

Biodata of Dr. Manish K. Rai

A. General information

- (a) Name: **DR. M. K. RAI**
- (b) Address (Residential) & Phone No.: HOUSE NO.665/2, NEAR RAZA PROVISION STORE, KOTA, RAIPUR, CHHATTISGARH, 9425520298
- (c) Designation: Associate professor
- (d) Department: SCHOOL OF STUDIES IN CHEMISTRY
- (e) Date of Birth: 30th JULY, 1968
- (f) Area of Specialization: 1. **ORGANIC CHEMISTRY**, 2. **ENVIRONMENTAL & ANALYTICAL CHEMISTRY**

B. Academic Qualification

Examinations Passed	Board/University	Subjects	Year	Division/Grade Merit etc.
High School	-	-	1985	General Promotion
Higher Secondary School certificate	Board of Secondary Education, BHOPAL (M.P.)	Physics, Chemistry, Biology, Hindi, English	1986	Second
Bachelors degree(s)	Dr. Hari Gaur University, Sagar (M.P.)	Physics, Chemistry, Biology, Hindi, English	1989	Second
Master's degree(s)	Pt. Ravishankar Shukla University, Raipur (C.G.)	Chemistry	1992	Second
Research degree(s)	Pt. Ravishankar Shukla University, Raipur (C.G.)	Analytical Studies on Lesser known but widely occurring Environmental Toxicants	1996	-

For teachers already in employment at the time of introduction of the scheme and for new entrants at the time of joining of the institution.

C. Research Experience & Training

Research Stage	Title of Work/Theses	University where the work was carried out
M.Phil, or equivalent	NIL	
Ph.D	“Analytical Studies on Lesser known but widely occurring Environmental Toxicants”	Pt. Ravishankar Shukla University, Raipur
Publications		

Title	Journal
<ul style="list-style-type: none"> A new spectrophotometric method for the rapid monitoring of phenylisothiocyanate in coke oven air and biological samples. 	Journal of Indian Chemical Society (India)1996,73,447

<ul style="list-style-type: none"> A sensitive determination paraquat by Spectrophotometry. 	Talanta (U.S.A.) 1997,45,343
<ul style="list-style-type: none"> A sensitive spectrophotometric method for the determination of paraquat in food and biological samples. 	Journal of AOAC (U.S.A.) 1997,80(2),388
<ul style="list-style-type: none"> A sensitive colorimetric method determination of Ascorbic Acid in food, pharmaceuticals and biological samples. 	Chemia Analityczna (Poland) 1998,43,85
<ul style="list-style-type: none"> A new solid sorbent system for rapid monitoring of paraquat and diquat. 	Intern.J.Envi. Anal. Chem. (U.K.) 1998,69,207
<ul style="list-style-type: none"> Spectrophotometric determination of Isoproturon using p-aminoacetophenone and its application in environmental and biological samples. 	Talanta (U.S.A.) 1998,46,501
<ul style="list-style-type: none"> A new reagent system for the Analysis of carbofuran and its application in environmental samples. 	J.Indian Chem.Soc. (India) 1998,75,181
<ul style="list-style-type: none"> New analytical technique for the simultaneous determination of aromatic amines in environmental samples. 	Journal of Scientific & Industrial Research (India), 2005, 64, 594-597.
<ul style="list-style-type: none"> A new solid sorbent system for rapid monitoring of nicotine. 	Journal of Indian Chemical Society, 2005, 82, 1032-1034.

