

Academic Staff College
Devi Ahilya Vishwa Vidyalaya, Indore (M.P.)



Complete Report of
Refresher Course in Emerging Trends in Biological Sciences
15th February 2014 to 7th March 2014

Director
Dr. Namrata Sharma

Refresher Course in Biological Sciences

Attendance List

Date of Commencement 15-02-2014 to Date of Completion 07-03-2014

S.N.	Name of the participant	Subject	College	E-mail ID	Mobile No.	Signature
1	Dr. Anita Jain	Zoology	K.K. V.V. A. Mahavidyalaya Indore, (M.P.) 452010	jain.anita509@gmail.com	9713540009	
2	Dr. Hamendra Singh Parmar	Biotechnology	School of Biotechnology, DAVV, Indore M.P. 452001	hamendrasingh999@yahoo.co.in	9826536730	
3	Mrs. Sangeeta Dongre	Botany	Holkar Science College Indore, M.P.	sangeetadongre3@gmail.com	9826987866	
4	Mr. Vinod Thakur	Life Science	School of Life Science DAVV, Indore M.P. 452001	vinodthakurs1@gmail.com	9424087787	
5	Dr. Mahendra Kumar Alone	Zoology	Govt. P.G. College, Mhow, M.P. 454446	mayank_alone@rediffmail.com	9685759348	
6	Dr. Babu Singh Kirade	Zoology	B.S. Govt. P.G. College, Jaora, M.P.	babusinghkirade@yahoo.com	9826012441	
7	Mr. S.R. Baghel	Zoology	Govt. P.G. College, Tikamgarh, M.P. 472001	heggctik@mp.gov.in	9893921540	
8	Mr. Lakhan Lal Raut	Botany	Govt. College, Multai, Betul, M.P. 460661	manoj.thepey@gmail.com	9424461331	
9	Mr. Rajesh Bakoriya	Botany	S.B.S. Govt. Degree College, Ashta, Sehore (M.P) 466001	rajeshbakoriya79@gmail.com	9098824469	
10	Dr. Tariq Ahmad	Zoology	Zoology, Dept. University of Kashmir, Shrinagar, Jammu & Kashmir 190006	drtariqari@yahoo.co.in	9596320319	
11	Dr. Mustahson Farooq Fazili	Zoology	Zoology, Dept. University of Kashmir, Shrinagar, Jammu & Kashmir 190006	drfaziliwl@yahoo.com	9796932444	
12	Dr. Hidayatullah Tak	Zoology	University of Kashmir, Srinagar, J&K 190006	drhidayattak@yahoo.com	9419456456	
13	Mrs. Manju Thakur	Zoology	Govt.S.K.P. College Dewas, M.P. 455001	suyashsingh_12@yahoo.com	9575307061	
14	Dr. Sheetal Bhasin	Biotechnology	Maharaja Ranjeet Singh College, Indore, M.P. 452001	sheetalrhasin@hotmail.com	9303237830	
15	Dr. Venkat Sheshrao Maske	Botany	B.S. Mahavidyalaya, Basmathnagar, Hingoli, M.H. 431512	drvenkatmaske7@gmail.com	9881297644	
16	Mr. Patil Ravindra Duba	Zoology	Vasandrao Naik ASC College, shahada, Nandurbar, M.H. 425409	raviyash99@gmail.com	9421530119	
17	Dr. Hiralal Mangal Patil	Botany	Maharaj J.P. Valvi Arts & Science College Dhadgaon Nandurbar, Maharashtra 425414	hmpatil40@gmail.com	9403089243	
18	Mr. Ilahi Ismail Mujabar	Botany	Smt. Kusumtai Rajarambapu Patil Kanya Mahavidyalaya, Islampur, Sangli. M.S. 415409	milahi10@gmail.com	8087121135	
19	Mrs. Roshani Rawat	Zoology	Govt. Arts and Science College Ratlam (M.P.)	deep.verma23@yahoo.in	9009978396	

Refresher Course in Emerging Trends in Biological Sciences

Resource Person List

Date of Commencement 15-02-2014 to Date of Completion 07-03-2014

S.N.	NAME OF RESOURCE PERSON	CONTACT
1	Dr. Y.D. Sharma, AIIMS, New Delhi	-
2	Dr. Supriya Ratna Parkhe	7566222260
3	Dr. M.S. Parihar, Vikram University, Ujjain	-
4	Dr. Narendra Dhakad, Additional Director, H.E., Indore	9826044555
5	Dr. Rajesh Sharma, School of pharmacy, DAVV, Indore	9425478418
6	Dr. Deepak Bhatnagar, School of Biochemistry, DAVV, Indore	9424072197
7	Dr. Rekha Gadre, School of Biochemistry, DAVV, Indore	9926498554
8	Dr. K.N. Guruprasad, School of Life Science, DAVV, Indore	9993105989
9	Dr. Sadhana Nighojkar, Mata Gujri College, Indore	9893324646
10	Dr. Anand Nighojkar, Principal, MRSC, Indore	9826780505
11	Dr. R.C. Verma, Vikram University, Ujjain	-
12	Dr. S. Patil, School of Life Science, DAVV, Indore	9893286515
13	Dr. Anand Kar, School of Life Science, DAVV, Indore	9893231977
14	Dr. Manju Tembhire, Principal, PONDA College, Bhopal	-
15	Dr. Milind Ratnaparkhe, DSR, Indore	8878600360
16	Dr. K.R.S. Sambasiva Rao, Nagarjun University, Guntur (A.P.)	09440869477
17	Dr. Rajesh Kumar Singh, AGM (R&D), Gennova, Pune	09850898175
18	Dr. Janesh Kumar, Scientist D, NCCS, Pune	9425650249
19	Dr. P.K. Goyal, Vikram University, Ujjain	-
20	Dr. S.J.S. Filora, Gwalior	9425482305 0751-2378196
21	Dr. Anil Kumar, Coordinator, DAVV, Indore	9425058373
22	Dr. Suresh Chand, School of Life Science, DAVV, Indore	8827497074
23	Dr. G.P. Pandey, School of Life Science, DAVV, Indore	9826375341
24	Dr. Santosh Kumar, Ex. V.C., Bhopal	-
25	Dr. R.K. Tugnawat, Principal, Govt. Holkar Science College, Indore	9826014319

**Refresher Course in Emerging Trends in Biological Sciences
Duration 15-02-2014 to 7-03-2014**

TIME TABLE (FIRST WEEK)

DAY/DATE	10.30am to 12:00pm	12.00pm to 1.30pm	1.30pm to 2.30pm	2.30pm to 4.00pm	4.00pm to 5.30pm
Saturday 15-02-2014	Inauguration	Cold War Between Men & Malaria (Drug) Dr. Y.D. Sharma,AIIMS, New Delhi	BREAK	Registration	Cold War Between Men & Malaria (Vaccines) Dr. Y.D. Sharma,AIIMS, New Delhi

