

**Minutes of the meeting of the Departmental Research Project Monitoring Committee (DRPMC) held on 16.01.2024 at 10:00 am in the office of the Dean Faculty of Sciences, University of Jammu, Jammu.**

**PRESENT:**

- |                           |                   |
|---------------------------|-------------------|
| 1. Prof. Anju Bhasin      | (Convener)        |
| 2. Prof. H.N. Sheikh, HOD | (HOD Chemistry)   |
| 3. Prof. Kamal K. Kapoor  | (Member)          |
| 4. Prof. P.K. Srivastava  | (Member)          |
| 5. Dr. Monika Gupta       | (Member)          |
| 6. Prof. Satya Paul       | (Special Invitee) |
| 7. Prof. D.S. Sambyal     | (Special Invitee) |

**Item No. 1:** To consider the progress report of Research & Seed Grant assigned to the following faculty members of the Department of Chemistry:

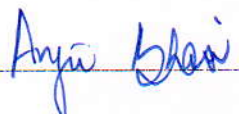

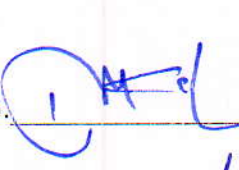
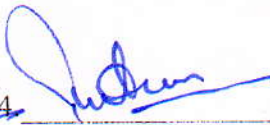
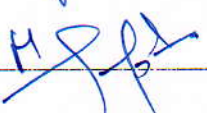
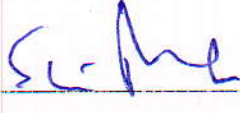

- (i) Prof. K.K. Kapoor (Rs. 2.0 lakh)
- (ii) Prof. H.N. Sheikh (Rs. 2.0 lakh)
- (iii) Dr. Monika Gupta (Rs. 2.0 lakh)
- (iv) Dr. Ashwani Kumar (Rs. 2.0 lakh)

**Resolution:** The faculty members presented the progress report before the committee members and submitted the hard copy of the same after the discussions and deliberations. The committee members were satisfied with the progress reports of all the projects and appreciated the scientific outcome, especially the sanction of projects by JKSTIC (Prof. K.K. Kapoor, Prof. H.N. Sheikh & Dr. Ashwani Kumar) and submission of SERB-SURE Project to DST, GoI by Dr. Monika Gupta.

**Item No. 2:** To consider the request of Principal Investigators (PIs) to extend the date of submission of final utilization certificate.

**Resolution:** The Principal Investigators (PIs) requested to extend the date of submission of final utilization certificate by two months, i.e. March 20, 2024, to enable the PIs to spend the unutilized grant. The DRPMC resolved that the request of PIs be kindly considered for extension by the Dean Research Studies.

The meeting ended with a vote of thanks.

1.  2.  3.  4.   
5.  6.  7. 



Office : 2453969  
University : 2435248 } Extension :  
: 2435259 } 2617, 2618

# Post Graduate Department of Chemistry University of Jammu

(‘A+’ Grade University- Accredited by NAAC)

Baba Saheb Ambedkar Road, Jammu - 180 006

No. PGD/Chem/

Dated 15-01-2024

## NOTICE

Due to unavoidable circumstances, meeting of the Department Research Project Monitoring Committee (DRPMC), scheduled for 15-01-2024 at 4.00 pm, will be held on 16-01-2024 at 10.00 am in the Office of the Dean Faculty of Science to discuss progress report of Research and Seed Grant assigned to following faculty members of the department of Chemistry.

1. Prof. K.K. Kapoor
2. Prof. H.N.Sheikh
3. Dr. Monika Gupta
4. Dr. Ashwani Kumar

The concerned faculty members are requested to submit and present progress report in the meeting

The members of the DRPMC are request to make it convent to attend the meeting.

1. Prof. Anju Bhasin (Convener)
2. Prof. H. N. Sheikh (HOD)
3. Prof. K.K. Kapoor
4. Prof. P.K. Srivastava
5. Dr. Monika Gupta
6. Prof. Satya Paul (Special Invitee)
7. Prof. D.S.Sambyal (Special Invitee)

  
**Prof. H.N. Sheikh**  
Head of the Department

Copy to:

Prof. Anju Bhasin Dean Faculty of Science for information please



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# Post Graduate Department of Chemistry University of Jammu

(*'A+' Grade University- Accredited by NAAC*)

Baba Saheb Ambedkar Road, Jammu - 180 006

No. PGD/Chem/24/ 72-73

Dated 11-01-24.

