advanced Studies, University of Pune, Pune – 411007 (India) during Dec. 16-18, 2013.

**Invited Talk:** A System of Non-identical Units with Priority and Repair Subject to Weather Conditions.

18. International Conference on Mathematical Techniques in Engineering Applications

(ICMTEA 2013) Organized by the Department of Mathematics, Graphic Era University, Dehradun, India during October 24-25, 2013.

**Invited Talk:** Reliability Measures of Computer Systems with Cold Standby Redundancy (Also chaired a session)

19. The 59<sup>th</sup> World Statistics Congress (WSC) Organized by International Statistical Institute (ISI) in Hong Kong, China during Aug. 25-30, 2013.

**Research Paper:** Reliability and Profit Analysis of a Computer System with H/w Repair and S/w Replacement Subject to Conditional Arrival Time of Server.

20. International Statistical Institute Satellite Meeting on Statistics in Business, Industry and Risk Management Organized by Department of Systems Engineering and Engineering Management, City University of Hong Kong, China during Aug. 23-24, 2013.

21. National Conference on Contemporary Developments in Mathematical Sciences and Computing Organized by Dept. of Mathematics, Galgotias University (UP) during Feb. 2-3, 2013.

**Invited talk:** Reliability and Profit Analysis of a Computer System with Preventive Maintenance and Priority to H/w Repair over S/w Up-gradation (Also chaired a session).

22. International Symposium on Applied Optimization and Game Theory Models Organized by Indian Statistical Institute (ISI), Delhi Centre, Delhi during Jan. 9-11, 2013.

**Invited talk:** Reliability Modeling of an Integrated H/W and S/W System with Preventive Maintenance and Priority Subject to Maximum Operation and Repair Times.

23. International Conference on Frontiers of Statistics and Its Applications (ICONFROST-2012) and 32<sup>nd</sup> Annual Convention of ISPS Organized by Department of Statistics, Pondicherry University, Pondicherry during Dec. 21-23, 2012. (Also Chaired a Session)

**Invited Talk:** Probabilistic Analysis of a Computer System with Arrival Time of the Server at H/W Failure and Priority for Replacement of the S/W over H/W Repair.

24. XXI<sup>st</sup> International Conference of FIM on Interdisciplinary Mathematics, Statistics and Computational Techniques (IMSCT-2012- FIM-XXI) Organized by Department of Statistics, Punjab University, Chandigarh during Dec. 15-17, 2012. (Also Chaired a Session)

**Symposium Organized:** System Reliability Models

**Invited Talk:** Reliability Modeling and Analysis of a Computer System with Priority to PM over H/W Repair Activities Subject to MOT and MRT.

25. 17<sup>th</sup> Annual Conference of GAMS and National Symposium on Computational Mathematics & Information Technology organized by Department of Mathematics & Department of CSE, JUET, Guna (MP) during 7-9, 2012.

**Invited Talk :** Analysis of an Integrated H/w and S/w System Using Some Effective Reliability Improvement Techniques.(Abstract Published on Page No.-14).

26. International Conference on Optimization Modeling and Applications "OPTIMA-2012" organized by Department of Operational Research, University of Delhi, Delhi and ORSI, Delhi Chapter during Nov. 29- Dec.1,2012.

**Invited Talk :** Analysis of an Integrated H/W and S/W System with Arrival Time of the Server and Priority to S/W Replacement over H/W Repair.

27. 6<sup>th</sup> International Conference on Quality, Reliability, Infocom Technology and Industrial Technology Management “ICQRITTM-2012” organized by SREQOM, Department of Operational Research, University of Delhi, Delhi and Lulea University of Technology Sweden during Nov. 26-28,2012.

**Invited Talk :** Reliability Modeling and Analysis of a Integrated H/W and S/W System.

28. National Seminar on “Official Statistics” jointly organized by Department of Statistics S.V. University, Tirupati (AP) and ISPS at Tirupati during 10-12 August, 2012.

**Invited Talk :** Stochastic Modeling of a Computer System with Priority to PM over H/W Repair Subject to MOT and MRT.

29. National Conference on Modeling, Computational Fluid Dynamics and Operations Research under UGC- SAP (DRS-I) Program held at Dept. of Mathematics, BITS, Pilani, Rajasthan during Feb. 4-5, 2012.

**Invited Talk:** Reliability Modeling and Analysis of a Computer System with Priority to PM over H/W Repair Subject to MOT and MRT (Also chaired a session).

30. Faculty Development Programme on “Research Methods, SPSS & Thesis Writing” held at Dwarka, New Delhi organized by Global Development Foundation on 24<sup>th</sup> Nov. 2011.

31. XXXI Annual Convention of ISPS & International Conference on Statistics, Probability and Related Areas held at Dept. of Statistics, Cochin University of Science & Technology, Cochin-682022, India during Dec. 19-22, 2011.

**Research Paper:** Reliability Modeling and Profit Analysis of a Computer System with Priority to Software Replacement over Hardware Repair Subject to Maximum Operation and Repair Times (Abstract published, pp.82) (Also chaired a session).

32. International Conference on Advances in Modeling, Optimization and Computing (AMOC-2011) held at Department of Mathematics, IIT Roorkee, Roorkee (India) during Dec. 5-7, 2011.

