

File No. MTH/1-3/Gen.Corr./CUHP/21/343

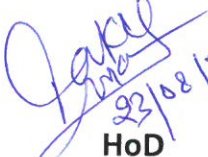
Dated: 23.08.2022

To  
The Director  
IQAC  
Central University of Himachal Pradesh

**Subject: Submission of Academic Audit Report**

Dear Sir,

Please find attached herewith the Academic Audit Report of Srinivasa Ramanujan Department of Mathematics for the period 2016-21 for necessary action at your end please.

  
23/08/2022  
HoD

**Srinivasa Ramanujan Department of Mathematics**



File No.: MTH/1-3/Gen.Corr./CUHP/21/343

Date: 23.08.2022

**INFORMATION FOR ACADEMIC AUDIT OF THE DEPARTMENT**  
(Please provide information for Academic Session 2016-21)

1. **Name of the Department:** Srinivasa Ramanujan Department of Mathematics
2. **Year of establishment:** 2011
3. **Courses offered:** MSc Mathematics, PhD Mathematics

List of Courses offered:

2016-17

Post Graduate		
Course Name	Course Code	Credits
Abstract Algebra	MTH 404	04
Linear Algebra	MTH 403	04
Ordinary and Partial Differential Equations	IAM 402	04
complex analysis	IAM 401	04
topology	MTH 501	04
numerical analysis	IAM 403	04
functional analysis	IAM 501	04
project& seminar based practical training with industry	IAM 550	04
partial differential equation	MTH 402	04
Mathematical Methods	IAM 404	04
Numerical Analysis	IAM 403	04
Real Analysis	MTH 406	04
Fluid Dynamics	IAM 405	04
Differential Geometry	IAM 407	04
Algebraic curves	MTH 615	04
Fractional Differential equations	IAM 606	04
Operational Research	MTH 502	04
Discrete Mathematics	MTH 503	04

2017-18

Post Graduate		
Course Name	Course Code	Credits

Complex Analysis	IAM 401	04
Abstract Algebra	MTH 404	04
Linear Algebra	MTH 403	04
Ordinary and Partial Differential Equations	IAM 402	04
Lebesgue Measure & Integration	MTH 405	04
Topology	MTH 501	04
Fractional differential equations	IAM 606	04
Discrete Mathematics	MTH 503	04
Field Theory and Galois Theory	MTH 520	04
Mathematical Methods	IAM 404	04
Numerical Analysis	IAM 403	04
Real Analysis	MTH 406	04
Galois Theory	MTH 626	04
Differential Geometry	IAM 407	04
Number Theory	MTH 510	04
Finite Element Method	IAM 506	04
M. Sc. Project	MTH 550	04
Mechanics	MTH 504	04

2018-19

Post Graduate		
Course Name	Course Code	Credits
Complex Analysis	IAM 401	04
Abstract Algebra	MTH 404	04
Linear Algebra	MTH 403	04
Ordinary Differential Equations	MTH 401	04
Lebesgue Measure & Integration	MTH 405	04
Topology	MTH 501	04
Finite Element Methods	IAM 506	04
Discrete Mathematics	MTH 503	04
Mechanics	MTH 504	04
Mathematical Methods	IAM 404	04
Numerical Analysis	IAM 403	04
Real Analysis	MTH 406	04
Partial Differential Equations	MTH 402	04
Vedic Mathematics	IAM 412	02
Fluid Dynamics	IAM 405	04
Differential Geometry	IAM 407	04
Operational Research	MTH 502	04
Functional Analysis	IAM-501	04

M. Sc. Project	MTH 550	04
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2019-20

Post Graduate		
Course Name	Course Code	Credits
Linear Algebra	MTH 403	04
Abstract Algebra	MTH 404	04
Complex Analysis	IAM 401	04
Ordinary Differential Equations	MTH 401	04
Vedic Mathematics	IAM 412	02
Mechanics	MTH 504	04
Finite Element Methods	IAM 506	04
Discrete Mathematics	MTH 503	04
Topology	MTH 501	04
Lebesgue Measure and Integration	MTH 405	04
Mathematical Methods	IAM 404	04
Numerical Analysis	IAM 403	04
Real Analysis	MTH 406	04
Partial Differential Equations	MTH 402	04
Introduction to Mathematical Statistics	MTH 527	02
Fluid Dynamics	IAM 405	04
Differential Geometry	IAM 407	04
Operational Research	MTH 502	04
Functional Analysis	IAM-501	04
M. Sc. Project	MTH 550	04

2020-21

Post Graduate		
Course Name	Course Code	Credits
Linear Algebra	MTH 403	04
Abstract Algebra	MTH 404	04
Operational Research	MTH 502	04
Ordinary Differential Equations	MTH 401	04
Mechanics	MTH 504	04
Finite Element Methods	IAM 506	04
Discrete Mathematics	MTH 503	04
Topology	MTH 501	04
Lebesgue Measure and Integration	MTH 405	04
Vedic Mathematics	IAM 412	02
Elementary Number Theory	IAM 415	02
Fluid Dynamics	IAM 405	04
Differential Geometry	IAM 407	04
Operational Research	MTH 502	04

Functional Analysis	IAM-501	04
M.Sc. Project	MTH 550	04
Complex Analysis	IAM 401	04
Numerical Analysis	IAM 403	04
Real Analysis	MTH 406	04
Partial Differential Equations	MTH 402	04
Introduction to Mathematical Statistics	MTH 527	02
Introduction to Rigorous and Precise Thinking	MTH 528	02

2021-22

Post Graduate		
Course Name	Course Code	Credits
Mathematical Methods	IAM 404	04
Discrete Mathematics	MTH 503	02
Linear Algebra	MTH 403	04
Real Analysis	MTH 406	04
Operational Research	MTH 502	02
Indian Knowledge System	IKS	02
Numerical Analysis (IDC)	IAM 403	02
Ordinary Differential Equations (IDC)	MTH 401	02
Finite Element Methods	IAM 506	04
Topology	MTH 501	04
Mechanics	MTH 504	04
Fundamentals of Statistics	MTH 410	04
Functional Analysis	IAM-501	04
Complex Analysis	IAM 401	04
Abstract Algebra	MTH 404	04
Numerical Analysis	IAM 403	02
Topology	MTH 501	02
Differential Geometry	IAM 407	02
Basics of Propositional Logic	MTH 529	02
Introduction to Rigorous and Precise Thinking (IKS)	MTH 528	02
Probability Theory (IDC)	MTH 413	02
Partial Differential Equations and Integral Equations (IDC)	MTH 408	02
Fluid Dynamics	IAM 405	04
Differential Geometry	IAM 407	04
Field Theory and Galois Theory	MTH 520	04
Mathematical Methods	IAM 404	04
M. Sc. Project	MTH 550	04

4. Courses introduced during last year:

2016-17

Undergraduate	Post Graduate	Add-on/Value Added
NIL	NIL	NIL

2017-18

Undergraduate	Post Graduate	Add-on/Value Added
NIL	NIL	NIL

2018-19

Undergraduate	Post Graduate	Add-on/Value Added
NIL	NIL	NIL

2019-20

Undergraduate	Post Graduate	Add-on/Value Added
NIL	NIL	NIL

2020-21

Undergraduate	Post Graduate	Add-on/Value Added
NIL	NIL	NIL

5. Does the Department have Academic flexibility? If yes since when?: New CBCS in 2016

6. Interdisciplinary programs offered and departments involved:

2016-17

Name of the Course/Paper	Interdisciplinary paper shared with department
NIL	

2017-18

Name of the Course/Paper	Interdisciplinary paper shared with department
NIL	

2018-19

Name of the Course/Paper	Interdisciplinary paper shared with department
Vedic Mathematics (IAM 412)	All the Departments of CUHP

2019-20

Name of the Course/Paper	Interdisciplinary paper shared with department
Vedic Mathematics (IAM 412)	All the Departments of CUHP
Introduction to Mathematical Statistics (MTH 527)	All the Departments of CUHP

2020-21

Name of the Course/Paper	Interdisciplinary paper shared with department
Vedic Mathematics (IAM 412)	All the Departments of CUHP
Elementary Number Theory (IAM 415)	All the Departments of CUHP
Introduction to Mathematical Statistics (MTH 527)	All the Departments of CUHP
Introduction to Rigorous and Precise Thinking (MTH 528)	All the Departments of CUHP

7. Courses conducted in collaboration with other Universities and Institutions: NIL
8. Details of programmes discontinued, if any, with reasons: NIL
9. Examination System: Annual/ Semester/Choice Based Credit System/ Credit and Grading system/ any other system, specify: Semester/Choice Based Credit System
10. Participation of the department in the curriculum development for courses offered by the Departments/University.

Name of the faculty	Course/Curriculum
All Faculty members	MSc Mathematics, PhD Mathematics

11. Has the department periodically updated the syllabus or introduced any syllabus other than the one used by university for PG courses at the onset? Yes
12. Number of teaching posts sanctioned, filled and vacant.

Designation	Sanctioned	Filled			Filled under CAS
		P	A	G	
Professor	01	01			
Associate Professor	02	00			
Assistant Professor	04	04			
Total	07	05			

P=Permanent, A=Adhoc, G=Guest

13. Faculty profile with name, qualification, designation, experience, nature of appointment (confirmed/ probation/Ad-hoc/Guest) Appointed on Sanctioned Post:

Name	Gender	Designation	Qualifications	Teaching/ Research Experience	Nature of appointment
Dr. Rakesh Kumar	Male	Professor	PhD	2 Years & 10 Months	Confirmed



Dr. Sachin Kumar Srivastava	Male	Assistant Professor	PhD	9 Years & 9 Months	Confirmed
Dr. Pankaj Kumar S/O Sh. Krishan Singh	Male	Assistant Professor	PhD	2 Years & 6 Months	On Probation
Dr. Meenakshi	Female	Assistant Professor	PhD	1 Year & 11 Months	On probation
Dr. Pankaj Kumar S/O Late Sh. Maniram	Male	Assistant Professor	PhD	1 Year & 10 Months	Confirmed

14. Highest Qualification of the teaching staff:

Highest Qualification	Professor		Associate Professor		Assistant Professor		Total
	Male	Female	Male	Female	Male	Female	
<b>Permanent</b>							
<i>Ph.D.</i>	01				03	01	05

15. Diversity of Faculty:

Number of Actual Strength (2016-17) =03

Teaching faculty	Number	%
From the Same University	00	00
From Other Universities within the State	01	33
From Other States	02	67
From Outside the Country	00	00

Number of Actual Strength (2017-18) =03

Teaching faculty	Number	%
From the Same University	00	00
From Other Universities within the State	01	33
From Other States	02	67
From Outside the Country	00	00

Number of Actual Strength (2018-19) =02

Teaching faculty	Number	%
From the Same University	00	00

From Other Universities within the State	01	50
From Other States	01	50
From Outside the Country	00	00

**Number of Actual Strength (2019-20) =03**

Teaching faculty	Number	%
From the Same University	00	00
From Other Universities within the State	02	67
From Other States	01	33
From Outside the Country	00	00

**Number of Actual Strength (2020-21) =05**

Teaching faculty	Number	%
From the Same University	00	00
From Other Universities within the State	03	60
From Other States	02	40
From Outside the Country	00	00

**Number of Actual Strength (2021-22) =05**

Teaching faculty	Number	%
From the Same University	00	00
From Other Universities within the State	03	60
From Other States	02	40
From Outside the Country	00	00

16. **Number of faculty who have awarded M.Phil., Ph.D., D.Sc. / D.Lit.: 01**

17. **List of Visiting Fellows/Teachers, Adjunct and Emeritus Professors, (2016-21).**

Name	Designation	Institution
NIL		

18. **Percentage of classes taken in each semester by faculty (programme- wise information):**

2016-17

<b>Post-Graduation</b>	
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Name of Faculty	Name of Course	Name of Paper	% Class Taken by	
Dr. Sachin Srivasatva	MSc Mathematics	ABSTRACT ALGEBRA	100	MTH 404
Dr. Rakesh Kumar	MSc Mathematics	LINEAR ALGEBRA	100	MTH 403
Dr. Sachin Srivastava & Dr Ravinder Singh	MSc Mathematics	ORDINARY AND PARTIAL DIFFERENTIAL EQUATIONS	100	IAM 402
Dr Ravinder Singh	MSc Mathematics	COMPLEX ANALYSIS	100	IAM 401
Dr Ravinder Singh	MSc Mathematics	TOPOLOGY	100	MTH 501
Dr Rakesh Kumar	MSc Mathematics	NUMERICAL ANALYSIS	100	IAM 403
Dr Sachin Srivastava	MSc Mathematics	FUNCTIONAL ANALYSIS	100	IAM 501
All Faculty	MSc Mathematics	PROJECT & SEMINAR BASED PRACTICAL TRAINING WITH INDUSTRY	100	IAM 550
	MSc Mathematics	PARTIAL DIFFERENTIAL EQUATION	100	MTH 402
Dr Sachin Srivastava	MSc Mathematics	MATHEMATICAL METHODS	100	IAM 404
All Faculty	MSc Mathematics	NUMERICAL ANALYSIS	100	IAM 403
Dr Ravinder Singh	MSc Mathematics	REAL ANALYSIS	100	MTH 406
Dr Rakesh Kumar	MSc Mathematics	FLUID DYNAMICS	100	IAM 405
Dr Sachin Srivastava	MSc Mathematics	DIFFERENTIAL GEOMETRY	100	IAM 407
Dr Ravinder Singh	MSc Mathematics	ALGEBRAIC CURVES	100	MTH 615
Dr Rakesh Kumar	MSc Mathematics	FRACTIONAL DIFFERENTIAL EQUATIONS	100	IAM 606
Guest Faculty	MSc Mathematics	OPERATIONAL RESEARCH	100	MTH 502
Guest Faculty	MSc Mathematics	DISCRETE MATHEMATICS	100	MTH 503