## NOTICE

As desired by Dean Faculty of Science, a meeting of the Department Research Project Monitoring Committee (DRPMC) will be held on 15-01-2024 at 4:00 pm in the Office of the Dean Faculty of Science to discuss progress report of Research and Seed Grant assigned to following faculty members of the department of Chemistry.

1. Prof. K.K. Kapoor
2. Prof. H.N. Sheikh
3. Dr. Monika Gupta
4. Dr. Ashwani Kumar

The concerned faculty members are requested to submit and present progress report in the meeting

The members of the DRPMC are request to make it convent to attend the meeting.

1. Prof. Anju Bhasin (Convener)
2. Prof. H. N. Sheikh (HOD)
3. Prof. K.K. Kapoor
4. Prof. P.K. Srivastava
5. Dr. Monika Gupta
6. Prof. Satya Paul (Special Invitee)
7. Prof. D.S. Sambyal (Special Invitee)

**Prof. H.N. Sheikh**  
Head of the Department

Copy to:

Prof. Anju Bhasin Dean Faculty of Science for information please

**Progress report of the project supported by Quality Assurance  
Fund entitled (DIQA) of Jammu University for the project**

**Ref. No. : RA/23/7001 - 7008 dated 20-01-2023**

**Amount: INR 2,00,000/- (Two lacs)**

Progress report of the project entitled "*Design and synthesis of quinoxalinoindspiropyrrolizine/pyrrolidine by [3+2] cycloaddition for anti-cancer evaluation*" supported by research and seed money grant assistance for the formulation of the research proposal under the Quality Assurance Fund entitled (DIQA) of Jammu University for the project.

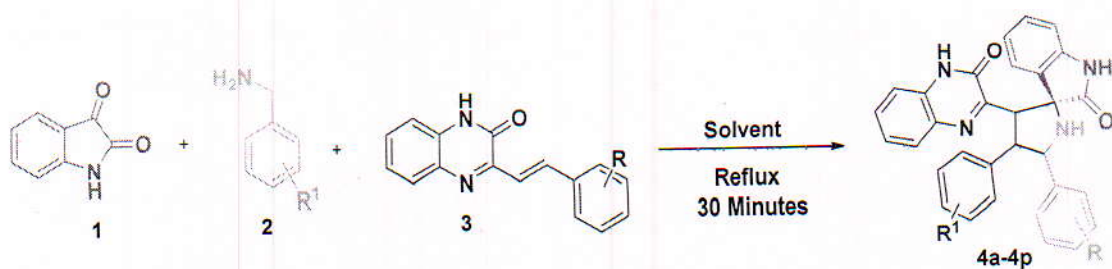
Following are the outcomes of the project:

1. Chemicals and reagents were purchased to carry out the preliminary investigations.
2. Starting materials such as (*E*)-3-styrylquinoxalin-2(1*H*)-ones were synthesized by using protocol established in our laboratory (Scheme 1, *RSC Adv.*, **2020**, *10*, 15966-15975).



Scheme 1. Synthesis of (*E*)-3-styrylquinoxalin-2(1*H*)-ones

3. Quinoxalinone containing spiropyrrolidines were synthesized *via* [3+2] cycloaddition reaction of *in-situ* generated azomethine ylide with (*E*)-3-styrylquinoxalin-2(1*H*)-ones (dipolarophile) (Scheme 2 and 3).

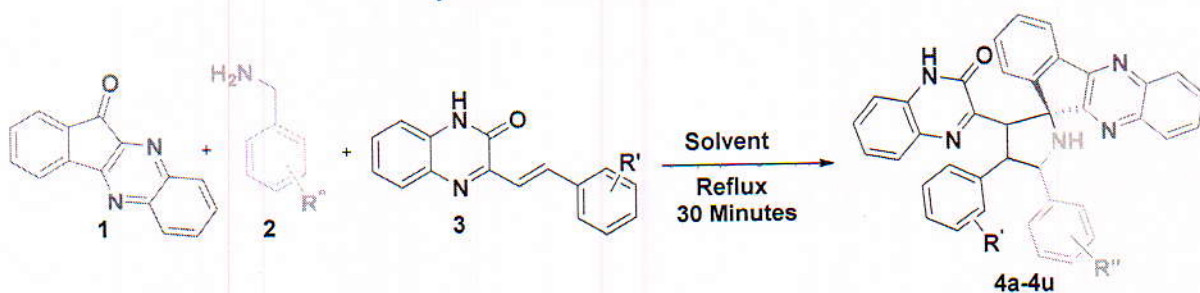


R<sup>1</sup> = OMe

R = H; 2-Cl; 4-Cl; 4-Br; 2-F;

2-F,3-Br; 3-Br,4-F; 4-OMe; 4-Me

Scheme 2: Synthesis of Quinoxalinone substituted spiropyrrolidinoxindoles *via* 1,3-dipolar cycloaddition reaction.



