## Department of Biotechnology List of students and title of dissetrtation (Semester IV, MBT401)

2019			
S. No.	Name	Title	Place of Dissertation
1	Samreen	Role of HDACs in radio resistance of	INMAS, DRDO
	Fatima	Sf9 Insect cells	
2	Priya Nagpal	Explication of molecular mechanism	Jamia Hamdard
		behind phosphorylation by Tryrosine	
		kinase PtkA of mycobacterium	
		tuberculosis and identification of	
		potential kinase inhibitors	
3	Shumaila	Transcriptomic analysis of 2000 breast	Jamia Millia Islamia
	Siddiqui	tumours and in vitro metabolic assays	
		reveal a role of TP53 oncogenotype in	
		defining metabolic state	
4	Belal Ahmad	Effect of CD40 deficiency on IgM	NII, New Delhi
		responses to a T-independent antigen	
5	Khalid Rashid	Investigating the effect of hypobaric	DIPAS
		hypoxia on cysteine and glutamate	
		transporters in rat brain	
6	Priyanka	Interaction of therapeutic antibiotics and	CCMB, Hyderabad
	Bhardwaj	antimicrobial peptides with bacteria	
7	Rosy Khatoon	Expression and purification of	Jamia Millia Islamia
		sphingosine kinase 1 and binding study	
		with potential inhibitor capsaicin	
8	Monu Pandey	To study and evaluate the	INMAS, DRDO
		immunodeficiency in athymic nude	
		mice	
9	Bushra Khan	Isolation and screening of L-	CSIR-Indian Institute
		asparaginase producing bacteria from	of integrative
		different soil sample	medicine, Jammu
10	Ibtisam	Cloning, over expression and	CSIR-IGIB, Delhi
	Jamaluddin	phenotypic characterization of Zebra	
		fish H2A.Z.2 mutants	
11	Ishfaq Ahmed	Study of genetic expression of	AIIMS, Delhi
	Mir	endoplasmic reticulum stress markers	
		and downstream chaperones GRP78 in	
		human obesity	
12	Khatera Haniss	Heat induced aggregation of alpha-LA	Jamia Millia Islamia
		and its prevention by trehalose and its	
		monomers	
13	Mahepara	Proteomics analysis of Gymnema	Jamia Millia Islamia
	Siddiqui	sylvestre leaf under drought and heat	
		stress	
14	Sumbul Khan	Expression and purification of optic	ICGEB, Delhi
		atrophy 3 protein of plasmodium	
		falciparum in E.coli	· · · · · · · ·
15	Areeba Haroon	Counteraction of aggregation in alpha-	Jamia Millia Islamia
		lactalbumin by monomeric sugar	
16	Payal Mittal	Purification and biochemical analysis of	ICGEB, Delhi
		plasmodium falciparum glutaminyl	

		tRNA synthetase	
17	Shahin Anjum	Isolation and quantification of dengue virus from different cell lines	RCB, Faridbad
18	Abdur Rahman Manzer	Investigation of interaction of CKAMP family proteins with PSD-95 using M2H	NCCS, Pune
19	Neha Khan	Cloning, expression, purification and biophysical characterization of MurC from salmonella Enterica serovar typhi	AIIMS, Delhi
20	Belal Ahmad	Analysis of plasma cells generated in the presence and absence of CD40 signalling	NII, New Delhi
21	Shubham Chaudhary	Database development on the plant microbial interaction (PMI-base)	NIPGR, New Delhi
22	Khilat Rehana	A comparative analysis of nano curcumin and quercetin in combating high altitude cerebral edema in rat model	DIPAS, DRDO
23	Reetika Tandon	Evaluation of Borate as Anti- inflammatory and anti-cancer agent	Jamia Millia Islamia
24	Fatima Ali	Virtual high-throughput screening of natural compounds in search of potential inhibitors for carbonic anhydrase 2	Jamia Millia Islamia
25	Shiza Siddiqui	Identification of bioactive natural products as potential inhibitors of serum and glucocorticoid regulated kinase 1: A virtual screening and simulation study	Jamia Millia Islamia
26	Simran Sharma	Study of effects of radiation on TLR expression in GI tract of C57BL/6 mice	INMAS, DRDO
27	Umang Berry	Cloning and expression of human PD- L1	THSTI, Faridabad
28	Sana Parveen	Optimizing protein expression and purification of dendritic cell specific ICAM3 grabbing non integrin (CD209)	JNU, Delhi
29	Vidit Gaur	Production and purification of anti- clonotypic antibody for immunological investigations in a TCR transgenic mouse model	NII, New Delhi
30	Diksha	Genetic polymorphism of beta functional gene-GLIS3 in type 2 diabetes mellitus	Jamia Millia Islamia
31	Nida Khalid	Effect of gonadotropin releasing hormone agonist on cell proliferation in glioblastoma cell line, U87MG	ICMR-National institute of Pathology, Delhi

