

DEVI AHILYA VISHWAVIDYALAYA, INDORE

School of Life Sciences

1.1.2 Minutes of the Meetings and Changes in Syllabus



Board of Steedies meeting Subject - Life Sciences, 16/12/15 mereting of the B. of Streams was held on 16/12/15 at 3PM. Following members were present in the meeting. Dr. K. K. Gurupraced Following members were D. S. Chand. absent. Dr. G. P. Kanofay 1. Dr. S. Patil. Dr. A. Kar. 2 Dr. T. Banerjee. Dr. K. Hayela Dr. A. Jajou 1-ollowy Acaison was tralien. Modified supplies as provided by the individual teacher are approved. The content pas checided by in the faculty musting (this month) will be adopted. DFollowing members were co-opted as external members. @ Poof. Hishok Munjal Ta. Head, Biochemistry, & Genetics Barktrellah Gurerstey Bhopal (M.P.) 14.98109043700 .b. Prof. D.M. Kumawat, Heard, Deptt- of Environment & Menagement. Vikram Griversly Vijoin (M.P.) Ph. p9425379989 Chiris Angalinia Mandel 16/12/14 16:12:15

28/02/2015 Board of Studies Meeting Subject Life Sajente. por philos Syllaburg - aldon sel sports L' décessons: in ad 115 (1) MPhile course for the session 2014-15 will be of 3 pernester, Total o credits. (2) In see Ist senester following subjects with be Istemeter : Danie of publicat credib (i) Research Methodology I 4 credit 4 credib (i) Research methodology I 4 credit (iii) computer Opplication (15) Review of literature 6 credit (vs. comp. vivo voce. y coedib (V) Elective Paper I (VII) Elective Paper I 4 credito Total = 30 credit Ind femester: i) Teem Paper Assignment (3):03 coodits (a) Seminal -1 :03 coedid (iii) Mid teem dissertation & Project Resentation: 20 credits (iv) composehensive viva voce: 04 credit Total = 30 coedito 1 Tot Semester: (1) Final stissectation Roject Resentation = 26 credits (ii) Conforchamine vivo voce = 0 4 coedio Total = 30 credit Total credit of I, I & Hod Samester = 90 credits 10. students in

(9) Bractical Project dissertation will be carried by the Students on ITO & ITO Semester. No Bactical work will be carried out in the Ist genester Detailed gellabus content of Rosearch Methodology Computer Application & Etechne papers are partomitted gram of Manberg Rosery prajele Followif members did not altered kernely held on 28/2/2015: 1. Dr. K. N. Guenforasad. 2. Dr. Arand Kal 3. Dr. Vined Thaking

Board of Studies meeting Subject. Cife Sciences. Drate-16/5/2016. A meeting board of elicies of Life Sciences, was held on 16/6/2016 at 3PM. Following orienters were present in the meeting! Dr. G.P. Pandry Dr. A. Kar Dr. K. Hajola D. A. Jajos D. T. Beregee. Following members were absent Dr. S. Patil-Dr. K. M. Surreprosad. DV. Ashot Managol of tolofal D. D. M. Kuract of Lipain-SURECH CHAND. XDR. Pospa PANWAR. Following Discissions were taken. De Sylatus for B. Sc. (Life Science) is affrored. Externe of the syllabor for session 2016-17 was discore and was proposed to be finalized in the next meeting, proposed on 3nd week of pire 2016 to Details of the individed paper will be approved in the comp meeting. 16/5/16 Amper Delanders 16/5/16

Meeting of the B. of Studies, 25.11.2017 As proposed by Academic section of DAUV, Indore a meeting of the Board of Studies in life Science was held in School of Life Science, of 1.00 pry on 25.11.2017. The undermentioned members over present. 1. dr. A. Ran 2. Dr. G. P. Panday 3 Dr. S. Chand 4. Dr. A. Jajoo As documents related to the agenda were not available, the meeting had to be postponed. 1. Do comments (1-3) were not made available 2 Anwoon (as required) was not conflate today.

3. For the next meeting, 5-sty sicon of 405 m 617 Ph.D. Comse work Syllebus of Suf 3400000 Har 25. 11.2017. A AITI 25/11/17 Jurahelmod 3111/2013

Anghar 17 75/11/17

Dy Registra (Acard) Miller

Board of Studies meeting Subject. Cife Sciences. to beaut of selections of Life Sciences, was held 16/0/2016 at 3PM. Following members were for execut on the meeting. Dr. G.P. Penday Dr. A. Kicix D. K. Hajola D. A. Jajoo D. T. Bereyee. Following members were absent Dr. S. Patil-Dr. K. N. Syurceprocad. DV. Asher Marijal of tolopal D. D.M. Kuraat of Lyjain D. SURECH CHAND. LDR. Pospa PANWAR. L'ellousing discissions were taken. D Sylatus for B. Sc. (Life Sijence) is affrored.