**Research Paper:** Reliability modeling and analysis of a system with server failure during repair activities (Abstract published, pp.90).

33. National Workshop on Reliability and Maintainability held at Holkar Science College, Indore (MP) during Oct. 31<sup>st</sup> to Nov.4<sup>th</sup>, 2011 sponsored by UGC, New Delhi.

34. 5<sup>th</sup> Canadian Conference in Applied Statistics/ IMST-2011- FIM XX organized by Department of Mathematics & Statistics, Concordia University, Montreal, Canada during July 1-4,2011.

**Invited Research Paper :** Reliability Modeling of a System with Preventive Maintenance at Partial Failure Stage Subject to Maximum Operation Time and Priority for Operation To New Unit (Abstract published-,pp.48)( Also conducted a session on Reliability Models)

35. International Congress on Productivity, Quality, Reliability, Optimization and Modeling jointly organized by Indian Statistical Institute, QCI and DRDO, Govt. of India during Feb.7-8, 2011at India Habitat centre, New Delhi. The Congress was

inaugurated by Hon'ble Prime Minister of India, Dr. Manmohan Singh and Shri Pranab Mukherjee, Finance Minister of India at the DRDO Bhavan, New Delhi.

**Research Paper**: Profit Analysis of a Reliability Model with Priority to Repair over PM at PFS Subject to MOT(Abstract published-RLT 01,pp.175)(Also chaired a session).

36. International Conference on New Trends in Life Testing, Bayesian Inference, Sampling Theory, Bio-Statistics, Bio-Informatics and Computer Applications held at Department of Statistics, Banaras Hindu University, Varanasi (India) during Jan. 5-8, 2011.

**Invited Talk** : Stochastic Modeling and Analysis of a System with Priority to PM at PFS over Repair Subject to MOT(Also chaired a session).

37. 19<sup>th</sup> International Conference of FIM on Interdisciplinary Mathematical and Statistical Techniques held at Department of Statistics, Patna University Patna, Bihar (India) during Dec. 18-20, 2010.

**Invited Talk**: Profit Analysis of a Stochastic Model with PM at Partial Failure Stage Subject to MOT (Also chaired a session).

38. International Conference on Operational Research For Urban and Rural Development & 43<sup>rd</sup> Convention of ORSI held at Thiagarajar College of Engineering, Madurai (TN) during Dec. 15-17, 2010.

**Invited Talk** : Reliability Modeling and Analysis of Redundent Systems Under PM Subject to MOT(Also chaired a session).

39. International Conference on Development and Applications of Statistics in Emerging Areas of Science and Technology (ICDAEAST) and XXX Annual Convention of ISPS held at Department of Statistics, University of Jammu, Jammu (India), during Dec. 8-10, 2010.

**Invited Talk** : Stochastic Modeling and Analysis of a Computer System under Different Failure and Repair Mechanism(Also chaired a session).

40. National Workshop on "Modeling, Optimization and Their Applications" sponsored by Department of Science and Technology, Govt. of India held at Department of Statistics M.D. University, Rohtak during 17-21 August, 2010.

41. The 4<sup>th</sup> National Statistics Day and Summer Training Program on Advanced Stochastic Models and Their Applications held at Department of Statistics, S.V. University, Tirupati (A.P.) during 29<sup>th</sup> June to 4<sup>th</sup> July, 2010.

42. International Conference on Statistics, Probability, Operations Research, Computer Science and Allied Areas in Conjunction with VIII IISA and XXIX Annual Convention of ISPS held at Department of Statistics, Andhra University, Visakhapatnam (India) during Jan. 4-8, 2010.

**Research Paper** : Reliability and Profit Evaluation of a System with Different Repair Policies Subject to Weather Conditions (Abstract Published, pp. L5 (a)-127 ) (Also chaired a session).

43. 4<sup>th</sup> International Conference on Quality, Reliability and Infocom Technology (ICQRIT) held at University of Delhi, Delhi during December 18-20, 2009.

**Research Paper** : Operational Analysis of a 2-out-of-3 Redundant System with Inspection subject to Degradation ( Abstract Published , pp. 72) (Also chaired a session).

44. National Symposium on Recent Developments in Applicable Mathematics & Information Technology held at Jaypee Institute of Engineering and Technology, Guna (MP) during December 4-6, 2009.

**Research Paper** : Reliability and Economic Analysis of a Computer System with Independent Hardware and Software Failures (Abstract Published, pp. 03) (Also chaired a session).

45. 18<sup>th</sup> FIM International Conference on Interdisciplinary Mathematical and Statistical Techniques held at Deptt. of Mathematics, Jaypee University of Information Science & Technology, Vknaghat, Shimla (India) during August 2-4, 2009..

**Research Paper** : Profit analysis of reliability models with inspection at different levels of damages subject to degradation and no operation in abnormal weather (Abstract Published , pp. 36) (Also chaired a session).

46. International Conference on Operations Research Applications in Engineering and Management (ICOREM) held at Anna University, Tiruchirappalli, Tiruchirappalli (India) during May 27-29, 2009.

**Research Paper** : Cost-Analysis of Stochastic Models with Priority to Repair over Preventive Maintenance Subject to Maximum Operation Time (Abstract published, pp.323-324) (Also chaired a session).

