## 2. Projects funds sanctioned during the year : 02

| Principal Investigator | Title of the Project | Funding Agency | Amount in lac rupees and Duration |
|---|---|---|---|
| Dr. Krishnendra Shekhawat | Mathematics-aided Architectural Design Layouts | SERB-DST | Rs. 15,44,660, 2017-20 |
| Dr. Rajesh Kumar | Numerical Approximations: Solution and Convergence Analysis for Non-linear Aggregation-Breakage Equations | BITS Pilani | Rs. 2,00,000, 2017-19 |

### C1. Publications in international/National refereed journals

| S.No. | Authors | Title of the Publication | Details of the Journal | National/Inter-national | Year |
|---|---|---|---|---|---|
| 1. | Maiti A.P. and Dubey B., | "Stability and bifurcation of a fishery model with Crowley-Martin type functional response", | International Journal of Bifurcation and Chaos, 27 (11), 1750174 (26 pages)., | International | 2017 |
| 2. | D K Maiti, S Sharma; M M Alam, BK Sharma, | "Nanofluid (H2O − Al2O3/CuO) flow over a heated square cylinder near a wall under the incident of Couette flow". | Journal of Mechanical Science and Technology (accepted), | International | 2017 |
| 3. | Suresh Kumar and Rafael C. Nunes, | "Echo of interactions in the dark sector", | Physical Review D (accepted), | International | 2017 |
| 4. | Shekhar, C., Jain, M., Raina, A.A. and Iqbal, J., | "Reliability Prediction of Fault Tolerant Machining System with Reboot and Recovery Delay", | International Journal of Systems Assurance Engineering and Management (accepted), | International | 2017 |
| 5. | Dubey Preeti, Dubey Uma S. and Dubey B., | "Modeling the Role of Acquired Immune Response and Antiretroviral Therapy in the Dynamics of HIV Infection", | Mathematics and Computers in Simulation, https://doi.org/10.1016/j.matcom.2017.07.006 ., | International | 2017 |
| 6. | Maiti A.P., Dubey B. and Tushar Jai, | "A delayed prey-predator model with Crowley-Martin type functional response including prey refuge", | Math. Meth. Appl. Sci., 40(16): 5792-5809. DOI: 10.1002/mma.4429, | International | 2017 |
| 7. | Thakur N.K., Tiwari S.K., Dubey B. and Upadhyay R.K., | "Diffusive three species plankton model in the presence of toxic prey: application to Sundarban mangrove wetland", | J. Biol. Systems, 25(2): 185-206. DOI: 10.1142/S0218339017500103 ., | International | 2017 |
| 8. | Patra Atasi, Tushar Jai and Dubey B., | "Modeling and simulation of a wetland park: An application to Keoladeo National Park, India"., | Mathematics and Computers in Simulation, 134: 54-78. DOI: 10.1016/j.matcom.2016.10.001, | International | 2017 |
| 9. | Yun Chen, Suresh Kumar, Bharat Ratra, | "Determining the Hubble constant from Hubble parameter measurements", | Astrophysical Journal 835: 86., | International | 2017 |
| 10. | Pierre-Henri Chavanis, Suresh Kumar, | "Comparison between the Logotropic and ΛCDM models at the cosmological scale", | Journal of Cosmology and Astroparticle Physics 05: 018, | International | 2017 |
| 11. | Agarwal, Shivi, | "Scale Efficiency with Fuzzy Data", | International Journal of Business and System Research, 11 (1-2), 152-162., | International | 2017 |
| 12. | Jain, M., Shekhar, C. and Meena, R.K., | "Admission control policy of maintenance for unreliable server machining system with working vacation"., | Arabian Journal for Science and Engineering, Vol. 42, No. 7., 2993-3005., | International | 2017 |
| 13. | Kumar, Jitender, | "Rank properties of the semigroup of endomorphisms over Brandt semigroup", | Semigroup Forum, 95 (3), 589-593, | International | 2017 |
| 14. | Sharma B K, Tailor V and Goyal M, | "Role of slip velocity in megneto-micropolar fluid flow from a radiative surface with variable permeability: a | International Journal of Applied Mechanics and Engineering, to appear in Vol. 22 (3): 637-651., | International | 2017 |