2 teeffine of the sayllabus for session 2016-17 was discossed and was proposed to be finalized in the next meeting, proposed on 3rd week of fire 2016 to Detects of the individual paper will be approved in the comp meeting.

Board of Slides meeting Sub: Life Science, Dato: 23/9/2016. A meeting of the board of slindies of Life Sc. foreset i plandeg (200) br. A. Rox, br. K. Hajela, Dr. K. N. lyeserforosed, Dr. A. Jojos and Br. T. Baineryca Following decissions were taken. 1. Détails syllabres for M. Phi/ x Pho course woll sook was discussed and front syllabres will be prepared and sent to the un. by 27/9/2016. 2. Schewe of Entrance exam was also discussed and the cuttine was proposed. Détails vill se sent loter. 3. As for the new guideline, credit system for pl. Phil and PhD: course one will be on to follow. ci) Roseweb plethocktogg org (11). Kerion of published ros. 03 (11) Conepater application. 03 (10) Advance course in the retor: 03 (V) Comprehense una voca 03 (Dr. A. (142) Mandail 23/9/16

Meeting of the B. of Studios, 5/12/17 Selj - Life Sciences, A meeting of the Board of Studies in Life Science, was held on 5.12.17 of 3PM at RAT mare Fellowing members were prosent in the meeting. 1. Dr. A. Kar. 2. Dr. S. Chang 3. Dr. K. Hajicla 4. Dr. A. Jajoo 5. Dr. T. Banerjee + Special mustice - Dr. A. R. Single (EHRC). for Discussion on Hooks. Following discussion decisions were taken Little modification in the syllabus for PID course Whit-1 in capse-11 (Recearch Hethodology in L.Sc)

S.No.	Manag Paper Name	Subject	Credit	
1	Biochemistry and Cell Biology	Life Science	3	
2	Environmental Biology, Genetics and Evolution Life Science		3	
3	Morphology, Developmental Biology and Physiology of Angiosperms	Life Science	3	
4	Morphology, developmental biology and Physiology of mammals	Life Science	3	
5	Microbiology, Immunology and Animal cell culture	Life Science	3	
6	Molecular Biology, Genetic Engineering and Plant Tissue Culture	Life Science	3	
7 Environmental Studies (Basic Foundation Course)		Environmental Studies	4	

On the proposed modeles in "HODCS", above list of course (moderles)/papers as ber semester system adapted corliner are approved, which may be affered under MHRD/UGC regulation for mass by SAVU, Indore.

However, in future, the course contents may be revised as per then existing sexplates.

Board of Shedres in Meeting of Life Scrences. Apenda: B. Sc. CLife Sc.) Syllatons for 1st years A meeting of B.o. St. in Life Science was held on 8/9/17 at 3 PM in RMT office grave. following members were present. 9 Dr. A. Kan, D Dr. K. Hajela D. Dr. Ly. P. Panday 08 Q Dr. A. Jajon and D Dr. T. Benergees Pollowing decisions were talesen. 1) B. Sc. (ife sc) syllaber was out lined or for. Structure is mentioned before. 14 year. Paper-1- Introduction to Biochemistry, Cell-Brology & Biodiversity & Porper-11: Environmental Biology, Grenetics 2nd year Paper-111. Morphology, Dev. Biology.
x Physiology of Angice forms. Paper IV: Morphotogy, Developmental Postogy 2 3rd year. Porper- V. Monobodogy /mmyndogy & Animal cell cellyre, Paper - VI Mohecenton Biology, Grenetic Engineering

Heefing ended with thanks to all the a 1. Draft. Debap of Endore. Blalra-

Board of Studies meeting Subject - Life Sciences 16/12/15 A meeting of the B. of Steedies was held on 16/12/15 at 3PM. Following members were present in the Following members work Dr. K. K. Gurupraced Dr. S. Chand. absent. 1. Br. S. Potil. Dr. G. P. Randay 2 Dr. T. Banesjee. Dr. A. Kar. Dr. K. Hayela Dr. A. Jajoo tollowy decision was tracen. Modified syllabor as provided by the individual trackers are approved. The content pas of content pas of circles by in the faculty meeting (this month) will be adopted. Difollowing members were co-opted as external members. Q Poof. Hickor Mayol. a. Head, Biochemistry & Genetics Barktrellah Griverde Bhopol (M.P.) 14.98109043700 .b. Prof. D.M. Kumawat, Head, Deptt- of Environment & Menagement Vikaam Griversty Vijoin (M.P.) Ph. 199425379989 16/12/15 Sungilo Schaple 16/12/14