2018			
S. No.	Name	Title	Place of Dissertation
1	Saadia Naseer	Cloning of spidroin genes in chloroplast transformation vector Pvsr326	ICGEB, Delhi
2	Sanchita Jain	Database generation of membrane mechanical proteins and analysis of their cellular properties	CSIR-IGIB, Delhi
3	Shivani Singh	Expression and purification of ATG8 family member protein	CSIR-IGIB, Delhi
4	Yameena Afreen	Expression, purification and biophysical characterization of human FAS-activated Serine/threonine kinase	Jamia Millia Islamia
5	Reena Yadav	Cloning of mammalian IKKE gene deletion 1 segment and the role of IKEE in metastasis of ovarian cancer	ACBR, Delhi
6	Khan Sadia	Arsenate, phosphate interaction : role of sulphur related enzymes and genes in Indian mustard plant	Jamia Millia Islamia
7	Sahiba	The role of silicon in mitigation of arsenic stress in Indian mustard plant	Jamia Millia Islamia
8	Babangida Alhaji Jinjiri	Analysis of GFP-HBx protein expression by fluorescent microscopy and immunoblotting	Jamia Millia Islamia
9	Kainat Mirza	Comparative study of HBV expression markers in HCPG2 cells transfected with HBV expressing plasmids	Jamia Millia Islamia
10	Aruba Khan	Cloning and expression analysis of WRKY transcription factors gene under heavy metal stress in Oryza sativa	Jamia Millia Islamia
11	Saba Parveen	Immunoinformatic approach for designing peptide based vaccines for tuberculosis	Miranada House, DU
12	Shireen S	Deletion constructs of C-terminal domain of clostridium perfringes enterotoxin: cloning, expression and purification	NII, Delhi
13	Vaishnavi Mukkawar	Cloning of LysR-type transcription regulator from Gordenia	IIT Delhi
14	Shahzul Hassan	Phytochemical screening and biological activities of polyherbal plant	Jamia Millia Islamia
15	Rafia Mehboob	To study antimalarial potential of noval carbohydrate fused pyrano[3,2-c]pyranones	JNU, Delhi
16	Prachi Singh	Interaction of PRC2 complex and lncRNA HOTAIR	CSIR-IGIB, Delhi
17	Adiba Parvez	Unravelling the folding pathway of human FAS-activated serine/threonine kinase domain 2	Jamia Millia Islamia
18	Zunaira	Characterization of a misfolded proteins that	CSIR-IGIB,

	Tazkeer	imparts proteotoxic stress to mitochondrial	Delhi
	Hussain	subcompartments	
19	Sofia Anjum	Isolation of miRNA from exosomes secreted by Helicobacter pylori infected AGS cells	JNU, Delhi
20	Mohd Gufran	Biophysical characterization of protein after isolation and purification from medicinally important plant Cassia fistula	Jamia Millia Islamia
21	Abhishek	Regeneration and agrobacterium mediated transformation studies of glycine max and screening of vigna radiata transgenic plants	ICGEB, Delhi
22	Mah Alam	Purification of protein from cassia fistula using Ion exchange and gel filtration chromatography and its biophysical characterization	Jamia Millia Islamia
23	MD. Kaisar Imam	Effect of molecular chaperone protein STUB1/CHIP on the stability kinetics of GST	Jamia Millia Islamia
24	Meo Khan	Investigating the role of endogenous hydrogen sulphide in brain during unstimulated state	DIPAS, DRDO
25	Anjum Nisha	Role of hydrogen sulphide in modulating pathologic cell responses to hypobaric hypoxia in heart	DIPAS, DRDO
26	Anisha Handoo	Purification and biochemical analysis of Plasmodium Falciparum Cysteinyl tRNA synthetase	ICGEB, Delhi
27	Dipika Sharma	Drug binding studies of novel antimalarial compounds targeting prolyl tRNA synthetase of Plasmodium Falciparum	ICGEB, Delhi
28	Zaheen Khan	Association of hyperlipidemia with prostate cancer	ICMR-NIP, Delhi
29	Chetan Mishra	Investigating the role of mitochondrial targeted flavanoid in the attenuation of pulmonary fibrosis	CSIR-IGIB, Delhi

