D.A.V. (P.G.) COLLEGE, DEHRADUN
UTTARAKHAND

ANNUAL QUALITY ASSURANCE REPORT

2011 – 2012

SUBMITTED

By

Internal Quality Assurance Cell
D.A.V.(P.G.)College
Dehradun

IQAC TEAM

DR.DEVENDER BHASIN, CHAIRMAN

1.Dr.H.S.Randhawa,Convener
2.Dr.Shikha Nagalia , Co-convener
3.Dr.Reena Uniyal Tiwari,Member(B.Ed)
4.Dr.Rajesh Dubey, Member(Law)
5.Dr.Depinder Nigam, Member(Science)
6.Dr.Puneet Saxena,Member(Commerce)

Name of the Institution : D.A.V. (P.G.) College, Dehradun

Report of the year : 2011 – 2012

Part A :

The Plan of Action Chalked out by the IQAC in the beginning of the year towards quality enhancement and the outcome achieved by the end of the year.

Plan of Action :

In adherence with the recommendations of the NAAC peer team the following new academic initiatives were planned for the year 2011-2012 as a part of continuous quality enhancement measures :

1. Introduction of Internal Assessment (40%) in all P.G. Courses.
2. Introduction of job-oriented courses like B.Sc. (IT), M.A. (Mass Communication), P.G.D.J.M.C. (Post Graduate Diploma in Journalism and Mass Communication), P.G.T.T.M. and M.A. (Education).
3. Introduction of E-mentoring in all P.G. Courses.
4. Development of a Central instrumentation facility of sophisticated equipments.
5. Collection and analysis of the self-appraisal reports of the teachers.
6. Encouragement to project work (dissertations) in all P.G. courses.
7. Giving weightage to student seminars and assignments under CBCS.
8. Introduction of compulsory and optional add-on courses at P.G. Level
9. Motivation of students to enroll into Ph.D. Programmes and take NET/SLET examination.
10. Starting a separate cell for counselling of students and their job placement.
11. Starting of Gender Sensitization and Awareness committee.
12. Introduction of coaching classes for NET/SLET Competitive examination.
13. Remedial teaching classes for the weaker sections of the society in the evenings.
14. Introduction of the committee for helping the physically challenged students.
15. Plan to ensure wider participation of the college teams in all sports events at the university/state level.

PART B:

I FACULTY OF ARTS

Name of Department	(No. of Faculty Members)
1. Hindi	04
2. Sanskrit	03
3. Geography	06
4. History	05
5. Economics	07
6. English	07
7. Sociology	07
8. Political Science	06
9. Music	02
10. Drawing & Painting	02
11. Psychology	04

1) Activities Reflecting The Goals & Objectives of The Institution

In keeping with the goal of all round and multidimensional personality of students and to enable them to take on multifarious roles in society effectively, the activities of the college towards the achievement of this goal, may be classified as follows:

1. Focus on Academics: The course content of all the UG and PG programmes is imparted to the students through a well-qualified staff with innovative and effective teaching methods. All P.G. Departments enable students to undertake doctoral research, with the college as their research centre.

2. Fair & Periodic Evaluation: Students are assessed through external university examination. In addition, periodic sessional tests are also given internally (internal assessment) to the P.G. level students. Both verbal and learning skills of students are enhanced through regular tests and presentations related to their given subjects.

3. Cultural Activities: To provide an opportunity to students to showcase their artistic talents and to help them develop an aesthetic inclination towards fine arts, drama, dance, music & literature, the college's students Union body organizes a 5 day Cultural week (called Union Week) annually during which various kinds of competitions are held such as debates, rangoli, poster designing, folk dances, western dances etc. Debate competition and musical evening is alternately organized by College on 26th February every year.

4. Seminar/Lectures: are organized by different departments periodically to provide an academic platform for discussion between academicians and students on diverse and current topics.

5. Social/Community Outreach: work is carried out primarily through N.C.C., N.S.S., Rovers & Rangers, Red Ribbon Society, Guides and Scouts. Activities of such organizations are for both boys and girls and completely inter-woven into the overall curriculum of the college. These organizations in the college cover a wide range of community outreach activities such as AIDS awareness, health related and environment related projects such as tree plantation, blood donation, Save the river Ganga, (Sparsh Ganga) and voluntary help in disaster management projects.

6. Sports: To provide an opportunity to students to excel in sports and for adequate physical growth and fitness of its sportspersons, the college provides all facilities and support for various games including uniform, equipment, sports kit, coaches, financial help and a gymnasium on the premises. Students regularly participate in various inter college competitions and some of them have made a mark at the State/National levels also. The college organized the 37th Inter collegiate, H.N.B.G.U. Athletic Meet 2011-12 from 25th Nov, to 27th Nov.2011.

7. Elective Body of Student's Union: Every year the office bearers of students unions are elected democratically. This provides a practical training

ground to students who wish to take on the roles of leadership in different walks of life.

8. Training & Up-gradation of Teaching Faculty: To stay abreast of latest developments in their respective disciplines, the faculty members regularly attend orientation programmes, refresher courses, supervise research and present research papers both in India and abroad.

9. Well Equipped Library: To act as a resource centre for students.

2) New Academic Programmes initiated (UG and PG)

No new programmes have been introduced in the 11 departments of the faculty of Arts.

At P.G. level semester system has been introduced by the University and is being successfully implemented in college.

A lot of professional courses have been initiated separately by the College.

3) Innovations in Curricular Design and Transaction:

All the Departments of Art Faculty employ different methods for effective transaction of the course content and periodically assess the clarity with which learning process has taken place. All Departments use lecture method with the help of Flow Charts and Interactive teaching as a conventional method and try innovative methods wherever possible. With semester system introduced at the P.G. level- periodic assignments, sessional tests, quizzes, presentations etc. are regularly conducted for evaluation of the learning process.

In addition to the above methods, Department of History use projector slides on important topics and conduct education tours for their students for the first hand grasp of facts. For example Golden Triangle tour(Delhi-Agra-Jaipur) is organized for Medieval History students from time to time.

Department of Psychology employs Lecture Method along with Demonstration method, Discussion Method, Audio-Video Aids, Counseling (Live Session) and Demonstration of Therapies for the enlightenment of the students.

Department of Music organizes Music Competitions, State Programmes; musical evenings in the college to enhance the confidence and experience of their students.

Department of Geography carries out field study with its students and focuses primarily on regional problems. It also conducts educational tours on a regular basis.

Conventional Method	→	Lecture Method with Interactive Teaching	+	Innovations Mentioned above

4) Inter Disciplinary Programme Started:

In the faculty of Arts- NIL

5) Examination Reforms Implementation:

Major reforms in the examination system are:

1. Introduction of two sessional assessments internally for the P.G. students in the semester system. The question papers setting of these internal assessments as well as evaluation of the scripts is done internally by the departmental faculty members.
2. The pattern of question papers is being reformed to make them more objective, covering wider range of the syllabus, testing fundamental concepts is each paper and enabling students to score better through proper distribution of marks over objective, short and long questions.

6) Candidates Qualified NET/SLET

Most of the Departments in the Faculty of Arts do not have any record of their students who have qualified NET/SLET. However, good number of students appear for this exam and a few have qualified. Details on this aspects, from the Departments who have kept a record, are given below:

a) Department of Geography : 02
b) Department of History : 10 (Out of which 4 have been employed as Lecturers in the State)
c) Department of Hindi : 01
d) Department of English : 02 (NET)

7) Initiative Towards Faculty Development Programme

Faculty members regularly go for their orientation programmes/ refresher courses to UGC Academic Staff Colleges across the country's for their professional and personal growth. Teachers are also encouraged to visit national and international seminars for paper presentation. Department/Teachers are also encouraged to organize seminars/talks and write books and publish papers on their related subjects. College also encourages teachers to put for the U.G.C. sponsored Minor/Major Research Projects.

8) Total Number of Seminars & Workshops Conducted

Given below is the number of National Seminars organized by the various departments in the faculty of Arts.

a) Political Science : 01 National Seminar (**Gender & Development**)
b) Sociology : 02 National Seminar **(Globalization & Development, Child Rights)**
c) Geography : 01 National Seminar
d) English : 02 National Seminars 1. **Dalit Literature, 2009**. 2. **Translation of Bhasha Literatures**, 2012.

05 Total Five National Seminars (U.G.C. Sponsored)

9) Research Projects Ongoing & Completes

S. No.	Name of Department	Completed Projects (Major/Minor)	Ongoing Projects
1.	Dept. of Sanskrit	03 projects (1 minor/ 2 major)	NIL
2.	Dept. of Geography	03	01
3.	Dept. of Economics	NIL	01 (Minor)
4.	Dept. of English	03 (Minor)	01 (Major)
5.	Dept. of Sociology	01 (Minor)	NIL
6.	Dept. of Pol. Science	NIL	01
7.	Dept. of Hindi	04	02
8.	Dept. of Music, D& P, Psychology & History	NIL	Nil

Total no. of Completed Projects (major/minor) - 14
Total no. of Ongoing Projects (major/minor) - 06

10) Patents Generatored

Details of published and Copyrighted work generated by the departments in the Arts Faculty (Books and other publications) is given below:

S. No.	Name of Department	Books
1.	Dept. of Hindi	10 Books (3(2.B) 1 (S.S.) & 6 (R.V.S.))
2.	Dept. of Geography	05 Books
3.	Dept. of Economics	01 Book (01 (D.S.))
4.	Dept. of Sociology	06 Books + (3 books going to be published)
5.	Dept. of Pol. Science	04 Books + (1 book under publication)
6.	Dept. of Hindi	03 Books (02 (R.V.), 01 (N.S.))
7.	Dept. of History	04 Books (03 (V.K.D.) 2 (A.B.)
8.	Dept. of English	01 Book (2010)
Total Books Copyright: 34 Books Under Publication: 5 Books		

11) New Collaborative Research Programmes:

S. No.	Name of Department	Books
1.	Dept. of Geography collaborates with	1. National Resources Institute 2. University Of Manitoba 3. UGC for Research projects
2.	Dept. of English, Sociology, Sanskrit, Hindi, Pol. Science Collaborates with	UGC for Research projects

12) Research Grants Received From Various Agencies

UGC Grants for various ongoing research projects (major & minor)

UGC Grants for technological upgradation/digitilazation of library (reference books).

13) Details of Research Scholars (D.PHIL. Programmes)

S. No.	Department	Completed/Awarded	Submitted	Ongoing
1.	Sanskrit	22	07	05
2.	Geography	22	01	07
3.	Economics	-	04	-
4.	English	11	-	01
5.	Sociology	07	03	03
6.	Pol. Science	09	03	06
7.	Hindi	10	04	06
8.	Music	-	-	-
9.	D & P	-	-	-
10.	Psychology	06	-	03
11.	History	18	03	03
	Total	**105**	**25**	**34**

14) Citation Index of Faculty Members & Impact Factor

Following no. of papers have been published by the faculty members of various department in Arts Faculty in prestigious journals with citation numbers.

