

CURRICULUM VITAE



Name : **Dr. Upasana Sharma**
Date of Birth : 01/12/1974
Permanent Address: H. No. -1621, PUSH PAC Complex,
Sector – 49B, Chandigarh
e mail : usharma@pbi.ac.in
Mobile : 9815703437

Profile :

Presently working as Professor, Department of Statistics, Punjabi University Patiala.

- Research Area : Reliability Modeling
- Teaching Experience : 20 Years

Qualification :

Ph.D.: **Statistics** (Reliability Modeling)

Maharishi Dayanand University, Rohtak, Year – 2001

Thesis Title : Study of Some Reliability Models with Various Constraints of Operations and Repair on Standby Units.

No. of Students who have completed Ph.D. - 03

No. of Students who are registered for Ph.D.- 04

Publications :

In Journals

1. “Cost–Benefit Analysis of a System where Operation and Sometimes Repair of Main Unit Depends on Sub-Unit”, in *Journal of Pure and Applied Matematika Sciences*, March 2001, Vol. LIII, No. 01-02.
2. “Analysis of a Two – Dissimilar Units System wherein Standby Unit in Working State may Stop even Without Failure.” in *International Journal of Management and Systems* Jan – April 2001, Vol. 17, No. 01.
3. “A Two Unit Redundant System with Degeneration and Replacement” in, *Pure and Applied Matematika Sciences* ,Vol. LIV, September 2001, No.01-02,

4. "Comparative Study between Two Models to Decide about the Use of 1 Main, 2 Subunits System or 2 Main, 2 Subunits System" in *Journal of Pure and Applied Matematika Sciences* ,September 2010 ,17-27
5. "Analysis of Two Unit Standby Oil Delivering System with a Provision of Switching Over to another System at Need to Increase the Availability", in *Journal of Mathematics and Statistics* ,USA, Vol.07, No.01 , Jan. 2011, 57-60 ISSN: 1549-3644 (Print) ISSN: 1558-6359 (Online)
6. "Reliability and Economic Analysis of a System Comprising Booster and Main Pumps Working in an Oil Refinery Plant" in *Caledonian Journal of Engineering*, July-December 2011, Vol. 07, No. 02, 28-32
7. "Profit Analysis of a Two Unit Standby Oil Delivering System with Off Line Repair Facility for Partial Failure and Provision of Switching Over to Another System.", *International Journal of Statistics and Analysis (IJSA)*, Jan. 2012, Vol. 02, No. 01, 2012, 67-76.
8. "Profit Analysis of a Two Unit Standby Oil Delivering System with Off Line Repair Facility when Priority is given to Partially Failed unit over the Completely Failed Unit for Repair and System having a Provision of Switching over to Another System." in *International Journal of Scientific and Engineering Research (IJSER)*, March 2012 ,Vol. 03, No.03,125-129.
9. "Availability of a Compressor Unit Covering Nine Types of Failure Categories.", in *International Journal of Physical, Chemical &Mathematical Sciences*, January- June 2013, Vol.02, No.01 , 35-41.
10. "Availability Analysis of a Standby System with Three Types of Failure Categories." In *IOSR Journal of Mathematics* , March -April 2014, Vol. 10, No.02, Ver. IV, 23-28
11. "Analysis of Two Unit Standby Oil Delivering System with Two Types of Repair Facility and Priority is Given to Partially Failed Unit with Provision of Switching Over to Another System" in *International Journal of Engineering Sciences & Research Technology (IJESRT)* , June 2014, Vol. 03, No. 06, 117-123
12. "Comparative Study of Standby Compressor Systems with and without Provision of Priority to Failed Compressor Unit.", *International Journal of Applied Mathematics & Statistical Sciences (IJAMSS)*, Nov 2014, Vol. 03, No.06, 1-8.
13. "Comparative Study of Two Standby Innovative Systems where Operation of all Standby Units is Necessary on the Failure of Main Unit", in *International Journal of Scientific and Engineering Research (IJSER)* , February 2016, Vol. 05 No.02, 805-812.
14. "Cost Benefit Analysis of a Compressor Standby System with Preference of Service, Repair and Replacement is given to Recently Failed Unit" in *International Journal of Mathematics Trends and Technology (IJMTT)* , February 2016, Vol. 30, No. 02 , 104-108. (BEST PAPER AWARD).