47. UGC sponsored National Seminar on Social Development under the Aegis of Operations Research organized by the Department of Mathematics, M.M. P.G. College, Fatehabad, Haryana (India) during March 21-22, 2009.

**Research Paper**: Reliability modeling and cost-benefit analysis of a system – A Case Study (Abstract Published).

48. International Conference on New Trends in Statistics and Optimization held at Department of Statistics, University of Kashmir, Sri Nagar, J&K, India during Oct. 20-23, 2008.

**Research Paper** : Probabilistic analysis of a system with priority to preventive maintenance over repair subject to maximum operation time (Abstract published, pp.33)

49. 7<sup>th</sup> World Congress In Probability And Statistics Held At The Department Of Applied Probability And Statistics, National University, Singapore During July 14-19, 2008.

**Research Papers** : (1) Profit analysis of an electric supply system working under different weather conditions subject to inspection (Abstract published, pp.73)

(2) Probabilistic analysis of an electric supply system (Abstract published, pp.121).

(3) Stochastic modeling of 2-out-of-3 redundant system subject to degradation (Abstract published, pp.146).

50. The UK-India Education and Research Initiative CPD Pre-BID Workshop conducted by British Council Division, New Delhi on 1 July, 2008.

51. A Special Meeting on Official Statistics held at the Royal Statistical Society, London (UK) on 12th June, 2008.

52. 16<sup>th</sup> FIM International Conference on Interdisciplinary Mathematical and Statistical Techniques held at Department of Mathematical Sciences, University of Memphis (USA) during May 15-18, 2008.

**Research Papers** : (1) Probabilistic analysis of 2-out-of-3 redundant system subject to degradation (Abstract published, pp.40).

(2) Analysis a system of two non-identical parallel units with priority to repair subject to inspection (Abstract published, pp.34).

53. Diamond Jubilee Workshop on Applied Statistical Techniques for Social Scientists held at the Department of Statistics, Panjab University, Chandigarh (India) on March 20, 2008.

54. National Conference on Emerging Trends in Statistics and Optimization Techniques held at Department Statistics, University of Jammu, Jammu (India) during Feb. 22-23, 2008.

**Research Papers** : (1) Analysis of 2-out-of-3 redundant system with inspection and priority subject to degradation (Abstract published, pp.45).

(2) Reliability and economic analysis of 2-out-of-3 redundant system with priority to repair (Abstract published, pp.62).

(3) Reliability and economic analysis of a system operating under different weather conditions (Abstract published, pp.63).

(4) Cost-benefit analysis of standby system with inspection subject to degradation (Abstract published, pp.63)

55. 13<sup>th</sup> ISSAT International Conference on Reliability and Quality in Design held at Seattle (USA) during August 2-4, 2007.

**Research Paper** : Reliability modeling and analysis of 2-out-of-3 redundant system subject to conditional arrival time of server (Published in the Proceedings).

56. 3<sup>rd</sup> International Conference on Quality, Reliability and Information Technology held at Department of Operational Research, University of Delhi, Delhi (India) during Dec. 2-4, 2006.

**Research Paper** : Reliability and cost-benefit analysis of 2-out-of-3 redundant system with general distribution of repair and waiting time (Abstract published, pp.125).

57. International Conference on Inter-disciplinary Mathematical and Statistical Techniques held at Polytechnic Institute of Tomar (Lisbon), Portugal during Sept. 1-4, 2006.

**Research Paper**: Reliability modeling and profit analysis of single-unit system with inspection by a server who appears and disappears randomly (Abstract published, pp. 70/161).

58. 11<sup>th</sup> Annual Conference of GAMS and National Symposium on Applicable Mathematics to Engineering and Technology held at Jaypee Institute of Engineering and Technology, Raghogarh Road, Gunna (M.P.) (India) during April 22-23, 2006 (Also chaired a session).

**Research Papers** : (1) Reliability modeling and analysis of an electric transformer with inspection, on-line repair and replacement (Abstract published, pp.42).

(2) Stochastic analysis of a system of two-parallel units working under different weather conditions (Abstract published, pp. 43).

59. One Day Workshop on Information Technology held at the Department of Computer Science and Applications, M.D. University, Rohtak (India) On Jan. 7, 2006.

60. International Conference on Reliability and Safety Engineering held at IIT Kharagpur, Regional Centre Bhubneshwar (India) during Dec. 21-23, 2005.

**Research Paper** : Profit analysis of single-unit reliability models with repair at different failure modes (Published in the Proceedings).

61. International Conference on Recent Statistical Techniques in Life Testing, Reliability,

Sampling Theory and Quality Control held at the Department of Statistics, BHU, Varanasi (India) during Dec.29-31, 2003

**Research Paper** : Profit analysis of reliability models with priority in operation as well as in repair (Published in the Proceedings).

62. The Vth International Symposium on Optimization and Statistics held at the Department of Statistics and Operations Research, Aligarh Muslim University, Aligarh (India) during Dec. 28-30, 2002.

**Research Paper** : Analysis of reliability models with priority for repair and arrival time of server (Abstract published, pp.33).

63. The XX Annual Conference of ISPS National Seminar on IUSR and Conference of Bayesion Society of India held at the School of Studies in Statistics, Pt. Ranishankar Shukla University, Raipur, Chhattisgarh (India) during Feb. 19-21, 2001.