2017-18

Post-Graduation				
Name of Faculty	Name of Course	Name of Paper	% Class Taken by	
Dr Sachin Srivastava	MSc Mathematics	Complex Analysis	100	IAM 401
Dr Ravinder Singh	MSc Mathematics	Abstract Algebra	100	MTH 404
Dr Rakesh	MSc Mathematics	Linear Algebra	100	MTH 403

Kumar				
All Faculty	MSc Mathematics	Ordinary and Partial Differential Equations	100	IAM 402
Dr Sachin Srivastava	MSc Mathematics	Lebesgue Measure & Integration	100	MTH 405
Dr Ravinder Singh	MSc Mathematics	Topology	100	MTH 501
Dr Rakesh Kumar	MSc Mathematics	Fractional differential equations	100	IAM 606
Guest Faculty	MSc Mathematics	Discrete Mathematics	100	MTH 503
Guest Faculty	MSc Mathematics	Field Theory and Galois Theory	100	MTH 520
Dr Sachin Srivastava	MSc Mathematics	Mathematical Methods	100	IAM 404
Dr Rakesh Kumar	MSc Mathematics	Numerical Analysis	100	IAM 403
Dr Ravinder Singh	MSc Mathematics	Real Analysis	100	MTH 406
Dr Ravinder Singh	MSc Mathematics	Galois Theory	100	MTH 626
Dr Sachin Srivastava	MSc Mathematics	Differential Geometry	100	IAM 407
Guest Faculty	MSc Mathematics	Number Theory	100	MTH 510
Dr Rakesh Kumar	MSc Mathematics	Finite Element Method	100	IAM 506
All Faculty	MSc Mathematics	M. Sc. Project	100	MTH 550
Guest Faculty	MSc Mathematics	Mechanics	100	MTH 504

2018-19

Post-Graduation				
Name of Faculty	Name of Course	Name of Paper	% Class Taken by	
Dr Sachin Srivastava	MSc Mathematics	Complex Analysis	100	IAM 401
Dr Ravinder Singh	MSc Mathematics	Abstract Algebra	100	MTH 404
Dr Rakesh Kumar	MSc Mathematics	Linear Algebra	100	MTH 403
Dr Sachin Srivastava & Dr Rakesh Kumar	MSc Mathematics	Ordinary Differential Equations	100	MTH 401
Dr Sachin Srivastava	MSc Mathematics	Lebesgue Measure & Integration	100	MTH 405

Dr Ravinder Singh	MSc Mathematics	Topology	100	MTH 501
Dr Rakesh Kumar	MSc Mathematics	Finite Element Methods	100	IAM 506
Guest Faculty	MSc Mathematics	Discrete Mathematics	100	MTH 503
Guest Faculty	MSc Mathematics	Mechanics	100	MTH 504
Dr Sachin Srivastava	MSc Mathematics	Mathematical Methods	100	IAM 404
Dr Rakesh Kumar	MSc Mathematics	Numerical Analysis	100	IAM 403
Guest Faculty	MSc Mathematics	Real Analysis	100	MTH 406
Guest Faculty	MSc Mathematics	Partial Differential Equations	100	MTH 402
Anuj Kumar & Ravinder Kumar	MSc Mathematics	Vedic Mathematics	100	IAM 412
Dr Rakesh Kumar	MSc Mathematics	Fluid Dynamics	100	IAM 405
Dr Sachin Srivastava	MSc Mathematics	Differential Geometry	100	IAM 407
Guest Faculty	MSc Mathematics	Operational Research	100	MTH 502
Guest Faculty	MSc Mathematics	Functional Analysis	100	IAM-501
All Faculty	MSc Mathematics	M. Sc. Project	100	MTH 550

2019-20

Post-Graduation				
Name of Faculty	Name of Course	Name of Paper	% Class Taken by	
Dr Rakesh Kumar	MSc Mathematics	Linear Algebra	100	MTH 403
Dr Khushubu Srivastava	MSc Mathematics	Abstract Algebra	100	MTH 404
Dr Sachin Srivastava	MSc Mathematics	Complex Analysis	100	IAM 401
Dr Rakesh Kumar & Dr Tilak Sharma	MSc Mathematics	Ordinary Differential Equations	100	MTH 401
Guest Faculty	MSc Mathematics	Vedic Mathematics	100	IAM 412
Guest Faculty	MSc Mathematics	Mechanics	100	MTH 504
Dr Rakesh Kumar	MSc Mathematics	Finite Element Methods	100	IAM 506

Guest Faculty	MSc Mathematics	Discrete Mathematics	100	MTH 503
Dr Sachin Srivastava & Anuj Kumar	MSc Mathematics	Topology	100	MTH 501
Dr Sachin Srivastava	MSc Mathematics	Lebesgue Measure and Integration	100	MTH 405
Dr Sachin Srivastava	MSc Mathematics	Mathematical Methods	100	IAM 404
Dr Rakesh Kumar	MSc Mathematics	Numerical Analysis	100	IAM 403
Dr Pankaj Kumar	MSc Mathematics	Real Analysis	100	MTH 406
Guest Faculty	MSc Mathematics	Partial Differential Equations	100	MTH 402
Dr Pankaj Kumar	MSc Mathematics	Introduction to Mathematical Statistics	100	MTH 527
Dr Rakesh Kumar	MSc Mathematics	Fluid Dynamics	100	IAM 405
Dr Sachin Srivastava	MSc Mathematics	Differential Geometry	100	IAM 407
Guest Faculty	MSc Mathematics	Operational Research	100	MTH 502
Guest Faculty	MSc Mathematics	Functional Analysis	100	IAM 501
All Faculty	MSc Mathematics	M. Sc. Project	100	MTH 550

2020-21

Post-Graduation				
Name of Faculty	Name of Course	Name of Paper	% Class Taken by	
Dr Pankaj	MSc Mathematics	Linear Algebra	100	MTH 403
Dr Meenakshi	MSc Mathematics	Abstract Algebra	100	MTH 404
Dr Sachin Srivastava	MSc Mathematics	Operational Research	100	MTH 502
Dr Rakesh Kumar	MSc Mathematics	Ordinary Differential Equations	100	MTH 401
Dr Pankaj Kumar	MSc Mathematics	Mechanics	100	MTH 504
Dr Rakesh Kumar	MSc Mathematics	Finite Element Methods	100	IAM 506
Dr Pankaj	MSc Mathematics	Discrete Mathematics	100	MTH 503
Dr Meenakshi	MSc Mathematics	Topology	100	MTH 501

Dr Sachin Srivastava	MSc Mathematics	Lebesgue Measure and Integration	100	MTH 405
Dr Pankaj Kumar	MSc Mathematics	Vedic Mathematics	100	IAM 412
Dr Meenakshi	MSc Mathematics	Basics of Proportional Logic	100	MTH 529
Dr Pankaj Kumar	MSc Mathematics	Fluid Dynamics	100	IAM 405
Dr Sachin Srivastava	MSc Mathematics	Differential Geometry	100	IAM 407
Dr Sachin Srivastava	MSc Mathematics	Operational Research	100	MTH 502
Dr Meenakshi	MSc Mathematics	Functional Analysis	100	IAM 501
All Faculty	MSc Mathematics	M.Sc. Project	100	MTH 550
Dr Sachin Srivastava	MSc Mathematics	Complex Analysis	100	IAM 401
Dr Rakesh Kumar	MSc Mathematics	Numerical Analysis	100	IAM 403
Dr Meenakshi	MSc Mathematics	Real Analysis	100	MTH 406
DR Pankaj Kumar	MSc Mathematics	Partial Differential Equations	100	MTH 402
Dr Pankaj	MSc Mathematics	Introduction to Mathematical Statistics	100	MTH 527
Dr Pankaj	MSc Mathematics	Introduction to Rigorous and Precise Thinking	100	MTH 528

2021-22

Post-Graduation				
Name of Faculty	Name of Course	Name of Paper	% Class Taken by	
Dr SK Srivastava	MSc Mathematics	Mathematical Methods	100	IAM 404
Dr Pankaj Kumar	MSc Mathematics	Discrete Mathematics	100	MTH 503
Dr Pankaj	MSc Mathematics	Linear Algebra	100	MTH 403
Dr Meenakshi	MSc Mathematics	Real Analysis	100	MTH 406
Dr Khushbu/Mr Anuj	MSc Mathematics	Operational Research	100	MTH 502
Dr Rakesh Kumar	MSc Mathematics	Indian Knowledge System	100	IKS
Dr Rakesh Kumar	MSc Mathematics	Numerical Analysis (IDC)	100	IAM 403

Dr Pankaj Kumar	MSc Mathematics	Ordinary Differential Equations (IDC)	100	MTH 401
Dr Rakesh Kumar	MSc Mathematics	Finite Element Methods	100	IAM 506
Dr Meenakshi	MSc Mathematics	Topology	100	MTH 501
Dr Pankaj Kumar	MSc Mathematics	Mechanics	100	MTH 504
Dr Pankaj	MSc Mathematics	Fundamentals of Statistics	100	MTH 410
Dr Meenakshi	MSc Mathematics	Functional Analysis	100	IAM-501
Dr Sachin Srivastava	MSc Mathematics	Complex Analysis	100	IAM 401
Dr Pankaj	MSc Mathematics	Abstract Algebra	100	MTH 404
Dr Pankaj Kumar	MSc Mathematics	Numerical Analysis	100	IAM 403
Dr SK Srivastava	MSc Mathematics	Topology	100	MTH 501
Dr Pankaj Kumar & Dr Sachin Srivastava	MSc Mathematics	Differential Geometry	100	IAM 407
Dr Meenakshi	MSc Mathematics	Basics of Propositional Logic	100	MTH 529
Dr Meenakshi	MSc Mathematics	Introduction to Rigorous and Precise Thinking (IKS)	100	MTH 528
Dr Pankaj	MSc Mathematics	Probability Theory (IDC)	100	MTH 413
Dr Pankaj Kumar	MSc Mathematics	Partial Differential Equations and Integral Equations (IDC)	100	MTH 408
Dr Pankaj Kumar	MSc Mathematics	Fluid Dynamics	100	IAM 405
Dr Pankaj Kumar	MSc Mathematics	Differential Geometry	100	IAM 407
Dr Meenakshi	MSc Mathematics	Field Theory and Galois Theory	100	MTH 520
Dr Pankaj	MSc Mathematics	Mathematical Methods	100	IAM 404
All Faculty	MSc Mathematics	M. Sc. Project	100	MTH 550

19. Programme-wise Student-Teacher Ratio:

2016-17



S. No.	No. Name of the Programme / Course	Sanctioned Student Intake	Teacher-Student Ratio (Formula- Students: teachers)
1	M.Sc. Mathematics	30	20:1

2017-18

S. No.	No. Name of the Programme / Course	Sanctioned Student Intake	Teacher-Student Ratio (Formula- Students: teachers)
1	M.Sc. Mathematics	30	20:1

2018-19

S. No.	No. Name of the Programme / Course	Sanctioned Student Intake	Teacher-Student Ratio (Formula- Students: teachers)
1	M.Sc. Mathematics	30	30:1

2019-20

S. No.	No. Name of the Programme / Course	Sanctioned Student Intake	Teacher-Student Ratio (Formula- Students: teachers)
1	M.Sc. Mathematics	33	21:1

2020-21

S. No.	No. Name of the Programme / Course	Sanctioned Student Intake	Teacher-Student Ratio (Formula- Students: teachers)
1	M.Sc. Mathematics	33	13:1

20. Number of academic support staff (technical) and administrative staff sanctioned, filled and vacant:

Sr. No.	Posts	Sanctioned posts	Filled		Total
			Permanent	Contractual	
1	Laboratory Assistant	NIL			
2	Laboratory Attendant	NIL			

3	Ministerial Staff	NIL			
4.	Others	NIL			

**21. Thrust areas of research as identified by the department: (Please fill your thrust area)**

- Dr. Rakesh Kumar- Fluid Dynamics, Numerical Analysis.
- Dr. Sachin Kumar Srivastava- Differential Geometry and Analysis.
- Dr. Pankaj Kumar (s/o Sh. Krishan Singh)- Hydrodynamic Stability Theory, Fluid Dynamics.
- Dr. Pankaj Kumar (Late Sh. Maniram)- Cryptography.
- Dr. Meenakshi- Algebra.

**22. Information about research grants, projects completed and ongoing during last year:**

**a) From National funding agencies (like UGC, CSIR, DST, DBT, DST-FIST; CSIR, UGC-SAP/CAS, DAE, DBT, BRNS, ICSSR, AICTE, etc):**

Sr. No.	Name of the Principle Investigator (Co-investigator)	Title of the Project	Funding Agency, Duration & date of sanction	Amount (in Lakh)	Status of Project (Submitted/Ongoing)	Remarks if any (Publication/Award/Patent)
1.	Dr. Rakesh Kumar	Oscillatory convection in nanofluids	UGC-BSR	6 Lakh	Completed	2015-17
2.	Dr. Sachin Kumar Srivastava	Null Hypersurfaces and applications	UGC-BSR	6 Lakh	Completed	2014-16
3.	Dr. Sachin Kumar Srivastava (Co-PI)	Analytical and Numerical study of black holes in strong gravity regime	DAE-BRNS	Rs. 27,37,350	On-going	2019 onwards

**Note:** Please enclose a copy of Report Summary, Utilization Certificate and relevant documents

**b) From International funding agencies: NIL**

Sr. No.	Name of the Principal Investigator (Co-investigator)	Title of the Project	Funding Agency, Duration & date of sanction	Amount (in Lakh)	Status of Project (Submitted/Ongoing)	Remarks if any (Publication/Award/Patent)
	NIL					

Note: Please enclose a copy of Report Summary, Utilization Certificate and relevant documents

c) From Corporate Houses/Industries: NIL

Sr. No.	Name of the Principal Investigator (Co-investigator)	Title of the Project	Funding Agency, Duration & date of sanction	Amount (in Lakh)	Status of Project (Submitted/Ongoing)	Remarks if any (Publication/Award/Patent)
	NIL					

Note: Please enclose a copy of Report Summary, Utilization Certificate and relevant documents

23. Funds received at University level through Corpus fund/Seed Money: NIL

Sr. No.	Name of the Principle Investigator (Co-investigator)	Title of the Project	Funding Agency, Duration & date of sanction	Amount (in INR)	Status of Project (Submitted/Ongoing)	Remarks if any (Publication/Award/Patent)
	NIL					

Note: Please enclose a copy of Report Summary, Utilization Certificate and relevant documents

24. Research facilities available in the department and recognition received, if any?

E-Research Journals, Reference Books, ICT Lab, Workstation, Printer, Internet etc.