15. “Reliability and profit evaluation of compressor system describing failures and deal with failed unit on priority”, in *International Journal of Engineering Sciences and Research Technology*, March 2016, Vol.05 ,No.03, 615-620
16. “Comparative Study of Two Standby Systems with Concept of Priority to Failed Unit”, *International Journal of Science, Engineering and Technology Research (IJSETR)*, April 2016, Vol. 05, No. 04, 1202-1206.
17. “Profit Evaluation of Three Units Compressor Standby System”, in *International Journal of Advanced Research Trends in Engineering and Technology (IJARTET)* , May 2016, Vol. 3, No. 05, 26-30. (BEST PAPER AWARD)
18. “Study of Two Units Standby System with One Essential Unit to Increase Its Functioning”, in *International Journal of Engineering Trends and Technology (IJETT)*, May 2016, Vol.-35 No.11, 516-519.
19. “Evaluation of Various Reliability Measures of Three Unit Standby System Consisting of One Standby Unit and One Generator”, in *International Journal of Industrial Engineering(SSRG-IJIE)*, July to August 2016, Vol.-03 No. 04, 39-43
20. “Probabilistic Analysis of a Standby System with Provision of Concomitant Working ”, in *International Journal of Engineering Trends and Technology (IJETT)*, October 2016 ,Vol. 40 No. 01, 31-34
21. “Analytic Study of a System with Concurrent Operation of Standby units and Maintenance Facility” in *Aryabhata Journal of Mathematics and Informatics* , January to June 2017, Vol. 09, No. 01, 750-761
22. “Evaluation of a System for Reliability and Profit where Standby Units Functions to Accommodate the Required Demand” in *International Journal of Mathematics Trends and Technology(IJMTT)* , September 2017, Vol. 49, No. 03, 178-182. ISSN: 2231-5373
23. “Synchronous Operation of Standby Units with Provision of Maintenance Facility” in *International Journal of Engineering, Science and Mathematics*, October 2017, Vol. 06, No. 06, 116-124. ISSN: 2320-0294
24. “Concept of Enhancement in Workload for Stochastic Analysis of 3-Unit Standby System ” in *International Journal of Engineering & Scientific Research (IJESR)* , November 2017, Vol. 05 ,No. 11, 1-10. ISSN: 2347-6532
25. “Computational and Behavioural Analysis of a Parallel Set of Fans working as a Standby Unit for Power Plant System”, in *International Journal for Research in Engineering Application and Management (IJREAM)* ,June 2018Vol. 04, No. 03, 899-904. ISSN: 2454-9150

26. “Semi- Markov model for a power plant system comprising of three low pressure boilers and fans” ,in *International Journal of Research in Advent Technology*, July 2018, Vol. 06, No. 07, 1395-1398. E-ISSN: 2321-9637
27. “A study of a parallel fan standby redundant system operating in a power plant”, in *International Journal of Advanced Scientific Research and Management(IJASRM)*, August 2018, Vol. 03, No. 08, 17-21 ISSN 2455-6378
28. “Steady State Behaviour of a Cold Standby System consisting of Turbine, Boiler and Fans” , in *IOSR Journal of Engineering (IOSRJEN)*, August 2018,) Vol. 08, No. 08, 51-57 ISSN (e): 2250-3021, ISSN (p): 2278-8719
29. “ Stochastic Modeling of a Cold Standby Unit Working in a Power Plant System”, in *International Journal of Innovative Knowledge Concepts(IJIKC)* , (Web of Science), August 2018, Vol. 6 , No. 08, 49-54 ISSN :2454-2415
30. “Performance Analysis of a High Pressure Boiler with Two Low Pressure Boilers: a Cold Standby System”, in *International Journal of Scientific Research and Reviews (IJSRR)*, July –September 2018, Vol. 07, No. 03, 694-703. ISSN: 2279–0543
31. “On Expected Profit of Four Compressor Units Standby System with Priority to Recently Failed Unit”, in *International Journal of Interdisciplinary Research and Innovations(IJIRI)*, July-September 2018, Vol. 06, No. .03, 237-246 , ISSN 2348-1218 (print) ISSN 2348-1226 (online)
32. “Modelling and Profit Evaluation of a Repairable System Working with One Operative Unit and Three Cold Standby Units”, in *International Journal of Mathematics Trends and Technology (IJMTT)* ,December 2018, Vol. 64, No.. 01, 65-71. ISSN: 2231 – 5373
33. “Profit Evaluation of Urea Plant where HPD and LPD Share Load upon the Failure of Gas Separator”, in *International Journal of Scientific Research and Reviews*, July-September 2019, Vol. 08, No. 03, 395-404 ISSN: 2279–0543
34. “Reliability Analysis of a Parallel Unit System with Two Cold Standby Units” in *International Journal of Advanced Research in Engineering & Management (IJAREM)* ,December 2018, Vol. 04, No.12 , 12-18, ISSN: 2456-2033
35. “Reliability Modelling of a Gravity Die Casting System Covering Seven Types of Failure Categories”, in *International Journal of New Innovations*