Board of Studies meeting bject - Life Sciences, 16/12/15 Following numbers were present in the N. Gurupracad Following members were Dr. G. P. Randay 2 Br. T. Banerjee. Dr. K. Hayela Dr. A. Jojoo. Followy Acairon was taken. Modified syllabor as provided by the individual trackers are approved. The content for effected by in the faculty meeting (this month) will be adopted. Difollowing members were co-oppor as external members. Achok Muripal a. Head, Biochemistry & Grenetics Barketellah Gurersly Bhopal (M.P.) 14.98109043700 .b. Prof. D.M. Kumawat, Head, Deptt- of Environment & Menagement Vikram Griveroly Vijoin (M.P.) Ph. p9425379989

SE CODE M.		CC	COURSE TITLE		CREDITS		
				Theory	Practical	Semeste Total	
I	LSC- 601		OMOLECULES	3		Total	
	LSC- 611	AN	ALYTICAL TECHNIQUES	3	4		
	LSC- 621	CE	LL STRUCTURE & CANCER BIOLOGY	3			
	LSC- 631	GE	NETICS AND MOLECULAR GENETICS	3			
	LSC- 641	CO	OSTATISTICS, BIOINFORMATICS & MPUTER	3	4	26	
_	LSC- 651	BA	SIC MICROBIOLOGY	,3			
n	LSC- 602	PRO	OTEINS, VITAMINS AND ENZYMES	3			
	LSC- 612	MO	LECULAR BIOLOGY & GENETIC GINEERING	3	4	29	
	LSC- 622	The same	SIC IMMUNOLOGY	3			
	LSC- 632		NT METABOLISM	3			
	LSC- 642	APF	LIEDPHYSIOLOGY OF ANIMALS	3	14		
	LSC- 652		VIRONMENTAL BIOLOGY	3	1		
	CBS- 662	CHO	DICE BASED SUBJECT	3	-		
Ш	LSC- 603	PLA	NT HORMONES & PHOTOMORPHOGENESIS	3			
	LSC- 613	CLI	NICAL IMMUNOLOGY	3	4	29	
	LSC- 623	APP	LIED MICROBIOLOGY	3	1		
	LSC- 633		LUTION & TOXICOLOGY	3			
	LSC- 643	END	OCRINE AND REPRODUCTIVE PHYSIOLOGY	3	4		
	LSC- 653	CUL	NT BIOTECHNOLOGY: TISSUE & CELL FURE	3	-		
	CBS- 663	СНО	ICE BASED SUBJECT	3			
			The same				
V LSC-604			INDUSTRIAL/ LABORATORY PROJECT & REPORT SUBMISSION			20	
-			TO	OTAL CRED	ITS	104	
		-	COMPREHENSIVE VIVA (4 CREI		STER)	16	
CREDITS GRAND TOTAL			CREDITS GRAND	TOTAL		120	

M.Sc. (Life Science) course effective from June / July 2017

Semes ter	Code	Course / Paper Title	Credit		Total Credit	Credits in Semester
1			TH.	Pr.		Confester
•	LSC-611	Bio-Chemistry	3	1	4	
	LSC-621	Analytical Techniques	3	1	4	
	LSC-621	Cell-Biology	3	1	4	
		Basic Genetics	3	1	4	
	LSC-641	Biostatistics, Bioinfo. & computers	2		2	22
	LSC-651	Basic Microbiology	3	1	4	
II	LSC-602	Immunology				
	LSC-612	Molecular Pioles & Co. 1	3	1	4	
	LSC-622	Molecular Biology & Genetic Engg. Environmental Biology	3	1	4	
	LSC-632	Animal Physiology	3	1	4	
	LSC-642	Elective I	3	1	4	
	LSC-652	Elective II	3		3	
		Licetive II	3		3	22
III	LSC-603	Plant Metabolism	3	1	4	
	LSC-613	Plant Biotechnology : Tissue & Cell Culture	3	1	4	
	LSC-623	Biodiversity & toxicology	3	1	4	
	LSC-633	Elective I	3	1	3	
	LSC-643	Elective II	3		3	10
					3	18
IV	LSC-604	Project work (Quality, Presentation & Timely Submission)	10 +2		12	12
		Comprehensive Viva-Voce	1.0			
			4 Cred Sem	lits /	16	16
		Total Credits for the Program				90

15/7/17 Affander STALA are Sight Shares 7,17 M.Sc (Life Science) course, to be effective from June/July'2016