R<sup>1</sup> = OMe

R = H; 2-Cl; 4-Cl; 4-Br; 2-F; 4-N,N-diMe;

2-F,3-Br; 3-Br,4-F; 4-OMe; 4-Me

Scheme 3: Synthesis of Quinoxalinone substituted spiropyrrolidines *via* 1,3-dipolar cycloaddition reaction.

- The formation of the product was confirmed by the <sup>1</sup>H NMR, <sup>13</sup>C NMR, DEPT135 NMR, HRMS and FTIR. Also SC-XRD analysis of a compound further supported the assigned structure.

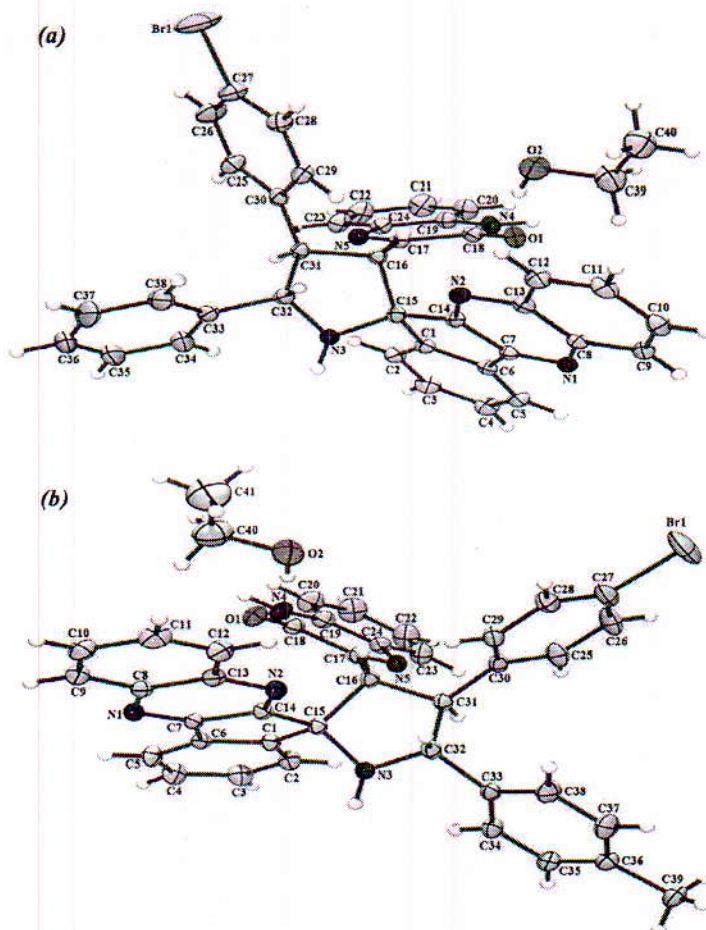
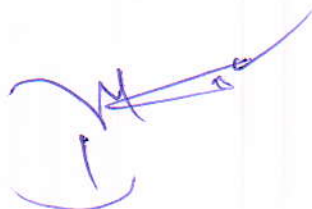


Fig. 1. An ORTEP view.

5. The anticancer activity screenings on the synthesized compounds have been evaluated. The screening encompassed various cancer cell lines, such as colon cancer and lung cancer, ovarian cancer, breast cancer, pancreatic cancer and skin cancer. Valuable insights were obtained into the broad-spectrum effectiveness of the synthesized compounds against different types of cancer cells, particularly the HCT-116 cell line (lung cancer).