25. Special research laboratories sponsored by/created by industry or corporate bodies. NIL

26. Details of patents filed & granted and income generated: NIL

27. Consultancy services provided, name of the teacher/s and income generated: NIL

28. Publications:

2016-17

Sr. No.	Papers published in UGC listed journals	Papers published in peer reviewed journals (Not in UGC-LIST)	Monographs, Books, Chapters in books		Citations	h-index*	Impact factor range/Average Impact factor*
			With ISBN no.	Without ISBN no.			
1.	R. Kumar, S. Sood, M. Sheikholeslami, S. A. Shehzad. Nonlinear thermal radiation and cubic autocatalysis chemical reaction effects on the flow of stretched nanofluid under rotational oscillations. <b>Journal of Colloid and Interface Science</b> , 505, 253-265 (2017)				SCI		8.128

2.	R. Kumar, S. Sood. Combined influence of fluctuations in the temperature and stretching velocity of the sheet on MHD flow of Cu-water nanofluid through rotating porous medium with cubic auto-catalysis chemical reaction. <b>Journal of Molecular Liquids</b> , 237, 347-360 (2017)				SCI		6.165
3.	R. Kumar, S. Sood. Effect of Quadratic density variation on mixed convection stagnation point heat transfer and MHD fluid flow in porous medium towards a permeable shrinking sheet. <b>Journal of Porous Media</b> , 19 (12), 1083-1097 (2016)				SCI		1.752
5	M. Arora · R. Singh · M. K. Panda, Effects of magnetic-field-dependent viscosity at the onset of convection in magnetic nanofluids, <b>Journal Engineering Mathematics</b> (2016) 101:201-217				SCI		1.509
6	M. K. Panda, R. Singh, Amaresh Chandra Mishra, and Sraban Kumar Mohanty, Effects of both diffuse and collimated incident radiation on phototactic bioconvection, <b>Physics of Fluids</b> 28, 124104 (2016)				SCI		4.980
7	M. K. Panda, R. Singh, Penetrative phototactic bioconvection in a two-dimensional non-scattering suspension, <b>Physics of Fluids</b> 28, 054105 (2016)				SCI		4.980
8	Geometry of PR-semi-invariant warped product submanifolds in paracosymplectic manifold, <b>J. Geom.</b> 108 (2017), 61-74				SCOPUS		
9	Harmonic maps and para-Sasakian geometry, <b>MATEMATIQKI VESNIK</b> 69, 3 (2017), 153-163 September 2017				SCOPUS		

\* Based on Scopus/ Web of science

2017-18

Sr. No.	Papers published in UGC listed journals	Papers published in peer reviewed journals (Not in UGC-LIST)	Monographs, Books, Chapters in books		Citations	h-index*	Impact factor range/Average Impact factor*
			With ISBN no.	Without ISBN no.			
1.	<b>R. Kumar</b> , Ravinder Kumar, S. A. Shehzad, M Sheikholeslami. Rotating frame analysis of radiating and reacting ferro-nanofluid considering Joule heating and viscous dissipation. <b>International Journal of Heat and Mass Transfer</b> 120 540-551 (2018)						5.584
2.	<b>R. Kumar</b> . Numerical exploration of thermal radiation and rotation effects on the 3-dimensional flow of Cu-water nanofluid over an oscillating flat surface. <b>International Journal of Applied and Computational Mathematics</b> , (2017).						NIL
3.	P. Ram, H. Singh, <b>R. Kumar</b> , V. Kumar, V. K. Joshi. Free Convective Boundary Layer Flow of Radiating and Reacting MHD Fluid Past a Cosinusoidally Fluctuating Heated Plate. <b>International Journal of Applied and Computational Mathematics</b> . DOI: <a href="https://doi.org/10.1007/s40819-017-0355-z">https://doi.org/10.1007/s40819-017-0355-z</a> (2017).						NIL
4.	<b>R. Kumar</b> , S. Sood, S. A. Shehzad, M. Sheikholeslami. Radiative heat transfer study for flow of non-Newtonian nanofluid past a Riga plate with variable thickness. <b>Journal of Molecular Liquids</b> , 248, 143-152 (2017)						6.165
5.	<b>R. Kumar</b> , S. Sood. Numerical Analysis of Stagnation Point Nonlinear Convection Flow through Porous Medium over a Shrinking Sheet. <b>International</b>						NIL

	<b>Journal of Applied and Computational Mathematics</b> , 3(2), 971-985 (2017)							
6.	K.R. Sekhar, G.V. Reddy, C.S.K. Raju, B. Pullepu, <b>R. Kumar</b> , S.A. Shehzad. Aligned magnetic dipole in nonlinear radiative Falkner-Skan flow of Casson fluid over a wedge containing suspension of nanoparticles and microorganisms. <b>International Journal of Nanoparticles</b> , 9(4), 213-233 (2017)							NIL
7.	<b>R. Kumar</b> , S. Sood, S. A. Shehzad, M. Sheikholeslami. Numerical modeling of time-dependent bio-convective stagnation flow of a nanofluid in slip regime. <b>Results in Physics</b> , 7, 3325-3332 (2017)							4.476
8.	Pointwise Pseudo-slant Warped Product Submanifolds in a Kähler Manifold, Mediterranean Journal of Mathematics volume 14, Article number: 20 (2017)					5		
9.	A general optimal inequality for warped product submanifolds in paracosymplectic manifolds, Note di Matematica 2017					5		

\* Based on Scopus/ Web of science

2018-19

Sr. No.	Papers published in UGC listed journals	Papers published in peer reviewed journals (Not in UGC-LIST)	Monographs, Books, Chapters in books		Citations	h-index*	Impact factor range/Average Impact factor*
			With ISBN no.	Without ISBN no.			

8

1.	R. Kumar, R. Kumar, M. Sheikholeslami, A. J. Chamkha. Irreversibility analysis of the three dimensional flow of carbon nanotubes due to nonlinear thermal radiation and quartic chemical reactions. <b>Journal of Molecular Liquids</b> , 274, 379-392 (2019)						6.165
2.	M. Sheikholeslami, S. A. Shehzad, R. Kumar. Natural Convection of Fe3O4-Ethylene glycol nanofluid under the impact of electric field in a porous enclosure. <b>Communications in theoretical Physics</b> (2018)						1.968
3.	On a Class of Paracontact Metric 3-Manifold, Vol. 22 No. 4 (2018) <b>Journal of International Academy of Physical Sciences</b> pp. 263-277						

\* Based on Scopus/ Web of science

2019-20

Sr. No.	Papers published in UGC listed journals	Papers published in peer reviewed journals (Not in UGC-LIST)	Monographs, Books, Chapters in books		Citations	h-index*	Impact factor range/Average Impact factor*
			With ISBN no.	Without ISBN no.			
1.	H. Babazadeh, R. Kumar, R. N. Dara, A. Shafee. Simulation Examination for Nanoparticle Flow in a Permeable Enclosure via CVFEM Involving MHD Effect. <b>Arabian Journal for Science and Engineering</b> , 1-15 (2020)						2.334
2.	R. Kumar, R. Koundal, S. A. Shehzad. Least Square Homotopy Solution to Hyperbolic Telegraph						

	Equations: Multi-dimension Analysis. <b>International Journal of Applied and Computational Mathematics</b> , 6(1), 1-19 (2020)						
3.	<b>R. Kumar</b> , S. A. Shehzad. Numerical simulation of three dimensional flow of radiating gray nanofluid through porous medium subjected to vibrational rotations and slip at liquid-sheet interface. <b>Journal of Porous Media</b> , (2018)						1.752
4.	<b>R. Kumar</b> , R. Koundal, S. A. Shehzad. Generalized least square homotopy perturbation solution of fractional telegraph equations. <b>Computational and Applied Mathematics</b> , 38(4), 1-20 (2019)						2.239
5.	<b>R. Kumar</b> , S. Sood, C. S. K. Raju, S. A. Shehzad. Hydromagnetic unsteady slip stagnation flow of nanofluid with suspension of mixed bio-convection. <b>Propulsion and Power Research</b> , 8(4), 362-372 (2019)						3.738
6.	Z. Abbas, T. Mushtaq, S. A. Shehzad, A. Rauf, <b>R. Kumar</b> . Slip flow of hydromagnetic micropolar nanofluid between two disks with characterization of porous medium. <b>Journal of the Brazilian Society of Mechanical Sciences and Engineering</b> , 41(10), 1-13						2.220



	(2019)						
7.	M. F. M. Basir, <b>R. Kumar</b> , A. I. M. Ismail, G. Sarojamma, P. S. Narayana, J. Raza, A. Mahmood. Exploration of thermal-diffusion and diffusion-thermal effects on the motion of temperature-dependent viscous fluid conveying microorganism. <b>Arabian Journal for Science and Engineering</b> , 44(9), 8023-8033 (2019)						2.334
8.	<b>R. Kumar</b> , R. Kumar, R. Koundal, S. A. Shehzad, M. Sheikholeslami. Cubic Auto-Catalysis Reactions in Three-Dimensional Nanofluid Flow Considering Viscous and Joule Dissipations under Thermal Jump. <b>Communications in Theoretical Physics</b> , 71(7), 779 (2019)						1.968
9.	<b>R. Kumar</b> , C. S. K. Raju, K. R. Sekhar, G. V. Reddy. Three dimensional MHD ferrous nanofluid flow over a sheet of variable thickness in slip flow regime. <b>Journal of Mechanics</b> , 35(2), 255-266 (2019)						
10.	A. Shafee, M. M. Bhatti, T. Muhammad, <b>R. Kumar</b> , N. D. Nam, H. Babazadeh. Simulation of convective MHD flow with inclusion of hybrid powders. <b>Journal of Thermal Analysis and Calorimetry</b> , 1-10 (2020)						4.626

11.	Ferromagnetic convection in the presence of dust particles with magnetic field dependent viscosity-revisited, Journal of Rajasthan Academy of Physical Sciences ISSN : 0972-6306; URL : <a href="http://raops.org.in">http://raops.org.in</a> Vol.18, No.3&4, July-December, 2019, 201-214						
12.	The effect of magnetic field dependent viscosity on ferromagnetic convection in a rotating sparsely distributed porous medium-Revisited, International Journal of Applied Mechanics and Engineering						0.77
13.	PR-pseudo-slant warped product submanifold of a nearly paracosymplectic manifold, An. S. tiint., Univ. Al. I. Cuza Iasi. Mat. (N.S.) Tomul LXV, 2019, f. 1						
14.	Non-existence of PR-pseudo-slant warped product submanifolds of paracosymplectic manifolds, MATHEMATICA, 61 (84), No 2, 2019, pp. 169-182						

\* Based on Scopus/ Web of science

2020-21

Sr. No.	Papers published in UGC listed journals	Papers published in peer reviewed journals (Not in UGC-LIST)	Monographs, Books, Chapters in books		Citations	h-index*	Impact factor range/Average Impact factor*
			With ISBN no.	Without ISBN no.			
1.	<b>R. Kumar</b> , R. Kumar, T. Sharma, M. Sheikholeslami. Mathematical modelling of stagnation region nanofluid flow through Darcy-Forchheimer space taking into account inconsistent heat source/sink. <b>Journal of Applied Mathematics and Computing</b> , 1-22 (2020)						1.686
2.	<b>R. Kumar</b> , R. Kumar, K. Vajravelu, M. Sheikholeslami. Three dimensional stagnation flow of Casson nanofluid through Darcy-Forchheimer space: A reduction to Blasius/Sakiadis flow, <b>Chinese Journal of Physics</b> , 68, 874-885 (2020)						3.237
3.	Y.M. Chu, <b>R. Kumar</b> , Q. V. Bach. Water-based nanofluid flow with various shapes of Al <sub>2</sub> O <sub>3</sub> nanoparticles owing to MHD inside a permeable tank with heat transfer. <b>Applied Nanoscience</b> , 1-12 (2020)						3.674
4.	<b>R. Kumar</b> , T. Sharma, R. Kumar, M. Sheikholeslami, K. Vajravelu. Stability analysis of multiple solutions in case of a stretched nanofluid flow obeying Corcione's correlation: An extended Darcy model. <b>ZAMM-Journal of Applied Mathematics and Mechanics</b> , e202000172 (2020)						1.603
5.	<b>R. Kumar</b> , R. Koundal, K. Srivastava, D. Baleanu. Normalized Lucas wavelets: an application to Lane-Emden and						3.911

	pantograph differential equations. <b>The European Physical Journal Plus</b> , 135(11), 1-24 (2020)						
6.	<b>R. Kumar</b> , S. A. Shehzad, A. J. Chamkha. Optimal treatment of stratified Carreau and Casson nanofluids flows in Darcy-Forchheimer porous space over porous matrix. <b>Applied Mathematics and Mechanics</b> , 41(11), 1651-1670 (2020)						2.866
7.	M. R. Hajizadeh, A. I. Alsabery, M.A. Sheremet, <b>R. Kumar</b> , Z. Li, Q. V. Bach. Nanoparticle impact on discharging of PCM through a thermal storage involving numerical modeling for heat transfer and irreversibility. <b>Powder Technology</b> , 376, 424-437 (2020)						5.134
8.	Y. Zheng, M. Jafaryar, <b>R. Kumar</b> , A. Shafee, N. D. Nam, H. Babazadeh. Influences of complex multi-channel turbulator on hybrid nanoparticle transportation and thermal behaviour. <b>Journal of Thermal Analysis and Calorimetry</b> , 1-10 (2020)						4.626
9.	H. Vaidya, K.V. Prasad, I. Tlili, O.D. Makinde, C. Rajashekhar, S.U. Khan, R. Kumar, D.L. Mahendra. Mixed convective nanofluid flow over a non-linearly stretched Riga plate. <b>Case Studies in Thermal Engineering</b> , 100828 (2021)						4.724
10.	Pointwise Slant Curves in Quasi-paraSasakian 3-Manifolds, Mediterranean						1.871 (ISI)



	Journal of Mathematics volume 17, Article number: 114 (2020)						
11.	<ul style="list-style-type: none"> <li>On T-Hypersurfaces of a paraSasakian manifold, Facta Universitatis Series Mathematics and Informatics 35(4):1003-1016 DOI: 10.22190/FUMI2004003S</li> </ul>						1.2
12.	On the complex growth rate of a perturbation in ferrothermohaline convection with magnetic field dependent viscosity in a densely packed porous medium,						1.44
13.	S Areekara, AS Sabu, <b>R Kumar</b> , A Mathew, Triple stratification effects on bioconvective stagnation point flow pertaining carbon nanotubes due to induced magnetic field, <b>ZAMM-Journal of Applied Mathematics and Mechanics</b> , 101 (11) e202000375 (2021)						1.603

\* Based on Scopus/ Web of science

29. #Details of teachers invited as resource persons for Refresher courses, Orientation courses, Seminars, Workshops, Conferences at state, national and international levels.

