Mr. Gokula Nanda Chhatria, NFSC(RGNF) Fellow, JRF

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Details of the funding agency/ scheme	UGC-NFSC(RGNF), Govt. of India, New Delhi. Letter No-F1.1/2017-18/RGNF-2017-18-SC-ORI-35849 /(SA-III/Website).
Title of the research topic	On Oscillation Properties of Impulsive Difference Equations.
Abstract of the research work (max. 300 words)	The objective of this research work is to study the oscillatory and nonoscillatory solutions of the following neutral impulsive difference systems: 1) $\Delta[y(n)+p(n)y(n-\tau)]+q(n)F\big(y(n-\sigma)\big)=0,\ \ n\neq m_j,\ j\in \mathrm{N}$ $\underline{\Delta}\big[y(m_j-1)+p(m_j-1)y(m_j-\tau-1)\big]+r(m_j-1)F\left(y(m_j-\sigma-1)\right)=0,\ j\in \mathrm{N}.$

2) $\Delta[y(n)+p(n)y(n-\tau)]+q(n)G\big(y(n-\sigma)\big)=f(n),\ \ n\neq m_j,\ j\in \mathrm{N}$

$\underline{\Delta}\big[y(m_j-1)+p(m_j-1)y(m_j-\tau-1)\big]+r(m_j-1)G\Big(y\big(m_j-\sigma-1\big)\Big)=g(m_j-1),\ j\in \mathrm{N}.$

3) $\Delta^2[y(n)+p(n)y(n-\tau)]+q(n)F\big(y(n-\sigma)\big)=0,\ \ n\neq m_j,\ j\in \mathrm{N}$

$\underline{\Delta}^2\big[y(m_j-1)+p(m_j-1)y(m_j-\tau-1)\big]+r(m_j-1)F\Big(y\big(m_j-\sigma-1\big)\Big)=0,\ j\in \mathrm{N}.$

4) $\Delta^2[y(n)+p(n)y(n-\tau)]+q(n)G\big(y(n-\sigma)\big)=f(n),\ \ n\neq m_j,\ j\in \mathrm{N}$

$\underline{\Delta}^2\big[y(m_j-1)+p(m_j-1)y(m_j-\tau-1)\big]+r(m_j-1)G\Big(y\big(m_j-\sigma-1\big)\Big)=g(m_j-1),\ j\in \mathrm{N}.$

for all ranges of $p(n)$, $-\infty < p(n) < \infty$. Also, an attempt shall be made to study the oscillation and nonoscillation properties of the following difference equations

5) $y(n+2)+p(n)y(n+1)+q(n)y(n)=0$

6) $y(n+2)+p(n)y(n+1)+q(n)y(n)=f(n)$

7) $y(n+3)+p(n)y(n+2)+q(n)y(n+1)+r(n)y(n)=0$

8) $y(n+3)+p(n)y(n+2)+q(n)y(n+1)+r(n)y(n)=f(n)$

under the impulsive perturbation

$x(n_k)=M_k\left(x_{n_k}-1\right), k\in N$

	such that $c_k \leq \frac{M_k(x)}{x} \leq {c_k}^*, k \in N.$
Progress of the research work	
Journal publication (International)	
Conference attended	1) Attended "TEOIP Sponsored Two Days International Workshop Recent Trends in Mathematics and Applications(IWRTMA-2016)" held at Veer Surendra University of Technology, Burla, Odisha, INDIA during 1th - 2th August, 2016.
Awards	1) Qualified CSIR-UGC NET DEC-2016 in Mathematical Sciences. 2) Awarded the NFSC (RGNF) by University Grant Commission(UGC), New Delhi, Govt. of India for the academic year 2017-18.