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		TIME TABLE (SECOND WEEK)					
DAY/DATE	10.30am to 12:00pm	12.00pm to 1.30pm	1.30pm to 2.30pm	2.30pm to 4.00pm	4.00pm to 5.30pm		
Monday 17-02-2014	Epigenetics Dr. Supriya Ratna Parkhe	Mitochondria Dr. M.S. Parihar, Ujjain	B R E A K			Office Automation Dr. Narendra Dhakad	
Tuesday 18-02-2014	Recombinant Protein expression and purification Dr. Supriya Ratna Parkhe	Natural Products strategies & Implementation in Drug Discovery Dr. Rajesh Sharma				Immune System Dr. Deepak Bhatnagar	Enzyme Assay Techniques Dr. Rekha Gadre
Wednesday 19-02-2014	GAIA Hypothesis Dr. Guruprasad	Herb: Drug Interaction Dr. Rajesh Sharma				Antigen Processing and Presentation Dr. Deepak Bhatnagar	Enzyme Catalysis in Organic Medium Dr. S. Patil
Thursday 20-02-2014	Global Warming Dr. Guruprasad	techniques for Protein Separation with emphasis on Enzymes Protein Dr. Sadhana Nighojkar				Leadership in Education Dr. Narendra Dhakad	Regulation of Gene Expression Dr. Anand Nighojkar
Friday 21-02-2014	Molecular Markers Dr. R.C. Verma, Ujjain	Body on Chip Dr. Anand Nighojkar				Genetics and Evolution Theories Dr. R.C. Verma, Ujjain	Large Scale activation of Microbes Dr. S. Patil
Saturday 22-02-2014	Enzyme Essay Dr. Anil Kumar	Practical Dr. Anil Kumar				Practical Dr. Anil Kumar	Gentle Medicine Dr. R.C. Gupta

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TIME TABLE (THIRD WEEK)

DAY/DATE	10.30am to 12:00pm	12.00pm to 1.30pm	1.30pm to 2.30pm	2.30pm to 4.00pm	4.00pm to 5.30pm
Monday 24-02-2014	DNA Extraction Dr. Anil Kumar	Practical Dr. Anil Kumar	B R E A K	Practical Dr. Anil Kumar	Hypothyroidism Dr. Anand Kar
Tuesday 25-02-2014	Enzyme Classification and Nomenclature Dr. Rekha Gadre	'Alzheimer's disease Dr. Manju Tembhare, Bhopal		Nano Toxicology Dr. Manju Tembhare, Bhopal	Comp. Geno. & Evo. Stud. Of allergen & Disease Dr. Milind Ratnaparkhe
Wednesday 26-02-2014	Practical			Library	Plant & Cell Culture Technology Dr. S. Chand
Thursday 27-02-2014	Shivratri- Holiday				Shivratri- Holiday
Friday 28-02-2014	Stell Cells & Genetic Engineering Dr. K.R.S. Sambasiva Rao, Gunttoor, A.P.				Innovation & Amplifying DNA Rajesh Kumar Singh, Gennova, Pune
Saturday 01-03-2014	Cell Culture Dr. K.R.S. Sambasiva Rao, Gunttoor, A.P.	Large Scale Culture of Animal Cell Dr. Rajesh Kumar Singh, Gennova, Pune			Pharmacogenomics Dr. K.R.S. Sambasiva Rao, Gunttoor, A.P.

Refresher Course in Emerging Trends in Biological Sciences
Duration 15-02-2014 to 7-03-2014

TIME TABLE (FOURTH WEEK)

DAY/DATE	10.30am to 12:00pm	12.00pm to 1.30pm	1.30pm to 2.30pm	2.30pm to 4.00pm	4.00pm to 5.30pm
Monday 03-03-2014	Function Analysis of the macro molecules Dr. Janesh Kumar, Pune	Environment Present Day Concept Dr. G.P. Pandey	B R E A K	Assembly Mechanisms of Glutamates Dr. Janesh Kumar, Pune	Hypertension and Its Preventions Dr. Anand Kar
Tuesday 04-03-2014	Plasma Membrane & Membrane Protein Importances Dr. Janesh Kumar, Pune	Elisa Dr. P.K. Goyal Ujjain		GPCR Structure and machanism of action Dr. Janesh Kumar, Pune	Overview of Immunology Dr. P.K. Goyal Ujjain
Wednesday 05-03-2014	Arsenic Poisoning Dr. S.J.S. Flora	Molecular Market Dr. Milind Ratnaparkhe		Arts of Research Paper Writing Dr. S.J.S. Flora	PPT Presentation
Thursday 06-03-2014	Practical Dr. Supriya Ratnaparkhe		Seminar/Presentation Dr. R.K. Tugnawat		
Friday 07-03-2014	Modern Trends in Heart Diseases Dr. Santosh Kumar	Feedback	Valedictory		

REPORT

Refresher Course in Recent Trends in Biological Science

From 15/02/2014 to 07/03/2014

15/2/2014

Session 1

10:30 to 12:00 Noon

Inaugural Session

Dr. Namrata Sharma, Professor and Director, of Academic Staff College, introduced the chief guest Dr. Y. D. Sharma, Professor in school of Biotechnology, AIIMS, N. Delhi, and other dignitaries with the participants followed by Saraswati pooja and floral welcome of chief guest. Participants also introduced themselves with the guests.

Professor Bhumesh Gupta gave a brief description regarding the aims and objectives with which the Academic staff college, Indore is functioning.

Dr. Y. D. Sharma, Deptt. of Biotechnology briefly informed about his research work and advancement going on in Biological sciences to serve and save human species.

Session 2

12:00 to 1:30 PM

Lecture topic: Antigenic variation.

Resource Person: Dr. Y. D. Sharma, Prof. in Deptt. of Biotech, AIIMS, N. Delhi.

Dr. Sharma informed that malarial profile in India is higher as *P. falciparum* is concerned in comparison to *P. vivax*. The reason is high drug resistance in case of *P. falciparum*. As a result it is difficult to control malaria in India due to higher drug resistance in pathogen as well as the absence of availability of an effective vaccine. Strain variation is also very high in malarial epidemic area and RTS-S malaria vaccine show a very high rate of antigenic variation.

So it is inevitable to use existing anti malarial drug judiciously, continuous monitoring of drug is very essential and it is necessary to detect drug resistance as early as possible and this early detection will help to develop the national drug police accordingly.

Session 3

2:30 to 4:00 PM

Registration of the Participants.

Session 4

4:00 to 5:30 PM

Lecture topic: Antigenic Variation

Resource Person: Dr. Y.D. Sharma, Prof. in Deptt. Of Biotech, AIIMS, N. Delhi.

In continuation with the previous lecture Dr. Sharma informed about the different allelic forms of KAHRP gene of *P.falciparum* and how its c-DNA libraries can be formed and its PCR amplification. Almost all *P.falciparum* species contain tryptophan rich protein and some of them involved in invasion process and are proposed as vaccine candidates. Tryptophan rich antigens are PvTRAg. All 15PvTRAg show seropositivity and only 6 are showing erythrocyte binding activity. Inhibition of erythrocyte binding to PvTRAg by respective anti PvTRAg antibodies occurs when patient is producing inhibitory antibodies. Enzyme treatment of trypsin and chymotrypsin show absorbance at 490 nm of group A PvTRAg is 69.5, 35.2 and 33.5 while group B is 38 and 74 and group C is 38+74.

17/2/14

10:30 AM to 12.00PM

Session 1

Lecture topic: Components of Project Report

Resource Person: Dr. Supriya Ratnaparkhe, School of Biotech., DAVV, Indore.