S. No.	Department	No. of Papers Published
1.	Sanskrit	37
2.	Geography	80
3.	Economics	10
4.	English	15
5.	Sociology	02 (including 1 in international journal of International Sociological Association)
6.	Pol. Science	-
7.	Hindi	45
8.	Music	-
9.	D & P	11 (including 1 in International Journal)
10.	Psychology	101
11.	History	17

15) Honors/Awarded to Faculty Members:

S. No.	Department	Faculty Member	Honors/Awarded
1.	Dept. of Sanskrit	Dr. Savita Bhatt	1. अखिल भारतीय वानिकी साहित्य पुरस्कार
		Dr. Sukhdha Solanki	1. उत्तराखण्ड गौरव सम्मान 2. Best N.C.C. Officer
		Dr. Ram Vinay Singh	1. पंशिवदत स्मृति अलंकरण 2. व्यास ध्वज सम्मान 3. श्रेष्ठ संस्कृत कवि 4. श्रेष्ठ शिक्षक
2.	Dept. of Geography		UGC Post Doctoral Award to 1 Teacher
3.	Dept. of English	Dr. H.S. Randhawa	1. Swami Vivekanand Award for Best Programme Officer N.S.S.
4.	Dept. of Pol. Science	Dr. Sanjya Meena	Doon Ratna 2008
5.	Dept. of History	Dr. Anju Bali Pandey	First Indian to ever have worked on TUNISHIA (North African Country) has been recognized for this achievement by the AMBASSDOR of TUNISHIA in India.

16) Internal Resources Generates:

NIL

17) Details of Departments Getting Assistance/ Recognition under SAP/COSIST/ASSIST/DST/FIST and other Programmes:

Not Applicable

18) Community Services:

1. National Service Scheme (N.S.S.)
   - Sparsh Ganga Project
   - Tree Plantation } Environmental Related Projects
   - Blood Donation, AIDS Awareness } Health Related Projects
2. National Cadet Corps. (N.C.C.)
   Voluntary help in disaster control and management projects
3. Rovers & Rangers
4. Red Ribbon Club
5. Scouts and Guides

19) Newly Recruited Teachers

S.	Department	No. of Newly	Teacher Name	Qualification

No.		Recruited Teacher in 2008		
1.	Sanskrit	NIL		NIL
2.	Geography	NIL		NIL
3.	Economics	01 (2008)	Dr. S. Nagalia	U.G.C. (NET & D.Phil.
4.	English	02	1. Dr. M. Saxena 2. Dr. S. Gupta	NET & Ph.D M.A. & Ph.D
5.	Sociology	03	1. Onima Sharma 2. Archana.Pal 3.Satyam Dwivedi	UGC (Net) Registered for D.Phil
6.	Pol. Science	02	1. Dr. S. Meena 2. Dr. Lal Shah	Ph.D UGC (NET)
7.	Hindi	01	1. Dr. N. Walia	Ph.D
8.	Music	NIL		
9.	D & P	02	1. Kanchan. Mainwal 2.HariOmShankar	UGC (NET) Ph.D
10.	Psychology	02	1. P. Barthwal 2. R. Rawat	UGC (NET) M.Phil, P.hD
11.	History	01	1. Dr. R.S. Dixit	UGC (NET)& Ph.D
	Total	**14**		

20) Teaching Non-Teaching Ratio:

S. No.	Department	Ratio
1.	Sanskrit	3 : 1(Attendant)
2.	Geography	6 : 2 (Attendant)
3.	Economics	7 : 1 (Attendant)
4.	English	7 : 1 (Attendant)
5.	Sociology	7 : 1 (Attendant)
6.	Pol. Science	6 : 1 (Attendant)
7.	Hindi	4 : 1 (Attendant)
8.	Music	2 : 2 (one one accompanist and one attendant)
9.	D & P	2 : 1 (Attendant)
10.	Psychology	4 : 1 (Attendant)
11.	History	5 : 1 (Attendant)

21) Improvements in Library Services:

Standard Reference books, Journals, Periodicals, etc.

22) New Books & Journals Subscribed & Value (P.A.)

Following journals/periodicals are subscribed by the department on a regular basis:

S. No.	Department	Books
1.	Sanskrit	1. हक् 2. शारदा 3. वैशारदी 4. प्राच्यविद्यानुसंधानम् 5. शोध प्रभा 6. विश्व संस्कृतम् 7. अनुसंधानम् 8. परोपकारिणी 9. गुरुकुल पत्रिका 10. वेदविद्या 11. नया ज्ञानोदय (भारतीय ज्ञानपीठ) (approx. value 10,000 p.a.)
2.	Geography	03 Journals by Department 05 Journals by Faculty Members (approx. value 10,000 p.a.)
3.	Economics	1. Economic & Political Weekly (E.PW) 2. The Economic Times 3. Indian Economic Journal 4. National Journal as Rural Development 5. Indian Journal of Agricultural Economics (I.S.A.E) 6. Economic Survey 7. Varta 8. I.I.P.A. biannual Journal(Indian Inst. of Pub. Adm.) (approx. value 10,000 p.a.)
4.	English	1. Journal of Language, Literature & Culture studies(JNU) 2. Dialogue biannual,Lucknow 3. Punjab Journal of English Studies,GNDU 4. Literacy Criterion Dhawanilok (Mysore) 5. Journal for Indian English Studies,Gulbarga. (approx. 10,000 p.a.)
5.	Sociology	1. Mainstream 2. Yojna 3. Kurushetra 4. Economic & Political study (approx. value 10,000 p.a.)
6.	Pol. Science	1. Current Affairs

		2. I.I.P.A. Biannual journal 3. Yojna 4. Aajkal 5. India Today 6. Journal by H.N.B.G.U. on Social Science Research (approx. value 10,000 p.a.)
7.	Hindi	1. Shartiya Darpan 2. Hindi Sahitya Academy Sanskar patrika - Rashtra Bhasha Sandesh. 3. Aalochna 4. Vaga- arth 5. Aajkal 6. Hindi Anusheelan 7. Shodh Disha (approx. value 10,000 p.a.)
8.	Music	1. Sangeet Patrika
9.	D & P	-
10.	Psychology	1. Foundation of Behavioural Research - A.K. Singh 2. Introduction of Psychology - Baron - Byrne 3. Statistic in Psychology & Education - Garett 4. Abnormal Psychology in Modern life - Coleman 5. Clinical Psychology - Korchin 6. Experimental Psychology - Wood worth & Scholesbery (approx. value 10,000 p.a.)
11.	History	1. The Medieval History Journal - by SAGE 2. Indian Historical Review (ICHR) - by SAGE 3. The Indian Economic & Social History Review - by SAGE (approx. value 10,000 p.a.)

23) Student Assessment of Teacher and Action Taken on Feebback

U.G.C. framed students Feedback Forms which have been introduced in all departments. Necessary modifications in the teaching/transactions strategies shall be devised accordingly.

24) Feedback From Stakeholders

- Periodic assessment conducted by National Accreditation and Assessment Council (NAAC), as autonomous body of U.G.C. Grading B+ in last assessment year 2004.
- Regular interaction with Parents during admissions, functions and ceremonies.

25) Unit Cost of Education

-

26) Computerization of Admission & Administration: Exam Results & Issue of Certificate

Computerized - Marksheet/Admissions/I. Card etc./ Fee Receipt etc.

27) Increase in Infrastructure Facilities

Departments have Intercom Facility, Computer with internet access, Furniture, Water Filters etc.

28) Technology Up-gradation

Computers with Internet Facility.

Department of History: Slide Projector, Camera, P.A. System, Electronic Typewriter.

Psychology: Slide Projector.

29) Computer & Internet Access: Training to Teachers/Non-Teaching Staff & Students

1. Teachers have personally acquired computer skills.
2. College provides training to office staff as all administrative work is more or less computerized.
3. 'Shikar Project'- Computer learning for students at highly subsidized fees.

Suggestion: B.SC. IT Staff could organize workshops for teaching / non teaching staff.

30) Financial aid to Students

- Scholarships are granted to students from economically and socially weaker sections (SC & ST).
- Awards (Gold Medal & Cash Prizes) are given to meritorious students.
- Books are granted to poor deserving students.

31) Activities/Support From Alumni Association

Charitable Work.

32) Activities & Support From P.T.A.

NIL

33) Health Services

The College provides following facilities:

1. First-aid dispensary for students.

2. Teachers' Welfare Fund provides assistance to seriously sick teachers (decided by a committee of 3 senior teachers) upto 50,000/-

34) Performance in sport Activities

- College hosted the 37th Inter-Collegiate H.N.B.G.U. Athletic Meet 2011-12 (25th Nov to 27th Nov). D.A.V. (PG) College bagged the Champion's Trophy.
- College participates in all Inter-collegiate/Inter State events and has won many championships.
- Some students have made a mark on the games field at the National Level Also:

  Details (Sport Wing) to Provide:

1. 21 College Teams emerged champions (Ist Position) in 17 inter-college events (2009-10).
2. Badminton and Chess Championships (both single and double event) 2009-10.
3. Many College sportspersons were selected in the university teams shooting/Judo.
4. College Boxer Manoj Singh won a bronze (Cash prize 5100) medal is All India Inter-Colleges Competition. He als won a Gold Medal is Open Nationals.
5. Kumari Dimple bagged a Bronze Medal is All India Inter Colleges Competition (Cash prize 5100).
6. College sports persons have been selected in Uttarakhand Police Services and I.A.F. in Sports quota Manoj Singh, Km. Dimple- UK Police,, Anand Jaiswal shooter in I.A.F.)
7. Arun Singh won a Gold Medal at Singapore Open Shooting Championship. Many other medals in different categories.

35) Incentives To Out Standing Sport Persons

- Cash Prize - upto 5,000/-
- Track Suits
- Sport Shoes
- Sports Kits for Events - free
-

36) Students Achievement & Awards

As mentioned at point no.34

37) Activities of Guidance & Counseling Unit

1. Women Empowerment Cell - Convenor Dr. Devna Sharma
2. Career Counseling & Placement Cell -Convenor Dr. Ajay Saxena. Co-Convenor- Dr. H.S. Randhawa

3. Committee for Higher Education for Persons with Special Needs - Convenor: Dr. D.P. Singh (UGC Sponsored)
4. Free Coaching for NET/SLET for SC/ST Students (Evening Classes) (UGC Sponsored).

38) Placement Services Provided to Students

Career Counseling & Placement Cell- organizes campus interviews for placements. 243 students of this college have been able to get jobs through campus selection of companies like, Wipro, IBM Daksh, Cipla etc.

39) Development Programmes for Non-Teaching Staff

1. Houses (Free residential facility for Non-Teaching Staff whenever available).
2. Loan facility
3. Dress/Uniform allowances
4. Free education for their wards in College.
5. Privileged admission of their wards to various courses.
6. Medical assistance is emergency up to Rs. 10,000/- as immediate. (decided by a committee of 3 senior staff members).