**Table 1. Cytotoxic activity (Inhibition%) of spiropyrrolidines on NCI-60 Human cancer cell line and Normal Human embryonic kidney cells.**

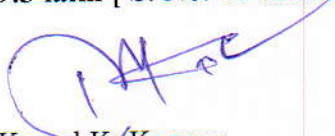
Compound	U-251	A-375	OVCA R3	PC-3	MiaPaC a-2	MCF -7	A-549	HCT-116	HEK-293
4a	38.7	20.7	39.8	65.9	77.5	67.3	41.1	89.9	66.3
4b	29.6	62.4	36.3	63.1	63.5	61.8	34.3	93.3	46.7



4c	38.8	63.4	38.8	62.7	66.2	56.3	46.4	93.4	46.7
4d	36.7	63.5	38.6	55.9	55.3	53.2	40.2	72.6	48.1
4e	43.6	64.6	41.6	70.3	64.5	71.5	54.4	91.9	48.8
4f	45.9	63.0	40.7	67.2	68.4	66.2	52.3	93.0	47.0
4g	54.1	61.8	36.4	64.9	62.6	75.6	65.4	93.5	43.8
4h	47.4	34.6	43.0	75.3	80.7	60.5	74.3	93.9	29.8
4i	83.8	72.9	40.6	66.3	81.1	85.3	74.8	93.6	46.1
4j	0.0	0.0	25.3	56.3	49.1	51.5	36.5	90.1	38.5
4k	15.6	22.4	22.7	53.9	56.3	49.3	38.2	69.1	27.5
4l	5.2	35.7	24.8	63.3	62.7	60.6	46.3	83.8	27.4
4m	17.0	30.6	32.4	42.8	62.2	64.6	47.4	90.7	49.6
4n	8.8	3.2	25.6	70.4	55.1	55.4	50.1	89.2	22.7
4o	32.5	60.0	35.6	68.5	63.1	55.6	28.2	90.1	45.8
4p	40.0	60.3	30.5	66.8	65.9	53.3	15.9	84.2	47.8

6. The compilation of results and the preparation of the manuscript are under progress.

**The findings of this proposal led to the development of a new proposal which was submitted to the Jammu and Kashmir Science, Technology and Innovation Council (JKSTIC). Pertinent to mention that this proposal has been awarded with funding of Rs. 9.3 lakh [ S. No. 10 of the annexure (5pages)].**

  
Kamal K. Kapoor

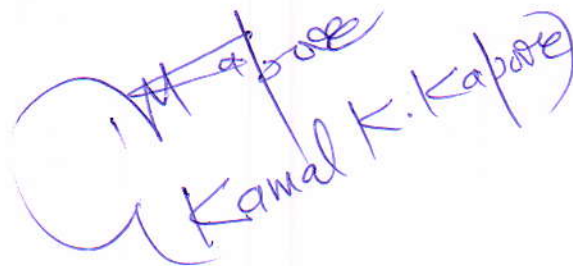
PG Department of Chemistry,

University of Jammu,  
Jammu.



## Utilization of Research & Seed Grant under DIQA

S.No.	Heads	Amount Sanctioned (Rs.)	Utilized (Rs.)	Unutilized (Rs.)
1.	Hiring of Services	40000	22184	17816
2.	Consumables	140000	139806	194
3.	Equipment	20000	0	20000
	<b>TOTAL</b>	<b>200000</b>	<b>161990</b>	<b>38010</b>

  
Kamal K. Kapoor

OFFICE OF DEAN RESEARCH STUDIES  
UNIVERSITY OF JAMMU

ORDER

Based on the recommendations of the Committee constituted for the purpose vide order No. RA/3977-92 dated 05.12.2022 and also on the recommendations of the Dean of the Faculty concerned, sanction is hereby accorded to the payment of Rs. 2,00,000/- as financial assistance in favour of Prof./Dr. Kamal K. Kapoor, Department of Chemistry as per the details given below out of the Research & Seed Grant for Professor / Associate Assistant Professor, under the Head 'Quality Assurance Fund (DIQA)' as per order No. Fin./2022-23/3338-42 dated 16.09.2022:-

a) Hiring of Services / Honorarium for experts	:	40,000/2
b) Equipment (Repair) or any accessory, if needed, to the existing equipment	:	-
c) Purchase of Minor Equipment	:	20,000/2
d) AMC's of existing Equipment	:	-
e) Consumables/Chemicals/Glassware etc.	:	1,40,000/2
f) Contingency	:	-
g) Field work	:	-
h) Any other item	:	-
Total	:	2,00,000/2

You are required to meet the said expenditure as per University norms. The Principal Investigator (PI) shall submit the bills for pass & payment as per the existing GFR/GeM guidelines to the Grant Section. The quantum of assistance sanctioned is required to be exhausted/utilized within a period of one year starting from the date of issue of order. Utilization certificate will be submitted after completion of the project.

A detailed report of project shall mandatorily be submitted by PI to the office of the Dean Research Studies with a clear statement on whether the said project has enabled the PI to put up a bigger proposal for funding to any national funding agency.