Dr. Supriya Ratnaparkhe a DBT energy Biosciences overseas fellow clearly explained all the components of project report. The purpose of project report is the establishment of communication between the researcher and the reviewer about what the researcher intends to do, why he wish to do and the associated methodology of the said project. It is essential to mention the time frame also in which researcher concludes his work.

Once a researcher gets approval from the reviewer, a written contract is to be signed in between the researcher and the funding agency.

Ratna madam also informed about the different funding agencies that provide funds to promote research and how to prepare budget, budget justification and potential causes of rejection of proposal.

Session 2

12.00PM to 1:30PM

Lecture Topic: Trans generational Inheritance and human diseases.

Recourse Person: Dr. M.S.Parihar, Senior Prof. in Vikram University Ujjain.

Dr, Parihar explained about human diseases and its probable cause. He explained that probable cause of disease may be generational inheritance of DNA methylation. Gene expression get modified either by histone modification and DNA methylation. Major epigenetic processes occur due to Histone modification, RNA mediation or interference and DNA methylation. Use of bioactive diet and changing life style may protect the human life from diseases.

Session 3

2:30 PM to 4:00PM

Lecture Topic: Office Automation

Resource Person: Dr. N.K.Dhakad, Ad Director, Higher Education, Indore.

Dr.N.K.Dhakad is a well known Academician, Research guide, and have wide experience of working as a Principal and now from last three years he is motivating and guiding the people as an Additional Director of Higher Education, Indore.

In his lecture he has explained the characteristic features of a Principal. The sole responsibility of a principal is to see -Academic works as well as to manage office administration ,team spirit etc.

He also explained about many situations in which a Principal is supposed to work as a motivator, team manager, finance officer and HRD manager etc.

It was an interactive session and participants shared their problems and got his valuable suggestions and guidance.

Session 4

4:00PM to 5:30 PM

Lecture Topic: Mitochondria and neurodegenerative disorders.

Resource Person: Dr. M.S. Parihar, Prof. and Head in School of Zoology and Biotechnology, in Vikram University, Ujjain.

Accumulation of faulty objects in mitochondria leads to development of defective mitochondria which is responsible for development and expression of a disease. He explained it by mitochondrial ETC mechanism.

In neurodegenerative disorders he pointed about-KSS, MERRRF, MELAS, CPEO, LHON and the other possible symptoms of mitochondrial disorders.

Resource person had wide experience and exposure of teaching Alzheimer disease, its causes, symptoms and mechanism in relation to mitochondria and its also the diagnostic techniques of it.

18/2/14

Session: 1

10:30AM to 12.00PM

Lecture Topic: Recombinant protein expression and purification.

Resource Person: Dr. Supriya Ratnaparkhe, School of Biotech., DAVV, Indore

Dr. Supriya informed the mechanism of recombinant protein expression and how its purification takes place in laboratory environment followed by the method of eukaryotic primary transcripts and its processing, PET vector expression system and how in general purification occurs of fusion protein.

Session: 2

12.00PM to 1:30 PM

Lecture Topic : Antigen Processing and Presentation.

Resource Person: Dr. D. Bhatnagar, Head, school of Biochemistry, DAVV, Indore.

Dr. Bhatnagar started his lecture with the basics of immunology and meanwhile proceed to structure and properties recognized by T lymphocytes and how presentation of protein antigen occurs to CD 4+ T lymphocytes.

He briefly explained the discovery of antigen presenting cell and its role in immunes , responses', and how antigen processing occurs .

He finely marked the surface receptors on macrophages and how antigen processing and presentation takes place by macrophages followed by the surface marks, its origin and distribution as in langerhans cell,interdigitating DC and in Follicular DC.

Session :3

2:30PM to 4:00PM

Lecture Topic: Natural products- strategies and importance in drug discovery.

Resource Person: Dr. Rajesh Sharma, Prof. and Head, school of Pharmacy, DAVV, Indore.

Dr. Sharma is a well known scholar of pharmacy, started his lecture with Vinblastine –a novel anticancer drug flower of sada bahar. He pointed out why herbal drugs are favored by people. He informed about drug design, its discovery and development process based on traditional lead molecule followed by CADD its basic concept, methodologies and strategies. Further he marked the importance of SBDD and LBDD, Pharmacophore mapping its model and various steps of functioning

Session :4

4:00 PM to 5:30 PM

Lecture Topic :Enzyme Assay Methods.

Resource Person: Dr.Rekha Gadre, School of Biochemistry, DAVV,Indore.

Rekha Madam initially explained the basics of enzymes and its characteristics, followed by measures of enzymatic activity. Further she also explained in detail the various essay methods like- pectrometric, Fluorimetric, Manometric, Polarimetric, Electrometric and colorimetric methods.

19/2/14

Session 1

10:30AM to 12.00PM

Lecture Topic : GAIA Hypothesis

Resource Person ; Dr. K.N.GURUPRASAD,School of Life sciences, DAVV,Indore

The lecture started with the composition of planetary atmosphere and the factors regulating it .Concept of a biogenesis, End symbiosis, Photochemical reaction and Filtration of UV radiation explains the origin of life on earth. GAIA hypothesis states that it is the health of a planet which matters not the individual one. Another term is Anthrocentrism states the environmental concerns for continuation of one species.GAIA has the power to give mortal life and to take it away.

Session 2

12.00PM to 1:30PM

Lecture Topic ; Herb –Drug Interaction

Resource Person ;Dr. Rajesh Sharma, Prof. and Head of School of Pharmacy, DAVV, Indore.

Dr. Sharma in his lecture pointed out that drug absorption increases when co administered with Mg containing antacid NSIADs such as ibuprofen, mefenamic acid etc. Oral antidiabetic such as glipizide, glibenclamide, tolbutamide increased absorption of NSIADs may be beneficial in greater relief from pain while the increased absorption of oral anti diabetic may increase the risk of hypoglycemia. NSIADs phenyl butazone given with warferin may increase the prothrombin time and risk of hemorrhage and spontaneous bleeding.

Survey suggested that out of 60% population in India people use herbal medicines .1/4 of this population or 15% people use vitamins or herbal medicines together with prescription medications. As a result many patients are at risk of having herb drug interaction. Estimate also suggests that 47-72 % of patients fail to report herbal medicines use to health care professionals. This may result in increased harm to patients especially if they are using herbal and prescription medicines that they have latent interactions.

Session 3

2:30PM to 4:00PM

Lecture Topic ; Antigenic Processing and Presentation

Resource Person ;Dr. D.Bhatnagar, Prof. & Head School of Biochemistry, DAVV, Indore.

Dr. Bhatnagar explained the properties of antigens recognized by T lymphocytes and discovery of APC and its role in immune responses followed by types of APC for CD4+ helper T lymphocytes-macrophages, surface marks of macrophages etc.

Session 4

4:00PM to 5:30PM

Lecture Topic ; Enzyme catalysis in organic medium.

Resource Person Dr.S.Patil, Prof. in School of life science, DAVV, Indore.

Dr. Patil started his lecture with the basics of enzyme activity and discussed the problems occur with aqueous medium , it's possible solutions followed by conventional wisdom and ended with the quotation of **Prof.Klibanov**-Perhaps the only thing we deserve credit for is recognizing the significance of an unexpected result and exploring rather than dismissing it.