D. Research Projects carried out

Title of the Project	Name of the Funding Agency	Duration	Remarks
Analytical Studies on some Ozone Depleting Substances in selected Environment of Chhattisgarh	Chhattisgarh Council of Science & Technology, Raipur	03 year	Completed

E. Seminars, Conferences, Symposia Workshops etc. attended

Title	Congress/Seminar/Convention
Study of spectrophotometric determination of Cabondisulphide with leucocrystal violet and its application.	National Symposium on Physicochemical Application in the analysis of pollutants in the environment, Nuzvid, Feb. 2-4, 1996 Absstr. No. - 36
A new and highly sensitive spectrophotometric determination of monocrotophos in environmental and biological samples.	41 st Annual Convention of Chemists New Delhi Dec. 23-27, 2004, Abstr. No. AEC (OP) – 15.
Thin Layer Chromatography detection/ determination in environmental and biological samples.	National Workshop on environmental Issues in the newly formed State on Indian Union, Bhilai 6 th Oct. 2004, Abstr. No. - 10

F. Teaching experience

Courses Taught	Name of University/ College/Institution	Duration
(i) U.G(B.Sc) and PG (M.Sc.)	Govt. college Khairagarh, Dist- Rajnandgaon and Govt.Science College,Raipur	December 16, 1996-September 30, 2003 ~ 7 yrs
(ii) PG.(M.A/M.Sc. etc)	UTD, Pt. Ravishankar Shukla University	September 30, 2003- continue
(iii) M.Phil	_____do_____	~ 6 yrs
(iv) Any other	NIL	Total: ~13yrs
	NIL	

Total Teaching experience

- (a) Under Graduate(Pass): **07yrs**
- (b) Under Graduate (Hons.)
- (c) Post-Graduate: **~19 yrs**

G. Innovations/Contributions in Teaching

- (a) Design of curriculum:

- 1. Member of curriculum design of M.Sc. Final and Previous (Organic chemistry and environmental chemistry from last 10 years.*
- 2. Modifications suggested in M.Sc. Final and Previous (chemistry) curriculum of SOS in chemistry in the light of Model curriculum of UGC.*

- (b) Teaching methods

Use of overhead projector in class room teaching and demonstration in chemistry. Monthly test of completed portion of specific UNIT was also conducted.

- (c) Laboratory experiment

- 1. Organic Preparation were conducted using reagents as per the allotted syllabus.*
- 2. Training of good practices involved in handling of electronic devices used in experiments has been conducted between practical session.*

- (d) Evaluation Methods

- 1. Written test*
- 2. Group discussion in various topics related to subject*
- 3. Seminar presentation of students in various topics of subject.*

- (e) Preparation of resource Material including books reading materials laboratory manuals etc.

Material from reference books, written material and photocopy material has been provided for notes preparation.

- (f) Remedial Teaching/ Student Counseling(academic)

Counseling has been provided for NET/SLET and UPSC exams. Special coaching for M.Sc. has been provided to weaker students.

H. Extension Work/ Community Service

- (a) Please give a short account of your contribution to :

Monitoring and Analysis of Ozone depleting substances in selected area of Chhattisgarh has been carried out to create awareness among the people.

- (b) Positions held/leadership role played in organizations linked with extension work:

-

I. Participation in corporate Life.

Please give a short account of your contribution to :

- (a) College/University/ Institution

- 1. Officer on Special Duty (OSD)in Academic Pt.R.S.S.U.,Raipur***
- 2. Member, Expert Committee, College inspection team***
- 3. Member, committee, Convocation program -2006.***
- 4. Member, College Inspection teams***

- (b) Co-curricular Activities

- 1. Member, student seminar program***
- 2. Member, chemical society***

- (c) Enrichment of Campus Life

Member of various discipline committees

- (d) Student welfare and Discipline

OSD in DSW (Dean Student Welfare)

- (e) Membership/Participation in Bodies/Committees on Education and National Development.