## List of Certificates of Dissertation Work (2019)

S.N.	Certificate of Dissertation Work as a Proof
1	जानिया मिल्लिया इस्लानिया (संसदीन अमेनियामतुमार संपत्त किसोनियन) मोनान मुख्यह असी बीहर मार्ग, वह किसोन्ड भोनान मुख्यह असी बार्ग, वह किसोन्ड भोनान मुख्यह असी मार्ग मार्ग मार्ग मार्ग मार्ग किसोनियन किसोनियन किसोनिय किसोनियन किसोन
	CERTIFICATE
	This is to certify that SAMREEN FATIMA is a bonafied student of Department of biotechnology and that she has successfully completed her dissertation project "ROLE OF HDACS IN RADIORESISTANCE OF Sf9 INSECT CELLS", at INMAS, DRDO DELHI.
	Dr. MOHD. MAHFUZUL HAQUE (Head of the Department) JAMIA MILLIA ISLAMIA NEW DELHI-110025
2	UIFAUI PACECRUI इस्लामिया (सर्वाये असिरिमामानुसार केन्द्रीय विश्वविद्यालय) तेन प्रान्य दानी विभाग निमानि विभाग तेन प्रान्य दानी जोहर मार्ग, नई दिल्ली-ठठ तेन प्रवृत्य दानी प्रवृत्य कि स्वर्थ मारान्य कि स्वर्थ कि स्वर्थ के प्रवृत्य कि स्वर्थ प्रारं 2008/17/ Eam. 3420, बलाः 191-011-20980220 Website : http://jmi.ac.in
	CERTIFICATE
	This is to certify that the M.Sc. dissertation entitled "Explication of molecular mechanism behind phosphorylation by tyrosine kinase PtkA of Mycobacterium tuberculosis and identification of potential kinase inhibitors" submitted by Ms. Priya Nagpal to the Department of Biotechnology, Jamia Millia Islamia, New Delhi, in the partial fulfillment of the requirement for the degree of Master of Science, is a record of the original bonafide work carried out by her under the guidance and supervision of <b>Dr. Sonam Grover</b> , JH-Institute of Molecular Medicine, Jamia Hamdard. The report has reached the requisite standards for submission to the best of my knowledge, understanding and belief. Mereover, the results contained in this report have not been submitted in part or full to any other university or institute for the award of any degree or diploma.
	Motor thegan Dr. Mohammad Mahfuzul Haque Head of Department Department of Biotechnology Jamia Millia Islamia New Delhi-110025

3 जामिया मिल्लिया इस्लामिया JAMIA MILLIA ISLAMIA जी।गया (संसदीय अधिनियामानुसार केन्द्रीय विश्वविद्यालय) (A Central University by an Act of Parliament) Department of Biotechnology (गंगरीय अधिनियामानुसार कन्दाय विश्वविद्यालय) जीव प्रोद्**योगिकी विभाग** जीता गुहमद अली जोहर मार्ग, नई दिल्ली–25 भूल<sup>4, 2008/17/ Exm. 3426,#क्स</sup> +91-011-26980229 Department of Biotechnology Faculty of Natural Sciences Maulana Mohammed Ali Jauhar Marg, New Delhi-110025 Tel: 26981717 Extn: 3426 Fax:+91-011-26980229 Website:http://jmi.ac.in CERTIFICATE This is to certify that the M.Sc. dissertation entitled "Transcriptomic analysis of 2000 breast tumors and in vitro metabolic assays reveal a role of TP53 oncogenotype in defining metabolic state", submitted for the fulfillment of the requirements of the degree of Master of Science, embodies the work carried out by Shumaila Siddiqui under my guidance and supervision. The report has reached the requisite standards for submission to the best of my knowledge, understanding and belief. Moreover, the results contained in this report have not been submitted in part or full to any other university or institute for the award of any degree or diploma. Dr. Mohanmad Mathuzul Haque (Head of the department) Dr. Mohanfmad Askandar Iqbal (Supervisor) 4 T NATIONAL INSTITUTE OF IMMUNOLOGY ATUNA ASAF ALI ROAD NEW DELHI 110 067 INDIA CERTIFICATE This is to certify that research written up as "Effect of CD40 deficiency on IgM responses to a This is to denote on IgM responses to a T-independent antigen" submitted in partial fulfillment of the degree Master in Biotechnology JAMIA MILLIA ISLAMIA, Delhi, has been carried out by Mr. BELAL AHMAD, to JAMIT number- 17-2475, in the laboratory of **Dr. ANNA GEORGE**. It is further stated that no part of this dissertation has been submitted either in part or in full for any other degree of Jamia Millia Islamia or any other University/Institution. Anno (Anna George, Ph.D.) Staff Scientist VII NII, New Delhi তা, अन्ता ভার্তি / Dr. Anna George श्वार वैज्ञानिक-VII / Staff Scientist VII प्रादुयि प्रतिरक्षा विज्ञान संख्यान अतालम् INSTITUTE OF IMMUNCLOOV स्वित्य वाराष्ठ अली मार्ग / Aruna Asaf All Marg गई रिस्ली-110067 / New Deibi - 110067 [91 11] 26742125 [91 11] 26703765