40) God Practices Of The Institution

1. Women Empowerment Cell.
2. Career Counseling and Placement Cell.
3. UGC Sponsored Committee for Higher Education for Persons with Special Needs - working in association with NIVH, Cheshire Home, NIOH).
4. U.G.C. Sponsored Free coaching for NET/SLET for SC/ST candidates.
5. N.S.S. National Service Scheme - 'Sparsh Ganga' other environmental related awareness campaign civil defence, Blood Donation. Etc.
6. N.C.C. National Cadets Core
7. Rivers & Rangers
8. Red Ribbon Club
9. Student's Union Election
10. Union/Cultural Week
11. Organization of Sporting events (Sports)
12. Annual College Magzine
13. Maintenance & Development Committee
14. Library Committee
15. Hostel for Girls
16. Girls Common Room
17. Water tanks and toilets
18. 10,000/- immediately cash relief to staff members in case of exigencies - (recommended by a committee of 3 senior teachers)

19. Cooperative Society for Teachers - to enable them to save & take loans.
20. Benevolent Trust Called SHIVAM includes all the employees of the college and provide upto 50,000/- as immediately help in case of unforeseen exigencies (Self-initiative of employees).
21. Running a study centre for IGNOU to promote H.E. through correspondence.
22. Extends help during disaster Management wherever required.
23. Seminars/ Conference to promote interaction between teachers and students.
24. Debate Competitions/Sangeet Sandhya held on alternate years on 26th February every year.

41) Linkages Developed With National /International Academic & Research Bodies

S. No.	Department	No. of Faculty Members with Membership
1.	Dept. of Hindi (03)	
	1. Board of Studies.	01
	2. Research Degree Committee	01
2.	Dept. of Geography (06)	
	1. National Association for Geography India	02
	2. Regional Science Association, Kolkata	01
	3. International Association of CPR	01
	4. National Geographical Society of India	01
	5. Indian Geographical Society, Allahabad	01
3.	Dept. of Economics (07)	
	1. Indian Economic Association (I.E.A.)	04
	2. Indian Institute of Public Administration (IIPA)	03
	3. National Institute of Rural Development (NIRD)	01
	4. Indian Society for Agricultural Economics (ISAE	01
	5. Indian Institute of Economic Research (ISER)	01
	6. Uttar Pradesh Uttarakhand Economic Association	01
	7. Doon Library & Research Centre	04
4.	Dept. of English (07)	
	1. Indian Association of English Studies	07
	2. Indian American Studies	01
	3. Common Wealth Association of English Teachers	01
5.	Dept. of Sociology (07)	
	1. International Sociological Association	02
	2. Indian Sociological Association	04
	3. Sociological Association of Uttarakhand	05
	4. Indian Social Science Association	01

	5. Doon Library and Research Centre	04
6.	Dept. of Pol. Science (06) 1. Indian Institute of Public Administration (IIPA) 2. Indian Pol. Science Association	 03 01
7.	Dept. of Hindi (04) 1.Uttarakhand Lok Bhasha Sansthan 2. Expert Committee Member for Magzine in Brial language at NIVH 3. Hindi Sahitya Academy 4. Hindii Anusheelan 5. Aalochna 6. Shodh Disha	 02 01 02 01 01 01
8.	Dept. of Music (02)	
9.	Dept. of D & P (02) 1. I.I. P.C. New Delhi 2. Uttaranchal Kala Parishad, Dehradun 3. I.N. J.V.A., Almora	 01 01 01
10.	Dept. of Psychology (04) 1. Behavioural Scientists 2. IAAP 3. Association of Clinical Psychologists 4. J. of Psychometry & Education 5. Personality Study & Group Behaviour 6. Indian Journal of Behavioural Sciences (IJBS)	 02 01 01 01 01 02
11.	Dept of History (05) 1. Indian History Congress 2. U.P. History & Cultural 3. Uttaranchal History & Cultural Association (H.N.B.G.U., Sruinagar, UK) 4. Editorial Board of 'Rishi' - a collection of original research papers on central Himalayas (Kumaon - Garhwal- Almora - UK) 5. Doon Library and Research Centre 6. Songtsen Library centre for Tibetan & Himalayas Studies 7. Editorial Board of 'Uttarachal Himalaya ke-das-shilpkar (Anusuchit jati)- Atit Evan Vartnas	 01 01 01 01 01 01 01

II FACULTY OF LAWS

1. **Total No. of Teachers :** 5

2. **Innovations in Teaching and Curriculum Design:**
   - Teaching through innovative methods like moot court, practical training in district court.
   - Legal aid clinics in order to assist general public as well as to provide exposure to the students.

3. **Candidates Qualified NET/SLET (Last 3 yrs) -** NA (As the Dept. of Law has not yet been upgraded to the P.G. Level)

4. **Total no. of Seminars and Workshops conducted** - NIL

5. **Research Project (Minor/Major)** - NIL

6. **Total Published Books (Copyrighted work)** - NIL

7. **Collaborative Research Committee** - NIL

8. **Details of Research Scholars** - NA (As Law Faculty has not PG Course as well as Ph.D)

9. **Research Papers Published in Journal with Citation Number** - 11

10. **Honours and Awarded to Faculty Members** - NIL

11. **Assistance/Recognition under SAP, DST or other such programmes** - NIL

12. **Newly Recruited Teachers**

S. No.	Teacher	Qualification
1.	Ms. Parul Dixit	LL.M, NET and Pursuing Ph.D.
2.	Mr. Rajesh Kumar Dube	LL.M, NET and Pursuing Ph.D.
3.	Dr. Vivek Kumar	LL.M, NET and LL.D.
4.	Dr. J.S. Chandpuri	LL.M, NET and Ph.D.

13. **Teaching-Non Teaching Ratio** - 1:1

14. Books/Journals - subscribed by the Faculty Members:

1. Supreme Court Cases
2. All India Reporter
3. Indian Bar Review
4. Journal of Law Teacher of India

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15. Increase in Infrastructure - Computer with Internet Facility

16. Technology Upgradation - Computer, P.A. system, Camera and Electronic Typewriter etc.

17. Linkage /Membership of National and International Research & Academic Bodies

1. All India Law Teachers Congress - 1
2. Association of Law Teachers and Institutions of India -1

18. Any other desirable information Regarding the Faculty

A. Legad aid programmes are regularly organized by Law Faculty in view to create legal awareness among the general public.

1) Activities of the Law Department Reflecting The Goals & Objectives of The Institution

A. **Legal Awareness Camp-** The goals and objectives these activities are to create legal awareness among general public so that they may exercise their rights in order to protect their various legal interests.

B. **Legal aid Programmes-** The goal and objectives of this activity is to assist common people so that they may seek legal course of action against any civil or criminal wrongs.

2) Community Services

The Faculty members of the Law Faculty participate in various community Services like Counseling in "बाल एवं महिला हेल्पलाइन" organized by Uttarakhand Police. They provide their services by counseling to the children and women, who may have been aggrieved party due to domestic affairs of the family.

3) Good Practices of the Institution especially with regard to law dept.

We provide admission to our students by adopting fair process of selection through entrance test with a view to fulfill constitutional obligations i.e. equality in status and opportunity and free from discriminatory practices.

III FACULTY OF TEACHER EDUCATION

Department of B.Ed.

1. **Total No. of Teachers :** 07
2. **Innovations in Teaching and Curriculum Design:**
   - Use of ICT in classroom teaching
   - Using construction approach in curriculum design & transaction
   - Use of diagnostic and remedial teaching
3. **Candidates Qualified NET/SLET (Last 3 yrs) -** 02
4. **Total no. of Seminars and Workshops conducted** - NIL
5. **Research Project (Minor/Major) -**
   Ongoing - NIL
   Completed - 01 Major, 01 Minor
6. **Total Published Books (Copyrighted work) -** NIL
7. **Collaborative Research Programmes (Name of Collaborating Organizations** - U.G.C.
8. **Details of Research Scholars -**
   A. Completed - 07
   B. Submitted - 03
   C. Ongoing - 01
9. **Research Papers Published in Journal with Citation Number (Total numbers of Papers) -** 14 Approx.
10. **Honours and Awarded to Faculty Members (If any)**
    02 Doon Ratna, Best Teacher by Bharat Vikas Parishad
11. **Newly Recruited Teachers**

S. No.	Teacher	Qualification
1.	Dr. Usha Pathak	M.Sc, Ph.D, M.Ed
2.	Dr. Reena Uniyal Tiwari	M.Sc, M.Ed, Ph.D, NET
3.	Dr. Rupali Bahl	M.A., M.Ed, NET, Ph.D

12. **Teaching-Non Teaching Ratio - 07**:3
13. **Books/Journals - subscribed by the Dept./Faculty Members:**
    1. University News
    2. Teacher Today
    3. Anweshika
    4. परिप्रेक्ष्य
    5. Educational & Psychological Research
    6. Indian Educational Review
    7. Educational Abstract
    8. भारतीय आधुनिक शिक्षा

9. प्राथमिक शिक्षा
10. Journal Indian Education
11. शिक्षा बोध
12. Indian Social Science Congress Review Journal

14. Increase in Infrastructure - Computer, Over head Projector, Water Purifier, Furniture (Chairs, Almirah).

15. Technology Upgradation - Computer, Over head Projector, LCD with Laser Printer, Public Address System, Amplifier, Camera, T.V. **16. Linkage /Membership of National and International Research & Academic Bodies**

Organization Name		No. of Faculty member with membership
1. IATE	-	07
2. ISSA	-	03
3. IIPA	-	01
4. UWA	-	07
5. DHAD	-	07
6. BSSS	-	07
7. CTE	-	07
8. ISSC	-	03

17. Any other desirable information Regarding the Faculty

1. Teachers participated in National and International Seminars and presented papers.
2. Teachers are involved in Extension Work (Teaching Evaluates):
   - Of IGNOU (B.Ed, M.Ed & M.A. in Education PGDHE, PGDSLM.
   - Uttarakhand Open University (M.A. Education)
   - B.Ed (Special Education) Bajaj Institute for Learning Sharp Memorial

Department of Education

1. Total No. of Teachers : 03 (Permanent)

2. Innovations in Teaching and Curriculum Design:

- Use of ICT
- 03 Members in Curriculum Design

3. Candidates Qualified NET/SLET (Last 3 yrs) - 03

4. Total no. of Seminars and Workshops conducted - 01

5. Research Project (Minor/Major) -

Ongoing - -

Completed - 02

6. Total Published Books (Copyrighted work) - 01

Dr. Reena Chandra

7. **Collaborative Research Programmes (Names of Collaborating Organizations** - U.G.C.

8. **Details of Research Scholars** -
   A. Completed -
   B. Submitted -
   C. Ongoing -

9. **Research Papers Published in Journal with Citation Number (Total numbers of Papers)** - .