2016-2021

Name of Faculty	Resource Person for (Refresher courses, Orientation courses, Seminars, Workshops, Conferences)	Levels (National/ International/ State/Universit y/College)
Dr. Rakesh Kumar	Inspire Internship, 2019 DST	State Level

Dr. Sachin Kumar Srivastava	Invited as Resource person and presented the topic Geometry and Topology of Manifolds: A Quick Introduction” in the national conference on “Recent Trends in Mathematical Sciences.” Organised by Department of Mathematics & Statistics held on (24-25/11/2018), at Deen Dayal Upadhyaya Gorakhpur University, Gorakhpur.	National
	Invited as Resource person and presented the topic “Characterization of Legendre curves in quasi Sasakian pseudo-metric 3-manifold” in the international conference on “Recent Advances in Differential Geometry and Topology.” Organised by Department of Mathematics & Statistics held on (26-28/10/2021), at Central University of Punjab, Bathinda.	International

#Format for para 29 Participated/Invited as Resource person and presented/Judged the topic “(Title of the topic).” under the session/sub-session “(Name, if any)” in state/national/international workshop/conference/seminar on “(Title of the event).” Organised by (Department/College) held on (Date/month/year), at (Institution/University).

30. #Details of teachers participated in Refresher courses, Orientation courses, Seminars, Workshops, Conferences at national and international levels.(participant, presented paper, chaired the session)

2016-2021

Name of Faculty	Participation in (Refresher courses, Orientation courses, Seminars, Workshops, Conferences)	Levels (National/ International/ State/University/ College)
Dr. Pankaj Kumar (S/O Sh. Krishan Singh)	Participated in Workshop on “Geometry of continued fractions: Ramanujan and his successors” Organised by Srinivasa Ramanujan Department of Mathematics, CUHP held from 14-15 September, 2020 at Shahpur Parisar.	International
	Participated in Five days online short term course on “Numerical Solutions of Differential Equations” Organised by Department of Mathematics, NIT Jalandhar held from: 16 <sup>th</sup> -20 <sup>th</sup> September, 2020.	National
	Participated in Lecture Series at e-Colloquium on “Recent Advancements in Fluid Flow and Heat Transfer” Organised by Department of Mathematics IIT Roorkee held from 19-25 <sup>th</sup> October, 2020.	National
	Participated in Workshop on “Srinivasa Ramanujan: The man beyond infinity” Organised by Srinivasa Ramanujan Department of Mathematics, CUHP held on 22th December, 2020 at Shahpur Parisar.	International
	Participated in Seminar on “Role of Teachers in National Education Policy (NEP)” Organised by CUHP held from 22-23 February, 2021.	National

	Participated in Webinar on “Relevance of Vedic Mathematics in today's context” Organised by Srinivasa Ramanujan Department of Mathematics, CUHP and Centre of Vedic Mathematics, CUHP held on 03 <sup>rd</sup> September, 2021 at Shahpur Parisar.	National
	Participated in International conference on “Recent trends in Mathematics (ICRTM 2021)” Organised by Department of Mathematics and Statistics, HPU Shimla held on 6-7 September, 2021.	International
	Participated in Workshop on “Principles of Vedic Mathematics” Organised by Srinivasa Ramanujan Department of Mathematics, CUHP and Centre of Vedic Mathematics, CUHP held from 08 <sup>th</sup> -12 <sup>th</sup> November, 2021 at Shahpur Parisar.	National
	Participated in One Day National Webinar on “Cryptography and Network Security” Organised by Srinivasa Ramanujan Department of Mathematics, CUHP held on 30 <sup>th</sup> January, 2022 (On the Occasion of Foundation week celebration of CUHP)	National
	Participated in One Day National Webinar on “Research in Vedic Mathematics” Organised by Srinivasa Ramanujan Department of Mathematics, CUHP held on 31 <sup>st</sup> January, 2022 (On the Occasion of Foundation week celebration of CUHP)	National
Dr. Sachin Kumar Srivastava	Participated in National conference on “Recent Trends in Mathematical Sciences.” Organised by Department of Mathematics & Statistics held on (24-25/11/2018), at Deen Dayal Upadhyaya Gorakhpur University, Gorakhpur.	National
	Participated in International conference on “Recent Advances in Differential Geometry and Topology.” Organised by Department of Mathematics & Statistics held on (26-28/10/2021), at Central University of Punjab, Bathinda.	International
Dr. Rakesh Kumar	Participated in International Conference on Vedic Mathematics 2019 on “Emerging Dimensions and Applications in Science, Technology and Social Sciences Research” Organised by Department of Mathematics, Choudhary Bansi Lal University, Bhiwani, Haryana held on 22-24 December 2019.	International
	Participated in “International conference on Algebra and Continuum Mechanics” Organised by Department of Mathematics and Statistics, HPU Shimla held on 23-25 November, 2018.	International
	Participated in One week short term course on “Research Methodology” organised by HRDC, Centre for professional development in Higher Education, University of Delhi held on 20-26 March, 2018.	National

Dr. Pankaj Kumar (s/o Late Mani Ram)	Participated in International Virtual Conference on “Emerging trends on artificial intelligence in industry 4.0” Organised by Loyola Institute of Technology, Chennai held on 21 June, 2021.	International
	Participated in the Virtual National conference on “Recent Advances in Communicative Electronics (NCRACE 2021)” Organised by the Department of Electronics and communication engineering, SRM TRP Engineering College, Tiruchirappalli held on 25 <sup>th</sup> March 2021.	National
Dr. Meenakshi	Participated in Workshop on “Geometry of continued fractions: Ramanujan and his successors” Organised by Srinivasa Ramanujan Department of Mathematics, CUHP held from 14-15 September, 2020 at Shahpur Parisar.	International
	Participated in Workshop on “Srinivasa Ramanujan: The man beyond infinity” Organised by Srinivasa Ramanujan Department of Mathematics, CUHP held on 22th December, 2020 at Shahpur Parisar.	International
	Participated in Webinar on “Relevance of Vedic Mathematics in today's context” Organised by Srinivasa Ramanujan Department of Mathematics, CUHP and Centre of Vedic Mathematics, CUHP held on 03 <sup>rd</sup> September, 2021 at Shahpur Parisar.	National
	Participated in International conference on “Recent trends in Mathematics (ICRTM 2021)” Organised by Department of Mathematics and Statistics, HPU Shimla held on 6-7 September, 2021.	International

**#Format for para 30**

Participated in state/national/international workshop/conference/seminar on “(Title of the event).” Organised by (Department/College) held on (Date/month/year), at (Institution/University).

**31. Details of teachers presented paper Seminars, Workshops, Conferences at national and international levels.(participant, presented paper, chaired the session) in an academic year.**

**2016-2021**

Name of Faculty	Participation in (Refresher courses, Orientation courses, Seminars, Workshops, Conferences)	Levels (National/ International/ State/University/ College)
Prof. Rakesh Kumar	Chaired a session in the “International Conference on Mathematical Sciences Interface Humanity” Organised by Department of Mathematics Govt. College, Barsar Hamirpur (H.P.) held on dated 7-8 October 2016.	International



	Chaired a session in the “National Conference Conference on Advances in Mathematical Sciences” Organised by Department of Mathematics NSCBM Govt. College, Hamirpiur (H.P.) held on dated 21-22 December 2016.	National
	Chaired a session in the “International Conference on Algebra and Continuum Mechanics” Organised by Department of Mathematics and Statistics, HPU Shimla held on dated (November 23-25, 2018).	International
	Chaired a technical session in the International Conference on “Recent Advances in Fundamental and Applied Sciences” held on dated 25-26 June, 2021.	International
	Chaired a session in the “International Conference on Advances in Multidisciplinary Sciences and Engineering Research” Organised by Chitkara University of Himachal Pradesh held on dated 2-3 July 2021.	International
	Presented a paper entitled “ Mathematical structures from the view point of Vedic Mathematics” in International Conference on Vedic Mathematics 2019 on “Emerging Dimensions and Applications in Science, Technology and Social Sciences Research” Organised by Department of Mathematics, Choudhary Bansi Lal University, Bhiwani, Haryana held on 22-24 December 2019.	International
	Presented a paper entitled “Non-Newtonian Nanofluid flow past a slender body due to Darcy Forchheimer medium” in “International conference on Algebra and Continuum Mechanics” Organised by Department of Mathematics and Statistics, HPU Shimla held on 23-25 November, 2018.	International
	Two Weeks FDP on MANAGING ONLINE CLASSES and CO-CREATING MOOCS from April 20- May 06, 2020 organized by Ramanujan College University of Delhi.	National
	Two Week online workshop on “Comprehensive e-Learning to e-Training guide for Administrative Work” from May 25- June 05, 2020 organized by Ramanujan College University of Delhi.	National
Dr. Sachin Kumar Srivastava	Chaired the session in the national conference on “Recent Trends in Mathematical Sciences.” Organised by Department of Mathematics & Statistics held on (24-25/11/2018), at Deen Dayal Upadhyaya Gorakhpur University, Gorakhpur.	National
	UGC sponsored refresher course in the subject “Information Technology” Organised by University of Lucknow held from December 09-31, 2016.	

	Two Weeks FDP on MANAGING ONLINE CLASSES and CO-CREATING MOOCS from April 20- May 06, 2020 organized by Ramanujan College University of Delhi.	
	Two Week online workshop on “Comprehensive e-Learning to e-Training guide for Administrative Work” from May 25- June 05, 2020 organized by Ramanujan College University of Delhi.	
	One Week FDP on Universal Human Values for “DEEKSHARAMBH (Student Induction Program)” from November 23- November 27, 2020 organized by Department of Mechanical Engineering NIT Patna	
	Refresher Course in Environmental Studies (Interdisciplinary) from September 20- October 04, 2021 organized by UGC-HRDC, JNU.	
	Interdisciplinary Refresher Course in “Advanced Concepts in Developing MOOCS” from October 06- October 20, 2021 organized by Ramanujan College University of Delhi.	
Dr. Meenakshi	Presented a paper entitled “Disjoint union Metric and Topological Spaces” in International conference on “Recent trends in Mathematics (ICRTM 2021)” Organised by Department of Mathematics and Statistics, HPU Shimla held on 6-7 September, 2021.	International
	Two week “Refresher course in Mathematics” Organised by Teaching Learning Centre Ramanujan College University of Delhi held from August 31-14 September, 2021.	National
Dr. Pankaj Kumar S/O Late Sh. Maniram	Presented a paper entitled “ Survey of Security Framework of Different Network with Pairing free Certificateless Signature Schemes” in International Virtual Conference on “Emerging trends on artificial intelligence in industry 4.0” Organised by Loyola Institute of Technology, Chennai held on 21 June, 2021.	International
	Presented a paper entitled “A Security infrastructure for Smart Cities Using internet of things” in International Virtual Conference on “Emerging trends on artificial intelligence in industry 4.0” Organised by Loyola Institute of Technology, Chennai held on 21 June, 2021.	International
	Presented a paper entitled “Review of Proxy Signature in Elliptic Curve Cryptography” in the Virtual National conference on “Recent Advances in Communicative Electronics (NCRACE 2021)” Organised by the Department of Electronics and communication engineering, SRM TRP Engineering College, Tiruchirappalli held on 25 <sup>th</sup> March 2021.	National

	Four week Induction/ Orientation programme for “Faculty in Universities/ Colleges/ Institutes of Higher Education” organised by Organised by Teaching Learning Centre Ramanujan College University of Delhi held from February 11-March 13, 2021.	National
Dr. Pankaj Kumar S/O Sh. Krishan Singh	Two Weeks Faculty Development Programme on “Managing online classes and Co-creating MOOCS: 2.0” Organised by Teaching Learning Centre Ramanujan College University of Delhi held from: May 18-June 03, 2020.	National
	Four Week Induction/ Orientation Programme on “Faculty in Universities/Colleges/Institutes of Higher Education” Organised by Teaching Learning Centre Ramanujan College University of Delhi held from: June 04-July 01, 2020.	National

**#Format for para 31**

Presented a paper entitled as “(Title of the paper/poster/oral presentation)” in state/national/international workshop/conference/seminar on “(Title of the event).” Organised by (Department/College) held on (date/month/year), at (Institution/University).