- 1. Member, Indian Science Congress Association, India***
- 2. Member, Indian Chemical Society***
- 3. Member, Convention of Chemist***

- (f) Professional Organizational of Teachers

NIL

- J.** (a) Membership of Professional/Bodies, Societies etc.
1. Member, Indian Science Congress Association, India
2. Member, Indian Chemical Society
3. Member, Convention of Chemist

- (b) Editorship/Refree'ship/Reviewership to Journals

NIL

- K.** Any other information

Signature of the Teacher

PERFORMANCE APPRAISAL REPORT-II
SELF APPRAISAL

A. General information

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- (b) Date of Birth. : 30th July, 1968
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- (e) Department : School of Studies in Chemistry
- (f) Area of Specialization : 1. Organic Chemistry
2. Environmental Science
- (g) Date of appointment
- (i) in the Institution : September 30' 2003
- (ii) in the Present post : September 30' 2003
- (h) Honours conferred

B. TEACHING

- (a) Classes Taught

Class	Periods		
	Assigned per week **L T/P (1)	Taught in the year L T/P (2)	Steps taken for the teaching of periods missed during absence of leave (3)
(i)PG.(M.Sc.)	10 15	128 47	Proposed course has been completed

- (b) Regularity and Punctuality:

Regularity and Punctuality has been maintained

- (c) Details of course teaching plan, synopsis of lectures, and reading lists supplied to students

S.No.	Course Taught	Synopsis of lectures		Reading material supplied to students
1.	M.Sc. (I): Paper II, Unit-II (Organic chemistry): Conformational Analysis & Stereo Chemistry	1.	Introduction to Stereochemistry chemistry	Written notes have been supplied
		2.	Conformational analysis of cycloalkanes and decalins	
		3.	Effect of conformation on reactivity Conformation of sugars	
		4.	Steric strain due to unavoidable crowding	
		5.	Elements of Symmetry, Chirality, molecules with more	

			than one chiral center	
		6.	Methods of resolution, optical purity, stereospecific and stereoselective synthesis	
			Optical activity due to absence of chiral carbon (Biphenyles, allenes and spiranes)	
		7.	Chirality due to helical shape	
2.	M.Sc. (III): General: Unit-IV (Organic chemistry): (Biotechnological Applications of Enzymes	1.	Techniques and methods of immobilization of enzymes	Written notes have been supplied
		2.	Effect of immobilization of enzyme activity	
		3.	Applications of immobilization enzymes in medicine and industry	
		4.	Enzymes and Recombinant DNA Technology	
3.	M.Sc. (II): Special Paper: Unit-IV Enzymes	1.	Introduction and classification of Enzymes, Theories	Written notes and figures have been supplied
		2.	Study of Steroids, Terpenoids, alkaloids etc. as per the syllabus	

- (d) Details of participation in the following
- University Evaluation: NIL
 - Internal Evaluation: NIL
 - Paper Setting : YES
 - Assessment of Home assignments: **Practical assignments have been completed**
 - Conduct of examination: Annual theory and practical exam competed
 - Evaluation of Dissertation etc.: NIL
- *(To be filled at the end of every year)
** L= Lecture, T= Tutorial, P= Practical

C. DETAILS OF INNOVATIONS/CONTRIBUTION IN TEACHING DURING THE YEAR:

- Design of curriculum: Active involvement in designing curriculum
- Teaching Methods:
Overhead projector presentation has been involved during class room teaching on board.
- Laboratory experiments:

***Organic Preparation were conducted using reagents as per the allotted syllabus.
Training of good practices involved in handling of electronic devices used in experiments has been conducted between practical session.***
- Evaluation methods: Class test and weekly seminar presentation
- Preparation of resource material including book, reading materials, laboratory manuals etc.

Written notes have been provided to students.
- Remedial Teaching/ Student Counselling (academic):
NET/SLET exam counseling have been provided
- Any other

D. IMPROVEMENT OF PROFESSIONAL COMPETENCE

- Details regarding refresher courses/ orientation attended, participation in summer schools, workshops, seminars, symposia etc. including open university courses M.Phil/Ph.D.: NIL

E. RESEARCH CONTRIBUTIONS

(a) Number of Student (M.Phil/ Ph.D)

	At the beginning of the year	Registered during the year	Completed during the year
M.Phil	NIL	NIL	NIL
Ph.D	02	02	NIL