**Research Papers** : (1) Reliability analysis of a system of non-identical units with priority of repair (Abstract published, pp.9).

(2) Stochastic analysis of two-unit parallel system with repair in non-working period (Abstract published, pp.8).

64. International Conference on Statistical Inference, Combinatorics and Related Areas held at the Department of Statistics, BHU, Varanasi (India) during Dec. 18-21, 1997.

**Research Paper** : Comparative study of two single-unit stochastic models with pre-inspection and on-line repair by server on contract basis (Abstract published, pp.29).

65. National Symposium in Statistics with Focus on Applications in Agriculture and Allied Sciences held at the Department of Mathematics and Statistics, CCS Haryana Agricultural University, Hisar (India) during Feb. 7-9, 1997. (Also chaired a session).

**Research Papers** : (1) Cost-benefit analysis of stochastic models with on-line repair and allowed arrival time of server (Published in the Proceedings).

(2) Stochastic analysis of an environment model (Abstract published, pp.4).

66. International Conference on Stochastic Processes held at the Department of Science and Technology, University of Cochin, Cochin (India) during Dec. 26-29, 1996.

**Research Paper** : Stochastic analysis of a system with on-line repair and allowed arrival time of repairman (Abstract published, pp.25).

67. National Conference on Operational Research in Modern Technology held at Regional Engineering College, Kurukshetra (India) during March 8-9, 1996.

**Research Paper** : Comparison of profit of two single-unit shock models with different types of repair policies of a single repairman (Published in the Proceedings)

68. First Annual Conference of ISITA held at the Department of Statistics, M.D. University, Rohtak (India) during Feb. 3-5, 1996.

**Research Paper** : Stochastic behaviour of a two-unit redundant system with simultaneous repair and degradation of unit after ordinary repair (Abstract published, pp.12).

69. 3<sup>rd</sup> International Symposium on Optimization and Statistics held at Aligarh Muslim University, Aligarh (India) during Dec. 19-21, 1995.

**Research Paper** : Stochastic analysis of a standby system with patience time and two types of repairman who may work at the same time (Published in the Proceedings).

70. National Conference on Statistical Inference in Life Testing and Reliability using a Prior Information held at the Department of Statistics, BHU, Varanasi (India) during

Sept. 28-29, 1995.

**Research Paper** : Cost-benefit analysis of a two-unit standby system with three modes and arrival time of repairman at partial failure mode (Abstract published, pp.22).

71. International Conference on Stochastic Modeling held at Delhi University, Delhi (India) during Jan. 10-12, 1994.

**Research Paper** : Profit analysis of a complex warranty system working under certain precautions (Abstract published, pp.24).

72. 56<sup>th</sup> Annual Conference of Indian Mathematical Society held at South Gujarat University, Surat (India) during Dec. 27-30, 1990.

**Research Paper**: A single-unit system with three modes and different repair policies of repairman who appears and disappears randomly (Abstract published, pp.46).

### **Lecturer (s) Delivered as a Resource Person**

1. Two Extension Lectures on the topic “Reliability Theory and Modeling: An Overview” delivered on June 23, 2016 at the UGC Refresher Course for the teachers of Physical Sciences organized by Academic Staff College, Punjabi University, Patiala during June 23, 2016.
2. Two Extension Lectures on the topic “Some Fundamentals of Measure Theory” delivered on September 10, 2015 at Department of Mathematics, Hindu Girls P.G. College, Sonapat.
3. An Extension Lecture on the topic “Stochastic Processes and Its Applications” delivered at Department of Statistics, Central University of Haryana, Mahendergarh, Jant Pali on April 30, 2015.
4. One Lecture on the topic “Mathematical Approach for System Reliability Modeling : An Overview” delivered on 10/01/2015 at the UGC National Workshop on the topic Contribution of India in Mathematics organized by Holkar Science College, Indore (MP) during Jan. 10-12, 2015.
5. One lecture on the topic “System Reliability Modeling : An Overview” delivered on 24/12/2014 at the UGC Refresher Course for the teachers of Physical Sciences organized by Academic Staff College, Punjabi University, Patiala during Dec. 8-27, 2014.
6. Two Guest lectures on the topic “Mathematical Approach to System Reliability Modeling” delivered on 28/11/2014 at UGC Refresher Course organized by UGC-Academic Staff College, Bhagat Phool Singh Mahila Vishawavidyalaya, Khanpur Kalan, Sonipat, Haryana-131305 during 18/11/2014 to 08/12/2014.
7. One lecture on the topic “Fundamentals of Statistics” delivered on 30/06/2014 at the UGC Refresher Course in Research Methodology in Sciences (Interdisciplinary) organized by Academic Staff College, Kurukshetra University, Kurukshetra during June 11- July 1, 2014.
8. Two lectures on the topic “Development of Reliability Models – Markov Process and RPT” delivered on 24/05/2014 at the UGC Refresher Course for the teachers of Mathematical Sciences organized by Academic Staff College, Punjabi University, Patiala during May 12-31, 2014.
9. Five lectures on the topics “Fundamentals of Reliability Theory, Development and Analysis of System Reliability Models and Linear Programming Problems” delivered during 29-11-2013 to 01-12-2013 at the 4<sup>th</sup> Refresher Course in Mathematical



Modeling organized by Academic Staff College, Devi Ahilya Vishwavidyalaya, Indore (M.P.).