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	Defence Institute of Physiology and Allied Sciences ৰম্ব্যা স্বাহীয়ক্ৰিয়া তেৰ্বে মাজক বিজ্ঞাল মান্বখাল
	(An ISO 9001 : 2000 Certified Institute)
	Govt. of India, Ministry of Defence, Defence Research & Development Organization আহল হাৰ্কচান ৰফ্পা সাঁবালেয়ে হাজ্য ব্যুক্টাগ্রাল তেওঁ কিলোন হাঁৱতল Lucknow Road, Timarpur, Delni – 110 054 লেন্দ্রালক মীত, নিসামযুদ্ধ কিল্পা – 110 054
	CERTIFICATE
	This is to certify that
	Mr. Khalid Rashid Student of M. Sc Biotechnology, Jamia Millia
	Islamía, New Delhí has undertaken Project Work titled
	"investigating the effect of hypobaric hypoxia on eysteine and
	glutamate transporters in rat brain." from 14th Jan 2019 to 21st
	June, 2019 in this establishment.
	The work carried out by the candidate is property of DIPAS and
	should not be published without prior approval of Director, DIPAS.
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	manich Amran
	(Dr. Manish Sharma) (Dr. Shweta Rawat) Scientist 'E' Scientist 'E'
	Peptide 5 Proteomics Division HRD Coordinator
	Office : 91-11-23883111 FAX No : 91-11-23914790 E-mail : <u>hrd@dipas.drdo.in</u>
	DIPAS
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	्र मिएसआईआर-कोशिलीम मर्च
	सीरसीएमवी द्रीएरसआईआर-कोशिकीय एवं आणविक जीवविज्ञान केन्स् CSIR-CENTRE FOR CELLULAR AND MOLECULAR BIOLOGY (व्यापीक नाम आंगोलिक अनुमंधान परिपत) (Council of Scientific Angularia Research)
	(Council of Scientific & Industrial Research) (हिसास एवं प्रोधोनियी मंत्रासर, भारत मरवार / Ministry of Science & Technology, Govt. of India) गण्ण स्वार्थ, स्वीयुप्त, हेन्द्रसार = 00 007, संत्यात्रा, भारत Uppal Road, Habsiguda, Hyderabad - 500 007, Reiangana, India
	, sources and our, tetangana, India
	Certificate
	This is to certify that Priyanka Bhardwaj, M.Sc. Biotechnology from JamiaMillialslamia, New Delhi has worked on the dissertation entitled "Interaction of therapeutic antibiotics
	and antimicrobial peptides with bacteria" under my supervision and guidance at CSIR- CCMB. The content of the M.ScProject is original and has not been submitted elsewhere in
	its current form for the award of any academic or professional degree by the candidate.
	Across.
	Malecu- Dr. R. Nagaraj 19/6/19
	(Supervisor)
	फैसम अंतर[पटीय +91-40-27160591, 27160311 दुरमाथ +91-40-27160222-41
	지지 040-27180591 27180311 Telephone 지지 040-27180591, 27160311 감격 지지로 http://www.ccmb.res.in Fax International +91-40-27160591, 27160311 감격 지지로 India 040-27160591, 27160311 Website

7 जीमिया मिल्लिया इस्लामिया हार्वित अधिनेयामानुसार केन्द्रीय विश्वविद्यालय) हार्वेत्र अधिनेयामानुसार केन्द्रीय विश्वविद्यालय) जीत्र कुराद यो गिकी विश्वमान वेत्राल स्थान्य की जीवर मार्म, नई दिल्ली-25 वोत्राल स्थान्य किल्ली-3426, बेल्ला :+91-011-26980229 JAMIA MILLIA ISLAMIA (A Central University by A ISLA IVIA Department of Blotcchnology Faculty of National Sciences Mana Mohammed Al Junkar VI Sciences Tel: 2019 Fish, 320 Fac: +01-011-20980229 Website : http://jmi.ac.in Certificate This is to certify that Ms. Rosy Khatoon, a student of MSc. Biotechnology (2018-2019) of This is to certary a state of the transformed to th JAMIA MILLING AND PURIFICATION OF SPHINGOSINE KINASE 1 AND -EXPRESSION WITH POTENTIAL INHIBITOR, CAPSAICIN" from January to May 2019 under our supervision at Centre for Interdisciplinary Research in Basic Sciences, and Department of Biotechnology, Jamia Millia Islamia, New Delhi-110029. Returna **Dr. Mahfuzul Haque** Professor and Head Department of Biotechnology Jamia Millia Islamia Jamia Nagar, New Delhi 110025 Dr. Sadaf Fatima Internal Supervisor Department of Biotechnology Jamia Millia Islamia Jamia Nagar, New Delhi 110025 Dr. Md. Imtiyaz Hassan External Supervisor Assistant Professor Center for Interdisciplinary Research in Basic Science Jamia Millia Isamia, New Delhi. 8 जामिया मिल्लिया इस्लामिया JAMIA MILLIA ISLAMIA (शंसदीय अधिनियामानुसार केन्द्रीय विश्वविद्यालय) जौव प्रोद्योगिकी विभाग मौलाना मुहम्मद अली जीहर मार्ग नई दिल्ली-25 इल्ला 20081717 Eam 3426 जेला 191-011-26080220 (A Central University by an Act of Parliament) Department of Biotechnology Faculty of Natural Sciences Maulana Mohammed Ali Jaular Marg, New Deflet (10025 CERTIFICATE This is to certify that MONU PANDEY is a bonafied student of Department of biotechnology and that she has successfully completed her dissertation project "TO STUDY AND EVALUATE THE IMMUNODEFICIENCY IN ATHYMIC NUDE MICE", at INMAS, DRDO DELHI. Dr. M.MAHFUZUL HAQUE (Head of the Department) JAMIA MILLIA ISLAMIA NEW DELHI-110025