20/02/14

Session 1

10:30AM to 12:00PM

Lecture Topic : Solar UV and GAIA Hypothesis.

Resource Person : Dr. K.N.Guruprasad, Prof. School of life Science, DAVV, Indore.

Dr. Guruprasad informed that GAIA concept says –Earth is a super organism with self regulatory function. Life on the planet is maintained by the interaction of organism with their inorganic surrounding to form a complex system-Abiogenesis, End symbiosis, CLAW hypothesis and Anti CLAW Hypothesis.

Session 2

12:00PM to 1:30PM

Lecture Topic ; Technique of purification of proteins.

Resource Person : Dr.S.Nighojkar, Prof.&Head Biosciences Deptt., M.G.C., Indore.

Dr.Nighojkar started her lecture with the emphasis on production of enzyme and microbial production followed by enzyme purification and its strategies. Further she explained about purification methods based on different solubility, characteristics and its applications as well as enzymes separation based on different sizes.

Session 3

2:30PM to 4:00PM

Lecture Topic ; Efficient Workings and Solution of day today problems.

Resource Person : Dr.N.K.Dhakad, A.D, Higher Education, Indore Region

Dr.Dhakad started his interactive session with the solution of day today problems and how to handle the challenges to work efficiently as well as how to maintain and manage motivation. He said always avoid giving up tendencies and face the challenges till you get the desired result.

Session 4

4:00PM to 5:30PM

Lecture Topic ; Mechanism and Regulation of gene expression.

Resource Person : Dr.A.Nighojkar, Principal, MRSCollege, Indore.

Dr.Nighojkar in his lecture covered historical background of genes and its expression, steps of gene expression and operon's basic concept; repressible and

inducible. Further he added differential gene expression, histone modification and coordinately controlled genes in eukaryotes, nuclear architecture, mechanism of post transcription regulation, RNA processing etc.

21/2/14

Session 1

10:30AM to 12:00PM

Lecture topic: Molecular Marker

Resource Person: Dr. R.C. Verma, School of studies in Botany, Ujjain Univ., Ujjain.

He informed that around 23,000 pair genes have been reported till date on 23 pair of chromosomes, 1000 genes on one chromosome and contain about 2.85 million base pairs per cell.

Molecular markers are a part of DNA located within genome and used to identify sequence of DNA in a pool of unknown DNA. Nuclear DNA is Diploid, Biparental and show recombination while Mitochondrial and Chloroplasic DNAs are haploid and show maternal Inheritance.

Till 1984-1985 assumption was of presence of two molecular markers DNA and protein in animal genome and four major molecular techniques were used to isolate them like - Electrophoresis, Hybridization, DNA sequencing and PCR in later years. Recently Pyrosequencing, Microarray technology and tag man are also been developed to study molecular markers.

Markers are divided on the basis of - PCR based markers and Non PCR based markers. PCR based markers are RAPD, AFLP and Non PCR based markers are RFLP & VNTR. Some of them are (Single nucleotide polymorphism molecular marker which can be divided) as-

First Generation	Second Generation	Third Generation
RFLP	AFLP	EST
RAPD	SSRS	SNP

Session 2

12:00 to 1:30 PM

Lecture topic: Body on Chip

Resource Person: Dr. Anand Nigojkar, Principal MRSC, Indore.

Body on chip is a latest concept to simulate organ or to develop miniature organ or printing of body cells to simulate the physiological functions respectively particular to analyze the effect of drugs or replace the chemical testing of different

organs in a particular diseased condition or for a clinical trial and can be used as biowarfare.

Session 3

2:30 to 4:00 PM

Lecture topic: Genetics and theories of Evolution

Resource Person: Dr. R.C. Verma, School of Botany, Ujjain Univ., Ujjain.

To correlate the latest advanced development of human race with the prehistoric man, Dr. Verma started his topic with origin of earth followed by origin of life and its development and evolution.

He communicated the historic relevance of almost all the theories in a coordinated way, starting from the theory of inheritance by acquired character given by Jean Baptiste de Lemark to the latest mutation theory of variation, Mutation versus selection, Hardy Weinberg law etc.

Session 4

4:00 to 5:30 PM

Lecture topic: Large scale cultivation of microbes

Resource Person: Dr. S. Patil, School of life Sciences, DAVV, Indore.

Dr. Patil explained the purpose of large scale cultivation of microbes and role of primary and secondary metabolites. Microbes produced enzymes when it is required-inducible and constitutive enzymes. He also explained about the major biotechnological applications and sources of microbial culture.

22/2/14

Session 1,2 and 3

10:30 to 4:00PM

Lecture topic: Method of Enzyme Assay and Enzyme Estimation.

Resource Person: Dr. Anil Kumar, Prof. & Head, School of Biotechnology, DAVV, Indore.

It was a Practical Session and Dr. Kumar explained the basics of enzymes, how it works in human systems and how it can be estimated in laboratory condition by Subbarao Method. Participants took utmost interest and estimated an enzyme under the supervision of Madam Shivani Bhagwat and Madam Ritu Jain.

Session 4

4:00 to 5:30 PM

Lecture Topic: Gentle Medicine

Resource Person: Dr. R.C. Gupta, Prof. in Nagaland Univ., Nagaland

Dr. Gupta presented an excellent topic-Taurine: component of functional food and Nutraceuticals for good health. Initially he explained the nutraceuticals and its role in disease prevention. Taurine deficiency causes-Retinal degeneration, cardiac dysfunction, cardiomyopathy etc. Further he added taurine dual function and its role in human life.

24/02/14

Session 1,2and 3 Session

10:30AM to 4:00PM

Lecture Topic ; DNA Extraction.

Resource Person ; Ms. Ritu Jain &Ms.S.Bhagwat ,School of Biotech., DAVV, Indore.

It was a practical session .In all the three the participants devoted their time in analysis of DNA Extraction.

Session 4

4:00PM to 5.30 PM

Lecture Topic ; Hypothyroidism and its treatment

Resource Person ;Dr. A.Kar,Prof.,Deptt. of life Sc., DAVV, Indore.

Dr. Kar mentioned the role of thyroxin and its deficiency disorders, type of hypothyroidism- critinism, myxoedema, simple goiter etc. followed by pathology of thyroid problem, its causes and treatment.

25/02/14

Session 1

10:30AM to 12:00PM

Lecture Topic ; Enzyme classification and nomenclature.

Resource Person ;Dr. R.Gadre, Prof., school of Biochemistry, DAVV, Indore.

Dr. Gadre covered trivial system, UBMB classification and nomenclature followed by scheme for the classification of enzymes and generation of EC number of classes-oxidoreductase, transferase, hydrolase, lyases, isomerases and ligases.

Session 2

12:00PM to 1:30PM

Lecture Topic ; Alzheimer's disease

Resource Person: Dr.M.Tambhre,Principal ,M.K.Ponda college,Bhopal.

In this lecture Dr. Tambhre discussed the basic reason of Alzheimer disease and its relation with brain. Hallmarks of AD-beta amyloid plaques and tangles have also been discussed followed by state of preclinical, mild to moderate AD and severe AD . Causes of AD and research in genetic, cellular and molecular level was also discussed. How to diagnose AD , clinical trials and search for new treatment and mentioned the role of Bacopa monneira a novel candidate for treatment for AD

Session 3

2:30PM to 4:00PM

Lecture Topic ; Nanotoxicology

Resource Person : Dr.M.Tambhre, Principal, M.K.Ponda college,Bhopal.