10. **Honours and Awarded to Faculty Members (If any)** - NA

11. **Newly Recruited Teachers Under Self Finance Scheme:**

S. No.	Teacher	Qualification
1.	Dr. Ritu Sinha	M.A., NET & Ph.D (Education)
2.	Miss. Anshu Singh	M.A., B.Ed. & NET

12. **Teaching-Non Teaching Ratio** - 3 :1

13. **Books/Journals - subscribed by the Dept./Faculty Members:**
    1. Bhartiya Shiksha Shodh Sansthan Journal
    2. प्राइमरी शिक्षा
    3. Journal of Indian Education
    4. Educational Research Abstract

14. **Increase in Infrastructure** - Furniture (Table and Chairs) Almirah, Water Purifier, (need to repair the seepage & leakage in the dept.

15. **Technology Upgradation** - Computer with Laser Printer, T.V., Projector

16. **Linkage /Membership of National and International Research & Academic Bodies**

Organization Name **No. of Faculty member with membership**

1. IATE - 03
2. IIPA - 03
3. BSSS - 03
4. MBS - 01
   (H.N.B. (Garhwal Central University Srignagar, Dehradun)

17. **Any other desirable information Regarding the Faculty**

The Department is running M.A. Education (under self finance scheme) since, 2006.

Faculty of Science

D.A.V. (P.G.) College, Dehradun

Section B Details in respect of the following:

1) Activities reflecting the goals and objectives of the institution

The students were admitted through merit based process. Regular theory ad practical classes were conducted. Class-wise and subject wise internal test and seminars were held. Various experts in different fields were invited for enhancing the knowledge of the students. The students of the college were engaged in extra curricular activities like cultural programmes, sports NCC & NSS etc. The students have secured many rewards and awards in the above mentioned field.

2) House Examination Committee were consulted at the beginning of the academic year. The committee chalked out the details schedule of the sessional test, mid-term and University examinations. All the programmes were conducted as per the schedule with the seriousness.

3) Candidates Qualified: CSIR-NET: One
- Mr. Deepak Kumar, Mathematics, (June 2012)

4) Teachers are busy in various research programmes in their respective fields. Each science faculty is totally computerized with internet facilities. Teachers are taking participation in orientation, refresher courses and seminars, etc.

5) List Attached. Total Number of seminar/workshop conducted
   - ✓ National Training Programme on RET' screen software for the Evaluation of Renewable Energy Projects, organized by Department of Physics, on Sept 22, 2012.
   - ✓ A working is organized by Department of Chemistry on maintenance of instruments chemicals on Oct, 2012.

6) Research Projects ongoing /completed
   (i) A minor research project on mathematical modelling of plan and diffusion is taken by Dr. U.S. Rana, Deependra Nigam, Department of Mathematics (Funding Agency – UGC, New Delhi).
   (ii) A research project on 'study of parametric instabilities in laser plasma interactim at high power laser flux is ongoing in department of physics. Principle investigator Dr. Gunjab Purohit (Funding Agency, UGC, New Delhi.

7) Patents generated: NIL

8) New Collaborative Research Programme: NIL

9) Research Grants Received from various agencies : NA

10) Details of Research Scholars Awarded: List Attached

Sl. No.	Department	Submitted	Ongoing
1.	Dept. Of Maths	15	5
2.	Dept. Of Physics	1	1

3.	Dept. Of Chemistry	8	3
4.	Dept. Of Zoo	17	02
5.	Dept. Of Botany	03	02
6.	Dept. Of Stats	NIL	NIL

11) Citation Index of Faculty:
(Book with ISBN): Mathematics for Degree students, B.Sc –III, ISBN (81-219-4101-06).

12) Honour's/Award to the faculty member (National & International
Dr. Gunjan Purohit, Depart of Physics: Young Scientist Award 2007-08.
Dr. Pushpendra Sharma, Dept. Of Zoology: Fellow Award (2012, FIAS

13) Internal resources Generated: NIL

14) **Community Services:** Many students of each departments have coordinated with NCC and NSS programmes and to literary AIDS, Dowry, Blood Donation, Human Rights etc. through rallies cultural programme and special lectures. Etc

15) Improvement in this library services: Totally computerized

16) New Books/Journals subscribed and their value:
Mathematics department library is consisting of 2007 books.

17) Students assessment of teachers was introduced in all courses, dept.-wise. Based on the feedback, teachers are suggested to improve.

18) Administration and process of admission, examination results and issue of certificate are computerized.

19) Computer system with internet access, photocopy machine and scanner have been purchased for each department.

20) Internet facility has been provided to each department and offices.

21) Computer and internet access to available in each department for students and faculty members.

22) Alumni Association is active and has promised the need based support.

23) Teachers Association is in existence and is working for teaches rights and other needs, financial support etc.

24) D.A.V. (P.G.) College, Dehradun has a great place in sports.

25) Provided uniforms, sports materials and track suits to the outstanding sports persons.

26) Sufficient reference material is made available to students at library, free coaching classes more conducted to poor students SC/ST \-OBC students for competitive exams.

27) Good Practices of Institutions with regard to these science subjects:
   (i) Held Regular camps of NSS and NCC for science students.
   (ii) Students participated in various activities like Blood Donation, Adult Education, AIDS Awareness Environmental Awareness etc.
   (iii) Free Coaching classes were provided for competitions like NET, IAS, PCS, etc.

(iv) Educational Tours are organized to students.
(v) Special Lectures have been organized faculty-wise and in general for the development of spirituality and morality.
(vi) Personality development programmes for the staff and students were arranged.
(vii) Facilitation to the transformed and retired staff members is made.

Description of certain departments of the faculty of science

1. **Name:** Department of Maths
2. **Year of Establishment:** 1946 (Graduation), 1950 (P.G.)
3. **Names of Programme/Courses offered (UG, PG, M.Phil, Ph.D., Integrated Master ; Integrated Ph.D., etc:** UG & PG
4. **Name of Interdisciplinary courses and the departments/units involved:** NIL
5. **Annual/Semester/Choice based credit system (programme wise):** UG-Annual , PG - Semester System
6. **Participation of the department in the courses offered by other department:** NA
7. **Courses in collaboration with other universities, industries, foreign institution, etc:** NA
8. **Details of courses/programmes discounted (if any) with reasons:** NA
9. **Number of Teaching Posts**

	Sanctioned	**Filled**
Professors		
Associate Professor	03	03
Asst. Professor	07	04
Total	**10**	**7**

10. **Faculty profile with name, qualification, designation, specialization of those who joined in last 4 years, (D.Sc./D.Litt./Ph.D/M.Phil. etc.)**

Name	**Qualification**	**Designation**	**Specialization**	**No. of years of exp.**	**No. of Ph.D students guided for the last 4 years**
Sh. Deependra Nigam	M.Sc, NET	Assoc. Prof.		10	-
Dr. Pradeep Kothiyal	Ph.D	Assoc. Prof.	04	-	-
Dr. Rajesh Kumar	Ph.D	Assoc. Prof.	04	-	-

11. **List of senior visiting faculty:** N.A.
12. **Percentage of lectures delivered and practical classes handled (programme wise) by temporary faculty:** N.A.
13. **Student-Teacher Ratio (Programme wise):** 1:4 (For M.Sc. Maths)

14. **Number of academic support staff (Technical) and administrative staff; sanctioned and filled:** 02
15. **Qualification of teaching faculty with DSc/D.Litt/Ph.D/M.Phil./ PG.:** Given in Sl. No. 10
16. **Number of faculty with ongoing projects from a) National b) International funding agencies and grants received:** 02 Faculty members worth Rs. 1,30,000/-
17. **Departments projects fund by DST-FIST, UGC, DBT, ICSSR etc. and total grants received:** 1 Project worth Rs. 1, 30,000/-
18. **Research Centre/Facility recognized by the University:** Yes
19. **Publications:**
    - **Publication Per Faculty:** 23 Research Papers
    - **Number of papers published in peer reviewed journals (national/international) by faculty and students:** 23 papers
    - **Number of publications listed in International database (For eg. Web of Science, Scopus. Humanities, International Complete, Date Database - International Social Sciences Directory, EBSCO host, etc.)**
    - **Monographs:**
    - **Chapter in Books:**
    - **Books Edited:**
    - **Books with ISBN/ISSN numbers with details of publications:** Mathematics for degree students B.Sc. III, ISBN (81-219-4101-06), S. Chand & Co.
    - **Citation Index:**
    - **SNIP:**
    - **SJR:**
    - **Impact Factor:**
    - **H-Index:**
20. **Diversity of Students:**

Name of the Course	% of students from the same State	% of the students from other States	% of the students from Abroad
M.Sc	90%	10%	-

21. **How many students have cleared National and State competitive examinations such as NET, SLET, GATE, Civil Services, Defense services, etc?:** 02
22. **Student Progression:**

Student progression	Against % enrolled
UG to PG	25%
PG to M. Phil.	
PG to Ph.D	

Ph.D to Post-Doctoral	
Employed: • Campus selection • Other than campus recruitment	
Entrepreneurship/Self-Employment	

23. Details of Infrastructural facilities:

a) **Library:** Departmental Library consisting of 2077 books.

b) Internet facilities for staff & students: Yes

c) Class room with ICT Facility:

d) Laboratories:

24. Number of students receiving financial assistance from college, university, government or other agencies: NIL

Part C

Outcomes Achieved

1. Successful implementation of Semester System in all the faculties at the post graduate level.
2. Two sessional (internal) examinations out of 20 each are conducted over each semester.
3. Several new job-oriented courses have been introduced like B.Sc (IT), M.A. (Mass Communication), P.G.D.J.M.C, Post Graduate Diploma in Journalism in Mass Communication, P.G.T.T.M. () and M.A. Education.
4. E-meeting at P.G. Level has been made possible, as Computer with the Internet facility have been provided in all the Departments.
5. Self-Appraisal of Teachers and students feedbacks were obtained for analysis.
6. Increased number of students opted for project/Research work at the P.G. Level in all the faculties.
7. Various Workshops and national seminars were organized with wide participates from across the country. (by the various departments).
8. Active role of cell for counselling of students.
9. Initiation of Gender Sensitization and Awareness Committee.
10. Initiation of coaching classes for NET/SLET competitive examination with enthusiastic response from the students.
11. Initiation of the Remedial coaching classes for the weaker sectors of the society is the evenings.
12. Initiation of the Committee for helping the physical challenged students.
13. Wide participation of the College teams in various sports events at the University/State level. Good performance of the teams at various events College bagged the Champions Trophy is the 37th Inter-Collegiate HNBGU Athletic Meet (25th to 27th Nov) 2011-2012. The Athletic meet was also lasted by the College. Many other Medals/Trophis were brought to the college by outstanding students in various sporting events/details shown in Part B of the project.

Part D

Plans of D.A.V. (P.G.) College For The Next Year (2012-13)

1) Strengthening Of Continuous Evaluation System Of Students

The College conduct two internal (sessional) examinations at the P.G. Level for each semester- for 40% marks of the candidates. Besides, written examination the college propose to give weight age to attendance (5%) and employ other methods of quality evaluation such as seminars & paper presentations by the students.