9	
	भारतीय समवेत औषध संस्थान (वैज्ञानिक तथा औद्योगिक अनुसंधान परिषद)
	Indian Institute of Integrative Medicine
	Canal Road, Jammu - Tawi - 180 001 (INDIA)
	June 03, 2019
	Abdul Rahim Sr. Principal Scientist, Head PME & IT Division,
	CSIR-IIIM, Jammu.
	TO WHOM IT MAY CONCERN
	This is to certify that <b>Ms. Bushra Khan</b> , student of M.Sc. (Biotechnology) from <b>Jamia Millia Islamia University, New Delhi, India</b> has successfully completed her training on <i>"Isolation and screening of L-asparaginase producing bacteria from different soil samples"</i> under the guidance of Dr. Asha Chaubey in Fermentation Technology Division of this institute from 27-01-2019 to 03-06-2019.
	She is honest, sincere and a hard worker. I wish her all the success in her life.
	Jens Charley
	Dr. Asha Chaubey Principal Scientist Head, Fermentation Technology Division
	(Abdul Rahim)
	Reduct Software Planning Manterion & Benduar
	Clark Andren herbusse of Integration Clarad Road, Jacobs 200
	ones : EPABX (0191) 2569000-06; (Director) 2569111, 256922, 2569333 (Fax) : PME 2569019 (i (CoA) 2569016-17 (F), PUR 2569025 (P/F), ACCTS 2569026, Website : (www.rrljammu.org)
10	प्रियम्पापाय क्रिआवर्ध हिस्सी के आर समवेत जीवविज्ञान संस्थान (विज्ञनिक तथा जीवांगिक अनुसंगन परिषद, भारा सरकार) दिल्ली विवविज्ञालय परिषर, माल पंरे कि विज्ञाना संस्थान दिल्ली विवविज्ञालय परिषर, माल पंरे का विज्ञनि-110007 भारत <b>CSR-Institute of Genomics &amp; Integrative Biology</b> (COUNCIL OF SCIENTIFIC & INDUSTRIAL RESEARCH, GOVT OF INDIA) DELHI UNIVERSITY CAMPUS, MALL ROAD, DELHI-110007, INDIA
	CERTIFICATE
	This is to certify that the work embodied in this report entitled "Cloning, over expression and phenotypic characterization of zebrafish H2A.Z.2 mutants" has been carried out under the supervision of <b>Dr. Vivek T Natarajan</b> , CSIR-Institute of Genomics and Integrative Biology, by <b>Ms. Ibtisam Jamaluddin</b> . This work is carried out as a part of the dissertation thesis in the partial fulfillment for the award of the degree of Master of Science in Biotechnology to the Department of Biotechnology, Jamia Millia Islamia, New Delhi.
	Vivek P Natarajan, Ph.D Principal Scientist CSIR-Institute of Genomics and Integrative Biology
	Associate Professor Faculty of Science Academy of Scientific and Innovative Research (AcSIR)
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	Tel. : 91-11-27667602, 27666156-157, 27667439 • Fax : 91-11-27667471 Telefax : 91-11-27662407-08, 27662099 • E-mail : info@igib.res.in • Website : www.igib.res.in

