

# Table of Contents

Vol. 20, No.07, July 2025

SL. No.	Title of the Paper	Name of the Author/s	Page No.
1	NUMERICAL EXPLORATION OF CHEMICAL REACTION AND JOULE HEATING EFFECTS ON THE DYNAMICS OF THNF $Cu - TiO_2 - SiO_2/H_2O$ :HEAT AND MASS TRANSMISSION ANALYSIS	B. Naga Lakshmi <sup>1,*</sup> , Ch. Maheswari <sup>2</sup> , Venkata Rao Kanuri <sup>3</sup> J.V. Ramanaiah <sup>4</sup> , R. S. Durga Rao <sup>5</sup> , V. S. Bhagavan <sup>6</sup>	01 – 19
2	THE INFLUENCE OF TEMPERATURE ACTIONS ON THE CRACK RESISTANCE OF LOAD-BEARING STRUCTURES IN A CAST-IN-SITU BUILDING DURING CONSTRUCTION	A. E. Lapshinov <sup>1</sup> , Yu. A. Shaposhnikova <sup>2</sup>	20 – 41
3	THERMOPHORESIS AND BROWNIAN MOTION EFFECTS ON HEAT AND MASS TRANSFER IN MIXED CONVECTIVE MHD HYBRID NANOFLUID FLOW PAST AN INCLINED MAGNETIC STRETCHING SHEET WITH CHEMICAL REACTION AND HEAT SOURCE	David Kumar Parisa <sup>1</sup> , <u>K. Bhagya Swetha Latha</u> <sup>2</sup> , <u>M. Gnaneswara Reddy</u> <sup>3</sup>	42 – 61
4	FUTURE TRENDS AND EMERGING TECHNOLOGIES IN MECHANICAL ENGINEERING: AN ANALYTICAL PERSPECTIVE	Raffi Mohammed <sup>1</sup> , Bairysetti Prasad Babu <sup>2</sup> , Subramanya Sarma S. <sup>3</sup> , C. Sailaja <sup>4</sup> , Subhani Mohammed <sup>5</sup> Kiran Kumar Bunga <sup>6</sup> , Chiranjeevi Aggala <sup>7</sup>	62 – 74
5	DETERMINATION OF FRACTURE TOUGHNESS OF MILD STEEL UNDER MIXED-MODE CONDITIONS USING EXPERIMENTAL FINITE ELEMENT ANALYSIS	Anita Pritam <sup>1</sup> , Peer Mohamed Appa M.A.Y. <sup>2</sup> , S. Rahamat Basha <sup>3</sup> , Bujjibabu Penumutchi <sup>4</sup> , D. Naga Purnima <sup>5</sup> , Ansari Faiyaz Ahmed <sup>6</sup> , Yogesh Diliprao Sonawane <sup>7</sup> , Chandrabhanu Malla <sup>8</sup> , Rabinarayan Sethi <sup>9</sup>	75 – 94
6	EXTRACTION OF NEW EXACT TRAVELING WAVE SOLUTIONS OF THE (3 + 1)- DIMENSIONAL GENG EQUATION BY EMPLOYING TWO EXPANSION STRATEGIES IN MATHEMATICAL PHYSICS	Tozam Hossain <sup>1</sup> , J. R. M. Borhan <sup>2</sup> , Md. Mamun Miah <sup>3</sup>	95 – 112
7	PERFORMANCE ANALYSIS OF LARGE LANGUAGE MODELS IN DIALOGUE PROCESSING SYSTEMS FOR LOW-RESOURCE LANGUAGES COMPARED TO ENGLISH LANGUAGE	Sauvik Bal <sup>1</sup> , Lopa Mandal <sup>2</sup>	113 – 135
8	NUMERICAL INVESTIGATION OF MWCNT/ZNO HYBRID NANOFLUID HEAT PERFORMANCE OF A COUNTER FLOW HEAT EXCHANGER	Pidaparthi Maheshbabu <sup>1</sup> , R. Ramkumar <sup>2</sup> , Goda Sreenivasulu Reddy <sup>3</sup> M. Bakkiyaraj <sup>4</sup> , Prakash H. Jadhav <sup>5</sup>	136 – 153
9	MATHEMATICAL ANALYSIS OF FEEDBACK QUEUE NETWORK MODEL WITH PRIORITYVY COMPRISED OF TWO SERIAL CHANNELS WITHIN STOCHASTIC CONDITIONS	Preeti <sup>1</sup> , Deepak Gupta <sup>2</sup> , Vandana Saini <sup>3</sup>	154 – 170
10	A MODIFIED CLOSED-TYPE HYBRID QUADRATURE FOR THE NUMERICAL SOLUTION OF SINGULAR COMPLEX-VALUED INTEGRALS	Bibburanjan Nayak <sup>1</sup> , Shubhankar Palai <sup>2</sup> , Dwiti Krushna Behera <sup>3</sup> , Tusar Singh <sup>4</sup>	171 – 183
11	A HYBRID APPROACH TO SECURE CONTAINER ORCHESTRATION: INTELLIGENT WATER DROP ALGORITHM WITH ANTI-COLLOCATION AND SECURITY AFFINITY RULES	Kanika Sharma <sup>1</sup> , Parul Khurana <sup>2</sup> , Ramandeep Sandhu <sup>3</sup> , Chander Prabha <sup>4</sup> , Harpreet Kaur <sup>5</sup> , Deepali Gupta <sup>6</sup>	184 – 201
12	MATHEMATICAL SIMULATION OF NOSOCOMIAL INFECTION SPREAD AND THE ROLE OF NURSING-BASED INTERVENTIONS	Sinjit Mukherjee <sup>1</sup> , Soumya Sonalika <sup>2</sup>	202 – 216