10. One lecture on “**Importance of Sports for Rural Youth**” on 22-06-2013 at Rajiv Gandhi Sports Stadium, V.P.O. Madina organized by Distt. Sports Office, Rohtak.
11. Two lectures on the topic “ **An overview of Statistics**” on 27-04-2013 at the orientation course conducted by UGC- ASC, BPS Mahila Vishwavidyalaya, Khanpur Kalan (Sonepat) during 15<sup>th</sup> April to 14<sup>th</sup> May 2013.
12. One lecturer on the topic “**Fundamentals of Reliability Theory**” on 09-03-2-13 at the Department of Mathematics, Central University Tejpur, Assam.
13. Two lecturers on the topic “**Linear Programming Problems and Their Solutions** ” on 19-11-2012 in the three week UGC refresher course for the faculty of Mathematical sciences organized by UGC-ASC, GJUS&T, Hisar during 02-11-2012 to 22-11-2012.
14. Two lectures on the topic “**Analysis of Some Reliability Models Using Markovian Approach and RP Technique**” at the National Workshop on Reliability and Maintainability held at Holkar Science College, Indore (MP) during Oct. 31<sup>st</sup> to Nov.4<sup>th</sup>, 2011 sponsored by UGC, New Delhi.
15. One lecture on the topic “**Development and Analysis of System Reliability Models**”at the National Workshop on “Modeling, Optimization and Their Applications” sponsored by Department of Science and Technology, Govt. of India held at Department of Statistics M.D. University, Rohtak during 17-21 August, 2010.
16. One lecture on the topic “**Methodology to Develop Reliability Models-A Case Study**” at the 4<sup>th</sup> National Statistics Day and Summer Training Program on Advanced Stochastic Models and Their Applications held at Department of Statistics, S.V. University, Tirupati (A.P.) during 29<sup>th</sup> June to 4<sup>th</sup> July, 2010.

#### **Research Scholarship**

- (i) M.D. University, Rohtak Research Scholarship during 1990-91.
- (ii) Senior Fellowship of CSIR, New Delhi during 1991-92.

#### **Membership of Professional Bodies and Societies**

- i. International Indian Statistical Association (IISA): **Life Member**
- ii. Indian Association for Reliability and Statistics (IARS): **Life Member (Founder President)**
- iii. International Statistics Institute (ISI): **Elected Member**
- iv. The Indian Society of Probability and Statistics (ISPS): **Life Member**
- v. The Indian Science Congress Association: **Life Member**
- vi. The International Society for Business and Industrial Statistics (Netherlands): **Member**
- vii. The Forum for Interdisciplinary Mathematics (USA): **Life Member**
- viii. The Society for Reliability Engineering, Quality and Operations Management (New Delhi) : **Life Member**
- ix. The Institute of Mathematical Statistics (USA): **Member**
- x. M. D. University Alumni Association: **Life Member**

#### **Reviewer for the Journals**

- i. Microelectronics Reliability (Great Britain).
- ii. Combinatorics, Information and System Sciences (USA).
- iii. Applied Mathematics and Computing (Korea).
- iv. Aligarh Journal of Statistics, AMU, Aligarh (India)
- v. Mathematics and System Sciences (India)

- vi. Journal of Reliability and Statistical Studies (India)
- vii. Applied Mathematics and Computation, SCI Journal (AMC)
- viii. International Journal of Revenue Management (IJRM), USA
- ix. International Journal of Science, Technology and Management (IJSTM)
- x. International Journal of Computational Intelligence Studies (Inder Science Publication).
- xi. International Journal of Artificial Intelligence and Soft Computing (Inder Science Publication).
- xii. Memetic Computing (Springer).
- xiii. Mathematical Problems in Engineering
- xiv. Pakistan Journal of Statistics and Operation Research
- xv. Pakistan Journal of Statistics
- xvi. International Journal of Systems Science (T&F)
- xvii. Sankhya B- The Indian Journal of Statistics (Springer)
- xviii. Indian Association for Productivity, Quality and Reliability (IAPQR)
- xix. International Journal of Information and Management Sciences(IJIMS)
- xx. International Journal of Reliability, Quality and Safety Engineering (World Scientific)
- xxi. International Journal of Operational Research (Inder Science Publication)
- xxii. International Journal of Quality and Reliability Management (IJQRM)
- xxiii. Journal of Applied Mathematics (Hindawi)
- xxiv. International Journal of Systems Science (T&F): Operations & Logistics
- xxv. Applications and Applied Mathematics: An International Journal (AMM)
- xxvi. Journal of Applied Mathematics, Statistics and Informatics (JAMSI)
- xxvii. Journal of Applied Mathematics and Physics (JAMP)
- xxviii. Systems, Man and Cybernetics (IEEE)
- xxix. Computers and Industrial Engineering (Elsevier)
- xxx. JUET Research Journal of Engineering and Technology
- xxxi. Journal of Advanced Statistics (JAS, Isaac Scientific Publishing)
- xxxii. Journal of Statistics Application and Probability (JSAP)
- xxxiii. International Journal of Mathematics in Operational Research(IJMOR)
- xxxiv. Mathematical Sciences Letters (MSL, Natural Sciences)
- xxxv. Proceedings of the National Academy of Sciences, Physical Sciences (NASA)
- xxxvi. Indian Journal of Industrial & Applied Mathematics (IJIAM)