in Engineering and Technology, January 2020, Vol.12, No. 04, 107-111.ISSN: 2319-6319

36. “Profit Evaluation of MLDB System in Piston Foundry having Full and Reduced Capacity Functioning”, in *Journal of Engineering Science (JES)*, Vol.11, No. 07, July 2020, 829-834. ISSN: 0377-9254
37. “Performance Analysis of System where Service Type for Boiler Depends Upon Major or Minor Failures”, in “*Reliability: Theory & Applications*”, June 2022, Vol. 17, No. 2(68), 317-325. (Scopus Indexed Journal) , ISSN: 1932-2321
38. “Reliability Analysis of a System Operating at Reduced Capacity with Repair Priority to Boiler ”, in “*International Journal of Engineering Trends and Technology (IJETT)*”, June 2022, Vol. 70, No. 06, 73-78. (Scopus Indexed Journal)
39. “An Analytical Study of Powder Plant System.”, in *Journal of Indian Journal of Science and Technology*, June 2022; Vol. 15, No. 22, 1091-1099. ISSN :Print: 0974-6846, Electronic: 0974-5645
40. “Reliability and Economic Analysis of Captive Power Plant with Reduced Capacity”, in *Reliability: Theory & Applications*, (UGC,SCOPUS), Vol. 17, No. 2(68), June 2022 , 356-366, ISSN: 1932-2321
41. “Reliability and Profit Analysis of a Metal Treatment Station (MTS) System with Effect of Waiting Time for Standby MTS”, in *Advances and Applications in Statistics*, (WOS), Vol.79, No. 07, July 2022, 67-81. ISSN: 0972-3617
42. “Reliability Analysis of CPP System where Working of Standby Unit Depends on Connecting Unit”, in *International Journal of Advanced and Applied Sciences (IJAAS)* ,(Scopus Indexed Journal) , August 2022, Vol. 09, No. 8, 72-78. ISSN:2313-626X, E-ISSN:2313-3724
43. “Measures to Ensure the Reliability of Water Supply in the MLDB System using Refrigeration, in *Reliability Theory and Applications*, (UGC,SCOPUS), Vol. 17, No. 3(69) ,September 2022, 349-360. ISSN: 1932-2321
44. “ Reliability Analysis for GDC System using Repair And Replacement Facility in Piston Foundry Plant”, in *Reliability Theory and Applications*, (UGC,SCOPUS), December 2022, Vol. 17, No.4(71), 268-281. ISSN: 1932-2321

45. "The Seasonal Effect of Working Conditions of an Ice-cream Plant." in journal of Reliability Theory and Applications, (UGC, SCOPUS), Vol. 17, No. 4(71), December 2022, 192-203, ISSN: 1932-2321

In Conference Proceedings:

1. "MTSF and Availability Analysis for an Oil Delivering System Working in an Oil Refinery Plant", in *Proceedings of 10th National Conference of Indian Society of Information Theory & Applications (ISITA) on "Emerging Trends in Software Engineering"* during September 5-6, 2008 organized by N.C. College of Engineering, Israna (Panipat), Haryana.
2. "Reliability and Profit Analysis of Two Units Cold Standby System Where in Both the Units may become Operative", in *Proceedings of National Workshop on "Nano Technology & Applied Sciences (NAS-2009)"* during November 28-29, 2009 organized by Haryana College of Technology and Management, Kaithal
3. "MTSF and Availability Analysis of Two Unit Standby Oil Delivering System with a Provision of Switching Over to Another system at Need to Increase the Availability", in *Proceedings of National Seminar on "Challenges in Software Engineering Research and Practices"* during March 30-31, 2010 organized by N.C. College of Engineering, Israna (Panipat), Haryana.
4. "Profit Analysis of a Two Unit Standby Oil Delivering System with Off Line As well As On Line Repair Facility for Partially Failure and Provision of Switching over to Other System" in *Proceedings of International Conference on "Advances in Modeling, Optimization and Computing (AMOC – 2011)"* during December 5-7, 2011 organized by Department of Mathematics, Indian Institute of Technology Roorkee, Roorkee – 247 667, India.
5. "Availability Analysis of an Operating Compressor Unit with Three Types of Failure Categories" in *Proceedings of International Conference of Information and Mathematical Sciences* during October 24 - 26, 2013 organized by Baba Farid College of Engineering and Technology, Bathinda, Punjab, India.

Papers presented in the symposia/conferences

1. "Comparative Study Of Profits Of Two Models For A System Consisting Of Main And Sub-Units Wherein Operation Of Main Unit Depends On Sub-Unit.", in *National Symposium on Stochastic Modeling and Operation Management* during October 19-21, 2001 organized by Kurukshetra University, Kurukshetra
2. "Reliability And Profit Analysis Of Two-Unit Cold Standby System Wherein Both The Units May Become Operative.", in *National Symposium on Stochastic Modeling and Operation Management* during October 19-21, 2001 organized by Kurukshetra University, Kurukshetra

3. “On The Expected Profit Of A Two-Unit Standby System Wherein Standby Unit May Need Preventive /Corrective Maintenance.”,in *XX Annual Conference of Indian Society for Probability and Statistics and National Seminar on Industries Oriented Statistical Research and Conference of Bayesian Society of India* during February 19-21,2001 organized by Pt. Ravi Shankar Shukla University, Raipur
4. “Probabilistic Analysis Of A Standby System Wherein The Repair/ Replacement Of Standby Unit Depends On Cost.”, in *XX Annual Conference of Indian Society for Probability and Statistics and National Seminar on Industries Oriented Statistical Research and Conference of Bayesian Society of India* during February 19-21,2001 organized by Pt. Ravi Shankar Shukla University, Raipur
5. “A Two Unit Standby System Wherein Standby Unit May Need Preventive /Corrective Maintenance And Unit Which Is In Operative State Remains In Operative State Until It Fails.” in *8th Annual National Conference of Indian Society of Information Theory & Applications (ISITA) On Information Technology : Setting trends in modern era* during March 18-20,2006 organized by N.C. College of Engineering ,Israna, Panipat.
6. “Reliability And Profit Analysis Of Two Models For A System Wherein Operation Of Main Unit Depends On Sub- Unit.”, in *AICTE Sponsered National Seminar on Emerging Trends In Software Engineering* during 5-6 September 5-6 , 2008 organized by N.C. College of Engineering, Israna, Panipat.
7. “MTSF Analysis Of A Two Unit Standby Oil Delivery System With Priority For Repair And Switching Facilities.”, in *21st International Conference of Forum of Interdisciplinary Mathematics on Interdisciplinary Mathematics, Statistics and Computational Techniques* during December 15-17 , 2012 organized by Department of Statistics, Panjab University, Chandigarh .
8. “Probabilistic Analysis Of A Compressor Unit Covering All Types Of Failure Possibilities.”, in *International Conference on History and Development of Mathematical Sciences & Symposium of Nonlinear Analysis (ICHDMS- 2012)* during November 21-24,2012 organized by Department of Mathematics, Maharshi Dyanand University, Rohtak .
9. “Reliability Evaluation Of A Standby Compressor System Working In A Milk Plant” in *International Conference on History and Development of Mathematical Sciences & Symposium of Nonlinear Analysis (ICHDMS- 2012)* during November 21-24,2012 organized by Department of Mathematics, Maharshi Dyanand University, Rohtak .
10. “Probabilistic Analysis Of A Standby System With Two Types Of Repair Facilities” in *International Conference of Information and Mathematical Sciences(IMS-13)* during October 24 - 26, 2013 organized by Baba Farid College of Engineering and Technology, Bathinda, Punjab, India.
11. “Availability Analysis Of An Oil Delivering System Comprising Of Main and Booster Pumps.”,in *International Conference on Mathematics &*

Engineering Sciences (ICMES 2014) during March 20-22, 2014 organized by Chitkara University, Himachal Pradesh and International Multidisciplinary Research Foundation.