2) Project Work In All P.G. Courses

In all P.G. Courses, there is a provision of project/research work in the third semester. In some departments, it is compulsory for all the students to submit a dissertation at the end of the IV Semester. College plans to motivate more and more students to opt project work so as to enhance their more scores and understanding of their respective subjects.

3) Implement Of Employ Ability Skills Of Students

The College plans to increase the number of and diversity its professional courses to provide a large ambit of professionals trainings to choose from to all its students. More professional courses as self training courses to be initiated by various departments, where possible. Also the Department of Professional Courses Plans to introduce new course is addition to the ones, which are already being offered.

4) Community

Outreach programmes and extension activities to be increased by the college in different spheres to improve and strengthen its linkages with the community as a whole.

Annexure B

The list of publications of certain individual teachers of science subjects who joined in last 4 years. This aspect shows that other senior teachers are doing so much research work which cannot be expatiated upon in this annual report of 50 pages.

Dept. of Maths,
List of Research Papers

1. A one-parameter family of LAD methods for steady-state N-S equations, Comp and Fluids, USA, Vol. 13, No. 4, 507-511, 1985.
2. A numerical treatment of two dimensional N-S equations, J. Math. Phys. Sci., India, Vol. 19, No. 2, 1985.
3. Fast finite difference solution for steady state N-S equations using BID method, Int. Num. Meth. In Fluids, John Wiley & Sons, Vol. 7, 911-917, 1987.
4. Numerical Solution of a viscous incompressible flow problem through an orifice, Applied scientific Research, Netherlands, 44, 361-375, 1987.
5. Fast Finite Difference Direct Solver for Poisson's Equation, India J. Phys. Nat. Sci., India, Vol. 10, Sec. B, 22-28, 1989.
6. Beem Column Theory of Single and Double Stabilizer BHA, Indian J. Phys. Nat. Sci., India Vol. 10, Sec. B, 35-43, 1989.
7. Solution of Poisson's Equation using Economic Decomposition Technique, "Ganita". India, Vol. 46, 1995.
8. An Economic Elliptic Equation Solver for Rectangular Regions, accepted for publication in J. of Engg. and Appl. Sci., Saudi Arabia.
9. An Optimal Inventory Replenishment Policy with Income Elasticity, in Proceedings of Conference on 'Mathematics and Its, Applications in Engineering and Industry', Narosa Publishers, pp 33-40, 1997.
10. An inventory model for baking sector to control credit, Finance India, Vol. XII, No. 1, pp. 53--59, 1998.
11. The Economic Production Lot Size Model with Valuable Cost Function, OPSEARCH, Vol. 36, No. 2, pp. 137-150, 1999.
12. An Economic Elliptic Equation Solver for Rectangular Regions, JKAU Engg. Sci., Vol. II, No. 1, pp. 19-30, 1999.
13. Numerical Solution of the steady state N-S equations using Elliptic Solver, Jhanbha, Vol. 30, pp. 39-48, 2000.
14. Combined Optimal Price and Optimal Inventory Ordering Policy with Income Elasticity, JKAU Engg. Sci., Vol. 12, No. 2, pp. 103-116, 2000.
15. A Single Period Inventory Problem with Quadratic Demand Dist, JKAU, Vol. 12, No. 2, pp. 117-127, 2000.

16. Numerical Solution of Processior-Shaung Queuing Model J. Rajasthan Acad Phys. Sc., Vol. 3, No. 4, pp. 281-290, 2004.
17. Finite Difference Scheme and Analysis of Boundary Conditions for Wave Propagation, Himalayan Geology, Vol. 26, No. 2, pp. 381-386, 2005.
18. A Multiple-Objective Model for Centralization/Decentralization of Computer Facility, J.Math Anal. and Approse Th, Vol. 1, No. 2, pp. 115-123, 2006.
19. Mathematical Analysis of Location-Allocation using GP Technique, Int J. Agr. Stats Sc, Vol. 2, No. 2, pp. 223-232, 2006.
20. A Multiple Objective Model for Nurse Scheduling , Int. J. Math & Math Sc, Vol. 3, No. 1, pp 15-23, 2007.
21. Numerical Solution of G/M/1 Queueing Model with Removable Server, Int. Review of Pure & Appl. Math, Vol. 3, No. 2, pp. 307-17, 2007.
22. Numerical Solution of Coupled Wave Equations, Int. Review of Pure & Appl. Math, Vol. 3, No. 1 pp. 81-91, 2007.
23. Analysis of Exponential Queues with Multi-Servers, J. Math & System Sc., Vol. 4, No. 2, pp. 56-65, 2008.
24. Numerical Solution of Transient Multi-Server Queueing Model, Int. J. Agr. Stat Sc., Vol. 4, No. 1, pp. 237-244, 2008.
25. Numerical Solution of M/M/1 Model Using Diffusion Approximation, Int. J. Agr. Stat Sc., Vol. 5, No. 2, pp. 437-442, 2009.

Department of Physics

Dr. Gunjan Purohit
Assistant Professor
List of Publications
Research Papers

1. Relativistic-pondermotice effects on the growth of laser spike in plasma in the excitation of electron plasma wave (2012), Priyanka and Gunjan Purohit, Physics of Plasma, in Press.
2. Excitation of ion acoustic wave by rippled laser beam in relavtivitic ponderomotive regime (2012), Rakhi Gauniyal, Priyanka and Gunjan Purohit, Laser & Particle Beams, (In Press).
3. Excitation of electron plasma wave and particle acceleration by cross focusing of two intense laser beams in non-paraxial region: Relativistic ponderomotive regime (2012), IEE Trans. of Plasma Physics, (In Press).
4. Filamentation of laser beam and suppression of stimulated Raman scattering due to localization of electron plasma wave (2012), Purohit, G. Sharma and Sharma, R.P., *Journal of Plasma Physics,* Vol. 78(1), 55-63.

5. Excitation of an upper hybrid wave by two intense laser beams and particle acceleration (2010) Purohit, G. Sharma and Shrama, R.P., *Physics Letters A* 374, 866-871.
6. Filamentation of laser beam and excitation of ion acoustic wave (2010) Purohit, G., Chauhan, P.K. and Sharma, R.P., *Journal of Physic: Conference Series* 208, 012094.
7. Resonant excitation of the upper hybrid wave by relativistic cross focusing of two laser beams (2009) Purohit, G., Chauhan, P.K. and Sharma, R.P., *Laser & Particle Beams* 27 429-437.
8. Effect of laser spike on the beat wave excitation of plasma wave (2008) Purohit, G., Chauhan, P.K. and Sharma, R.P., *Physics Scripta* 77 065503-8.
9. Excitation of an Upper Hybrid Wave by Realistic Laser Beam in Plasma (2008) Purohit, G., Chauhan, P.K. and Sharma, R.P., *Laser & Particle beams* 26 61-67.
10. Dynamics of the excitation of an upper hybrid wave by rippled laser beam in magnetoplasma (2008) Purohit, G., Chauhan, P.K. and Sharma, R.P., *Physics of Plasma* 15 052101-10.
11. Effect of relativistic mutual interaction of two laser beams on the growth of laser ripple in plasma (2005) Purohit, G., Chauhan, P.K., Pandey, H.D. and Sharma, R.P., *Laser & Particle Beams* 23 69-77.
12. Growth of high power laser ripple in a plasma and its effect on relativistic plasma wave excitation (2004) Purohit, G., Mahmud, S.T., Pandey, H. D. and Sharma, R. P., *Journal of Plasma Physics* 70(1) 25-40.
13. Effect of cross focusing of two laser beams on the growth of laser ripple in plasma (2003) Purohit, G., Chauhan, P.K., Pandey, H.D. and Sharma, R. P., *Laser & Particle Beams* 21(4) 567-572.
14. Effect of laser spike on the beat wave excitation of plasma wave at relativistic powers (2008), Purohit, G. MacMillan Advanced Research series, Science and Technology in Uttarakhand, Editors, Dobhal R and Kotila B S 113-128.
15. Excitation of the upper hybrid wave by relativistic cross focusing of two laser beams and particle Acceleration (2012), Purohit, G. MacMillan Advanced Research series, Science and Technology in Uttarakhand, Editors, Dobhal R, Uniyal D P and Purohit B P, 190-204.
16. Drying of some Medicinal produce in Uttarakhand using solar energy (2008) Purohit, G., Rawat, B. S., Purohit, I and Joshi, G. C., *Journalk of Mountain research* 3 73-85.
17. Solar drying of Mint (*Mentha piperta*) and Plash (*Butea monosperma*) using a convective cabinet solar dryer (2007) Purohit, G., Rawat, B.S., Purohit, I. and Joshi, G. C., *Engineering and Environmental Sciences Journal* 3(1) 16-22.

18. Drying of Adhatoda Vasica: performance evaluation of a convective type solar dryer (2007) Purohit, G., Rawat, B.S., Purohit, I. and Joshi, G. C., *Journal of Mountain research* 2 31-46.
19. Second order Polarization of Quinolines (2003) Purohit, G. and Joshi, G. C., *Indian Journal of Pure & Applied Physics* 41 922-927.
20. Spectroscopic studies of 8-hydroxyquinoline (8-HQ) doped in polymeric metrics (2002) Purohit, G., Joshi, G. C., Mehta, M.S. and Tripahi, H.B. m, *Journal of Optics* 31 1-7.
21. Spectroscopic studies of Paranitroaniline (PNA) doped in polymeric metrics PMMA and PVA (2001) Purohit, G., Joshi, G. C., *Journal of Physics* 75(B) 571-573.
22. Effects of frequency matching and substituent groups on first-order hyperpolarizability of distributed benzenes (1999) Purohit, G. and Joshi, G.C., *Asian Journal of Physics* 8(2) 171-178.
23. Solar Power: Tracing its potential in Uttarakhand (2010) Purohit, I. and Purohit, G. *The Solar Quartly*, 38-45.
24. Prospects of solar drying in Uttarakhand (2009) Purohit, G. and Purohit, I, *Akshay Urja*, 3(2) 30-35.
25. An introduction to Nonlinear Optics (2002) Purohit, G *Physics Education*, 18(3-4) 209-219.
26. Nonlinear Optics- Material Concept (1998) Purohit, G. *Bull IAPT*, 15(10) 295-302.
27. Filamentation of laser beam and suppression of stimulated Roman scattering due to localization of electron plasma wave (2011) Purohit, G. *International Advanced Workshop on the Frontiers of Plasma Science at Abdus Salam international centre for Theoretical Physics (ICTP)*, Miramare-Trieste, Italy, 5-6 July, 2010.
28. Excitation of an Upper Hybrid wave by Relativistic Laser Beam in Plasma: Ordinary Mode (2006) Purohit, G. *Proceedings of the 21st National Symposium on Plasma Science & Technology*, Jaipur, December, 19-22, 136.
29. Effect of laser spikes on the beat wave excitation of electron plasma wave (2007) Purohit, G., *presented at 2nd Uttarakhand State Science Congress* Nainital, November 15-17, 2007and received "Young Scientist Award".
30. Dynamics of the excitation of an upper hybrid wave in presence of laser spike (2007) Purohit, G., *Proceedings of 22nd National Symposium on Plasma Science & Technology*, Gandhinagar, December 6-10, 108.
31. Resonant excitation of the upper hybrid wave by relativistic cross focusing of two laser beams (2008) Purohit, G., at *3rd Uttarakhand State Science Congress, November 10-11, Indian Institute of Technology*, Roorkee and received "Young Scientist Award".