(b) No. of research papers published (Please enclose list)

List Attached

(c) Research Projects

Title of the project	Name of the Funding Agency	Duration
<i>Analytical Studies on some Ozone Depleting Substances in selected Environment of Chhattisgarh</i>	<i>C.G.Council of Science & Technology, Raipur</i>	<i>03 yrs</i>

(d) Details of Seminars, Conferences, Symposia organized: NIL

(e) Patents taken,if any,give a brief description: NIL

(f) Membership of Professional Bodies

- 1. Member, Indian Science Congress Association, India**
- 2. Member, Indian Chemical Society**
- 3. Member, Convention of Chemist**

(g) Editorship/referee/reviewer of Journals etc.

NIL

F. EXTENSION OF WORK/COMMUNITY SERVICE

(a) Please give a short account of your contribution to:

Monitoring and Analysis of Ozone depleting substances in selected area of Chhattisgarh has been carried out to create awareness among the people.

Awareness campaign for literacy among minority community

(b) Positions held/leadership role played in organizations linked with Extension work and National Service Scheme (NSS), or NCC or any other similar Activity: NIL

G. PARTICIPATION IN CORPORATE LIFE:

Please give a short account of your contribution to:

- (a) College/ Univerisity/ Institution: **Participate in various activities**
- (b) Enrichment of Campus Life: **Member, discipline committee**
(cultural activities)
- (c) Student welfare and Discipline: **Active support to DSW**

H. ASSESSMENT

- (a) Steps taken by you for the evaluation of the course programme taught.
Class test and seminar presentation has been involved for evaluation

I. GENEAL DATA

State brief assessment of your performance indicating

- (a) Achievements: *Best within limited facilities*
- (b) Difficulties faced: *Lack of good books and poor experimental facilities*
- (c) Suggestions for improvement: *Academic and practical instrument facilities should be enhanced.*

Signature of the Teacher

J. VERIFICATION OF FACTUAL DATA

- (a) General Information
- (b) Teaching
- (c) Details of Innovations/Contribution in Teaching, during the year
- (d) Improvement of Professional Competence
- (e) Research contributions
- (f) Extentionwork/ Community Service
- (g) Participation in Corporate Life

Signature of the Person authorized

* By a person to be nominated by Principal/Vice-Chancellor

PERFORMANCE APPRAISAL REPORT-II
SELF APPRAISAL

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B. TEACHING

- (a) Classes Taught

Class	Periods		
	Assigned per week **L T/P (1)	Taught in the year L T/P (2)	Steps taken for the teaching of periods missed during absence of leave (3)
(i)PG.(M.Sc.)	10 15	128 47	Proposed course has been completed

- (b) Regularity and Punctuality:

Regularity and Punctuality has been maintained

- (c) Details of course teaching plan, synopsis of lectures, and reading lists supplied to students

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		3.	Effect of conformation on reactivity Conformation of sugars	
		4.	Steric strain due to unavoidable crowding	

	Chemistry	5.	Elements of Symmetry, Chirality, molecules with more than one chiral center	
		6.	Methods of resolution, optical purity, stereospecific and stereoselective synthesis	
			Optical activity due to absence of chiral carbon (Biphenyles, allenes and spiranes)	
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E. RESEARCH CONTRIBUTIONS

(a) Number of Student (M.Phil/ Ph.D)

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M.Phil	NIL	NIL	NIL
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Title of the project	Name of the Funding Agency	Duration
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(e) Patents taken,if any,give a brief description: NIL

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4. Member, Indian Science Congress Association, India

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NIL

F. EXTENSION OF WORK/COMMUNITY SERVICE

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Awareness campaign for literacy among minority community

(b) Positions held/leadership role played in organizations linked with Extension work and National Service Scheme (NSS), or NCC or any other similar Activity: NIL

