Advt. No.: IITJ/R&D/2021-22/64   21 February 2022

Project Recruitment

Applications are invited from the citizen of India for filling up the following temporary position in the Sponsored Research Project at this Institute. The position is purely temporary, initially for a period of 01 Year, and extendable but co-terminus with the duration of the project, on contractual basis with consolidated pay. The requisite qualification, experience and others details are given below:

1.	Project No.	S/SERB/NKH/20210090
2.	Project Title	Towards more realistic delta-shock models and their applications
3.	Name of the Project Investigator	Dr. Nil Kamal Hazra
4.	Duration for initial appointment	01 Year
5.	Name of the Post	Junior Research Fellow
6.	Post	01
7.	Consolidate Pay	Rs.31,000/-+HRA
8.	Minimum Qualification and Experience	Essential Qualification: a) M.Sc. in Mathematics/ Statistics or M.Tech. in Operation Research/Data and Computational Sciences. b) Application should have a valid GATE/NET/Inspire certificate. Desirable: The applicant should have a very good understanding of Probability Theory, and Stochastic Processes. Moreover, the applicant is expected to have good communication skills.
09.	Maximum Age	Below 35 Years
10.	Brief description of project	One of the widely discussed in the literature and relevant in practice shock models is the δ-shock model that is described by the constant time (δ) of a system's recovery after a shock. However, in practice, the assumption of a constant recovery time does not valid as technical systems are most often ageing. Thus, δ should depends on some of the key parameters of the model, namely, number of shocks, magnitudes of shocks, arrival times of shocks, number of minimal repairs performed before the arrival of a shock, degradation factor of the system, etc. This important phenomenon was not discussed in the literature so far.

		Therefore, in this project, we consider the δ-shock model where δ depends on some of the key parameters of the model. Further, in all existing literature, it is mostly assumed that shocks occur according to the HPP or the NHPP processes, which is a rather stringent assumption in applications. Thus, in our proposed study, we assume that shocks occur according to some generalized counting process (namely, the generalized Polya process, the homogeneous generalized gamma process, etc.) that do not possess independent increment property. Furthermore, for the proposed survival model, we want to study some important reliability indices. Moreover, some applications of the proposed model along with simulation studies and real-life case studies will also be carried out in this project. Finally, some mixed shock models governed by the proposed δ-shock model will be considered at the end as the mixed shock models have more flexibility in terms of modelling compared to an individual model.
11.	Job Description	The Selected candidate is responsible to solve the problems proposed in this project.

The candidates possessing the requisite qualification and experience should apply through the ONLINE process up to **07 March 2022**. The candidates are advised to send a soft copy of the application with all relevant documents to *recruitment_rnd@iitj.ac.in* (***Please mention the advertisement number in the subject line of the email)***.*No need to send a hard copy*.

General Instructions to Applicant(s)

1.	The post(s) is purely temporary and contractual for a period of 01 Year, and extension based on satisfactory performance, but co-terminus with the duration of the project
2.	Application which is incomplete, not in prescribed format, without photograph or unsigned will be summarily rejected.
3.	Certificate in support of experience should be in proper format i.e. it should be on the organizations letter head, bear the date of issue, specific period of work, name and designation of the issuing authority along with his signature.
4.	Institute reserves the right to: a. Fix, modify or revise the eligibility conditions, age and selection criteria as per its requirements, at any time. b. Fill up the post, not to fill up the post or cancel the advertisement in whole or partly without assigning any reason. c. Place a reasonable limit on the total number of candidates to be called for the Written Test and/or Skill Test, Interview.
5.	The Institute shall verify the antecedents or documents submitted by a candidate at the time of appointment or during the tenure of the service. In case, it is detected that the documents submitted by the candidates are fake or the candidate has a clandestine antecedents/background and has suppressed the said information, then his/her services shall be terminated.
6.	Higher initial pay may be given to exceptionally qualified/deserving candidate.

7.	No TA/DA shall be paid to the candidates for attending the interview.
8.	No correspondence will be entertained from candidates regarding interview and reasons for not being called for interview.
9.	Canvassing in any form will be a disqualification.
10.	No interim correspondence will be entertained.
11.	No need to send hard copy.

Officer In-charge
Research & Development