### **Member of the Editorial Board of the Journals**

1. International Journal of Science, Technology and Management (IJSTM)
2. Journal of Reliability and Statistical Studies (India)
3. Bulletin of Pure and Applied Sciences (Math & Stat)
4. International Journal of Statistics and Reliability Engineering (IJSRE)
5. International Journal of Statistics (IJS)
6. International Journal of System Assurance Engineering and Management (IJSREM)

### **Research Supervision**

#### **Ph.D. Thesis Awarded**

1. Mr. Satyawan (1998): Comparative study of single-unit reliability models with on-line repair.
2. Ms. Meena Kumari (2001): Profit analysis of reliability models with different repair policies of server who appears and disappears randomly.

3. Mr. Ajit Singh (2003): Comparative analysis of reliability models of non-identical units with different repair policies of server.
4. Ms. Anita Malik (2003): Development of statistical techniques for establishing the effect of the different feeds on milk production.
5. Mr. Randeep Kumar (2003): Profit analysis of parallel-units reliability models with different repair policies of server.
6. Mr. Mukender Singh (2004): Stochastic analysis of reliability models of non-identical units with inspection and priority for repair (worked under University Research Scholarship).
7. Mr. Ramesh Kumar Bansal (2006): Analysis of reliability models with different types of failure and repair policies.
8. Mr. Pradeep Kumar (2007): cost benefit analysis of reliability models with simultaneous working of non-identical units and priority to repair.
9. Mr. Rohtash Kumar Bhardwaj (2008): Stochastic analysis of repairable reliability models of 2-out-of-3 redundant systems (worked under University Research Scholarship).
10. Mr. Mahabir Barak (2008): Reliability modeling and analysis of one server single-unit systems operating under different weather conditions.
11. Mr. Puran Chand (2008): Data based reliability modeling and economic analysis of some industrial systems. (under co-supervision with Dr. Jai Singh, NIT, Kurukshetra)
12. Mr. Paramjit Nandal (2009): Analysis of reliability models with maximum operation time and a spare unit (worked under CSIR UGC Junior Research Fellowship).
13. Mr. Jitender Kumar (2009): Profit analysis of reliability models.
14. Mr. Parveen Kharab (2010): Development of statistical models relating to level of awareness about HIV/AIDS.
15. Mr. Naveen Nandal (2011): Profit analysis of some stochastic models with repair and preventive maintenance subject to maximum operating time.
16. Ms. Promila (2011): Economic analysis of operating systems with different types of failure and repair mechanism.
17. Ms. Jyoti Anand (2012): Reliability modeling and economic analysis of computer systems with hardware and software failures.
18. Mr. Anil Kumar (2012): MTSF and profit evaluation of stochastic models with the failure of server.
19. Mr. Ashish Kumar (2013): Reliability and cost- benefit analysis of computer systems subject to maximum operation and repair time (worked under DST INSPIRE Fellowship).
20. Mr. Joginder (2013): Reliability modeling and profit analysis of computer systems with different types of replacement and repair policies (worked under UGC Project Fellow).
21. Mr. Satish Kumar (2013): Analysis of system reliability models subject to degradation and random shocks.
22. Ms. Gitanjali (2014): Cost- benefit analysis of parallel-unit system reliability models with maximum repair time.

23. Ms. Poonam Malik (2014): Impact of SHE policies and other HR practices on job satisfaction & organization commitment of employees in select units of textile industry. (Submitted, under Co-Supervision with Prof. Harsh Purohit, Dean Wisdom, Banasthali University, Rajasthan)
24. Ms. Sudesh Kumari (2015): Profit Analysis of System Reliability Models with Preventive Maintenance and Repair (Co-Supervisor - Dr. P.C. Jha)
25. Ms. Savita Deswal (2015): Stochastic analysis of repairable systems of non-identical units operating under different weather conditions (worked under UGC Teacher Fellow).
26. Ms. Anju Dhall (2015): Reliability Modeling and Profit Analysis of Stochastic Systems Using Regenerative Point Technique (RPT).
27. Ms. Reetu (2015): Reliability Modeling and Analysis of Parallel Unit Systems Subject to Maximum Operation and Repair Times (worked under DST INSPIRE Fellowship)
28. Mr. Vikram (2016): Stochastic Modeling of Computer Systems with Component Wise Redundancy (worked under RGNF UGC Junior Research Fellowship).

#### **Ph.D. Thesis in Progress**

The research work of the following students is under progress:

1. Ms. Jyoti (2012): Stochastic Analysis of Redundant Systems with Different Repair Policies of Server Subject to Failure (working under CSIR UGC Junior Research Fellowship).
2. Mr. Sarabjit Singh (2013): Modified Estimators for Population Parameters Under Ranked Set Sampling.
3. Ms. Upma (2014): Cost-Benefit Analysis of Non-identical Redundant Systems with Different Repair Policies.
4. Ms. Poonam (2014): Profit Analysis of Parallel System Reliability Models with Failure of Service Facility (working under CSIR UGC SPM Fellowship).
5. Ms. Permila (2014): Stochastic Analysis of 2-out-of-2: G Systems with Standby
6. Mr. Satish Kumar (2015): Reliability Measures of Systems under Different Configurations and Their Sensitivity Analysis.
7. Ms. Pallavi Sharma (2015): An Analysis of Six Sigma DMAIC Approach for Continuous Process Improvement in Sound Industry (under joint supervision with Prof. P.C. Jha)

#### **M.Phil. Dissertations Supervised**

1. Satyawan (1996): Study of reliability models with regenerative point technique.
2. Parmila (1999): Study of basic reliability models with on-line repair.
3. Ajit Grewal (2000): Reliability models with different cause of failure and rest of the server during on-line repair.