11 जामिया मिल्लिया इस्लामिया JAMIA MILLIA ISLAMIA जानिया गर्भार केन्द्रीय विश्वविद्यालय) (हंत्रदीय अधिनियामानुसार केन्द्रीय विश्वविद्यालय) जानिया मिल्लाचा स्वार्थ केन्द्रीय विश्वविद्यालय) (हनदीय प्रोदियामानुसार केन्द्रीय विश्वविद्यालय) (हनदीय प्रोद्योगियजी विभाग जोव प्रोद्योगियजी विभाग क्वती बहिष्म मार्ग, नई दिल्ली-25 त्रोताना मुहम्बद अली जोहर भाग, नई दिल्ली-25 ताताना मुहम्बद अली जोहर भाग, नई दिल्ली-26 ताताना मुहम्बद अली जोहर भाग के मार्ग केन्द्री दिल्ली-26 ताताना मुहम्बद अली जोहर भाग केन्द्र किल्ली के मार्ग केन्द्र केन्द् This is to certify that student namely ISHFAQ AHMAD MIR is a bonified student of Department of Biotechnology and that he has successfully completed his dissertation work entitled "Study of genetic expression of Endoplasmic Reticulum (ER) stress markers and downstream chaperone GRP78 in human obesity " at department of biochemistry All India Institute of Medical Sciences New Delhi 110029 India metter Dr Mchfuzul Haqu Head of Department Department of Biotechnology Jamia sMillia Islamia, New Delhi-110025 12 जामिया मिल्लिया इस्लामिया (संस्वीय अधिनियानावुसार केन्द्रीय विश्वविद्यालय) जेव प्रोद्योगिकी विश्वनियाना मेलाना मुहम्मद अली जीहर मार्म, नई दिल्ली-25 जाला 20081717 Extr. 3426, संभग +91-011-26080220 JAMIA MILLIA ISLAMIA (A Central University by an Act of Parliament) Department of Biotechnology Faculty of Natural Sciencess Maulana Mohammed Ali Janhar Marg. New Delhi-11025 Tel: 2058/171 Extn: 1342 Fax:+91-011-26980229 Website: http://jmi.ac.in CERTIFICATE This is to certify that the Dissertation Report entitled "Heat-Induced Aggregation of Alpha-LA and its prevention by Trehalose and its Monomers" submitted by Khatera Haniss, a student of M.Sc Biotechnology, IV semester of Jamia Millia Islamia University, New Delhi in the partial fulfilment of the requirements for the award of degree of Master of Science in Biotechnology was completed at Center for interdisciplinary Research in Basic Science (CIRBSc.), Jamia Millia Islamia (Central University), New Delhi-110025. Methon I happ alithene Head of Department Department of Biotechnology Dr. Mohammad Zahid Ashraf Department of biotechnology Jamia Millia Islamia Jamia Millia Islamia Jamia Nagar, New Delhi -110025 New Delhi-110025

13 जामिया मिल्लिया इस्लामिया (तरादीय अभिनयामानुसार केन्दीय विषवविषालन) तो व प्रोट्योगिकी चित्रनाम तेलन पुरुषद वसी जीहर भार्न, नहीं स्लिन्28 महानामार हरूल अध्यक्ष मर्ग, नहीं स्लिन्28 JAMIA MILLIA ISLAMIA (A Central University by an Act of Parliament) Department of Biotechnology Faculty of Natural Sciences Maulana Mohammed Ali Jauhar Marg, New Dethi-11002 26981717 Extn.: 3426 +91-011-26980229 Website Proteomics and Bioinformatics Lab Mohammad Irfan Qureshi, M.Sc., Ph.D. Assistant Professor CERTIFICATE This is to certify that the dissertation entitled "Proteomics of Gymnema sylvestre leaf under drought and heat stress" submitted by Ms. Mahepara Siddiqui in partial fulfillment of the requirement for the award of degree of M.Sc. in Biotechnology to Jamia Millia Islamia, New Delhi, is a record of candidate's own work carried out by her under my supervision. The matter embodied in this dissertation is original and has not been submitted for the award of any other degree. 20/6/19 zul Haque) (Dr. Moham (Dr. M. Irfan Qureshi) viso 14 जामिया मिल्लिया इस्लामिया (त्रंतीय अधिनेयामानुसार केन्द्रीय विश्वविद्यालय) त्रंत्व प्रोद्धी गिकी विभाग त्रंत्व प्रदेश गिकी विभाग त्रंत्व प्रस्मद असी जीहर स्वती-25 स्वता प्रस्मा 191-011-26980220 JAMIA MILLIA ISLAMIA A Central University by an Act of Parilament) Department of Biotechnology Faculty of Nature 13 Sciences Mauhaa Mohammed Aki Jahkar Mai Sciences Tel: 2007177 Em. 1326 Fax:+91-011-20080229 Website http://milac.in Fax:+91-011-20080229 CERTIFICATE This is to certify that dissertation entitled "Expression and Purification of Optic Atrophy3 protein of Plasmodium falciparum in E.coli" submitted by Ms. Sumbul Khan at Jamia Millia Islamia, New Delhi, in partial fulfillment of the requirement of the degree of Master of Science in Biotechnology embodies original research work carried out under the guidance of Dr. Asif Mohmmed (International Centre for Genetic Engineering and Biotechnology, New Delhi) and Dr. Sadaf Fatima (Department of Biotechnology, Jamia Millia Islamia). Metfind heper Dr. Mohammad Mahfuzul Haque Stateme Dr. Sadaf Fatima Internal Supervisor Head of the Department Department of Biotechnology Department of Biotechnology Jamia Millia Islamia Jamia Millia Islamia New Delhi - 110025 New Delhi - 110025