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		4.	Enzymes and Recombinant DNA Technology	
3.	M.Sc. (II): Special Paper: Unit-IV Enzymes	1.	Introduction and classification of Enzymes, Theories	Written notes and figures have been supplied
		2.	Study of Steroids, Terpenoids, alkaloids etc. as per the syllabus	

- (d) Details of participation in the following
- University Evaluation: NIL
 - Internal Evaluation: NIL
 - Paper Setting : YES
 - Assessment of Home assignments: **Practical assignments have been completed**
 - Conduct of examination: Annual theory and practical exam completed
 - Evaluation of Dissertation etc.: NIL
- *(To be filled at the end of every year)
** L= Lecture, T= Tutorial, P= Practical

C. DETAILS OF INNOVATIONS/CONTRIBUTION IN TEACHING DURING THE YEAR:

- Design of curriculum: Active involvement in designing curriculum
- Teaching Methods:
Overhead projector presentation has been involved during class room teaching on board.
- Laboratory experiments:
*Organic Preparation were conducted using reagents as per the allotted syllabus.
Training of good practices involved in handling of electronic devices used in experiments has been conducted between practical session.*
- Evaluation methods: Class test and weekly seminar presentation
- Preparation of resource material including book, reading materials, laboratory manuals etc.
Written notes have been provided to students.
- Remedial Teaching/ Student Counselling (academic):
NET/SLET exam counseling have been provided
- Any other

D. IMPROVEMENT OF PROFESSIONAL COMPETENCE

- Details regarding refresher courses/ orientation attended, participation in summer schools, workshops, seminars, symposia etc. including open university courses M.Phil/Ph.D.: NIL

E. RESEARCH CONTRIBUTIONS

(a) Number of Student (M.Phil/ Ph.D)

	At the beginning of the year	Registered during the year	Completed during the year
M.Phil	NIL	NIL	NIL
Ph.D	02	02	01

(b) No. of research papers published (Please enclose list)

List Attached

(c) Research Projects: NIL

(d) Details of Seminars, Conferences, Symposia organized: NIL

(e) Patents taken, if any, give a brief description: NIL

(i) Membership of Professional Bodies

10. Member, Indian Science Congress Association, India

11. Member, Indian Chemical Society

12. Member, Convention of Chemist

(j) Editorship/referee/reviewer of Journals etc.

NIL

F. EXTENSION OF WORK/COMMUNITY SERVICE

(a) Please give a short account of your contribution to: NIL

Awareness campaign for literacy among minority community

(b) Positions held/leadership role played
in organizations linked with Extension
work and National Service Scheme
(NSS), or NCC or any other similar
Activity: NIL

G. PARTICIPATION IN CORPORATE LIFE:

Please give a short account of your contribution to:

(a) College/ Univerisity/ Institution: **Participate in various activities**

(b) Enrichment of Campus Life: **Member, discipline committee**
(cultural activities)

(c) Student welfare and Discipline: **Active support to DSW**

H. ASSESSMENT

(d) Steps taken by you for the evaluation of the course programme taught.

Class test and seminar presentation has been involved for evaluation

I. GENERAL DATA

State brief assessment of your performance indicating

(g) Achievements: *Best within limited facilities*

(h) Difficulties faced: *Lack of good books and poor experimental facilities*

(c) Suggestions for improvement: *Academic and practical instrument facilities should be enhanced.*

Signature of the Teacher

J. VERIFICATION OF FACTUAL DATA

(a) General Information

(b) Teaching

(c) Details of Innovations/Contribution in Teaching, during the year

(d) Improvement of Professional Competence

(e) Research contributions

(f) Extentionwork/ Community Service

(g) Participation in Corporate Life

Signature of the Person authorized

* By a person to be nominated by Principal/Vice-Chancellor

PERFORMANCE APPRAISAL REPORT-II
SELF APPRAISAL

A. General information

- (a) Name : **Dr. M.K.Rai**
- (b) Date of Birth. : 30th July, 1968
- (c) Address(Residential) & Phone No.: House No. 665/2,Kota,Near Raza Provision Store, Kota, Raipur, 9425520298
- (d) Designation : Associate professor
- (e) Department : School of Studies in Chemistry
- (f) Area of Specialization : 1. Organic Chemistry
2. Environmental Science
- (g) Date of appointment
- (i) in the Institution : September 30' 2003
- (ii) in the Present post : September 30' 2003
- (h) Honours conferred