No. RA/23/7001-7008

Dated: 20/01/23

Copy to:

1. Special Secretary to the Hon'ble Vice-Chancellor.
2. Sr. P.A. to DAA/DRS/Registrar/DIQA.
3. Dean of the Faculty concerned.
4. HOD concerned.
5. Principal Investigator.
6. Joint Registrar (Finance).
7. Deputy Registrar (Grants).

acp  
20/1/2023  
Assistant Registrar (R&A)

Wk 20/1  
G 20/1  
JK 20/1

**SPONSORED RESEARCH AND EXTENSION-2022-23**  
**University of Jammu**

(Rs. In lakhs)

*Annexure  
B PPF*

Sl. No.	Name of Principal Investigator with Contact Details E-mail /cell	DOB/DOOR	Subject/Field	Title of the Project Proposal	Institution / Organization	Funds Proposed by the Technical Committee			Remarks
						1st Year	2nd Year	Total	
1	Prof. Seema Langer, Dean Life Sciences, Professor & Head, langerseema@yahoo.co.in 9906027016	05-06-1964	Zoology	Investigations on nutritional and clinical significance of fresh water crabs with special emphasis on the effect of frozen storage on their biochemical composition.	Department of Zoology, University of Jammu	3.75	2.75	6.50	Recommended
2	Dr. Sikander Pal, Associate Professor, sikanderpal@jammuuniversity.ac.in, sikanderchowdhary@gmail.com 9596744900	27-04-1981	Botany	Genome wide association studies (GWAS) of maize roots for improving traits regulating phosphate use efficiency.	Department of Botany, University of Jammu	4.50	3.50	8.00	Recommended
3	Dr. Namrata Sharma, Professor, namratadhi@gmail.com 9086003458, 7006275841	17-05-1965	Botany	Exploration of variability in genetic systems of Artemisia species abounding NW Himalayas with emphasis on the economic and evolutionary significance of chromosomal races.	Department of Botany, University of Jammu	4.00	3.00	7.00	Recommended

	Professor, Veenu Kaul, veenukaul@yahoo.co.in 9419137180	08-12-1969	Botany	Evaluation of cytological molecular and biochemical diversity in <i>Drimys indica</i> (Roxb.) Jessop.	Department of Botany, University of Jammu	4.00	4.00	8.00	Recommended
5	Dr. S. Bharathiraja, Assistant Professor, bharu.ap@gmail.com 9940453909		Biotechnology	Surface fabrication of Biopolymer Scaffolds with Nano Hydroxyapatite and extracts of <i>Aegle Marmelos</i> and/or <i>Catharanthus roseus</i> for boneRegeneration : An In-Vitro study.	School of Biotechnology, University of Jammu	4.10	3.75	7.85	Recommended
6	Dr. Madhulika Bhagat, Associate Professor, Madhulikabst@gmail.com 9419124018	09-04-1979	Biotechnology	Development of polymeric nanogels loaded with essential oil from medicinal and aromatic plants.	School of Biotechnology, University of Jammu	4.50	3.00	7.50	Recommended
7	Prof. Haq Nawaz Sheikh, Professor, hnsheikh@jammuuniversity.ac.in hnsheikh07@gmail.com hnsheikh@rediffmail.com 7006282861, 9419148792	23-08-1969	Chemistry	Development of Luminescent Lanthanide-Coordination Polymers/Metal organic Frameworks as Chemical Sensors.	Department of Chemistry, University of Jammu	4.50	3.70	8.20	Recommended
8	Dr. Ashwani Kumar, Senior Assistant Professor, ashwani.kalsi@gmail.com 9419860841, 9596895135	17-05-1986	Chemistry	Temperature dependent physicochemical studies of citrates/tartrates in aqueous solutions of ionic liquids.	Department of Chemistry, University of Jammu	4.00	3.30	7.30	Recommended