Seme	Code	Course/paper title	Credit	Total	Total credit /
ster			Th F	r credit/ P	semester.
I	LSC-601	Bio-molecules	03 0	1 04	
	LSC-611	Analytical Techniques	03 0	1 04	
	LSC-621	Cell structure& Basic Genetics	03 . 0	1 04	
	LSC-631	Basic Microbiology	03 0	1 04	
	LSC-641	Bio-statistics	02 ' -	02	18
II	LSC-602	Molecular Biology &Genetic Engineering	03 0	1 04	
	LSC-612	Immunology	03 0	1 04	
	LSC-622	Environmental Biology	03 0	1 04	
	LSC-632	Elective paper- 1	03	03	
	LSC-642	Elective paper - 2	03	03	18
III	LSC-603	Animal Physiology	03 0	1 04	
	LSC-613	Plant Physiology	03 0	1 04	
	LSC-623	Plant tissue culture	03 0	1 04	
,	LSC-633	Elective paper- 1	03	03	
	LSC-643	Elective paper - 2	03	03	18
IV	LSC-604	Project work(Quality, presentation & timely submission	10+2	12	12
		Comprehensive viva	4 Credits/ser	n 16	16
		Grand Total credits,	,		82

Note: In Semester II & III, two elective papers are to be selected by each student out of all the papers offered by the department, which will be decided in faculty meeting.

SYLLABUS FOR Ph.D. COURSE WORK (LIFE SCIENCES)

COURSE	TITLE	CREDITS
Course - I	Research Methodology	5
Course - II	Computer Applications	3
Course - III	Review of Literature	3
	Comprehensive viva	4

)bjective: To ga	<u>ESEARCH METHODOLOGY</u> in theoretical knowledge and practical experience about various methodologies
comn	nonly employed in research field of Life Sciences.
Units- I	Proparation and sterilization of solid and liquid culture media.
Aseptic methods	Techniques of plant tissue and cell culture: Explant culture, anther and pollen culture.
	protoplast culture and protoplast fusion.
	Sources of type strains of microorganisms. Revival of cultures from lyophilized amportes
	Preservation and maintenance of microbial cultures.
	Fermentation: Submerged and solid state fermentations.
	Design of a typical laboratory fermentor.
Unit – II	Chromatography: Principle, design and applications of TLC. GC and HPLC.
Analytical	Electrophoresis: Agarose and Polyacrylamide Gel Electrophoresis (PAGE,SDS PAGE)
methods	Centrifugation: Types of rotors, Ultracentrifugation.
	Spectroscopy: Basic principles and applications of UV-Visible spectrophotometry and
	Spectrofluorophotometry. Chl u induction and kinetic measurement.
	Various assay procedures: Bioassay, hormone assay by RIA and ELISA. Safety evaluati
	of a drug/compound.
Unit – III	Terrestrial and extra-terrestrial solar radiations
Methods in	Action and absorption spectra, Photobiological responses and photoreceptors.
Physiology	Artificial and natural light sources, Spectrograph and monochromatic radiation sources.
	Measurement of light and quantification of response.
	Responses induced by phytochrome, cryptochrome and UV-B photoreceptors
	Inter relationship between light and growth hormones.
	Basic principles and Management of laboratory animals: Experimental design for pr
	clinical studies; In vivo and in vitro methods. Administration of drugs by difference of the state of the sta
	methods. Collection of blood and tissue samples. Different surgical techniques. Metho for animal behavior and bio-rhythm studies.
	Production of antibodies from laboratory animals. Monoclonal antibodies.
Unit – IV	Western blot and methods of band detection.
Immunological methods	Isolation of various immune cells and their functional assays.
methous	Proteomics, methods and applications
Unit - V	Isolation, purification and separation of nucleic acids.
Methods in	Hybridization techniques- Southern and Northern Blotting, Polymerase chain reaction and
Molecular	its applications. DNA sequencing methods (Sangar, Maxam & Gilbert).
biology	Microarray, RT PCR.

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Meeting of the B. of Studios 0 5/12/17 ife sciences, the Board of Studies in Life Science 5.12.17 of 3PH of RHT morg 1. Dr. A. Kar 2. Dr. S. Chand 3. Dr. K. Hairla · Jajoo Barretee + Special mustice - Dr. A. R. Cinple (EMRC). For Direction on Hooks. discussion de visions were Little modification in the syllabor for PLD course work in life sieuce is required Writ-1 in course-11 (Recearch Hethe dology in L.SC) S.No. Manes Paper Name Subject Credit 1 Biochemistry and Cell Biology Life Science Environmental Biology, 3 2 Genetics and Evolution Life Science Morphology, Developmental 3 3 Biology and Physiology of Life Science Angiosperms 3 Morphology, developmental biology and Physiology of 4 Life Science mammals 3 Microbiology, Immunology and 5 Animal cell culture Life Science Molecular Biology, Genetic 3 Engineering and Plant Tissue 6 Life Science Culture 3 Environmental Studies 7 (Basic Foundation Course) Environmental Studies On the proposed moderles on "HOOCS", above list course (moderies)/papers as per semester system adopted corber are approved, which may be offered under MHRO/496 regulation for moss by DAVU, Infore. However, in future, the course contents may be revised as per then existing explates