B. TEACHING

- (a) Classes Taught

Class	Periods		
	Assigned per week **L T/P (1)	Taught in the year L T/P (2)	Steps taken for the teaching of periods missed during absence of leave (3)
(i)PG.(M.Sc.)	10 15	128 47	Proposed course has been completed

- (b) Regularity and Punctuality:

Regularity and Punctuality has been maintained

- (c) Details of course teaching plan, synopsis of lectures, and reading lists supplied to students

S.No.	Course Taught	Synopsis of lectures		Reading material supplied to students
1.	M.Sc. (I): Paper II, Unit-II (Organic chemistry): Conformational Analysis & Stereo Chemistry	1.	Introduction to Stereochemistry chemistry	Written notes have been supplied
		2.	Conformational analysis of cycloalkanes and decalins	
		3.	Effect of conformation on reactivity Conformation of sugars	
		4.	Steric stain due to unavoidable crowding	
		5.	Elements of Symmetry, Chirality, molecules with more	

			than one chiral center	
		6.	Methods of resolution, optical purity, stereospecific and stereoselective synthesis	
			Optical activity due to absence of chiral carbon (Biphenyles, allenes and spiranes)	
		7.	Chirality due to helical shape	
2.	M.Sc. (III): General: Unit-IV (Organic chemistry): (Biotechnological Applications of Enzymes	1.	Techniques and methods of immobilization of enzymes	Written notes have been supplied
		2.	Effect of immobilization of enzyme activity	
		3.	Applications of immobilization enzymes in medicine and industry	
		4.	Enzymes and Recombinant DNA Technology	
3.	M.Sc. (II): Special Paper: Unit-IV Enzymes	1.	Introduction and classification of Enzymes, Theories	Written notes and figures have been supplied
		2.	Study of Steroids, Terpenoids, alkaloids etc. as per the syllabus	

- (d) Details of participation in the following
- University Evaluation: NIL
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 - Paper Setting : YES
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D. IMPROVEMENT OF PROFESSIONAL COMPETENCE

- Details regarding refresher courses/ orientation attended, participation in summer schools, workshops, seminars, symposia etc. including open university courses M.Phil/Ph.D.: NIL

E. RESEARCH CONTRIBUTIONS

(a) Number of Student (M.Phil/ Ph.D)

	At the begining of the year	Registered during the year	Completed during the year
M.Phil	NIL	NIL	NIL
Ph.D	NIL	NIL	One thesis submitted for Ph.D Award

(b) No. of research papers published (Please enclose list)

List Attached

(c) Research Projects: NIL

(d) Details of Seminars, Conferences, Symposia organized: NIL

(e) Patents taken,if any,give a brief description: NIL

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15. Member, Convention of Chemist

(k) Editorship/referee/reviewer of Journals etc.

NIL

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(e) Steps taken by you for the evaluation of the course programme taught.

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State brief assessment of your performance indicating

- (i) Achievements: *Best within limited facilities*
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- (c) Suggestions for improvement: *Academic and practical instrument facilities should be enhanced.*

Signature of the Teacher

J. VERIFICATION OF FACTUAL DATA

- (a) General Information
- (b) Teaching
- (c) Details of Innovations/Contribution in Teaching, during the year
- (d) Improvement of Professional Competence
- (e) Research contributions
- (f) Extentionwork/ Community Service
- (g) Participation in Corporate Life

Signature of the Person authorized

* By a person to be nominated by Principal/Vice-Chancellor