Dr. Tambre informed that nano-toxicity is the production, manipulation and use of material at the scale of 100nm or less. It is the production of particles with enhanced properties, status and application. Further she added the availability of nano-particles in the market, importance of nano-toxicity and the need to research the toxicity caused by emission and exposure of nano particles in the environment.

Session 4

4:00PM to 5:30PM

Lecture Topic ; Comparative genomics and evolutionary studies of allergens and disease resistance genes in legumes.

Resource Person: Dr.M. B.Ratnaparkhe, Directorateof soyabean research, ICAR, Indore.

Dr. Ratnaparkhe mentioned about the allergy related protein in groundnut, soyabean and sequencing of groundnut BAC clone, polyploidy, NBS-LRR disease resistance genes and selection of BACs for sequencing, transposable elements and application of comparative genomics.

26/02/14

Session 1 and 2

10:30AM to 1:30PM

Lecture Topic ; Gel Electrophoresis and Separation of bacteria.

Resource Person: Ms.Ritu Jain and Mr.M.Kumar

Both the sessions were completely devoted to practical approach of separation of bacteria and gel electrophoresis technique.

Session 3

2:30PM to 4:00PM

LIBRARY SESSION TO PREPARE PRESENTATIONS.

Session 4

4:00pm to 5:30pm

Lecture Topic ; Plant and cell culture technique.

Resource Person : Dr. S. Chand, Prof. &Head, School of life Sc., DAVV, Indore.

The lecture was started with the concept of Androgenic and Gynogenic haploids and mainly four techniques-anther cultures, pollen culture, unpollinated ovary culture and bulbosum method. Finally he explained bulbosum technique in detail and its limitations.

28/02/14

Session 1

10:30PM to 12:00PM

Lecture Topic ; Stem cells and their potential clinical application- a subject of much research avenues.

Resource Person:Dr. K.R.S.S. Rao ,Deptt. of Biotechnology, Acharya Nagarjuna University.

Dr. Rao discussed the solution for several human health problem is stem cell culture. Further he mentioned the brief introduction of stem cells followed by its classification, sources, differentiation of stem cells to various human tissues like – totipotent, multipotent, pluripotent, oligopotent and unipotent. He also discussed the hierarchy of stem cells, cultivation and creation of stem cell line from an embryo, types of stem cells and therapeutic implication, stem cell plasticity and transplantation of stem cells.

Session 2

12:00PM to 1:30PM

Lecture Topic ; Biopharmaceuticals

Resource Person: Dr.R.Singh, Deptt. of Biotech., Pune Univ., Maharashtra.

Dr. Singh in his lecture informed that Biopharmaceuticals are the leading biotechnological compounds based on recombinant DNA technology but it depends upon the innovation and cultivation of drug. Dr.Rajesh also discussed Elaxim-Genova,s PHT model.

Session 3

2:30PM to 4:00PM

Lecture Topic ; Genetic Engineering

Resource Person : Dr. K.R.S.S. Rao, Deptt. Of Biotechnology, Acharya Nagarjuna University.

In this lecture Dr. Rao explained GEMs and GMOs, genetic engineering its methods and purpose ,terminator seed technology and its application, followed by future GMOs, potential benefits- direct and indirect effects and their objectives. He later added advantages of GMOs and potential risks, acesment of ecological risks of GEOs and ethical issues.

Session 4

4:00PM to 5:30PM

Lecture Topic ; Amplifying DNA

Resource Person :Dr.R.Singh, Deptt. of Biotech., Pune Univ., Maharashtra.

Dr. Singh explained polymerase chain reaction, how it occurs, required conditions, amplification, sequencing and translation mechanism.

01/03/14

Session 1

10:30pm to 12:00noon

Lecture Topic ; Pharmacogenomics, a future of drug discovery.

Resource Person:Dr. K.R.S.S. Rao, Deptt. Of Biotechnology, Acharya Nagarjuna University.

Dr. Rao in his lecture briefly described the pharmacogenomics and its future in drug discovery, SNP, variation in genome.SNP as a gene marker and impact of pharmacogenomics in practice of medicines .Further he discussed about human genome, mutation gene expression and diseases.

Session 2

12:00pm to 1:30pm

Lecture Topic :Large scale culture of animal cells for production and therapeutics.

Resource Person :Dr.R.Singh, Deptt. of Biotech., Pune Univ., Maharashtra.

Dr. Singh explained large scale culture of animal cells for production and therapeutics in detail followed by formation of crude product, its purification and final separation.

Session 3 and 4

2:30PM to 5:30PM

Lecture Topic ; Drugs and Vaccines and vaccines adjuvants.

Resource Person : Dr.R.Singh, Deptt. of Biotech., Pune Univ., Maharashtra.
Dr. Singh discussed thalladomide drug accident, pregnancy sickness and teratogenic effects of drug followed by formation of vaccines and vaccines adjuvants in this session.

3/03/14

Session 1

10:30pm to 12:00noon

Lecture Topic ; To Introduce and provide a refresher on recent development in structure and biophysical methods for biological macromolecules in solution.

Resource Person : Dr.J.Dubey, Scientist, Wellcome trust, NC for Cell Sc. Pune.

Initially he explained about the analytical ultracentrifugation, X-ray crystallography, macromolecular electron microscopy and its advantages. Further he explained cryo electron microscopy, data collection and initial image processing.

Session 2

12:00pm to 1:30pm

Lecture Topic ; Environment a present day condition

Resource Person : Dr.G.P.Pandey, Prof., School of life Sc., DAVV, Indore.

Dr. Pandey briefly explained the environment, its role and destruction by human activities. How to protect and manage it in a way to help in sustainable development of human race.

Session 3

2:30pm to 4:00pm

Lecture Topic ; Exciting your neurons, structure, function and assembly mechanism of glutamate receptor ion channels.

Resource Person : Dr.J.Dubey, Scientist, Wellcome trust, NC for Cell Sc. Pune.

Initially in the beginning of his lecture he demonstrated the structure and functions of neuron , electrochemical channels and ionotropic glutamate receptors. Process of the assembly mechanism of glutamate receptors include size exclusion chromatography, analytical ultracentrifugation, and SDS page techniques.

Session 4

4:00pm to 5:30pm

Lecture Topic : Hypertension and its prevention.

Resource Person: Dr.A.Kar, Prof., School of life Sc., DAVV, Indore.

In this session Dr. Kar mentioned about the possible causes of hypertension. He discussed about atherosclerosis and arteriosclerosis etc. followed by types of hypertension like-primary, secondary, benign, malignant, acute, severe, white coat, resistant and unstable followed by the factors which aggravates it.

04/03/14

Session 1

10:30pm to 12:00noon

Lecture Topic : Transmembrane Proteins.

Resource Person : Dr.J.Dubey, Scientist, Wellcome trust, NC for Cell Sc. Pune

He informed the participants that the Trans membrane proteins are those proteins which maintains communication between two layers of cell membrane, membrane bilayer maintains permeability with the help of binding proteins but crystallization of membrane protein is difficult in laboratory conditions. He that The methods by which membrane proteins can crystallize are-Bicelles crystallization and lipid cubic phase.