4. Sangeeta (2001): Profit analysis of reliability models with different repair policies of server.
5. Mukender Singh (2001): A review of reliability models with regenerative point technique.
6. Dheeraj Pawar (2002): A review of single-unit reliability models with on-line repair and different repair policies of server.
7. Sumeet (2003): A review of the single-unit reliability models with inspection for on-line repair.
8. Rohtash Kumar Bhardwaj (2004): Study of reliability models with different failure modes and repair policies.
9. Seema (2007): Study of some linear programming problems.
10. Isha Hooda (2007): Profit evaluation of single-unit reliability models with different repair mechanism.
11. Pawan Sangwan (2007): Study of some industrial and management problems by using linear programming techniques.
12. Manjeet Kumar (2007): Study of single-unit reliability models with different modes of failure.
13. Kuldip Singh (2008): MTSF and profit evaluation of reliability models with inspection and priority by using regenerative point-technique.
14. Mukesh Kumar (2009): Study of single-unit reliability models.
15. Poonam Rani (2009): Comparative and profit analysis of reliability models with random appearance and disappearance of the server.
16. Ashish Kumar (2010): Reliability modeling and analysis of 2-Out-Of-3 redundant system with different repair policies.
17. Reetu (2012): Analysis of Standby System Reliability Models with Different Repair Policies of Server.
18. Sunil Kumar (2012): Stochastic Analysis of a Single- Unit System with Different Repair Policies of a Server Subject to Weather Conditions.
19. Vikram (2013): Reliability Measures of a Computer System with Cold Standby Redundancy.
20. Permila (2013): MTSF and Reliability Analysis of Single-Unit System Reliability Models with Server Failure.
21. Pallavi Sharma (2014): Reliability Measures of a Computer System under Different Repair Policies
22. Naveen Nandal (2015): Availability Analysis of System Model with Different Repair Policies.
23. Satish Kumar (2015): Reliability and MTSF Evaluation of System under Different Configurations.

#### **Membership of Academic Bodies**

1. Member PG Board of Studies, Department of Statistics, Punjabi University Patiala (from 19-05-2016 to 18-05-2018)
2. Member Admission Committee M.D. University, Rohtak for a period of two Sessions

(2016-2017 & 2017-2018)

3. Member Expert Committee Nominated by UGC for SAP
4. UGC Nominee for Advisor Committee of UGC-SAP (DRS-1) Program at Dept. of Mathematics, BITS Pilani, Rajasthan and Department of Mathematics, Central University, Tezpur, Assam.
5. Elected Member of Executive Council (EC) of M.D. University, Rohtak from 23<sup>rd</sup> July 2005 to 22<sup>nd</sup> July, 2007.
6. Ex-officio Member of Academic Council (Since Nov., 2008), M.D. University, Rohtak.
7. Elected Member of Court, M.D. University, Rohtak for the period March 6, 1996 to March 5, 1999 and July 23, 2006 to July 22, 2009.
8. Member of Faculty of Physical Sciences, M.D. University, Rohtak.
9. Member of PG/UG Board of Studies, University Research Scholarship (URS) and Examinations Complaint Committees for the Department of Statistics, M.D. University, Rohtak.
10. Member of Unfair Means Committee (UMC), Tender Committee and Inquiry Committee, M.D. University, Rohtak.
11. Convener of Inspection Committee(s) for colleges, M.D. University, Rohtak.
12. University Nominee for Governing body of colleges (self financing)
13. Elected as Joint Secretary of the Society for Engineering, Quality and Operations Management (SREQOM), University of Delhi on Dec. 19, 2009 for a period of three years.
14. Elected as Member Executive Committee of MDUTA for a period of one year on Dec. 16, 2009.
15. Elected as Member Executive Committee (March 2, 2010 to Dec. 2010) and Treasurer for two terms (Jan. 2010- Dec.2012 and Jan. 2013 – Dec. 2014) of the Indian Society of Probability and Statistics (ISPS).
16. Elected as Vice President (since Dec. 2014), Secretary for two terms (Dec. 2010 to Dec. 2014) and Joint Secretary (Dec. 2008 to Dec.2010) of the Forum for Interdisciplinary Mathematics (FIM).
17. Elected as Member of the section of Mathematical Sciences (including Statistics) for three consecutive terms (years 2014,2015 and 2016) of the Indian Science Congress Association.

#### **Administrative Assignments and Educational Administration**

1. Appointed as Proctor M.D. University, Rohtak w.e.f. 18-02-2016.
2. Appointed as Chairman of the conference organizing committee of the Forum for Interdisciplinary Mathematics (FIM) for a period of two years with effect from Nov. 2015.
3. Appointed as observer for conducting Governing body election of colleges (self Financing) affiliated to M. D. University, Rohtak.
4. I have been appointed as Coordinator UGC SAP (DRS-I) sanctioned to the Department of Statistics, M.D. University, Rohtak on 01/09/2014.