12. “Availability Analysis Of A Two Dissimilar Units Wherein Functioning Of One Unit Depend On Other.” , in *Conference on Exploring Basic and Applied Sciences for Next Generation Frontiers (EBAS 2014)* during November 14-15, 2014 organized by Lovely Faculty of Technology and Sciences, Lovely Professional University, Phagwara, Punjab.
13. “Profit Analysis Of A Standby System With Major And Minor Failures Of The Units.”, in *International Conference on Emerging Areas of Mathematics for Science & Technology in conjunction with 12th Annual Conference of The Indian Society of Industrial & Applied Mathematics* during January 30 – February 1, 2015 organized by Department of Mathematics, Punjabi University, Patiala.
14. “Availability Analysis Of A Two Unit Standby System With Priority Given To Failed Unit On FCFS Basis.”, in *International Conference On Modeling, Simulation & Optimizing Techniques (ICMSOT – 2015)* during February 12-14, 2015 organized by Post Graduate Department of Mathematics, DAV College, Jalandhar, Punjab.
15. “Reliability Study Of System Used As Delivering Oil To Various Destinations”, in *3rd International Conference on Science, Technology and Management (ICSTM-16)* on January 17,2016 organized at India International Centre, Lodhi Estate, New Delhi (India)
16. “Reliability Measures Of A Standby System With Concept Of Priority Of Repair To Operative Unit “, in *2nd International Conference On Recent Trends In Engineering Science And Management (ICRTE SM-16)* on February 20, 2016 organized at International Conference Center, YMCA, New Delhi.
17. “Analytical study of busy period of a standby compressor unit system”, in *3rd International Conference on Recent Innovations in Science, Engineering and Management (ICRISEM-16)* on February 27,0216 organized at Sri Venkateswara College of Engineering and Technology, Srikakulam , Andhra Pradesh (India)
18. “Standby system analysis with concurrent working of all standby units”, in *5th International Conference on Recent Innovations in Science, Engineering and Management (ICRISEM-16)* on 20 March 2016 organized at India International Centre, New Delhi.
19. “Numerical Evaluation of MTSF of two Standby Systems with Priority to Recent and Previous Failed Unit”, in *3rd International Conference on Recent Trends in Engineering, Science and Management (ICRTE SM-16)* on 10 April, 2016 organized at Vedant College of Engineering and Technology, Bundi, Kota,Rajasthan.
20. “Analysis of four unit standby system where to match workload of main unit working together of all three standby units is necessary”, in *3rd International*

Conference on Science, Technology and Management(ICSTM-16) on 15 May 2016 organized at India International Centre, New Delhi.

21. “Evaluation of Profit of a Compressor System with one Standby Unit”, in *International Conference on Recent Innovations in Science, technology, Management and Environment* on 19 June 2016 organized at Indian Federation of United Nations Associations, New Delh.
22. “Concept of essential unit to increase standby system functioning.” in *International Conference on Recent innovations in Sciences,Management, Education and Technology(ICRISMET-2016)* on 27 August 2016 organized at JCD Vidyapeeth, Barnala Road, Sirsa, Haryana (India)
23. “Reliability Evaluation of Two Standby Systems Based on Different Repair Policies”,in 8th International Conference on Recent Innovations in Science, Engineering and Management on 21st October 2016 organized at Indian Federation of United Nations Associations, New Delhi.
24. “On Evaluation of Various Reliability Measures of Standby Systems with One Essential Unit and Distinct Repair Policies” in 2nd International Conference of Recent Innovations in Science, Technology, Management and Environment on 20 November 2016 organized at Indian Federation of United Nations Associations, New Delhi.
25. “Modelling and Analysis of A Standby System with Notion of Load Sharing”, in 6th International Conference on Recent Trends in Engineering, Science & Management (ICRITESM-17) on 8th January 2017 organized at National Institute of Technical Teachers Training & Research, Chandigarh.
26. “Cost Benefit Analysis of a System Involving Operation of Standby Units with Maintenance Facility”, in 4th International Conference on Recent Advances in Engineering Science and Management(ICRAESM-17) on 26th Nov. 2017 organized at Institute of Electronics and Telecommunication Engineers, Chandigarh.