15 जामिया मिल्लिया इस्लामिया JAMIA MILLIA ISLAMIA (संबदीय अधिनियामानुसार केन्द्रीय विश्वविद्यालय) जैव प्रोद्योगिकी विभाग मोलाना मुहम्मद अली जौहर मार्म, नई दिल्ली-25 मालान 26981717 Exm. 3426, बला :+91-011-26980229 (A Central University by an Act of Parliament) Department of Biotechnology Faculty of Natural Sciences Mailana Mohammed Ali Jauhar Marg. New Delhi-110025 Tel: 2008/171 Exn.; 32426 Fax:+91-011-20980229 Website: http://jmi.ac.in CERTIFICATE This is to certify that the Dissertation Report entitled "Counteraction of Aggregation in Alpha-Lactalbumin by Monomeric Sugars" submitted by Areeba Haroon, a student of M.Sc Biotechnology, IV semester of Jamia Millia Islamia University, New Delhi in the partial fulfilment of the requirements for the award of degree of Master of Science in Biotechnology was completed at Center for interdisciplinary Research in Basic Science (CIRBSc.), Jamia Millia Islamia (Central University), New Delhi-110025. mahfizild Dr. Mohammad Mahfuzul Haque Head of Department Dr. Mohammad Zahid Ashraf Department of biotechnology Jamia Millia Islamia Department of Biotechnology mia Nagar, New Delhi -110025 Jamia Millia Islamia New Delhi-110025 INTERNATIONAL CENTRE FOR GENETIC ENGINEERING AND BIOTECHNOLOGY 16 Tel. : 91-11-26741358/61 91-11-26742357/60 91-11-26741007 Fax : 91-11-26742316 E-mail : icgeb@icgeb.res.in ICGEB Campus, Aruna Asaf Ali Marg New Delhi - 110.067, India http://www.icgeb.org Date - June 15, 2019 CERTIFICATE This is to certify that the project entitled as "Purification and Biochemical Analysis of Plasmodium falciparum Glutaminyl tRNA Synthetase" submitted by Payal Mittal, student of MSc. Biotechnology, IV Semester of Jamia Millia Islamia, New Delhi, in the partial fulfilment of the requirements for the award of the degree of Masters of Science in Biotechnology, was completed under the guidance of Dr. Amit Sharma at International Centre for Genetic Engineering and Biotechnology (ICGEB), New Delhi for the duration of six months (January 7 to June 15, 2019). Dr. Amit Sharma Project-In-Charge Structural Parasitology ICGEB, New Delhi Dr. Amit Sharma Group Leader Structural Parasitology, Molecular Medicine International Centre for Genetic Engineering and Biotechnology (ICGEB) Aruna Asaf Ali Marg New Delhi-110067 E-mail: amit.icgeb@gmail.com

17 ational, Scient Cultural Organ Certificate This is to certify that Ms. Shahin Anjum (Roll no.: 17MBT027), student of Department of Biotechnology, Faculty of Natural Sciences, Jamia Millia Islamia, New Delhi, has worked on the dissertation project "Isolation and Quantification of Dengue virus in different Cell lines". She has carried out the above project under my guidance and supervision during academic period from 15.01.2019 to 18.06.2019 at Regional Centre for Biotechnology (RCB), NCR Biotech Science Cluster, 3rd Milestone, Faridabad-121001, Harvana, India. She has incorporated her findings in her bonafide research work and submitted it for the partial fulfilment of the degree of Masters in Biotechnology as per Jamia Millia Islamia, New Delhi. it (makhit (Dr. Prasenjit Guchhait) Professor Regional Centre for Biotechnology 18 जामिया मिल्लिया इस्लामिया (तंत्रधैव अधिवेशमानुसार केदीय विश्वविद्यालय) तेव प्रोद्योगिकी विभाग तेत्रजा प्रहम्मद अली जीहर मार्न, नई दिल्ली-28 (1997) 1998 (1996) विभाग - 91-01-28080229 JAMIA MILLIA ISLAMIA (A Central University by an Aci of Patianen) Department of Biotechnology Faculty of Natural Sciencess Maalaa Mohammed Ali Jasher Mag. Nev Dehi-1002 Fa: 208717 Facult20 Fa: 208717 Facult20 Fax: :+91-011-26980229 Website : http://mi.ac.ir B CERTIFICATE This is to certify that this thesis entitled, "INVESTIGATION OF INTERACTIONS OF CKAMP FAMILY PROTEINS WITH PSD-95 USING M2H", submitted by Mr. Abdur Rahman Manzer for the master's degree (MSc.biotechnology) to Jamia Millia Islamia is based on the work carried out by him at the National Centre for Cell Science, Pune. This work is original and has not been submitted for any diploma or degree of any other university or institution. mating he Prof.M. Manfuzul Haque (Internal Supervisor) Head of Department Biotechnology Jamia Millia Islamia New Delhi 110025