**32. Participation of teachers in various academic activities as members of committees at University level, State level, National level, International level bodies. (give details)**

Name of Faculty	Nature of Participation (Activity)	Levels (National/ International/ State/University/College)
Prof. Rakesh Kumar	<ol style="list-style-type: none"> <li>1. VC Nominee, BOS, Department of earth and Environmental Sciences, CUHP</li> <li>2. VC Nominee, School Board, School of Physics and Material Sciences, CUHP</li> <li>3. Chairman, Departmental Academic Integrity Panel, SRDM, CUHP</li> <li>4. VC Nominee, Departmental Academic Integrity Panel, Department of Plant Sciences, CUHP</li> <li>5. VC Nominee, BOS, HPKVBS, CUHP</li> <li>6. Chairman, BOS, Srinivasa Ramanujan Department of Mathematics, CUHP</li> <li>7. Chairman, School Board, School of Mathematics, Computers &amp; Information Sciences, CUHP</li> <li>8. Chairman, BOS, Department of Computer Science and Informatics, CUHP</li> <li>9. Chairman, BOS, Centre for Vedic Mathematical Studies, CUHP</li> <li>10. Chairman, CDC, Department of Computer Science &amp; Informatics CUHP</li> <li>11. Director Research Nominee, DRC, Department of Plant Sciences, CUHP</li> <li>12. Director Research Nominee, DRC, Department of</li> </ol>	University Level

	Computational Biology and Bioinformatics, CUHP 13. Ex Officio member, Academic Council, CUHP	
Dr. Sachin Kumar Srivastava	1. Member, BOS, Srinivasa Ramanujan Department of Mathematics, CUHP 2. Member, School Board, School of Mathematics, Computers & Information Sciences, CUHP 3. VC Nominee, BOS, Department of Library and Information Science, CUHP 4. Nodal Officer, Unnat Bharat Abhiyan	University Level
Dr. Pankaj Kumar S/O Sh. Krishan Singh	1. Library and Information Sciences (Member BoS) 2. Srinivasa Ramanujan Department of Mathematics (Dean's Nominee/ Special Invitee/ Subject Expert in BoS) 3. Member Proctorial Board for academic session 2021-2022 4. Chairman nominee, Departmental Academic Integrity Panel, SRDM, CUHP	University Level
Dr. Pankaj Kumar S/O Late Sh. Maniram	1. Centre for Vedic Mathematical Studies (Dean's Nominee/ Special Invitee/ Subject Expert in BoS) 2. Member, DSC, Srinivasa Ramanujan Department of Mathematics, CUHP	University Level
Dr. Meenakshi	1. Member, Sparsh, CUHP 2. Member, DSC, Department of Computer Science & Informatics, CUHP	University Level

33. Percentage of participation of full-time teachers in various bodies of the Universities/ Other Colleges, (e.g. BoS and Academic Council during the last year) 100%

**Data requirement:**

- Number of teachers participated
- Name of the body in which full time teacher participated
- Total number of teachers

**Formula=  $\frac{\text{Number of teachers participated}}{\text{Total Number of teachers}} \times 100$**

**Total Number of teachers**

**Documents:** Enclose scanned copies of the certificate supporting the participation of teachers

34. Details of teachers appointed/nominated on Editorial Boards at university, state, national and international levels. NIL

Sr. No.	Name of the teacher	Name of Editorial Boards	Level of board	Name of Institution
	NIL			

35. Awards/Prizes and recognitions received by teachers at University, State, National and International level:

Sr. No.	Name of the teacher	Nature of Award	Level of Award	Money received if any (In Rs)



	Prof. Rakesh Kumar	DST (Vide letter No. SR/WOS-A/PM-20/2018(G) Dated: 21.11.2018 to Dr. Khushbu Srivastava	National	Rs. 21,87,838/- (approx.)

**36. Awards and Prizes received by students at University, State, National and International level:  
NIL**

Sr. No.	Name of the Student	Name of the activity	Nature of Award	Level of Award	Money received if any (In Rs)
	NIL				

**37. Details of Seminars/ Conferences/Workshops organized by department at University, State, National and International level and the source of funding with details:**

Name of Conference/ Seminars / Workshops	Funding agency and funds received		No. of Participants		University/State/ National/ International	Dates
	Internal	External	Internal	External		
One Day Workshop on "Introduction to Distribution Theory"	Internal	-	All students of M.Sc. & PhD including Faculty members	N.A.	University Level	11 <sup>th</sup> February, 2017
Two days workshop on "Indian Mathematics"	Internal	-	All students of M.Sc. & PhD including Faculty members	N.A.	International	13-14 September, 2019
National Seminar on Analytical Aspects of Dynamics	Internal	External	All students of M.Sc. & PhD including Faculty members	20	National	November 22-23, 2019
National Webinar on "Relevance of Vedic Mathematics in today's context"	Internal	External	All students of M.Sc. & PhD including Faculty members	65 approx.	National	03 <sup>rd</sup> September, 2021
Workshop on	Internal	External	All	60	National	08 <sup>th</sup> -12 <sup>th</sup>

“Principles of Vedic Mathematics”			students of M.Sc. & PhD including Faculty members	approx.		November, 2021
One Day National Webinar on “Cryptography and Network Security”	Internal	-	All students of M.Sc. & PhD including Faculty members	N.A.	National	30 <sup>th</sup> January, 2022
One Day National Webinar on “Research in Vedic Mathematics”	Internal	-	All students of M.Sc. & PhD including Faculty members	N.A.	National	31 <sup>th</sup> January, 2022
Workshop on “Geometry of continued fractions: Ramanujan and his successors”	Internal	External	All students of M.Sc. & PhD including Faculty members	100 approx.	International	14-15 September, 2020
Workshop on “Srinivasa Ramanujan: The man beyond infinity”	Internal	External	All students of M.Sc. & PhD including Faculty members	80 approx.	International	22 <sup>th</sup> December, 2020

**38. Student profile programme-wise at UG and PG**

(2016-17)

UG/PG	Applications Received	No. of students Admitted	Sanctioned Seats	Male*	Female	Total
PG		30	30	08	22	30

\*For Add-on/Value Added/Short term Course

(2017-18)

UG/PG	Applications Received	No. of students Admitted	Sanctioned Seats	Male*	Female	Total

PG		30	30	14	16	30
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\*For Add-on/Value Added/Short term Course

(2018-19)

UG/PG	Applications Received	No. of students Admitted	Sanctioned Seats	Male*	Female	Total
PG	760	30	30	15	15	30

\*For Add-on/Value Added/Short term Course

(2019-20)

UG/PG	Applications Received	No. of students Admitted	Sanctioned Seats	Male*	Female	Total
PG	791	31	33	19	12	31

\*For Add-on/Value Added/Short term Course

(2020-21)

UG/PG	Applications Received	No. of students Admitted	Sanctioned Seats	Male*	Female	Total
PG	394	33	33	12	21	33

\*For Add-on/Value Added/Short term Course

39. Diversity of Students : (Year-wise)

2016-17

Name of the Programme	Course	Year	Total number	% of students from the same state	% of students from other State	% of students from other countries
PG		I	30	30	00	00
		II	30	30	00	00

2017-18

Name of the Programme	Course	Year	Total number	% of students from the same state	% of students from other State	% of students from other countries
PG		I	30	27	03	00

		II	30	30	00	00
--	--	----	----	----	----	----

**2018-19**

Name of the Programme	Course	Year	Total number	% of students from the same state	% of students from other State	% of students from other countries
PG		I	30	28	02	00
		II	30	27	03	00

**2019-20**

Name of the Programme	Course	Year	Total number	% of students from the same state	% of students from other State	% of students from other countries
PG		I	31	27	04	00
		II	30	28	02	00

**2020-21**

Name of the Programme	Course	Year	Total number	% of students from the same state	% of students from other State	% of students from other countries
PG		I	33	33	00	00
		II	31	27	04	00

**40. Year-wise results of students at UG and PG:**

**2016-17**

UG/PG	Year	Appeared	Passed	Pass %	Grade %			
					O	A	B	C
PG	2016	25	25	100%				

**2017-18**

UG/PG	Year	Appeared	Passed	Pass %	Grade %			
					O	A	B	C



PG	2017	26	26	100%				
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2018-19

UG/PG	Year	Appeared	Passed	Pass %	Grade %			
					O	A	B	C
PG	2018	25	25	100%				

2019-20

UG/PG	Year	Appeared	Passed	Pass %	Grade %			
					O	A	B	C
PG	2019	28	28	100%				

2020-21

UG/PG	Year	Appeared	Passed	Pass %	Grade %			
					O	A	B	C
PG	2020	29	29	100%				

41. Student progression/ placement record: Number/ percentage of students proceeded for higher studies Number/percentage of students placed:

Year	% proceeded for higher studies			% of students placed
	UG to PG	PG to Ph.D./ M.Phil	Professional	
2016-17	N.A.	02		
2017-18	N.A.	03		
2018-19	N.A.	03		
2019-20	N.A.	02		
2020-21	N.A.	05		

42. Number of students awarded M.Phil., Ph.D., Degree (in case of any faculty is Co-supervisor):  
NIL

Year	M.Phil	Ph.D.	Title of the Research	Parent University	Male	Female	Total
2016		NIL					
2017		NIL					
2018		NIL					
2019		NIL					

2020		NIL				
2021		NIL				

43. Number of students cleared Civil Services and Defence Services examinations, NET, SET, GATE and other competitive examinations? Give Category wise data.

Year	UPSC/other State PSCs	NET/SET	GATE	Other Exams	Total
2016-17		03	-	01	04
2017-18		-	-	01	01
2018-19		-	-	01	01
2019-20		01	01	03	05
2020-21			01	02	03
2021-22		02	05	03	10

44. Dropout rate in UG and PG (average for the last two batches)

PG = 17% (2016)

PG = 13% (2017)

PG = 17%% (2018)

PG = 13% (2019)

PG = 13% (2020)

45. Present details of departmental infrastructural & other facilities with regard to

- a) Central Library Books and Journals, etc, relevant to Department: Yes
- b) Departmental Library (books, journals etc.) : No
- c) Computers and Internet facilities for staff : Yes
- d) Total number of class rooms : 02
- e) Class rooms with ICT facility : 01
- f) Students' laboratory : No
- g) Research laboratories : No
- h) Smart class room : Yes
- i) Any other facility LCDs/projectors : Yes

46. List of faculty members doing post-doctoral Research NIL

Sr. No.	Name of the Faculty	Institute	Research Topic
1	NIL		

47. Number of students getting financial assistance from the university/state / central government / NGOs/ Trusts/ Other sources

2016-17

Sr. No.	Name of the Student	Source of Funding	Nature of Financial assistance	Level of Financial assistance	Money received (In Rs)
1.	Poonam Kumari		Freeship		15,200.00
2.	Diksha				15,200.00
3.	Shabnam				15,200.00
4.	Manju Verma				15,200.00
5.	Priya Sharma				15,200.00
6.	Vijay Kumar				15,200.00
7.	Kanika Choudhary				15,200.00
8.	Sunny Kumar				15,200.00
9.	Manisha Kapoor				15,200.00
10.	Diksha Choudhary				7,600.00
11.	Nitika Chandel				7,600.00
12.	Meenakshi				7,600.00
13.	Mayrika Dhiman				7,600.00
14.	Kanika Sood	CUHP	UGC Non-NET Fellowship	1 <sup>st</sup> August, 2016 to 31 <sup>st</sup> March, 2017	64,000.00
15.	Kanika Sood		JRF	1 <sup>st</sup> April to 31 <sup>st</sup> July, 2017	1,10,000.00
16.	Ravinder Kumar	CUHP	UGC Non-NET Fellowship	1 <sup>st</sup> August, 2016 to 31 <sup>st</sup> July, 2017	96,000.00
17.	Reena Koundal				96,000.00

2017-18

Sr. No.	Name of the Student	Source of Funding	Nature of Financial assistance	Level of Financial assistance	Money received (In Rs)
1.	Sakshi Kumari		Freeship		15,200.00
2.	Tomila Devi				15,200.00
3.	Raveena Devi				15,200.00
4.	Priyanka Verma				15,200.00
5.	Reena Devi				15,200.00
6.	Guddi Devi				15,200.00
7.	Manish Kumar				15,200.00
8.	Pankaj Kumar				15,200.00
9.	Rachita Sood				15,200.00

10.	Pooja Bodh				15,200.00
11.	Kanika Sood		JRF	1 <sup>st</sup> August, 2017 to 31 <sup>st</sup> July, 2018	
12.	Ravinder Kumar	CUHP	UGC Non-NET Fellowship		96,000.00
13.	Reena Koundal	CUHP	UGC Non-NET Fellowship		96,000.00
14.	Anuj Kumar	CUHP	UGC Non-NET Fellowship		8,000.004
15.	Anuj Kumar		JRF (July, 2018)		27,500.00
16.	Mayrika Dhiman	CUHP	UGC Non-NET Fellowship		56,000.00

2018-19

Sr. No.	Name of the Student	Source of Funding	Nature of Financial assistance	Level of Financial assistance	Money received (In Rs)
1.	Vijay		Freeship		15,200.00
2.	Amit				15,200.00
3.	Sakshi Kumari				15,200.00
4.	Subham Bhatia				15,200.00
5.	Priyanka Devi				15,200.00
6.	Anuja				15,200.00
7.	Praveena Devi				15,200.00
8.	Anita				15,200.00
9.	Reena Devi				15,200.00
10.	Tomila Devi				15,200.00
11.	Kanika Sood		JRF	1 <sup>st</sup> August, 2018 to 31 <sup>st</sup> July, 2019	
12.	Ravinder Kumar	CUHP	UGC Non-NET Fellowship		96,000.00
13.	Reena Koundal	CUHP	UGC Non-NET Fellowship		96,000.00
14.	Anuj Kumar		JRF		3,53,920.00
15.	Mayrika Dhiman	CUHP	UGC Non-NET Fellowship		96,000.00
16.	Tanya Sharma	CUHP	UGC Non-NET Fellowship		56,000.00