| S.No. | Authors | Title of the Publication | Details of the Journal | National/Inter-national | Year |
|-------|---------|--------------------------|------------------------|-------------------------|------|
| | | numerical study", | | | |
| 15. | Sharma, BK, Tailor V and Goyal M,, | "Heat source and Soret effects on megnetomicropolar fluid flow with variable permeability and chemical reaction"., | Global Journal of Pure and Applied Mathematics. Vol. 13 (9), 5195-5212., | International | 2017 |
| 16. | Shekhar, C., Jain, M., Raina, A.A. and Mishra, R.P., | "Sensitivity analysis of repairable redundant system with switching failure and geometric reneging"., | Decision Science Letters, Growing Science, Vol. 6, No. 4., 337-350., | International, | 2017 |
| 17. | Shekhar, C., Kumar, A., and Varshney, S., | "Modified Bessel series solution of the single server queueing model with feedback"., | International Journal of Computing Science and Mathematics (accepted), | International, | 2017 |
| 18. | Shekhar, C., Raina, A.A., Kumar, A. and Iqbal, J., | "A survey on queues in machining systems: progress from 2010 to 2017", | Yugoslav Journal of Operations Research, DOI:10.2298/YJOR161117006R, | International, | 2017 |
| 19. | Shekhawat, K., | A computer-generated plus-shaped arrangement and its architectural applications. | Journal of Computational Design and Engineering (in press), | International, | 2017 |
| 20. | Shekhar, C., Jain, M., Raina, A.A., Iqbal, J., | Optimal (N,F) policy for queue-dependent and time-sharing machining redundant system", | International Journal of Quality and Reliability Management, Vol. 34, No. 6, 798-816., | International, | 2017 |
| 21. | Shekhar, C., Jain, M., Iqbal, J. and Raina, A.A., | "Threshold control policy for maintainability of manufacturing system with unreliable workstations"., | Arabian Journal for Science and Engineering, 42: 4833-4851., | International | 2017 |
| 22. | Shekhar, C., Jain, M. and Raina, A.A. , | "Transient analysis of machining system with spares provisioning and geometric reneging", | International Journal of Mathematics in Operational Research, 11(3): 396-421., | International, | 2017 |
| 23. | Pasari, S., Arora, S.K., | "Earthquake Probabilities in the Kumaun-Garhwal Himalaya from Stochastic Modeling of Moderate-to-Large Seismic Events", | International Journal of Applied and Natural Sciences, 6(5): 31-44., | International, | 2017 |
| 24. | Pierre-Henri Chavanis & Suresh Kumar, | "Comparison between the Logotropic and ΛCDM models at the cosmological scale", | Journal of Cosmology and Astroparticle Physics 05 (018), | International, | 2017 |
| 25. | Yun Chen, Suresh Kumar & Bharat Ratra, | "Determining the Hubble constant from Hubble parameter measurements", | Astrophysical Journal 835 (86), | International, | 2017 |
| 26. | Pasari S, Dikshit O, | "Stochastic Earthquake Interevent Time Modeling from Exponentiated Weibull Distributions", | Accepted, Natural Hazards (Springer) (DOI 10.1007/s11069-017-3074-1)., | International, | 2017 |
| 27. | Pasari S, Nandi NC, | "Modelling Tree Diameter Distribution with a Case Study from Garhbeta Sal Coppice Forest, Paschim Medinipur District, West Bengal, | Journal of Environment and Sociobiology 14(2):171−178 | International, | 2017 |
| 28. | Pramod Kumar Yadav, Ashish Tiwari and Priyanka Singh, | "Hydrodynamic permeability of a membrane built up by spheroidal particles covered by porous layer", | Acta Mech. (Springer), 2017, doi: 10.1007/ s00707-017-2054-6, | International, | 2017 |
| 29. | Ashish Tiwari, Pramod Kumar Yadav and Priyanka Singh, | "Stokes Flow Through Assemblage of Non-homogeneous Porous Cylindrical Particles Using Cell Model Technique", | Nat. Acad. Sci. Lett. (Springer), 2017, doi: 10.1007/s40009-017-0605-y, | International, | 2017 |

| S.No. | Authors | Title of the Publication | Details of the Journal | National/Inter-national | Year |
|---|---|---|---|---|---|
| 30. | Vaibhav, Srikant Routray, Rakhee, | "State of the art literature review on Inventory Models for Perishable Products", | Journal of Advances in Management Research(Accepted), | International, | 2017 |
| 31 | Ram Singh, Madhu Jain, Rakhee, Shoket Ali, | "Epidemic Model of HIV/AIDS Transmission Dynamics with Different Latent Stages Based on Treatment", | Proceedings of the National Academy of Sciences, Indian Section A: Physical Sciences. (Accepted), | National, | 2017 |
| 32 | Shekhawat K., | "Introduction to generic rectangular floor plans", | Artificial Intelligence for Engineering Design, Analysis and Manufacturing, (Accepted), | International, | 2017 |
| 33 | Shekhawat K., | "A computer-generated plus-shaped arrangement and its architectural applications", | Journal of Computational Design and Engineering, Elsevier, 4(4): 318-329., | International, | 2017 |
| 34. | Siddharth Bhatiaa, Kunal Lad, Rajiv Kumar, | "Bend-optimal orthogonal drawings of tri connected plane graphs", | AKCE International Journal of Graphs and Combinatorics, doi.org/10.1016/j.akcej.2017.08.001, | International, | 2017 |