5. I have been co-operating the University in the successful conduct of various examinations/entrance tests in the capacity of Invigilator / Centre Superintendent / Observer / Convener Flying Squad, Secrecy Officer, etc. and examiner of various PG and M. Phil classes.
6. I worked as Exam Coordinator for conducting and compilation of the results of Statistics Talent Search Examination - 2009 organized by the Department of Statistics, M.D. University, Rohtak on Nov. 22, 2009.
7. I have been acted as an in-charge of the Students Educational Tour(s) organized by the Department.
8. I have been actively engaged in guiding students for future academic plan and in updating their knowledge for the preparation of various competitive examinations like UGC/CSIR, NET, Indian Statistical Services, Bank's Probationary Officer and other Allied services.
9. I served as Program Coordinator (NSS), M.D. University, Rohtak from 18<sup>th</sup> August 2005 to 23<sup>rd</sup> Jan. 2009.
10. I have worked as convener to conduct interviews for the selection of Best NSS Volunteers and Best NSS Program Officers of the University for the session 2005-06, 2006-07 and 2007-08.
11. Inspected 10 days NSS Special Camps organized by various NSS units working in the Colleges/Institutions affiliated to University during autumn and winter breaks for the sessions 2005-06, 2006-07, 2007-08 and 2008-09.
12. Convened the district level meetings of the Principals and Program Officers (NSS) of the Colleges/Institutions affiliated to the University during the month of Dec. 2005, 2006, 2007 and 2008 to discuss various issues and problems related to NSS programs
13. Convened University level NSS Advisory Committee meetings for the sessions 2006-07, 2007-08 and 2008-09 in which Program Coordinator (NSS) represented as a Member Secretary.
14. Participated in the State Level Seminar on Human Rights and Social Harmony" jointly organized by RGNIYD Sriperumbudur, Chennai and NSS Cell of Dr. B.R. Ambedkar University, Agra at St. John's College Agra during 30-31 Dec., 2008.
15. Conducted University level Prize Distribution Functions to honor Best NSS Volunteers and Best NSS Program Officers of the University for the session 2005-06, 2006-07 and 2007-08 held on 5<sup>th</sup> August, 2006; 24<sup>th</sup> Sept., 2007 and 24<sup>th</sup> Sept., 2008 respectively.
16. Participated in the 3 days orientation-cum-training workshop on Youth Leadership and Personality Development organized by Ministry of Youth Affairs and Sports, Govt. of India at Rajiv Gandhi National Institute for Youth Development (RGNIYD), Sri Perumbudur, Tamil Nadu during March 29-31, 2008.
17. Participated in one day YUVA program as Program Coordinator (NSS) organized by the Ministry of Sports and Youth Affairs, Govt. of India on 27-6-2006 held at Vigyan Bhawan, New Delhi.

#### **Academic/Extra Curricular Activities Organized**

1. A three day National Workshop on "Sample Surveys and Data Analysis (Using Software – SPSS, MINITAB and R)" organized by the Department of Statistics, M.D.

University, Rohtak in conjunction with Indian Association for Reliability and Statistics (IARS) during June 13-15, 2016.

2. A three day National Conference on “Recent Trends and Developments in Statistics (NCRTDS)” organized by the Department of Statistics, M.D. University, Rohtak in conjunction with 1<sup>st</sup> Convention of Indian Association for Reliability and Statistics (IARS) during Feb. 21-23, 2015.
3. One day National Workshop on “SPSS & R Software” jointly organized by the Department of Statistics, M.D. University, Rohtak and Indian Association for Reliability and Statistics (IARS) on Feb. 20, 2015.
4. Organized a Three Day National Workshop on “Applicable Statistics” held at Department of Statistics, M.D. University, Rohtak and sponsored by Department of Higher Education, Govt. of Haryana, Panchkula during March 28-30, 2010.
5. Organized a Five Day National Workshop on “Modeling, Optimization and Their Applications” sponsored by Department of Science and Technology, Govt. of India held at Department of Statistics, M. D. University, Rohtak during 17-21 August, 2010.
6. Five Days Youth Leadership Training Camps (YLTC) for the NSS Volunteers during Sept. 20-24, 2005; Sept. 24-28, 2006; Sept. 25-29, 2007 and Sept. 16-20, 2008.
7. Organized one day HIV/AIDS Awareness Program for NSS Volunteers/Youth on the occasion of International Youth Day i.e. on 12<sup>th</sup> August, 2008 under the auspices of Haryana AIDS Control Society, Panchkula in which 370 persons participated.
8. A Ten-day Orientation Course for NSS Program Officers during March 17-26, 2006 with the collaboration of TORC, Chandigarh.
9. A 10-day pre-Republic Day Parade Camp organized during Nov. 2-11, 2006 for the NSS Volunteers of Northern Region of India under the aegis of Ministry of Youth Affairs and Sports, Govt. of India, New Delhi.
10. One day Legal Literacy Workshop for NSS Program Officers held on 26.11.2005 with the Collaboration of Department of Law, M.D. University, Rohtak.

(Prof. S.C. Malik)