	Dr. Devinder Singh, Professor, drssambyal@rediffmail.com 9419244710	11-03-1966	Chemistry	Synthesis of photo-catalytically active nano-crystalline mixed oxides and their applications in the removal of organic dyes for environmental remediation.	Department of Chemistry, University of Jammu	5.10	3.75	8.85	Recommended
10	Prof. Kamal K. Kapoor, Professor & Head, kamalkkra@gmail.com, kamalk Kapoor@jammuuniversity.ac.in 9419134807, 7006298353	15-03-1965	Chemistry	Synthesis of hybrid molecules based on styryl/quinoxalones, donepezil and other bio-active heterocyclic compounds as anti-Alzheimer agents.	Department of Chemistry, University of Jammu	5.50	3.80	9.30	Recommended
11	Prof. Lalit Sen Sharma, Professor, lalitsensharma@jammuuniversity.ac.in 0191-2432715	12-04-1969	Computer Science/IT	Assimilating Domain knowledge using Ontology Mapping for enhanced reasoning capability.	Department of Computer Science & IT University of Jammu	2.75	2.50	5.25	Recommended
12	Dr. Sheetal Ambaradar, Assistant Professor, sheetalambaradar@gmail.com 9419117524	09-09-1970	Biotechnology	Microbiome analysis of the rhizosphere of medicinal herb Tulsi (Ocimum sanctum L.).	School of Biotechnology, University of Jammu	4.30	2.30	6.60	Recommended
13	Dr. Chinmoyee Maharana, Assistant Professor, chinmoyee@gmail.com chinmoyee.maharana@jammuuniversity.ac.in 9717961237		Zoology	Investigation of circulatory miRs in neurodegenerative diseases: Implications for biomarker discovery and therapeutics.	Department of Zoology, University of Jammu	4.50	3.50	8.00	Recommended

	Gender Kumar Bajaj, Professor, bajajbijenderk@gmail.com 9419102201	05-05-1969	Biotechnolog y	Anti-inflammatory potential of probiotic lactic acid bacteria isolated from unique ecological niches of Jammu and Kashmir	School of Biotechnology, University of Jammu	4.25	4.25	8.50	Recommended
15	Jyoti Vakhlu, Professor, jyotimetagenomic@gmail.com 9419117624	09-09-1970	Biotechnolog y	Identification of genes and metabolites responsible for plant growth promotion and bio-control activity of Bacillus sp strain DS of saffron.	School of Biotechnology, University of Jammu	4.10	2.25	6.35	Recommended
16	Dr. Sushila Kumar Pandey, Professor, kpsushil@rediffmail.com 0191-2453969, 9419147679	20-07-1963	Chemistry	New metal complexes with phosphor-1, l-dithiolate ligands; Synthesis, characterization and application	Department of Chemistry, University of Jammu	4.90	3.35	8.25	Recommended
17	Prof. Sanjana Kaul, Professor, sanjozle@rediffmail.com 9410237291	30-08-1967	Biotechnolog y	Bioprospecting endophytic microbes from saffron for bioactive secondary metabolites.	School of Biotechnology, University of Jammu	4.25	3.25	7.50	Recommended
18	Dr. Satya Paul, Professor, satyapaul@jammuuniversity.ac.i n 0191-243969, 9419147677	10-06-1967	Chemistry	Development of supported metal organic frameworks for removal of pollutants from waste water; and their applications in organic synthesis.	Department of Chemistry, University of Jammu	5.10	3.80	8.90	Recommended

2021

	Dr. Shashi Prabhakar, Associate Professor, sarfarazsgher@gmail.com sarfarazsgher@jammuuniversity.ac.in 09419134864, 0191-2439275	10-12-1974	Geography	Assessment of climate change on the sustainability of wetlands in Jammu Division.	Department of Geography, University of Jammu	3.00	3.00	6.00	Recommended
20	Dr. Shashi Prabhakar, Assistant Professor, sprabhaju@gmail.com 9419106569		Geography	Variability Analysis of Climate change for sustainable Agriculture: An Agro-Ecological based approach of the Himalayan and Sub-Himalayan regions of Union Territory of Jammu & Kashmir.	Department of Geography, University of Jammu	3.00	3.00	6.00	Recommended
21	Dr. Ashok Kumar, Assistant Professor, ashoksharma@jammuuniversity.ac.in 9419106800	25-12-1977	Computer Science/IT	Designing a Predictive model for Analyzing the Academic performance of Learner's in Higher Education in UT of Jammu and Kashmir by using Artificial Intelligence approaches.	Department of Computer Science & IT, Bhaderwah Campus University of Jammu	3.00	2.75	5.75	Recommended
22	Dr. Jatinder Manhas, Sr. Assistant Professor & Head, jatindermanhas@jammuuniversity.ac.in 8082770939, 9419173793	21-03-1980	Computer Science/IT	Artificial Intelligence based landslide Monitoring and Forecasting System in the UT of Jammu & Kashmir.	Department of Computer Science & IT, Bhaderwah Campus University of Jammu	4.30	2.70	7.00	Recommended
Total :						91.40	71.20	162.60	