Participation in Seminars/Conferences (National & International)

1. AICTE sponsored National level Seminar on Emerging trends in Software Engineering during 5-6 Sept.,2008) N.C. College of Engineering ,Israna (Panipat)
2. 4th International Conference on Quality, Reliability and Infocom Technology (ICQRIT) Trends and future directions during Dec 18-20, 2009 Organized by Society of Reliability Engineering, Quality and Operations Management (SERQOM), Department of Operation Research , University of Delhi, Delhi
3. Contributed paper titled “Probabilistic Analysis Of A Standby System With Provision Of Repair.”, in 3rd International Conference on “*Innovative Research in Applied Physical, Mathematical/ Statistical, Chemical Sciences and Emerging Energy Technology for Sustainable Development (APMSCSET - 2014)* during September 27-28 , 2014 organized by” Social

Welfare Foundation” in association with “ Krishi Sanskriti” at Jawaharlal Nehru University, New Delhi.

4. Contributed paper titled “Buy Period Analysis Of A Standby System With Various Types Of Causes Of Failures.”, in *4th International Conference on Innovative Research in Applied Physical, Mathematical/ Statistical, Chemical Sciences, Environmental Dynamics, Integration of Life Sciences and Engineering* during December 27-28 , 2014 organized by “ Krishi Sanskriti” at Jawaharlal Nehru University, New Delhi .
5. National conference on Man and Environment from March 10th to March 11th 2017 organized by Centre for Swatch Bharat Swasth Bharat at Punjabi University, Patiala.
6. Research Scholars meet on current trends in science in Punjab as Judge on 28th March 2018 organized by Department of Human Genetics, Punjabi University, Patiala

Participation in courses :

1. Orientation course organized by UGC - Academic Staff College, Panjab University, Chandigarh from 01.06.2005 to 28.06.2005.
2. Refresher Course in “ Mathematics / Statistics ” organized by Department of Mathematics under the auspices of the UGC - Academic Staff College, Panjab University, Chandigarh from 26.11.2010 to 16.12.2010.
3. Refresher Course in “Information Technology (Statistics) Interdisciplinary” organized by U.I.E.T under the auspices of the UGC - Academic Staff College, Panjab University, Chandigarh from 15.6.2012 to 5.7.2012.
4. Short Term Course in “Meeting Mid-Carrier Challenges In Higher Education” organized by UGC - Academic Staff College, Panjab University, Chandigarh w.e.f. 18-12-2013 to 24-12-2013.

Life Time Membership of Professional Bodies:

1. Indian Society of Information Theory and Application(ISITA)
2. Forum of Interdisciplinary Mathematics
3. Society of Applied Statistics and Computer Science

Member Of Editorial Board:

Universal Journal of Applied Mathematics, Horizon Research Publishing, USA

Educational Qualifications:

Examination	Name of the Board/University	Year of Passing	Percentage of Marks obtained	Division Class/Grade	Subject	Achievements
Matric	Board of School Education, Haryana	1989	82.16	First	Science, Sanskrit Mathematics, Hindi, English, Social Studies	Merit List - 138
Senior Secondary Certificate	Board of School Education, Haryana	1991	65	First	Physics, Biology, Chemistry, Mathematics	Distinction in Mathematics
B.A	Maharshi Dayanand University, Rohtak	1994	68.41	First	Mathematics Statistics	Merit List -15
M.Sc	Maharshi Dayanand University, Rohtak	1996	74.7	First	Mathematical Statistics	Departmental Representative and topper in M.Sc. I 2 nd Rank in University
Joint CSIR-UGC-NET For Junior Research Fellowship (JRF) And Eligibility For Lecturer ship Test	CSIR	1996	JRF and SRF from CSIR		Mathematical Sciences	
Diploma in Computer Application	CDAC-PACE Computers, DOE, Govt. of India	2001		A+		
C Programming of 35 hours duration	CMC Limited (A Joint Venture of Tata Sons Ltd. And Govt. of India)	2003			C Language	

Regards

(Upasana Sharma)