2019-20

Sr. No.	Name of the Student	Source of Funding	Nature of Financial assistance	Level of Financial assistance	Money received (In Rs)
1.	Amit		Freeship		15,200.00
2.	Ankit Chouhan				15,200.00
3.	Anuja				15,200.00
4.	Sourav				15,200.00
5.	Kajal				7,600.00

6.	Heena Malik				7,600.00
7.	Vishal Gautam				7,600.00
8.	Sourav				7,600.00
9.	Anu Bala				7,600.00
10.	Priyanka Devi				7,600.00
11.	Vijay				7,600.00
12.	Kamal Kant				7,600.00
13.	Manish Chouhan				7,600.00
14.	Kamal Kishore				7,600.00
15.	Shubham Bhatia				7,600.00
16.	Sunil Prajapat				7,600.00
17.	Priyanka Thakur				7,600.00
18.	Sneha Yadav				7,600.00
19.	Kanika Sood		SRF	1 <sup>st</sup> August, 2019 to 31 <sup>st</sup> July, 2020	
20.	Ravinder Kumar	CUHP	UGC Non-NET Fellowship		40,000.00
21.	Reena Koundal	CUHP	UGC Non-NET Fellowship		40,000.00
22.	Anuj Kumar		JRF		1,33,920.00
23.	Anuj Kumar		SRF (November, 2019 onwards)		3,02,400.00
24.	Mayrika Dhiman	CUHP	UGC Non-NET Fellowship		96,000.00
25.	Tanya Sharma	CUHP	UGC Non-NET Fellowship		96,000.00

2020-21

Sr. No.	Name of the Student	Source of Funding	Nature of Financial assistance	Level of Financial assistance	Money received (In Rs)
1.	Anu Bala		Freeship		15,200.00
2.	Kajal				15,200.00
3.	Sourav				15,200.00
4.	Sourav				15,200.00
5.	Vishal				15,200.00
6.	Shivani Dhiman				15,200.00
7.	Nitish Sharma				15,200.00
8.	Anshika Sharma				15,200.00
9.	Monika				15,200.00
10.	Aniketa Kumari				15,200.00
11.	Indu Bala				15,200.00
12.	Jyoti Rani				15,200.00
13.	Kanika Sood			1 <sup>st</sup> August, 2020 to 31 <sup>st</sup> July, 2021	
14.	Kanika Sood		SRF	April, 2020 to October, 2020	2,92,896.00

15.	Anuj Kumar		SRF		4,53,600.00
16.	Mayrika Dhiman	CUHP	UGC Non-NET Fellowship	1 <sup>st</sup> August, 2020 to 31 <sup>st</sup> July, 2021	96,000.00
17.	Tanya Sharma	CUHP	UGC Non-NET Fellowship		96,000.00
18.	Shivani Aeri	CUHP	UGC Non-NET Fellowship		86,400.00
19.	Manoj Kumar	CUHP	UGC Non-NET Fellowship		24,000.00

48. Curricular Aspects:

a) Does the faculty take initiative in the curriculum development process? Yes

Sr. No.	Name of the Faculty	Type of curriculum development
1	All Faculty	Student centric

b) Is the curriculum suitable to make students globally competitive in the subject? If yes, substantiate. *Yes, there are topics in the M.Sc. and Ph.D. curriculum that are globally relevant.*

c) Does the department offer a program with sufficient no. of electives options. *Yes*

d) While framing curriculum, is feed-back taken from stakeholder's viz. Students/Alumni/Parents/Employers considered? *Yes*

e) What is the frequency of curriculum revision? (3/4/5 years or more or less): *2 years*

e) Does the curriculum have emerging thrust areas, including interdisciplinary areas? (If yes, elaborate).

*Yes, there are topics from Fluid Dynamics, Numerical Analysis, Algebra, Differential Geometry and Cryptography which are of interdisciplinary nature.*

49. Teaching-Learning, Evaluation:

- Number of teachers preparing & following Academic Teaching plan

S. No.	Name of the Faculty	Curriculum plan submitted (Yes/No)
	All Faculty Members	No

- The details of teachers who use the following teaching methods:
- Interactive lecture method using blackboard, Group discussions, Problem solving, Seminars.
- Use ICT methods to support lectures.

S. No.	Name of the Faculty	Method of teaching
	All Faculty	Interactive lecture method using blackboard, Group discussions, Problem solving, Seminars, ICT methods to support lectures

● Does the Department have Peer review processes? If yes, are the suggestions effectively used to improve the teaching quality? NIL

● Does the department have any mechanism to ensure that the entire syllabus is completed? Enclose relevant documents.

*Yes, feedback is taken from students and regular department level meetings are conducted.*

● Do you offer Bridge/Remedial courses? If yes, Give details. YES, see time table.

● What is the method for conducting internal evaluation?

**Evaluation Criteria:**

1. Mid Term Examination: 25%
2. End Term Examination: 50%
3. Counselling, Activities and Tutorials (CAT): 25%
  - i. Subjective / Objective Assignment: 10 %
  - ii. Numerical Assignments using programming: 10 %
  - iii. Presentations and Class Tests: 5 %

**50. Teacher Performance:**

○ Whether the performance of the teacher is assessed by the students? If yes, are The feedback reports analysed and suggestions communicated to teachers? Yes

○ Number of teachers getting a) Very Good All Faculty b) Good \_\_\_\_\_ c) Average \_\_\_\_\_ remarks from students.

○ Whether suggestion boxes are kept in the department to get suggestions from students on infrastructural facilities available in the department? NIL

○ Are the suggestions received from students used for improvement of facilities? NIL

○ Do teachers submit Self-Appraisal Reports? Are these reports appraised by TIC and forwarded to the Principal Office with comments? Yes

- **What is the Departmental average API? =150**
- **How many teachers have API > Average API? =02**
- **What is the individual faculty wise h index?**

S. No.	Name of the Faculty	h index
1	Prof. Rakesh Kumar	15
2	Dr. Sachin Kumar Srivastava	5
3	Dr. Pankaj Kumar S/O Sh. Krishan Singh	2
4	Dr. Meenakshi	0
5	Dr. Pankaj Kumar S/O Late Sh. Maniram	5

- **Give details of “beyond syllabus scholarly activities” of the department.**

Seminars/workshops/conferences/invited lectures on the recent trends in mathematics are regularly organized.

**51. List the distinguished alumni of the department (maximum 11):**

S. No.	Name of the Alumina	Current Status/Position
1	<b>Dr Kirandeep Bala</b>	Lecturer, Govt. Polytechnic Una, HP
2	<b>Dr Mahesh Kumar Sharma</b>	Assistant Professor, Maharaja Agrasen University, Baddi, Solan, HP
3	<b>Dr Monika Arora</b>	Assistant Professor, Lovely Professional University, Punjab
4	<b>Dr Shilpa Sood</b>	Associate Professor, Career Point University, Hamirpur, HP
5	<b>Dr Anil Kumar</b>	Assistant Professor, Chandigarh University, Punjab
6	<b>Dr Ravinder Kumar</b>	Assistant Professor, Chandigarh University, Punjab
7	<b>Mr. Inder Negi</b>	Assistant Professor, Govt Degree College, HP
8	<b>Mr. Ankit Chauhan</b>	Software Engineer at Service, Now Developers, Hyderabad
9	<b>Mr. Vijay Kumar</b>	Assistant Professor, Govt Degree College, Nagrota Suriyan,



		HP
10	Mrs. Supria Jaryal	Assistant Section Officer, EPFO, GOI, New Delhi
11	Mr. Akshay Kumar	Probationary Officer, Gramin Bank, Himachal Pradesh

52. Give details of student enrichment programmes (special lectures / workshops / seminar) involving external experts.

S. No.	Name of the Programme	Name of external expert	Designation and Institute
1.	Two days workshop on "Indian Mathematics", on 13-14 September, 2019	Dr. K. Ramasubramanian	Professor; Cell for the Indian Science and Technology in Sanskrit, Department of Humanities and Social Sciences, Indian Institute of Technology Bombay, India
		Dr. Clemency Montelle	Professor; School of Mathematics and Statistics, University of Canterbury, Christchurch, New Zealand
2.	National Seminar on Analytical Aspects of Dynamics November 22-23, 2019	Prof. (Dr.) S. D. Sharma,	Professor; Jammu University, Jammu
		Dr. Amit Prakash	Assistant Professor, NIT Kurukshetra, Kurukshetra
		Dr. Shankhadeep Chakraborty,	Assistant Professor, IIT Ropar, Punjab
		Dr. Sourav Bhattacharya	Assistant Professor, IIT Ropar, Punjab
		Dr. Amit Mahajan,	Assistant Professor, NIT Delhi, New Delhi
		Prof. S. Gour	Professor, Department Computer Science & Engineering JEC Jaipur
Two International Workshop	Day on	Prof. Amanda Folsom	Professor, Department of Mathematics and Statistics, Amherst, MA 01002
		Dr. Vijay M. Patankar	Professor, Department of Mathematics, BITS Pilani, Goa, India
		Prof. Mukut Mani Tripathi	Professor, Department of Mathematics, Banaras Hindu University, Varanasi, India
		Dr. Rupam Barman	Professor, Department of Mathematics, IIT Guwahati, India

2.	"Geometry of Continuous Fractions: Ramanujan and His Successors"  September 14-15, 2020	Dr. Ravinder Singh	Assistant Professor, Department of Mathematics, NIT Jalandhar, Punjab, India
	One day Online International workshop on "Srinivasa Ramanujan: The Man Beyond Infinity" 22 December 2020	Dr. K. S. Rao	Senior Professor, The Institute of Mathematical Sciences, Chennai, India E-Mail: ksrao18@gmail.com
		Prof. June Barrow Green	Professor, The Open University United Kingdom
		Prof. NGC Saivaiti	Professor, University of Milan, Italy
		Prof. Satyanad Kichenassamy	Professor, University of Reims Champagne, France
		Prof Zhao Jiwei	Professor, Northwest University China
3.	Webinar on Relevance of Vedic Mathematics in today's context  03.09.2021	Sh. Atul Kothari	National Secretary, Shiksha Sanskriti Utthan Nyas, New Delhi
4.	One week online National Workshop on "Principles of Vedic Mathematics" on 08-12 November, 2021	Sh. Atul Kothari	National Secretary, Shiksha Sanskriti Utthan Nyas, New Delhi
		Shri Rakesh Bhatia	National Coordinator, Shiksha Sanskriti Utthan Nyas, New Delhi
		Shri Gopal Das	Teacher, GMS, Bhadrwani, District-Mandi, Himachal Pradesh
		Dr. Ram Chauthaivale	Retired Lecturer, Amolchand College, Yavatmal, Amravati University, Maharashtra
		Dr. Kailash Vishwakarma	Associate Professor and Head Department of Physics, BNPG College Rath Hamirpur, Uttar Pradesh
		Mr. Mahesh Sharma	Principal, Rana Munshi Ram Sarvahitkari Vidyamandir, Sirhind, Punjab

53. How does the department ensure that programme objectives are constantly met and learning outcomes are monitored?

*Through assignments, quizzes, oral/written tests, Department level meetings*

54. Highlight the Special facilities (if, any) of the Department. NIL

**55. Highlight the unique features of the department.**

*The Department offers a course MTH 550 which enables the students to read, write and critically report any mathematical research paper or book.*

**56. State the Innovative practices adopted in the department.**

1. To create awareness among students about the Indian Knowledge System, the Srinivasa Ramanujan Department of Mathematics offer Vedic Mathematics as a skill enhancement course to the students of Master Level and Undergraduate Level, and also organizes workshops at regular intervals.
2. The Department celebrates National Mathematics Day and organises several student based activities such as Mathematical quiz, Mathematical Talk, Mathematical Dumb Schrage, Mathematical Rangoli, Pi Digit Contest.
3. Remedial classes for weak students
4. NET/JRF/GATE Coaching to the students
5. Conduct of workshops, seminars and various cultural activities.

**57. Highlight the participation of students and faculty in extension activities.**

*The students of the Department actively participate in various extension activities such as Blood donation camp, Swachh Bharat Abhiyan, NSS, Celebration of important days, seminars and workshops,*

**58. Detail five major Strengths, Weaknesses, Opportunities and Challenges (SWOC) of the department.**

**a. Strengths:**

1. Dedicated Faculty
2. Quality of Instructions: high standards for instruction and high standards for students
3. Course variety-good for students
4. Academic Freedom (Good for Instructor)
5. Mentor-Mentee groups: trust with peers

**b. Weaknesses:**

1. Departmental Library
2. Research Laboratory
3. Sitting Place
4. Administrative Staff
5. Limited online Resources

**c. Opportunities:**

1. Research Funds & other Grants
2. Better collaboration with other disciplines
3. International collaboration
4. To flourish as Research Centre
5. More mathematics faculty participation in FDPs

**d. Challenges:**

1. Students attitude towards mathematics
2. Lack of student dedication
3. Lack of technology (software/hardware)

4. Lack of time/support to implement administrative policies
5. Lack of appropriate release time for administrative duties
6. Lack of proper sitting place for faculty and students
7. To create conducive environment for learning

**59. Future plans of the department:**

**a. Long term plans-**

- To combine online and offline teaching learning process
- To purchase more quality books for the library
- To attract International students
- To start the Research Journal of the Department
- To introduce more courses on applicable mathematics

**b. Mid term plans-**

- To conduct Workshops and seminars on burning issues in mathematics
- To conduct various training and placement activities
- To conduct Department level Alumni meet
- To give more course choices for students
- To enhance creativity among students.