32. Filamentation of laser beam and excitation of ion acoustic wave (2008) Purohit, G. and Chauhan, P.K., *Presented at 22nd National Symposium on Plasma Science & Technology, Institute of Plasma Research,* Bhat, Gandhinagar, Gujarat, December 6-10, 287.
33. Drying Characteristics of amla, bahera and harde in a cabinet type solar dryer and open sun drying (2005) Purohit, G., Purohit, I, Rawat, B.S. and Joshi, G.C., *Proceedings of 4th Asia Pacific Drying Conference (ADC 2005)* Kolkatta, 13-15 December 961-975.
34. Drying of metha piperita and butea monosperma by using convective type solar dryer in the Uttaranchal hills (2005) Purohit, I., Purohit, G., Rawat, B.S. and Joshi, G.C., *Proceedings of 4th Asia Pacific Drying Conference (ADC 2005)* Kolkatta, 13-15 December 976-989.
35. Solar Drying in hilly regions of Uttaranchal: Comparative study of open sun drying with cabinet solar dryer for some typical products (2005) Purohit, I., Purohit, G., Rawat, B.S. and Joshi, G.C., *Proceeding of Emerging Adaptive Systems and Technologies (EAST - 2005)* Kumaracoil, (TamilNadu), 17-19th December, 999-1015.
36. Solar drying of Ginger, Turmeric and Amla in hilly regions of Uttaranchal (2006) Joshi, G.C., Purohit, G., Rawat, B.S., and Purohit, I., *Proceeding of National Seminar on Rural Technologies* Bhopal, 4-5 March, 2006 348-355.
37. Solar drying characteristics of some medicinal plants and products (2006) Purohit, I., Purohit, P., Purohit, G. and Joshi, G.C., *World Renewable Energy Congress IX*, Florence, Italy, 19-25th August, 2006 123.
38. Solar drying characteristics of some medicinal produces (2007) Purohit, I., Purohit, G., Dewal, M.L. and Kala V.N., *Proceedings of 3rd International Conference on Solar Radiation and Day Lighting (SOLARIS 2007)* IIT Delhi, Februaru, 7-9 331-338.
39. Performance study of solar dryers for various agricultural & Medicinal produces in Uttarakhand (2008) Joshi, G.C., Rawat, B.S., Singh, K. and Purohit, G., *Proceedings of the National Seminar on recent trends in Renewable Energy Sources & Technologies (RREST)* March, 26-27 57-72.
40. Energetic feasibility of non-convective type solar dryer in case of Chillie Rawar, B.S., Singh, K., Purohit, G and Joshi, G.C., *Proceedings of the National Seminar on recent trends in Renewable Energy Sources & Technologies (RREST)* March, 26-27 155-161.
41. Second order nonlinear optical properties of 8-hydroxyquinoline in crystalline form and polymer matrix (1999) Purohit, G., Mehta, M., Ttipathy, H.B. and Joshi, G.C. *Proceedings of International Conference on Laser Materials and Devices (ICLMD),* Defense Science Centre, New Delhi, 8-10 December, 1999 161-164.

42. Spectroscopic studies of 8-hydroxyquinoline (8-HQ) doped in polymeric metrics (2001) Purohit, G. and Joshi, G.C. *Proceedings of the National Symposium on Science & Technology of Vaccum and thin Films (IVSNS)* Indian Institute of Science, Banglore, 5-7 September, 2001.
43. Determination of Second Order Polarizabilities of Some Quinolines by Solvatochromic Technique (2003) Purohit, G. and Joshi, G.C. *Proceedings of XXVIII Conference of the Optical Society of India* NSIT, New Delhi, January, 6-8, 245-49.
44. Determination of Second-order polarizabilities of several distributed benzenes using solvatochromic method (2005) Purohit, G. and Joshi, G.C., *Proceeding of Recent trends in Fluorescence Spectroscopy and its Applications,* Kumaon University, Nainital, 1-3December, 170-175.
45. Evaluation of GHG Emission Mitigation evacuated tube type solar water heating system of 100 LPD in hilly locations of Uttarakhand (2011) Purohit, G. et al *Proceedings of National Seminar on Recent trends in Micro and Macro Physics (NSRTMMP)* Organized by Physics, Government PG College Gopeshwar Chamoli, Uttarakhand, Oct, 12-13, 31.
46. Prospectus of Solar energy potential in UTtarakhand (2011) Purohit, G. and Purhot, I. *6th Uttarakhand State Science Congress* November, 14-16 S J R Campus Almora.
47. The RET Screen Clean Energy Project Analysis Software, Compendium of 'National Training Programme on RETScreen Software for the Evaluation of Renewable Energy Projects (2012), Organized by the Department of Physics, DAV(PG) College, September, 22, 1-2.
48. Techno-economic Assessment of Concentrating Solar Power Generation in North Western Pars of Indai, Compendium of 'National Training Programme on RETScreen Software for the Evaluation of Renewable Energy Projects (2012), Organized by the Department of Physics, DAV(PG) College, September, 22, 3-24.
49. Prospectus of Solar Energy Applications in Uttarakhand Compendium of 'National Training Programme on RETScreen Software for the Evaluation of Renewable Energy Projects (2012), Organized by the Department of Physics, DAV(PG) College, September, 22, 60-65.

Invited Talk

1. Parametric instabilities in Laser Plasma Interaction (2010) Purohit, G. *International Advanced Workshop on the Frontier of Plasma Science at Abdus Salam international Centre for TheoriticalPhysics (ICTP),* Miramare-Trieste, Italy, 5-16 July, 2010.
2. Nuclear Fusion: Source of Future Energy (2008) Purohit, G. *National Seminar on Recent trends in Renewable Energy Source & Technologies*

Organized by the Department of Physics, HNB Garhwal University, Srinagar, March 26-27 146-47.

3. Prospectus of Solar Drying in Uttarakhand Hills (2010) Purohit, G *2nd Rashtriya Yuva Vaigyanik Sammelan*, Doon University, Dehradun, Feb, 6-7, 9.
4. Solar Drying in Uttarakhand (2011) Purohit, G., *National Seminar on Recent trends in Micro and Macro Physics (NSRTMMP)* Organized by Department of Physics, Government PG College, Gopeshwar Chamoli, Uttarakhand, Oct, 12-13, 16.17.

Books

1. Proceeding of 'National Seminar on Recent trends in Renewable Energy Source & Technologies' Organized by the Department of Physics, HNB Garhwal University, Srinagar, March 26-27 2008.
2. Compendium of 'National Training Programme on RETScreen Software for the Evaluation of Renewable Energy Projects' Organized by the Department of Physics, DAV (PG) College, September, 22, 2012.

Accepted for Publications

1. Stimulation Raman scattering of two intense laser beams in plasma (2012) Purohit, G. and Sharma, R.P., IEEE Trans. of Plasma Science and Technology.
2. Effect of laser beam filamentation on excitation of plasma wave and particle acceleration (2012) Purohit, G. and Sharma, R.P., Laser & Particle Beams.

Conferences/Workshops Training Programmes

1) National Seminar on Recent trends in Micro and Macro Physics (NSRTMMP), October 12-13, 2011, Government PG College, Gopeshwar Chamoli, Uttarakhand.
2) Conference on Green Chemistry, 18-19 Jun, 2011, Maya Institute of Technology & Management (MITM), Selaquai, Dehradun, Uttarakhand.
3) International Advanced Workshop on the Frontiers of Plasma Science at Abdus Salam International Centre for Theoritical Physics (ICTO), Miramare-Trieste, Italy, 5-6 July, 2010.
4) Workshop on 'Regulatory and Policy Framework for Market Development for renewable Energy in India' 12-13 August, 2010, Dehradun.
5) 2nd Rashtriya Yuva Vaigyanik Sammelan, 2010, 6-7 Feb, Doon University, Dehradun, India.
6) Master Resource Person Training Workshop on "Solar Eclipse" June, 29-1st July, 2009, GND Univeristy, Amritsar.

7) 5th Uttarakhand State Science Congress, November, 10-11, 2010, Doon University, Dehradun, Uttarakhand.
8) 4th Uttarakhand State Science Congress, November, 10-11, 2009, G.B. Pant University of Agriculture & Technology, Pantnagar.
9) 23rd National Symposium on Plasma Science & Technology, December, 10-13 2008, Bhabha Atomic Research Centre, Trombay, Mumbai.
10) 3rd Uttarakhand State Science Congress, November, 10-11, 2008, India Institute of Technology, Roorkee.
11) National Seminar on "Recent trends in Renewable Energy Source & Technologies (RREST)" and Workshop on "Solar Photovolatic System" March, 26-28, 200, Department of Physics, HNB Garhwal University, Srinagar, Uttarakhand.
12) 22nd National Symposium on Plasma Science & Technology, December, 6-10 2007, 287, Institute of Plasma Research, Bhat Gandhinagar, Gujarat.
13) 21st National Symposium on Plasma Science & Technology, December, 19-22 2006, Malaviya National Institute of Technology, Jaipur, India.
14) 2nd Uttarakhand State Science Congress, November, 15-17, 162, Kumain University, Nainital.
15) Workshop on "Physics from Atom to Galaxy: Theoretical and Technical Status" Oct 9-11, 2006, Department of Physics, HNB Garhwal University, Srinagar, Garhwal.
16) National Symposium on "Recent trends in Fluorescence Spectroscopy and its Applications", Dec 1-3, 2005, Department of Physics, Kumaon University, Nainital.
17) 4th Asia Pacific Drying Conference (ADC 2005) December 13-15, Central Mechanical Engineering Research Institute, Durgapur, Science City, Kolkatta.
18) RET Screen Training Seminar, May 18, 204, Centre for Energy Studies, Indian Institute of Technology, New Delhi.
19) QIP Short Term summer courses on "Non-conventional Sources of Energy" June 16-27, 2003, Indian Institute of Technology, Delhi.
20) National Conference on "Advances in Contemporary Physics & Energy" Feb 8-9, 2002, Indian Institute of Technology, New Delhi.
21) Conference on Optics and Photonics in Engineering (COPE-03), XXVIII Optimal Society of Indai (OSI) Jan 6-8, 2003, Netaji Subhash Institute of Technology, New Delhi.
22) National Symposium on Science & Technology of Vaccum and Thin Films (IVSNS) Sep 5-7, 2001, Indian Institute of Science, Banglore - 560012.
23) First SEC School on Nonlinear Optical and Laser Materials, June 22-July 8, 2000. Indian Institute of Science , Bangalore - 560012.