Session 2

12:00pm to 1:30pm

Lecture Topic ; Cocrystallization with antibodies.

Resource Person : Dr.J.Dubey, Scientist, Wellcome trust, NC for Cell Sc. Pune

This lecture was in continuation with the previous one explaining the method of co-crystallization with antibodies and nanobodies. Further Dr. Dubey informed about largest family of protein receptors and its purification strategy and reconstruction.

Session 3

2:30pm to 4:00pm

Lecture Topic ; ELISA Test .

Resource Person: Dr. P.K. Goyal, School of Zoo., & Biotech., Vikram Univ., Ujjain.
Dr. Goyal explained in detail the principle, method and application of ELISA test in diagnosis of human diseases.

Session 4

4:00pm to 5:30pm

Lecture Topic ; Immunology

Resource Person : Dr. P.K. Goyal, School of Zoo., & Biotech., Vikram Univ., Ujjain.

In this lecture Dr. Goyal explained about the characteristics of immune systems, immunoglobins, its types, secretors and membrane bound immunoglobulin's and their functions in human body.

5/3/14

Session 1

10:30pm to 12:00noon

Lecture Topic ; Clinical therapeutic measures for Arsenic Poisoning

MiADMSA, the future choice.

Resource Person: Dr. S.J.S. Flora, FNASc., Scientist G (Associate Director), DRDE.

He started the topic with DRDE perspective about chemical warfare, arsenic exposure and need of drug. Clinical features of arsenicosis, possible sources of its exposures, clinical manifestations and possible mechanisms of arsenic toxicity.

Further he explained about therapy against chronic arsenic toxicity, screening drug efficiency, effect of MiADMSA on heme-biosynthesis during arsenic toxicity on heart and other organ and it may be a future drug of choice.

Session 2

12:00pm to 1:30pm

Lecture Topic ; Molecular Marker

Resource Person : Dr. Milind B. Ratnaparkhe, Sr, Scientist (Biotech.) Directorate of Soyabean Research.

Dr. Ratnaparkhe started topic with applications of molecular markers, type of molecular markers, biochemical markers-allozymes, RFLP, techniques to develop molecular markers, microsatellite markers and its application in gene tagging, linkages and in QTL.

Session 3 and 4

2:30pm to 5:30pm

Lecture Topic ; Scientific writing easy, when you know how.

Resource Person : Dr. S.J.S. Flora, FNASc., Scientist G (Associate Director), DRDE.

Dr. Flora informed that writing of a scientific paper is a skill. A person should know the focus idea, pre requisites of paper, essential contents, followed by do's and don't of paper, deciding authorship, look at cost and prepare detailed cover letter, suggest potential reviewer, editor and member of editorial board.

Further he suggested that what will be done if research paper gets rejected and what to avoid. A researcher should not indulge in scientific misconduct, plagiarism etc.

06/03/14

Session 1 and 2

10:30pm to 1:30PM

Lecture Topic ; PCR Technique

Resource Person:Dr.S.Ratnaparkhe,

It was two practical sessions in which Dr.S.Ratnaparkhe Md. Has explained the latest PCR technique, its applications and limitations to the participants.

Session 3 and 4

2:30PM to 5:30PM

Lecture Topic ; Presentation by Participants.

Resource Person :Dr. R.K.Tugnawat, Principal, Holkar Sc.College,Indore.

Participants gave their presentation on different topics which was evaluated by subject expert.

07/03/14

Session 1

10:30pm to 12:00noon

Lecture Topic ; Miracle in Biological Sciences in last millennium for heart diseases and trends o researcher in 21 century.

Resource Person: Dr.Santosh Kumar, Ex.V.C., Sagar Univ., Sagar.

Dr. Kumar covered historical perspective of modern molecular biological inventions. He mentioned that molecular biological interventions dates back from 1900 to till date including cardiac conducting systems, pacemaker, marker enzymes, angioplasty and gene therapy. Further he explained about the chromosomal loci for hypertrophic cardiomyopathy and encoding sequences for cardiac proteins.

Valedictory Function

Chief Guest: Dr.D.P.Singh, Honorable ViceChancellor, DAVV,Indore.

Guest of Honour:Dr.Santosh Kumar,Ex.V.C.,Sagar Univ.,Sagar.

Dr.N.Sharma, Prof. and Director ASC, Indore started the closing ceremony of refresher course by presenting floral bouquet to the chief guest , Guest of honour Vice Chancellor, Prof. D.P.Sinh Sir and Course coordinator Prof.Anil Kumar of School of Biotechnology. She gave brief over view of the refresher program which was followed up by the views of the participants.

Later Madam invited all the dignitaries to share their words of wisdom and finally requested honorable Vice Chancellor Sir , Guest of Honour and the Chief Guest Prof. Santosh Kumar to distribute certificate to the participants. Lastly Dr. Bhumesh Gupta presented vote of thanks on behalf of Academic Staff College, Indore.

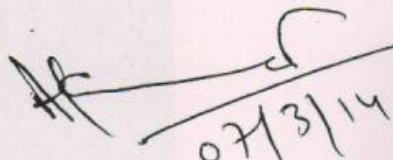
UGC- Acadmy Staff College

Refresher Course in Biological Sciences

Date 15/2/2014 to 7/3/2014

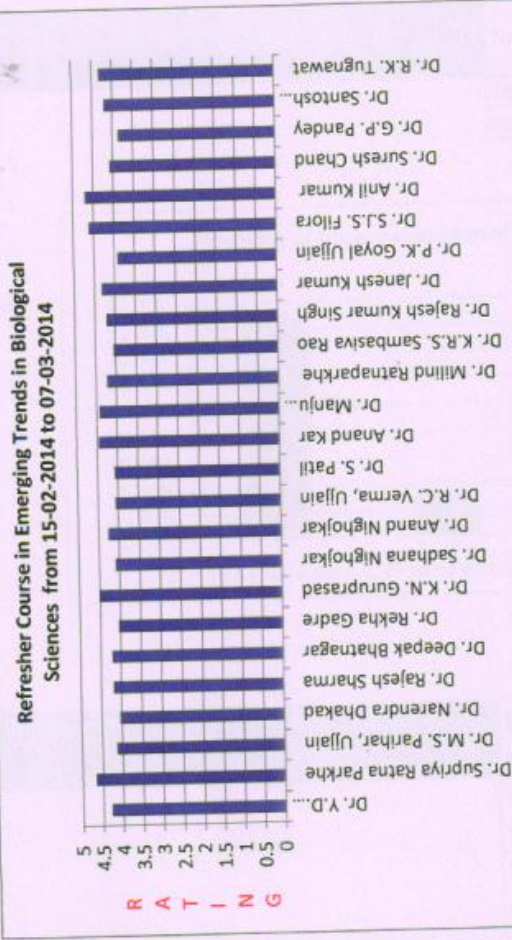
S.N.	Name of the participant	Seminar (30)	Research Proposal (50)	Practical (25)	Punctuality & Sincerity	Total	
1	Dr. Anita Jain	24	18.0	24	13	79	A
2	Dr. Hamendra Singh Parmar	24	27.0	24	13	88	A
3	Sangeeta Dongre	21	25.0	24	13	83	A
4	Vinod Thakur	18	21.0	22+1	13	75	A
5	Dr. Mahendra Kumar Alone	20	18.0	23+1	13	75	A
6	Dr. Babu Singh Kirade	20	22.0	23	13	78	A
7	Sakharam Baghel	18	21.0	23	13	75	A
8	Mr. Lakhan Lal Raut	17	18.0	23	13	71	B
9	Mr. Rajesh Bakoriya	18	19.0	23	13	73	B
10	Mr. Tariq Ahmad	25	27.0	24	13	89	A
11	Mr. Mustahson Farook Fazili	26	27.0	24	13	90	A
12	Dr. Hidayatullah Tak	26	27.0	24	13	90	A
13	Manju Thakur	18	19.0	22	12	71	B
14	Dr. Sheetal Bhasin	27	25.0	24	13	89	A
15	Dr. Maske Venkat Sheshrao	16	21.0	24.	13+1	75	A
16	Patil Ravindra Duba	20	21.0	24	13	78	A
17	Hiralal Mangal Patil	23	21.0	24	13	81	A
18	Mujawar ilahi Ismaili	22	24.0	24	13	83	A
19	Mrs. Roshani Rawat	18	24.0	24	13	79	A