**c. Short term plans-**

- To provide personal attendance to each and every student of the Department
- To create trust among peers,

**Declaration by the Head of the Department/In-charge**

The information given in this report are verified and true to the best of my knowledge and I am aware that the above information provided by the department will be validated by the AAA committee during the visit.

**Date:** 23.08.2022

  
**Head of the Department/In-charge**

### Supplement to the Academic audit

1. Does the department prepare/maintain academic calendar? Enclose the copy. NO
2. Is Faculty-wise Academic Plan maintained at department level? Yes
3. Is Departmental Meeting verified, Minutes recorded and maintained? Yes
4. Are Classes being held regularly; as per designated time-slot; and full period is utilized as per the timetable? Yes
5. Department ensure that long gaps are not given in Students Timetable? Yes
6. Proper justice is done to the whole syllabus; Course completion report is kept: Yes
7. Does the department conduct Field Visit/Excursion trips? Please provide the detailed report?  
Yes
8. Does the department have developed any mechanism of Student Mentoring? If yes Please provide the list of mentor and mentee and relevant point if any to be mentioned here. Yes
9. Departmental Activities Report is maintained; Duties are assigned properly: Yes
10. Departmental activities are distributed equally in both semesters: Yes
11. What is the process of Evaluation of Students' performance?

Assignments, Oral Tests, Quizzes, Student Presentation, Written Examinations (MidTerm/EndTerm)

12. Does any record of Non-performing Students is maintained? NIL

S. No.	Name and roll no. of the student	Course	Paper
All performed up to the mark.			

13. Whether Attendance is recorded/ done?

Name of faculty	Attendance done online (Y/N)
	No

14. Does department maintain record of short of Attendance? Yes
15. Does department have Mini Library and is properly maintained? No



16. **Are Record of circulation of books/material/syllabus, Guidelines etc. preserved? Yes**
17. **Stock register/Issue Register and other record maintained in Department? Yes**
18. **Does Departmental prepare any study material/data that which can be submitted to the Institutional Repository? If yes, please give the details. Yes, OER course contents.**
19. **Brief introduction of department (history, relevance, research highlights, career opportunities etc.) is updated on college website.**

The Department was started in 2011 with the Post-graduation course MSc Mathematics (with Specialization in Industrial Mathematics) and PhD in mathematics. The founder Head of the Department was Prof. I.V. Malhan. Initially, three Assistant Professors joined the Department on regular basis. The main motive to start the Department was to give the industrial exposure to the students of Masters Level, and enable them to use the knowledge of computational mathematics in solving the problems of industry and technology. The choice based credit system was adopted in the Department, which was further revised in 2016. The core compulsory course, core open courses, elective courses, courses based on specialization in industry and training, and foundational courses such as human making and skill developments were offered to the students. Recently from the Academic Session 2021-22, the course structure of MSc and PhD in Mathematics was modified according to the National Education Policy 2020 as per CUHP guidelines. The main research areas of the Department are Fluid Dynamics, Numerical Analysis, Differential Geometry, Cryptography, Algebra and Number Theory. After completing the Masters Degree and PhD in Mathematics, the students will get the job opportunities in teaching and research, banking sectors, industry and civil services.

20. **Student's achievements maintained at department? Yes**
21. **Department prepare/release any Newsletter/Journals (If applicable) (provide soft copy) Yes**
22. **Contribution of the department to Corporate Life of the College (Only Convener/Coordinator/Adviser). Yes**
23. **Participation of department in Institutional Social responsibilities. Yes**
24. **Does department have any Industrial/Research institution Collaboration/Linkage. No**
25. **Visibility Check**

Visibility Check		Yes/No/ Not Applicable	Faculty member Responsible
A	Wall Magazine		
B	Department Display Board	Yes	HoD
C	University Website	Yes	Dr Pankaj Kumar S/O Late Sh. Maniram
D	e-Resources	Yes	Dr Pankaj Kumar S/O Sh. Krishan Singh

UNIVERSITY GRANTS COMMISSION  
Bahadur Shah Zafar Marg  
New Delhi-110002

704  
18/09/2017


UTILIZATION CERTIFICATE

Certified that the grant of Rs. 4, 59, 682/- (Rupees Four Lakh Fifty Nine Thousand Six Hundred Eighty Two Only) out of the total grant of Rs. 6, 00, 000/- (Rupees Six lakh only) sanctioned to Dr. Rakesh Kumar by the University Grants Commission vide their letter No.F. 30-64/2014(BSR) Dated 07-01-2015 towards UGC-BSR Research Start-UP-Grant for newly recruited faculty has been utilized, for the purpose for which it was sanctioned to, and in accordance with the terms and conditions as laid down by the Commission.

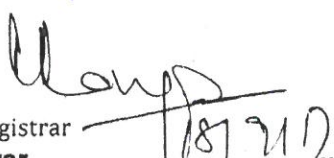
The unspent amount of Rs. 1, 40, 318/- (Rupees One Lakh Forty Thousand Three Hundred Eighteen Only) has been refunded to the UGC.

If as a result of check or audit objection, some irregularity is noticed at a later State, action will be taken to refund or regularize the objected amount.

  
Research Investigator

  
वित्त अधिकारी / Finance Officer  
हिमाचल प्रदेश केन्द्रीय विश्वविद्यालय  
Central University of Himachal Pradesh  
पोस्ट बॉक्स Finance Office No. 21  
धरमशाला (हि.प्र.) / Dharamshala (H.P.)-176215  
(SEAL)

  
शोध निदेशक Research  
हिमाचल प्रदेश केन्द्रीय विश्वविद्यालय  
अस्थायी शैक्षणिक ब्लॉक, शाहपुर  
जिला कांगड़ा (हि.प्र.)-176206

  
Registrar  
Registrar  
Central University of Himachal Pradesh  
Post Box No. 21, Dharamshala (H.P.)-176215

# FINAL REPORT

**Type of Grant:** UGC-BSR Start-up Grant.

**Sanction No. and Date of award:** No. F. 30-64/2014(BSR), Dated 07.01.2015

**Period of the Report:** February 18, 2015 To February 17, 2017

**Title of the proposal under Start-up Grant:** Oscillatory convection in nanofluids

In this Project under Start Up Grant, the whole work initiated and completed may be divided into following two chapters:

1. Numerical simulation of three dimensional flow of radiating gray nanofluid through porous medium subjected to vibrational rotations and slip at liquid-sheet interface
2. Numerical exploration of thermal radiation and rotation effects on the 3-dimensional flow of Cu-water nanofluid over an oscillating flat surface

## Chapter 1

In this chapter, three dimensional flow of  $Fe_3O_4 - H_2O$  nanofluid is considered in rotating frame past an oscillating surface through porous medium under the influence of magnetic field and thermal radiation taking into account the slip velocity at sheet-fluid interface. The analysis is made in rotating frame of reference past the considered oscillating surface. The governing equations are reduced to non-dimensional form using dimensionless parameters and variables. The stability and convergence criteria have also been discussed to elaborate the validity of results. Here, we have focused ourselves to understand the dynamics of oscillatory convection in nanofluids through the emerging parameters such as frequency of oscillation, magnetic field, volume fraction of nanoparticles, velocity slip, thermal radiation, rotation and porous medium permeability. This target is achieved through graphs and tables for velocity field, temperature field, skin-friction coefficients and Nusselt number.

**Conclusion:** We conclude the following results from this problem:

- There exists critical frequency of oscillation ( $\omega_c = 0.2$ ) which controls boundary layer separation and makes the boundary layer analysis possible.
- Magnetic field ( $H_0$ ) reduces nanofluid velocity but enhances nanofluid temperature.
- Negative temperature profiles prevail for higher frequency of oscillations due to inverted Boltzmann distribution.
- Slip velocity ( $v_L$ ) can be used to curtail skin-friction coefficients ( $c_{fX}$ ,  $c_{fY}$ ) but to lift-up Nusselt number ( $Nu_x$ ).





- Rotations under vibratory environment increases skin-friction coefficients and magnitude of  $Nu_x$ . However, porous medium permeability ( $K$ ) oppositely handles these coefficients.

## Chapter 2

This chapter investigates the effects of thermal radiation and rotation have been examined in the absence of magnetic field and velocity slip for the flow of  $Cu - H_2O$  nanofluid through porous media of infinite permeability. Here also, the governing equations are made dimension free utilizing the transformation is declared in the previous chapter. Stability conditions are also presented. The key system parameters for this problem are rotation, thermal radiation and Grashoff number to present the distribution of velocity and temperature fields, and skin-friction coefficients and Nusselt number.

**Conclusion:** From the obtained results, the following conclusion could be drawn:

- Rotation ( $R$ ), thermal radiation ( $Ra$ ) and Grashoff number ( $Gr$ ) accelerate velocity profiles of  $U$ -component but however magnitude of  $V$ -component is enhanced with these parameters.
- Temperature field is decreased with  $Gr$ , and increased with  $R$  and  $Ra$ .
- Rotation lowers skin-friction coefficients in primary direction but increases the magnitude in secondary direction, however radiation raises the magnitudes of  $c_{f,x}$  and  $c_{f,y}$ .
- Thermal radiation enhances local Nusselt number whereas rotation reduces it.

### Complete Statistics of the Work Presented in the Final Report

#### Paper presented in International Conference

- Combined effects of rotation and magnetic field on the free convection flow of nanofluid past an oscillating plate in International Conference on Mathematical Sciences Interface Humanity 7-8 October 2016 organized by Department of Mathematics, Govt. Degree College Barsar, HP, India (copy attached).

#### Paper Under consideration

- Numerical exploration of thermal radiation and rotation effects on the 3-dimensional flow of Cu-water nanofluid over an oscillating flat surface in International Journal of applied and Computational Mathematics, Springer (copy attached).

#### Paper Communicated

- Numerical simulation of three dimensional flow of radiating gray nanofluid through porous medium subjected to vibrational rotations and slip at liquid-sheet interface in The European Physical Journal Plus, Springer.

*Jakes*

### Acknowledgment

Principal Investigator of the Project under Start-Up Grant is thankful to the University Grants Commission, New Delhi, for the award of grant to pursue the research work in the Department of Mathematics, Central University of Himachal Pradesh, Dharamshala, India. P.I. also conveys his sincere thanks to the authorities of the Central University of Himachal Pradesh, Dharamshala to provide basic infrastructure facilities in the Department of Mathematics throughout the tenure of the project.



(Dr. Rakesh Kumar)

Assistant Professor,

Department of Mathematics,

Central University of Himachal Pradesh,

Dharamshala, India-176215

E-mail: rakesh.lect@gmail.com

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Government of India  
Department of Atomic Energy (DAE)  
Board of Research in Nuclear Sciences (BRNS)

Dr. Ashok Pandey  
Programme Officer (BRE)

BRNS Secretariat,  
316-C, 3rd Floor, CFB,  
BARC, Trombay,  
Mumbai-400085  
Phone: +91-02225594566  
Email: ashokk@barc.gov.in

No: 58/14/25/2019-BRNS/

1016

Date: 27 NOV 2019

OFFICE MEMORANDUM

Sub: R/P entitled "Analytical and Numerical Study of Black Holes in Strong Gravity Regime" under Dr. Ayan Chatterjee, Assistant Professor, Dept. of Physics & Astronomical Sciences, Central University of Himachal Pradesh, Dharamshala, Shahpur, Dist.: Kangra, Himachal Pradesh-176215 bearing sanction 58/14/25/2019-BRNS with BRE, BRNS.

On the recommendations of the Board of Research in Nuclear Sciences (BRNS), I am pleased to convey the administrative approval and sanction of the President of India for the captioned project for 3 years beginning from financial year 2019-2020 with a total grant of Rs. 27,37,350/- (Rupees twenty seven lakh thirty seven thousand three hundred and fifty only) for the project as under :

Item of expenditure	Year 1 (2019-2020)	Year 2 (2020-2021)	Year 3 (2021-2022)
Equipments	545000	0	0
Staff Salary - JRF	372000	372000	0
Staff Salary - SRF	0	0	420000
Technical Assistance	20000	20000	10000
Consumables	40000	40000	20000
Travel - PI	40000	40000	50000
Contingencies	100000	150000	200000
Overheads	76275	35400	37500
Total(INR)	1193275	657400	737500

Note: \* Maple, Mathematica, Mobile workstation, Printer, UPS

JRF salary calculated @ Rs.35,000/- p.m. for first two years and on redesignation by committee on in third year as SRF @ Rs.35,000/- p.m.

Please note that as per the government orders under Direct Benefit Transfer (DBT) scheme, the staff salary has to be transferred to his/her bank account. Accordingly, Aadhar Number (UID) of the appointed staff, Bank Account details and the Mobile number linked to the bank account should be obtained and it should be intimated to this office.

Overheads calculated @ 7.5% of the other heads except contingency. The remaining 7.5% towards overheads (Rs. 1,49,175/-) shall be released only on meeting the requirements specified (See Annex-B).

2. I am also pleased to convey the sanction of the President of India to incur an expenditure of Rs. 11,93,275/- (Rupees eleven lakh ninety three thousand two hundred seventy five only) towards grant for the year 2019-2020.

3. The expenditure involved is debitable to: 03 3401 00 004 27 0231.

4. This is issued with the concurrence of the competent authority in the Department.

*Ashok Pandey*  
21-11-2019  
Dr. Ashok Pandey

Pay & Accounts Officer, DAE, Mumbai - 400 001.

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Copy forwarded to:

1. Director of Audit, Scientific Department, AEAP, OYC, CSM Marg, Mumbai-400 001.
2. Joint Secretary (R&D), DAE, Anushakti Bhavan, CSM Marg, Mumbai-400 001.
3. Registrar, Central University of Himachal Pradesh, Dharamshala, Shahpur, Dist.: Kangra, Himachal Pradesh-176215.
4. Principal Investigator (PI): Dr. Ayan Chatterjee, Assistant Professor, Dept. of Physics & Astronomical Sciences, Central University of Himachal Pradesh, Dharamshala, Shahpur, Dist.: Kangra, Himachal Pradesh-176215.