24) International Confernce on Advanced Materials (ICAM), December, 26-28, 2000. Department of Physics, CCS University, Meerut, India.
25) National Conference on Laser and Spectroscopy, 25-28 Feb, 1999, Meerut College, Meerut, India.
26) International Conference on Opto and Opto-Electronics, December 9-12, 1998, Instrumental Research Development Establishment (IRDE), Dehradun, India.
27) International Conference on Laser Materials and devices (ICLMD), December 8-10, 1999, Defense Science Centre, Metcalfe House, Delhi, India.

List of Research Project Undertaken

1. Non linear interaction of high power laser beam with plasma: Application to particle acceleration

Position: Project Investigator (PI)
Host Institution: Department of Physics, HNB Garhwal University, Srinagar, Garhwal, Uttarakhand - 246174
Year: 2006-2009
Funding Agency: Department of Science & Technology, Ministry of Science and Technology, Government of India, New Delhi.

2. Study of parametric instabilities and plasma wave excitation at high power lasers

Position: Project Investigator (PI)
Host Institution: Department of Physics, DAV(PG) Dehradun Uttarakhand
Year: 2012 till date
Funding Agency: Uttarakhand State Council for Science & Technology (UCOST), Dehradun, Uttarakhand

3) Study of parametric instabilities of Laser Plasma Interaction at high power Laser Flux

Position: Project Investigator (PI)
Host Institution: Department of Physics, DAV(PG) Dehradun Uttarakhand
Year: 2012 till date
Funding Agency: University Grant Commission (UGC), New Delhi

4) Interaction of very intense laser beams with plasma: application to particle acceleration

Position: Research Associate (RA)
Host Institution: Centre for Energy Studies Indian Institute of Technology (IIT), Delhi - 110016 (India)
Year: Feb, 2001 - December, 2002

Funding Agency: Council for Scientific and Industrial Research (CSIR), Government of India, New Delhi.

5) Potential assessment of solar drying in the hilly regions of Uttaranchal

Position: Scientist

Host Institution: Department of Physics, HNB Garhwal University, Srinagar, Garhwal, Uttarakhand - 246174

Year: June 2004 - December 2005

Funding Agency: Ministry of New and Renewable Energy (MNRE), Government of India, New Delhi.

Award/Honors

1) **Young Scientist Award (2008):** 3rd Uttarakhand State Science Congress, organized by the Government of Uttarakhand, Dehradun.
2) **Young Scientist Award (2007):** 2nd Uttarakhand State Science Congress, organized by the Government of Uttarakhand, Dehradun.
3) **Young Scientist Award (2005):** Department of Science & Technology (DST), Ministry of Science & Technology, Government of India, New Delhi.
4) **IASc-INSA-NASI Summer Research Fellowship (2011),** Indian Academy of Science, Banglore.
5) **Poster Chairperson:** Conference on Green Chemistry' held at the Maya Institute of Technology & Management (MITM), 18-19 June, 2011, Salaqui, Dehradun, Uttarakhand.
6) **Coordinator,** National Training Programme on RETScreen Software for the Evaluation of Renewable Energy Projects, Organized by the Department of Physics, DAV (PG) College, September 22, 2012.
7) **Organizing Secretary:** National Seminar on Recent trends in Renewable Energy Sources & Technologies (RREST), Organized by the Department of Physics, HNB Garhwal University, Srinagar, March 26-27, 2008.
8) **Certificate of Appreciation (2009):** 4th Uttarakhand State Science & Technology Congress 10-12 November, 2009, at G.B. Pant University of Agriculture & Technology, Pantnagar.
9) **Best Research Paper Merit Certificate (2005):** National Symposium on "Recent Trends in Fluorescence Spectroscopy & Its Application" Department of Physics, Kumaon University, Nainital, 1-3 December, 2005.
10) **Session Coordinator:** Brain Storming Session on "Renewable Resources of Energy: Road Map of Uttarakhand" 5th Uttarakhand State Science & Technology Congress, 10-12 November, 2010, at Doon University, Dehradun, Uttarakhand.

11) **Certificate of Appreciation (2010):** 5th Uttarakhand State Science & Technology Congress, 10-12 November, 2009, at Doon University, Dehradun, Uttarakhand.

List of Publications

Research Papers

1. Mathematical and statistical analysis of blood flow problem in an artificial kidney. J. Of Institution of Engineers (ID), Vol. 71, (1990), pp. 1-4.
2. A comparative study of diffusive and convective flows in the development of Atherosclerosis. Proc. 17th National Conference on FMFP (1990). Rec. Warangal, pp. 19-23,
3. Analysis of nutritional transport through a capillary, normal and stenosed. J. of Computers Math Application, Vol. 22, No. 12(1991) pp. 3-13.
4. A model for blood flow through a stenotic tube. Int. J. Biomed, Comput. 32(1993) pp. 61-73.
5. A mathematical model for blood flow through an arterial bifurcation. Int. J. of Biomedical computing 34(1994), pp. 309-325.
6. A model for blood flow through a tapered tube with mild stenosis. Proc. Of 3rd International Symposium July 16-19, 1994 pp. 703-315 Munich Germany.
7. A new model for blood flow through an artery with axisymmetric stenosis. Int. J. of Bio-medical Computing 38 (1995) pp/ 257-267.
8. A variational approach to pulsalite blood flow through stenosed artery. National Seminar on applicable mathematics in waves and vibrations. Oct 15-17, 2006 J.J.E.T. Guna, M.P.
9. Stability of micropolar rotating fluid premeated with variable gravity field in porous medium with thermal effects. Int. J. Ess. Sci.2(2) 2008a.
10. Thermal convention of rotating micrpolar fluid in hydromagnetics saturating a porous medium. Int. J.Eng. 21(4) 2008 pp. 275-296.
11. Effect of dust particles on rotating of micropolar fluid heated from below suturing a porous medium. Int. J. App. Appl. Math .4(1) 2009a.
12. Effect of dust particles on a layer of micropolar ferromagnetic fluid heated from below. Appl. Math. Comp. (reviewed to be published), 2009c.
13. Linear stability of thermosolutal convection in a micropolar fluid saturating a porous medium. Int. J. App. Appl. Math ((accepted on 18.03.09 for publication 2009b.
14. Thermosolutal convection of micropolar fluid heated from saturating a porous medium. Int. J. Engg. (Accepted for publication) 2008b.
15. Mathematical modeling for homogeneous tumor with delay in time. Int. J. Engg. Vol. 22(1) 2009, pp. 49-56.

16. Mathematical model for homogeneous tumor with time delay. Pragyaan: Information Technology Vol. 6(1) 2008, pp 15-21.
17. An Introduction to Mathematical Finance Derivative Market in Indai. Journal of Graphic Era Uni. Vol.: 1 No. (2009), pp. 75-78.
18. Numerical Solution of Pricing of European Put Option with Stochastic Volatility. Int. J. of Engg. Vol. 24(2011), pp. 189-202.
19. Numerical Solution of European Call Option With Dividends and Variable Volatility. J. of Applied Mathematics and Computation. Vol. 218, Issue 11, (2012), pp. 6242-6250.
20. A Mathematical model for American Call option with Dividends and Variable Volatility. J. of Applied Mathematics and Computation. Dividends and Variable Volatility. Int. J. of Appl. Math. and Mech.(2011) Vol. 7, pp. 46-60.

Article

1. Myths and realities about the use of calculators and computers in Mathematics education, College magazines 2004.
2. Why is algebra studied after arithmetic?
3. An initiative in mathematics education: Uttarakhand.
4. Avenues for P.G. Student of Mathematics. College magazine Ziggyasa, 2006-07.

Books: For Under Graduate Classes

1) Matrices and Trigonometry
2) Calculus
3) Coordinate Geometry- 3D
4) Abstract Algebra and Theory of Equations
5) Mechanics
6) Differential Equations
7) Analysis
8) Linear Algebra
9) Numerical Analysis

For Post-Graduate Classes

10) Discrete Structure
11) Function of Complex Analysis
12) Boundary value problems and Special Functions

For B.Tech/M.C.A./M.B.A.

13) Engineering Mathematics I
14) Engineering Mathematics II
15) Engineering Mathematics III
16) Linear Integral Equations
17) Calculus of Variations

} In Press

18) Discrete Mathematics

Experience as Research Supervisor

Four research scholars have worked successfully for their degrees of HNB Garhwal University Ph.D Other four NET qualified research scholars in mathematics are working at present. Out of these, two students are likely to submit their Ph.D thesis by the end of this year.

Research publication

2.Amit Kumar Sharma
Dept. of Physics

(a) Research Papers published/communicated in cited journals (SCI):

1. ‘Morié pattern encoded extended fractional Fourier transform security hologram’. **Journal of Modern Optics (UK), 55 (2008) 351**
2. ‘Dual beam encoded extended fractional Fourier transform security hologram with inbuilt repositioning’. **Pramana - Journal of Physics 70 (2008) 131.**
3. ‘Knife-edge diffraction pattern as an interference phenomenon: an experimental reality.’: **Optics & Laser Technology (UK), 39 (2007) 256.**
4. ‘A holographic dual channel interferometer’, **Current Science, 91 (2006) 269.**
5. ‘Concealed moiré pattern encoded security holograms readable by a key hologram’. **Optics & Laser Technology (UK), 38 (2006) 117**
6. ‘Holographic optics based two-channel interferometer’, **Indian Journal of Pure & Applied Physics, 44 (2006) 401**
7. ‘A robust interferometer based on holographic optics’, **Experimental Techniques (USA), 29 (2005) 21**
8. ‘Encoded reference wave security holograms with enhanced features’, **Journal of Optics A: Pure & Applied Optics (UK), 6(2004) 278**
9. ‘Holographic optic based interferometer for real-time testing of phase objects’, **Optics & Laser Technology (UK), 36 (2004), 545**
10. ‘A simple compact and cost-effective optical interferometer using a grating and holographic optics’, **Journal of Scientific & Industrial Research, 63 (204) 992**
11. ‘A compact holographic optic based interferometer’, **Current Science, 87 (2004) 228**
12. ‘Realization of an optical interferometer based on holographic optics for real-time testing of phase objects’, **Pramana- Journal of Physics, 63 (204) 993**
13. ‘Interferometry based security hologram readable with an encoded key hologram’, **Indian Journal of Pure & Applied Physics, 42 (2004) 816**

14. ‘Realization of holographic optic based interferometer for study of phase objects’, **Indian Journal of Pure & Applied Physics, 42 (2004) 326**
15. ‘Security holograms readable with an encoded key hologram’, **Indian Journal of Pure & Applied Physics, 41 (2003) 696**
16. ‘Holographic optical element based dual beam encoded random feature security hologram’, **Indian Journal of Pure & Applied Physics (2008)** Communicated

b) Research Papers presented/published in Conference, Symposium & Proceedings etc.