Namdev


07/3/14
Dr Anil Kumar

ACADEMIC STAFF COLLEGE
 DEVI AHILYA VISHWAVIDYALAYA, INDORE
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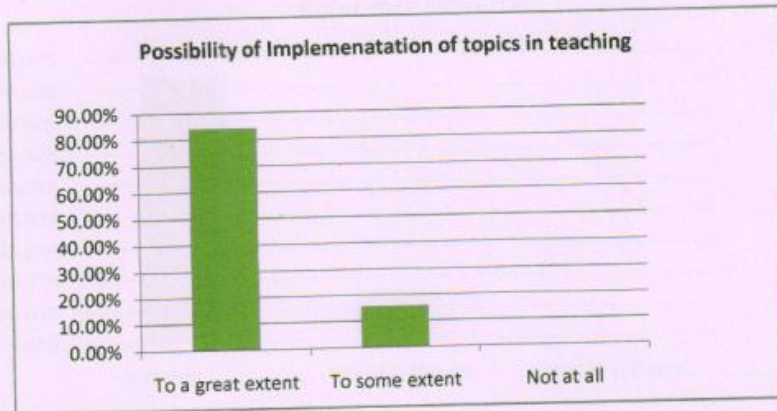
1	Dr. Y.D. Sharma, AIIMS, New Delhi	4.2894737	326
2	Dr. Supriya Ratna Parkhe	4.6578947	354
3	Dr. M.S. Parihar, Ujjain	4.1315789	314
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14	Dr. Manju Tembhire, Bhopal	4.4210526	336
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FEEDBACK- 1. Topics like Next Generation Sequencing, Phylogenetic Analysis, Molecular Characterization, Advanced Animal Cell Culturing Techniques and Plant Tissue Culture too should have been included. 2. Computer Education should be part of the refresher course. 3. Education tour too should be a part of the program. 4. More facilities in Guest House and Quality of food should be improved.

ACTION TAKEN- 1. Visit to industry would be planned in future programs. 2. Topics suggested will be tried to be incorporated in the course curriculum. 3. ASC Guest house is already under furnishing

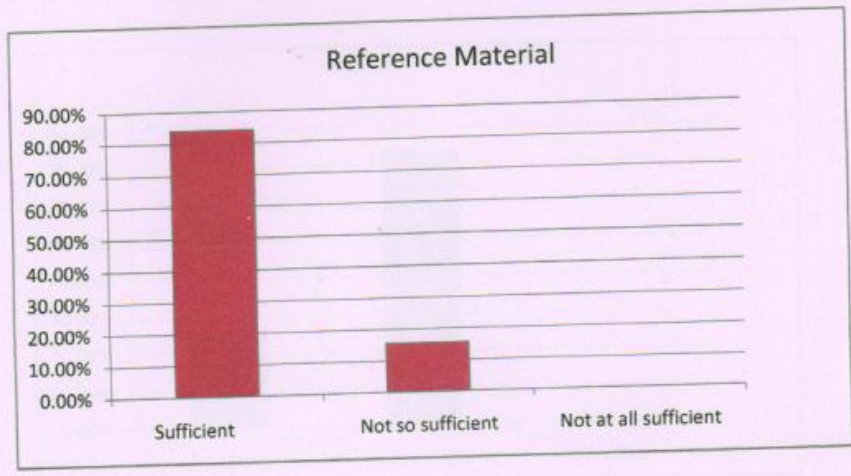
1	Possibility of implementation of topics in your teaching	To a great extent	84.21%
		To some extent	15.78%
		Not at all	0.00%



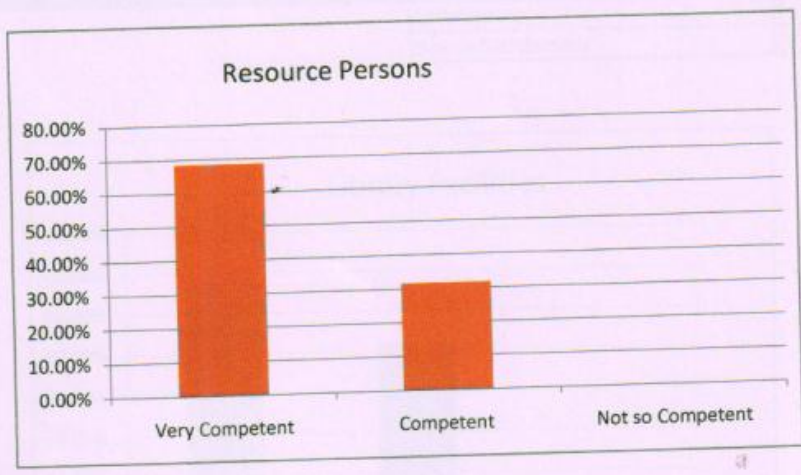
2	Extent of Participation	Everybody participated enthusiastically	89.47%
		Participation was Satisfactory	10.53%
		Participation was not satisfactory	0%



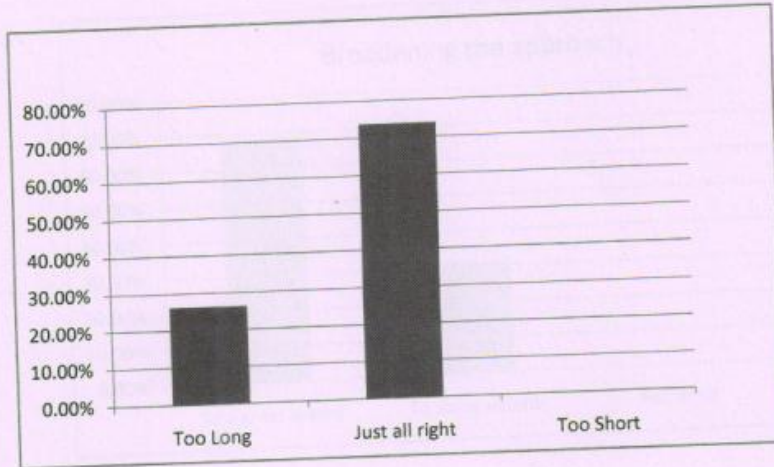
3 Reference Material	Sufficient	84.21%
	Not so sufficient	15.78%
	Not at all sufficient	0%