A. First year grant is being released in full along with this Sanction Letter through Pay & Accounts Officer, Department of Atomic Energy, Anushakti Bhavan, CSM Marg, Mumbai-400 001 directly. You may await a Money transfer (MT) through ECS and The amount would be credited electronically to A/C No: 2062101009761, A/C Name: Central University of Himachal Pradesh, IFSC: CNRB0002062, Canara Bank Kotwali Bazar Dharamshala Kangra Himachal Pradesh 176215. .

i) Acceptance of this sanction and the MT for the amount sanctioned for the first financial year may please be acknowledged (Form-I).

ii) A sticker of the BRNS LOGO (Copy Enclosed) should be pasted on all the items procured under the project.

iii) THIS SANCTION IS FURTHER SUBJECT TO THE CONDITIONS STIPULATED IN ANNEX (ENCLOSED), WHICH MAY BE GONE THROUGH CAREFULLY.

B. Second year Sanction Letter will be issued automatically in the month of April/May of the 2nd financial year, however, the grant will be released (unspent balance of previous year and interest earned will be adjusted) after the PI submits the following documents to the Programme Officer BRE:

a) Claim in Form-II quoting the reference of the sanction issued for the first year.

b) Utilisation Certificate (UC) as on 31st March of the preceding financial year in Form-III duly audited by the Internal Auditor of the University/ Institution or a Chartered Accountant.

c) Statement of Accounts (SA) as on 31st March of the preceding financial year should be updated on the website. Interest earned in previous year should be reflected in the Statement of Accounts. A printout of the same should be sent to BRNS after it is duly audited by the Internal Auditor of the University/ Institution or a Chartered Accountant.

d) Copy of appointment order and joining report of the staff appointed for the project along with minutes of the Selection Committee, alongwith HRA CLAIM (if applicable), should be uploaded in a single pdf file under the file head "Staff Appointment Details". In addition, the details of the appointed staff should also be updated in the available menu.

e) The inventory of equipment also should be updated in the menu, besides uploading the purchase order of the items costing more than 1 Lakh.

f) A One Page report on the progress of work during first year.

C. Third and subsequent years (if any) the Sanction Letter and the grant will be released on fulfillment of the following requirements:

i) Renewal/ Extension Application: Principal Investigator (PI) is required to upload by January 15 a pdf copy of duly signed renewal/ extension application in the prescribed form-(PRA) after logging into his/her account at <https://brns.res.in>. All applications received shall be examined by experts from the field and PIs may be invited to a Technical Programme Discussion Meeting (TPDM). Renewal of the project will be based on the recommendations of the TPDM, Advisory Committee and the Board.

ii) Sanction Letter: If the progress is found to be satisfactory the renewal sanction for the year will be issued in the beginning of that financial year in April/May.

iii) Claim: On receipt of the renewal sanction, the PI shall claim the funds sanctioned by submitting the following documents to Programme Officer BRE, 316-C, Common Facility Building, BARC, Trombay, Mumbai-400085:

a) Claim in Form-II quoting reference of the renewal sanction.

b) Utilisation Certificate (UC) as on 31st March of the preceding financial year in Form-III duly audited by the Internal Auditor of the University/ Institution or a Chartered Accountant. should be reflected in the Statement of

*K. K. K.*

Accounts.

c) Statement of Accounts (SA) as on 31st March of the preceding financial year including the amount of Interest earned in previous year and duly audited by the Internal Auditor of the University/ Institution or a Chartered Accountant.

d) Copy of appointment order and joining report of the staff appointed for the project along with minutes of the Selection Committee.

e) An inventory of equipment and the copy of Purchase order of equipments costing more than 1 Lakh.

D. At the end of Terminal Year the Settlement Grant and the Balance 7.5% Overheads will be released on fulfillment of the following requirements:

a) Claim Form-II if any,

b) The final Consolidated Statement of Accounts (SA) and Consolidated Utilization Certificate duly audited by an external Chartered Accountant or the Statutory (Govt.) Auditor. It is mandatory to include the amount of bank interest earned on the grant released into the SA.

c) Final Consolidated Progress Report and a brief report as per format given in Form-VII .

5. AAO (Cheque), DAE, Anushakti Bhavan, CSM Marg, Mumbai - 400 001 - With a request that the amount granted for the first year of the project may be released.

6. Member Secretary (BRE) : Dr. Surendra Singh, SSPD, BARC surendra@barc.gov.in

7. Co-Investigator (CI) : Dr. Sachin Srivastava, Department of Mathematics Central University of Himachal Pradesh Temporary Academic Block Shahpur, Kangra- 176206, H.P. Email : sachink.ddumath@gmail.com, Mobile :7018406430

8. Project Collaborator (PC): Prof. Amit Ghosh, Prof. Amit Ghosh Theory Division Saha Institute of Nuclear Physics AF-1, Bidhannagar, Kolkata -700064., Email : amit.ghosh@saha.ac.in, Mobile :9836729108 - You or your nominee may please be the DAE representative for selection of Research Fellow/ Research Associate for the project.

*Selin*

*Ashok Pandey*  
21.11.2019  
Dr. Ashok Pandey

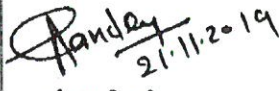
Note:

- 1. Please quote the Sanction Number 58/14/25/2019-BRNS in all your correspondence with BRNS

*ok*  
*19/11/19*

*Pan*  
27 NOV 2019

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बिल नं Bill No:	37121	दिनांक	19/11/2019
Countersigned for Rs. 1193275/- eleven lakh ninety three thousand two hundred seventy five Rupees Only.			
अनुमोदन Approved  21.11.2019 कार्यक्रम अधिकारी Programme Officer BRE परमाणु ऊर्जा विभाग DEPARTMENT OF ATOMIC ENERGY राष्ट्रीय विज्ञान अनुसंधान मंडल BOARD OF RESEARCH IN NUCLEAR SCIENCES			

Application Number:201902BRE03RP05589-BRNS	
कृपया निम्नलिखित को सूचित करते हुए रशि का भुगतान इन्हे करें। Please pay the amount to A/C No: 2062101009761 A/C Name: Central University of Himachal Pradesh, IFSC: CNRB0002062, Canara Bank Kotwali Bazar Dharamshala Kangra Himachal Pradesh 176215. Under intimation to Dr. Ayan Chatterjee, Assistant Professor, Dept. of Physics & Astronomical Sciences Mobile Number:9736863853 घोतन एवं लेखन अधिकारी, प.ऊ.वि, Pay & Accounts Officer, DAE	





FD Diary No.2163  
Dated : 19.06.2014

University Grants Commission  
Bahadur Shah Zafar Marg  
New Delhi-110 002

No.F.30-2/2014(BSR)

Dated: July, 2014

The Under Secretary FD-III Section,  
University Grants Commission  
Bahadur Shah Zafar Marg,  
New Delhi - 110002.

18 JUL 2014

**Subject:-** Approval-cum-Sanction letter for UGC-BSR Research Start-Up-Grant @ Rs.6.00 lakhs each for newly recruited faculty at Assistant Professors level in Science Departments of various Universities - Release of the grant for the year 2014-2015 under Plan.

Sir,

The University Grants Commission convey its approval and allocate a sum of Rs.6,00,000/- (Rupees Six Lakhs Only) @ Rs.6.00 Lakhs each faculty to the Registrar, Central University of Himachal Pradesh, Dharamshala, P.O.Box 21, Dharamshala, District - Kangra, Himachal Pradesh - 176 215 being the UGC-BSR Research Start-Up-Grant for newly recruited faculty at Assistant Professors level of Science Departments.

Accordingly, I am further directed to convey the sanction of the University Grants Commission for payment of Rs.6,00,000/- (Rupees Six Lakhs only) to the Registrar, Central University of Himachal Pradesh, Dharamshala, P.O.Box 21, Dharamshala, District - Kangra, Himachal Pradesh - 176 215 being the approval of Rs.6,00,000/- (Rupees Six Lakhs only) @ Rs.6.00 Lakhs each faculty towards UGC-BSR Research Start-Up-Grant for newly recruited faculty at Assistant Professors level in Science Departments as per details given below:-

Name of the Scheme	Head of Account	Name of Faculty / Professor	Name of Departments	Amount Approved (Rs.)	Amount being released (Rs.)
UGC-BSR Start-up grant @ Rs.6.00 lakhs each for newly recruited faculty at Assistant Professor level in science department	3(A): 2202.03.102.10.01.31	Dr. Sachin Kumar Srivastava	Mathematics	6,00,000/-	6,00,000/-
Total:				6,00,000/-	6,00,000/-

2. The sanctioned amount is debitable to the major Head 3(A): 2202.03.102.10.01.31 and is valid for payment during the financial year 2014-15 only.

*Schin*

9. A Register of Assets acquired wholly or substantially out of the grant shall be maintained by the University in the prescribed proforma.
10. The grantee institution shall ensure the utilization of grants-in-aid for which it is being sanctioned / paid. In case of non-utilization/part utilization thereof, simple interest @ 10 % per annum as amended from time to time on the unutilized amount from the date of drawal to the date of refund as per provisions contained in General Financial Rules of Govt. of India, will be charged.
11. The University / Institution shall follow strictly the Government of India / UGC's guidelines regarding implementation of the reservation policy [both vertical (for SC, ST & OBC) and horizontal (for persons with disability etc.)) in teaching and non-teaching posts.
12. The University / Institution shall fully implement the Official Language Policy of Union Government and comply with the Official Language Act, 1963 and Official Languages (Use for Official Purposes of the Union) Rules, 1976 etc.
13. The sanction is issued in exercise of the delegation of powers vide UGC Order No. 130/2013 [F.No. 10-11/12 (Admn. IA & B)] dated 28/5/2013.
14. The University /Institution shall strictly follow the UGC Regulations on curbing the menace of Ragging in Higher Education Institutions, 2009.
15. The University / Institution shall take immediate action for its accreditation by National Assessment & Accreditation Council (NAAC).
16. The accounts of the University / Institution will be open for audit by the Comptroller & Auditor General of India in accordance with the provisions of General Financial Rules, 2005.
17. The annual accounts i.e. balance sheet, income and expenditure statement and statement of receipts and payments are to be prepared strictly in accordance with the Uniform Format of Accounting prescribed by Government.

*Agelwin*



18. This issues with the concurrence of IFD vide Diary No. 7698 (IFD) Dated 03.03.2014.

19. This issues with the approval of C.M. Sectt. vide Diary No. 20572 Dated 14.03.2014 as revalidated by the Chairman, UGC for the financial year 2014-2015 [No.File.1-1/2014(FD-III)] vide his diary no. 28796 dated 07.05.2014.

Noted in BCR Register 2014-2015 at P.No.7 S.No.24.

Yours faithfully,

(Shalini)  
Education Officer

Copy forwarded for information and necessary action to:-

1. Registrar, Central University of Himachal Pradesh, Dharamshala, P.O. Box 21, Dharamshala, District - Kangra, Himachal Pradesh - 176 215. He/She is requested to abide by these instructions/guidelines of sanction order.
2. The Secretary (Education) to the State Government of Himachal Pradesh, Kangra.
3. The Head, Department of Mathematics, Central University of Himachal Pradesh, Dharamshala, P.O.Box 21, Dharamshala, District - Kangra, Himachal Pradesh - 176 215.
4. Dr. Sachin Kumar Srivastava, Assistant Professor, Department of Mathematics, Central University of Himachal Pradesh, Dharamshala, P.O.Box 21, Dharamshala, District - Kangra, Himachal Pradesh - 176 215.
5. The Director General of Audit, Central Revenues, AGCR Building, I.P. Estate, New Delhi.
6. Guard file.

(Usha Arya)  
Section Officer

*Sachin*

3. The amount of the Grant shall be drawn by the Under Secretary (Drawing and Disbursing Officer) UGC on the Grants-in-aid bill and shall be disbursed to and credited to the Registrar, Central University of Himachal Pradesh, Dharamshala, P.O.Box 21, Dharamshala, District - Kangra, Himachal Pradesh - 176 215 through Electronic mode as per the following details:
- a. Details (Name & Address) of Account Holder : Registrar, Central University of Himachal Pradesh, Dharamshala, P.O.Box 21, Dharamshala, District - Kangra, Himachal Pradesh - 176 215
- b. Account No. : 2062101009761
- c. Name & Address of Bank Branch : Canara Bank, Kotwall Bazar, Dharamshala, District - Kangra, Himachal Pradesh - 176 215
- d. MICR Code : 000015000
- e. IFSC Code : CNRB0002062
- f. Type of Account : Saving Account
4. The Grant is Subject to the adjustment on the basis of Utilization Certificate in the prescribed proforma submitted by the University/Institution.
5. The University / Institution shall maintain proper accounts of the expenditure out of the Grants which shall be utilized only on the approved items of expenditure.
6. The University / Institution may follow the General Financial Rules, 2005 and take urgent necessary action to amend their manuals of financial procedures to bring them in conformity with GFRs, 2005 and those don't have their own approved manuals on financial procedures may adopt the provisions of GFRs, 2005 and instructions/guideline there under from time to time.
7. The Utilization Certificate to the effect that the grant has been utilized for the purpose for which it has been sanctioned shall be furnished to the UGC as early as possible after the close of the current financial year.
8. The assets acquired wholly or substantially out of University Grants Commission's Grant Shall not be disposed or encumbered or utilized for the purposes other than those for which the grants was given, without proper sanction of the UGC and should at any time the University ceased to function, such assets shall revert to the University Grants Commission.

*Shiv*