XXXII Optical Society of India Symposium on Contemporary Optics and Applications (OSI-07) March 1-3, 2007, Vadodaa, India

17. ‘Holographic optical elements based interferometer for testing two different objects simultaneously’
18. ‘Multifold features encoded security holograms’
19. ‘Study of high index gradient with phase shifting beam folding interferometer’

Eights International Conference on Optoelectronics, Fiber Optics and Photonic (Phonics 2006) Dec, 13-16, 2006 Hyderabad, India

20. ‘Information encryption in fractional Fourier transform security holograms’
21. ‘Contrast enhancement in schileren optical signal processor’
22. ‘Defect inspection in photo-masks for Integrated Circuits using optical interferometers’
23. ‘Information storage and retrieval in encoded security holograms’
24. ‘Interferometric key encoded security holograms’

Indo UK workshop on Recent Advances i Fiber Opics and Photonis (RAFOP-2006) Aug 25-27, 2006, IIT, Roorkee, India.

25. ‘Enhancing anti-counterfeiting ability of security holograms using interferometric moiré patterns’
26. ‘Appalication of laser schlieren diffraction interferometry for study of phase objects’

Interferometry XIII: Techniques and Analysis, SPIE Symposium on Optics & Photonics Aug. 13-17, 2006, San Diego, California USA

27. ‘Holographic optical elements based dual-channel dual-mode interferometer’
28. ‘Imptoved contrast Schlieren diffraction interferometer for study of phase objects’
29. ‘Visualization of high-index gradients with folding mirror interferometer using moiré techniques’

International Conference on Optics and Optoelectronics (ICOL-2005) Dec 12-15, 2005, IRDE, Dehradun, India.

30. ‘Holographic optical elements based dual channel interferometer’
31. ‘Knife-edge diffraction interferometer study of phase objects’

National symposium on instruments (NSI-30) Nov 30 - Dec 1, 2 (2005) Cochin University of Science and Technical Cochin, India

32. ‘Reflection diffraction schilern instrument for study of phase objects’
33. ‘Holographic optics based interferometric instrument for studying transparent objects’
34. ‘Measurement of refractive index and thickness of transparent objects by using holographic optical elements based interferometer’
35. ‘Enclosed security holograms with concealed verification features’

International Conference on Optoelectronics Technology, (ICOT-2004) Jan, 12-14, 2004, North Maharashtra Univ. Jalgaon, India

36. ‘A optical interferometer utilizing holographic optics for real time testing of phase objects’
37. ‘Security encoded holograms with enhanced verification features’
38. ‘Concealed coded Moiré security holograms’

International Conference on Laser Application & Optical Metrology (ICLOM-2004) Dec 14, 2003, IIT Delhi, India

39. ‘Security holograms with additional encoded verification features’

List of Conference/Training Schools Attended

A. Conferences:

1. Eighth International Conference Optoelectronics, Fiber Optics & Photonic (Photonics – 2006) Dec 13-16, 2006, University of Hyderabad, India
2. Indo-UK Workshop on Recent Advances in Fiber Optics and Photonic (RAFOP-2006) Aug, 25-27, 2006, IIT Roorkee.
3. International Conference on Optics and Optoelectronic (ICOL-2005) Dec 12-1, 2005, IRDE, Dehradun, India
4. XXX Optical Society of India Symposium on Optics and Optoelectronic SOOP-05) Jan, 19-21, 2005, NPL, New Delhi, India
5. International Conference on Optoelectronics Technology (ICOT-04) Jan, 12-14, 20054, North Maharashtra Univ. Jalgaon, India

B. Training School:

1. DST-SERC School on ‘Optical Metrology and Diffractive Optics’, Dec 18, 2006 to Jan 5, 2007 Department of Applied Optics and Photonics, Calcutta University, Kolkatta, India
2. 45th Annual Technical Convention on ‘Nano Technology’, Sept 30- Oct, 1, 2002 at CSIO, Chandigarh India.

List of Published Papers of Dr. Amita Raizada, Dept. of Physics in Different journals of National and International Repute

1) "Statistical Analysis of Intense Geomagnetic Storms occurred during Maximum Phases of Solar Cycle-23", Santosh Kumar, Amita Raizada and Janki Pal, Vislesana, J. of Science, R.D. Univeristy, Jabalpur, 2008.
2) "Geospatial consequences of Coronal Mass Ejections associated with magnetic cloud during solar cycle 23", Santosh Kumar, Janki Pal and Amita Raizada, Vislesana, J. of Science, R.D. Univeristy, Jabalpur, 2008.
3) "Properties of SEPs effective CMEs during sSolar cycle 23", Santosh Kumar, Janki Pal and Amita Raizada, Ind. J. of Ratio and Sp. Physics, 2009, 38, 129.
4) "Association of Intense Geomagnetic Storms occurring during 1999-2002 with Solar and Interplanetary Parameters", Santosh Kumar and Amita Raizada, Ind. J. of Radio and Sp. Phy. 2010.
5) "Solar and Interplanetary disturbances causing Moderate Geomagnetic Storms", Santosh Kumar, M.P. Yadav and Amita Raiazada, 2008 J. Astrophys, Astro., 29, 263.
6) Effect of Solar Features and Interplanetary parameters on Geomagnetosphere durng Solar Cycle-23", Santosh Kumar and Amita Raizada, 2008, Pramana – J. of Physics., 71, No. 6, 1353.
7) "Dependence of Successive GMSs with Dst < -100 nT on Solar and Interplanetary Parameters", Amita Raizada, Santosh Kumar and Sarika Khare, Ind. J. of Phys. Kolkata, 2009.
8) "Geoeffectiveness of Magnetic Clouds occurred during Solar Cycle 23", Santosh Kumar and Amita Raizada, 2010, Planetary and Space Science, 58, 741.

Apart from this there are 26 papers in different national and international conferences.'III. Research Project: Working on a minor project "Mathematical modeling of Flow and Diffusion in the Eye" sponsored by UGC, New Delhi, (2010-2012)

IV. List of The Research Papers

(Papers Published/Communicated for Publication/ Under Preparaton)

1. "A Mathematical Model of Solute Coupled Water Transport in the Production of Aqueous Humor" (2008). Ram Avtar Rashmi Srivastava and Deependra Nigam. Journal of applied Mathematical modeling. Vol. 32, pp. 1350-1369.
2. "Modeling the Partial Pressure of Oxygen in the Lens of the Eye" (2007). Ram Avtar and Deependra Nigam. NMRSMS, sponsored by DST Government of India. IIT, Kanpur.

3. “Mathematics Modeling of Flow Aqueous Humor in the Canal of Schalamm.” (Communicated). Journal of applied Mathematics and Computation. Ram Avtar and Deependra Nigam.
4. Modeling of circulation (flow) of Aqueous Humor in the Anterior Chamber of the Eye. (Under Preparation).
5. Mathematical modeling and analysis of Retinal Detachment in the Eye. (Under Preparation).
6. The out flow of aqueous humor through the trabecular meshwork treating the meshwork as a porous/biphasic matrix. (Under Preparation).
7. The flow of aqueous humor along the canal of Schlemn of the eye treating the canal segment as a rectangular channel, cylindrical / elliptical tube. (Under Preparation).
8. The flow of aqueous humor in the posterior chamber and through the pupilary aperture by treating the posterior chamber as a spherical cap or its rectangular channel version. (Under Preparation).
9. The flow of aqueous humor in the anterior chamber by considering the convectional flow and using lubrication theory or drug transport in the anterior chamber. (Under Preparation).
10. The oxygen diffusion and its consumption in the lens of the eye by treating the lens as a bilayered spherical shell. (Under Preparation).
11. The oxygen diffusion and its consumption in the retina by treating it as a multilayered tissue. (Under Preparation).
12. The prediction of the partial pressure profile of the oxygen in the cornea treating the cornea as three layered tissue by employing Fick’s Law for diffusion and /Michaelis Menten’s kinetics for consumption. (Under Preparation).

V. Conferences/Workshop/Seminars/ Refresher Courses

1. Attended three week Refresher Courses in Basic Science organized by the UGC, ASC, JMI, New Delhi, and presented a research paper “The oxygen diffusion and is consumption in the retina by treating it as a multilayered tissue”, held during May 03-23, 2012 at JMI, New Delhi.
2. Attended National Conference on Applied Mathematics and Computation and presented a research paper- “The out flow of aqueous humor through the trabecular meshwork treating the meshwork as a porous/biphasic matrix.” Held during Dec 2010 at SGRR Pg College Dehradun.
3. Attended the National Meet of Research Scholar Mathematical Sciences, Sponsored by DST and presented a research paper “The flow of aqueous humor in the in the posterior chamber and through the pupilary aperture by treating the posterior chamber as a spherical cap or

its rectangular channel version" held during Oct, 30-Nov 3, 2007 at IIT Kanpur.

4. Attended National Conference on "Vigyan Sichan Aur Hindi Ku Technical Sabdawali" organized by MHRD New Delhi, held durig March 2-3, 2011, VGPG College, Kanpur.
5. Attended Refresher Course on Mathematical Techniques on Chemical Sciences held during April 11-15, 2007 at HBTI, Kanpur.
6. Attended the Workshop on "Role of Mathematics in Science & Technology" held on 24 Oct, 2007 in Department of Mathematics, HBTI, Kanpur.
7. Attended the National Symposium on Scientific Computing with Application to Partial Differential Equation held during Nov 19-21, 2005, at IIT Kanpur.
8. Attended the Conference of Bharat Ganita Parishad held during Nov 18-19, 2006 at the department of Mathematics & Astronomy, Lucknow University.
9. Attended the International conference on Mathematical Modeling and Computer Simulation held during Dec, 12-15th 2006, at the LNM Institute of Information Technology, Jaipur, Rajasthan.
10. Attended the Workshop on Special Function and their Applications held during June 6-8, 2005, at Jaunpur.
11. Attended the Conference on Special Function and their Applications the Sixth Annual Meeting held during June 4-5, 2005 at Jaunpur.
12. Attended the National Seminar on Redefining the Nation through Translating Bhasha Literature, held during March 18-19, 2012 at DAV (PG) College, Dehradun.
13. Attended 2nd National Conference on Sociology Association, Uttarakhand, held during Nov. 14-15, 2009 at DAV(PG) College, Dehradun.
14. Attended UGC Sponsored Orientation Programme held during March 04-31, 2010 at ASC, University of Luckow.

VI. Books (UG):

1. Numerical Analysis, (Pragati Prakashan)
2. Analysis – Complex and Real. (Pragati Prakashan)
3. Mathematical Statistics (Saudan publication)
4. Tensor Analysis. (Saudan publication)

(PG)

1. Graph Theory (In Press)

Area of Interest:

1. Applied Mathematics
2. Biomathematics