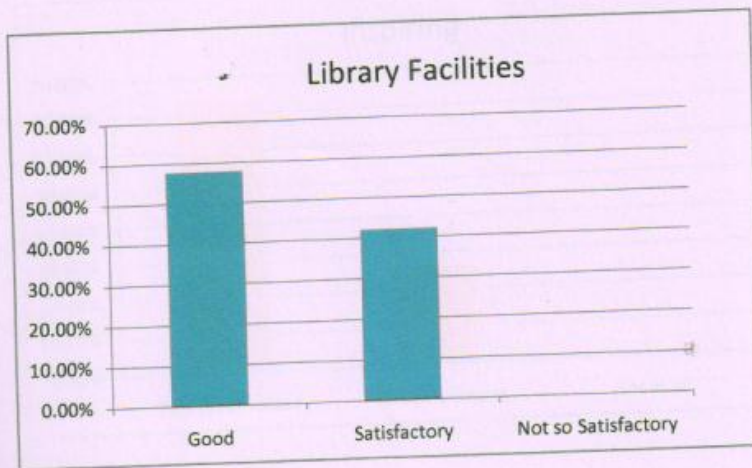
4 Resource Persons	Very Competent	68.42%
	Competent	31.58%
	Not so Competent	0%



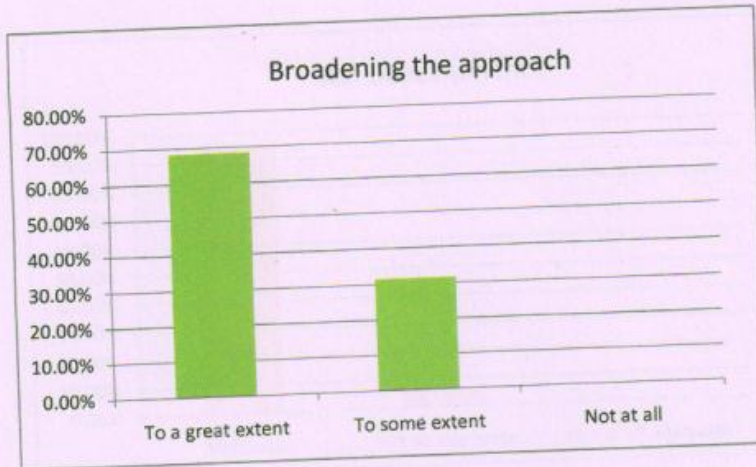
5 Duration	Too Long	26.32%
	Just all right	73.68%
	Too Short	0.00%



6 Library Facilities	Good	57.89%
	Satisfactory	42.11%
	Not so Satisfactory	0%



1 Broadening the approach	To a great extent	68.42%
	To some extent	31.58%
	Not at all	0%



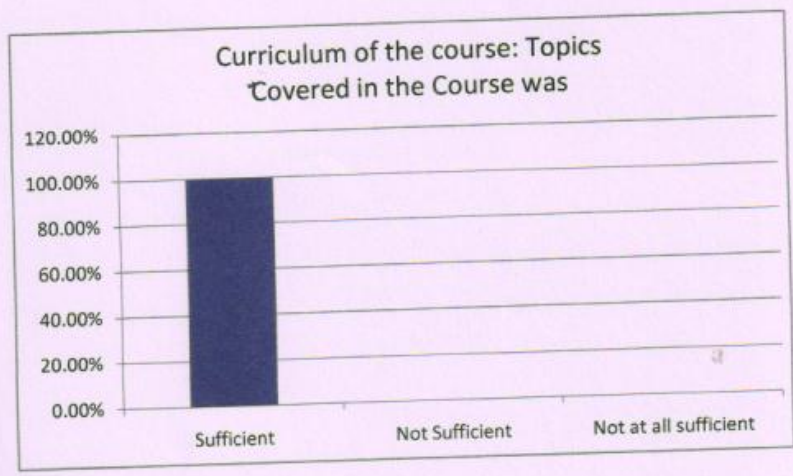
2 Inspiring	To a great extent	73.68%
	To some extent	26.32%
	Not at all	0%



3 Skill Development	Adequate	94.74%
	Not so adequate	5.26%
	Not at all adequate	0%



4 Curriculum of the Course: Topics Covered in the course was	Sufficient	100.00%
	Not Sufficient	0.00%
	Not at all sufficient	0%



5	How would you rate the overall programme?	Very Useful	100.00%
		Very Good	0.00%
		Poor	0%



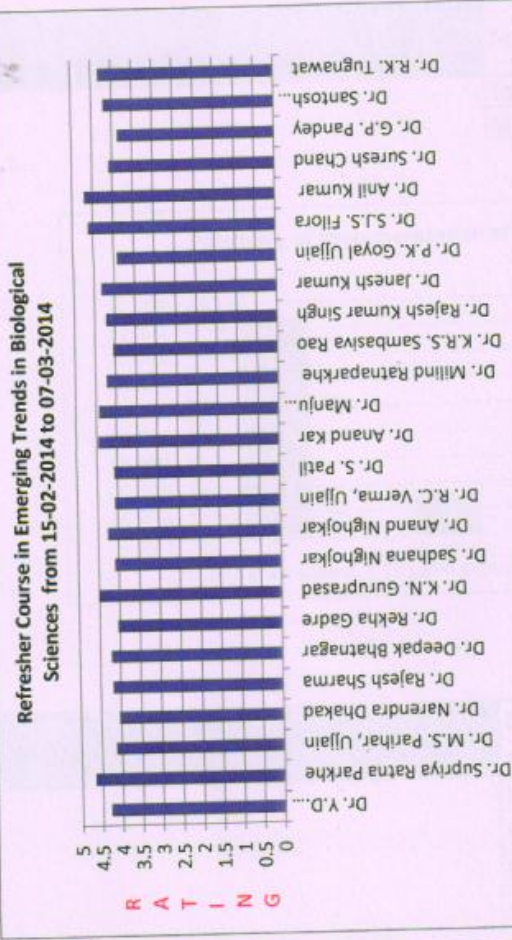
25TH REFRESHER COURSE IN EMERGING TRENDS IN BIOLOGICAL SCIENCES
U.G.C.ACADEMIC STAFF COLLEGE D.A.V.V. INDORE
(15TH FEB TO 07/03/2014)



SITTING L TO R:-1. DR. SUPRIYA, 2. DR. NAMRATA (DIRECTOR), 3. PROF. ANIL KUMAR (CODINETOR), 4. DR. FLORA, 5. DR. MILIND.
STANDING 1ST:-MS ROSHNI RAWAT, MS MANJU THAKUR, DR. TARIQ AHAMAD, DR. ALONE, MR. RAVINDARA PATIL, DR. VINOD THAKUR,
DR. MUSTAHSON FAZILI, DR. HIDAYAT TAK, MR. L. L. RAUT, MR. ILAHI, MS SANGEETA DONGRE,
2ND ROW:- DR. S. R. BAGHEL, DR. B. S. KIRADE, MR. RAJESH BAKORIYA, DR. VENKAT MASKE,
DR. SHEETAL BHASIN, DR. ANITA JAIN, DR. HIRALAL PATIL, DR. HAMENDRAS. PARMAR.

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