19 जामिया मिल्लिया इस्लामिया (संस्थीय अधिनियामानुसार केन्द्रीय विश्वविद्यालय) JAMIA MILLIA ISLAMIA (A Central University by an Act of Parliament) Department of Biotechnology Parlia (Anthene Control of Control (संसंधेय आधागमा) जैव प्रोद्योगिकी विभाग जैव मुहम्मद अले जोहर गार्ग, नई दिल्ली-25 मेलाना मुहम्मद अले जोहर गार्ग, नई दिल्ली-25 CERTIFICATE This is to certify that Miss Neha Khan, a bonafide student of M.Sc Biotechnology, Department of Biotechnology, Jamia Millia Islamia, New Delhi has duly completed her project report entitled "Cloning, Expression, Purification and Biophysical Characterization of MurC from Salmonella enterica serovar Typhi" for the partial fulfillment of the requirement of degree M.Sc Biotechnology. This work has been accomplished at Department of Biophysics, All India Institute of Medical Sciences (AIIMS), New Delhi. dea em matifies / hop 20/6/19 Dr. Syed Mansoor Ali (Internal Supervisor) Dr. Mohammad Mahfuzul Haque Professor and Head 20 जामिया मिल्लिया इस्लामिया JAMIA MILLIA ISLAMIA (संसदीय अधिनियामानुसार केन्द्रीय विश्वविद्यालय) जैव प्रोद्योगिकी विभाग जोताना मुहम्मद अली जीहर मार्ग. नई दिल्ली-25 इलाल : 26981717 Extn. : 3426, बंब्ल : +91-011-26980229 (A Central University by an Act of Parliament) Department of Biotechnology Faculty of Natural Sciences Maulana Mohammed Ali Janhar Marg, New Delhi-110023 Tel: 2008/171 Extn: 13426 Fax:+91-011-26980229 Website: http://jmi.ac.in Certificate On the basis of declaration made by Shubham Chaudhary, we hereby certify that the project report entitled "Database Development on the Plant-Microbial Interaction (PMI-base)" submitted by Shubham Chaudhary to the Department of Biotechnology, Jamia Millia Islamia, New Delhi, for the partial fulfillment of the requirements of the degree of M.Sc. (Biotechnology), is carried out under my guidance and supervision. The report has reached the requisite standards for submission. matified happe Meiter Cerfo Dr. Mohammad Mahfuzu Haque Dr. Meetu Gupta Head of the Department (Internal Supervisor) Department of Biotechnology Department of Biotechnology Jamia Millia Islamia, New Delhi-25 Faculty of Natural Sciences Jamia Millia Islamia, New Delhi-25

21 जीमिया मिल्लिया इस्लामिया जितिन अधिनगमानुसार केन्द्रीय विश्वविद्यालय) अहितन प्रसेद यो निज्ञी विभाग तेन दुसार बली जीहर मार्ग, नई दिल्ली-25 तमन 2001117 Eam 1426, जैन्स 1+01-011-26980229 JAMIA MILLIA ISLAMIA (A Central University by an Act of Parliament) Department of Biotechnology Faculty of Natural Sciencess Maulana Mohammed Ali Jauhar Marg, New Dethi-110025 Tel: 20091717 Extr.: 3426 Fax:+91-011-26980229 Website: http://jmi.ac.in CERTIFICATE This is to certify that this dissertation entitled "A comparative analysis of nanocurcumin and quercetin in combating high altitude cerebral edema(HACE) in rat model " submitted by Ms. Khilat Rehana at Jamia Millia Islamia , New Delhi, in partial fulfillment of the requirement for the award of the degree of Master of Science in Biotechnology embodies original research work carried out under the guidance of Dr. Deepika Saraswat 'Se E' at Defense Institute of Physiology and allied Sciences ,DRDO and Dr.Meetu Gupta, Associate Professor Department of Biotechnology Jamia Millia Islamia, New Delhi 110025 Dr. Meetu Gupta Prof.Mohammad Mahfuzul Haque Associate Professor Head of Department Department of Biotechnology Jamia Millia Islamia Department of Biotechnology, Jamia Millia Islamia Delhi-110025 New Delhi-110025 22 जामिया मिल्लिया इस्लामिया जामिया मिल्लिया इस्लामिया JAMIA MILLIA ISLAMIA (सेसेम जोव प्रोद्योगिकी विः जोव मुहम्मद अली जोहर माम, नई दि मल्ला 20081717 Extn. 1426 फ्रेल्स, नई दि (A Central University by an Act of Parliament) Department of Biotechnology Faculty of Natural Sciences Maulana Mohammed Ali Jauhar Marg, New Delhi-110025 Tel: 26981717 Extn.: 3426 Fax: +91-011-26980229 W ebsite : http://imi TO WHOMSOEVER IT MAY CONCERN This is to certify that Miss. Reetika Tandon, D/o Mr. Ravi Tandon, student of M.Sc. Biotechnology (2017-2019), Jamia Millia Islamia, has successfully completed her internship under my supervision in Department of Biotechnology at Jamia Millia Islamia, New Delhi for the duration of six months starting from 07<sup>th</sup> January 2019 to 20<sup>th</sup> June 2019. She worked on the project entitled "Evaluation of Borate as Anti-inflammatory and Anticancer agent". Through the course of internship, she has been sincere, avid learner and has worked hard in laboratory. I wish her success for all his future endeavours. 6. M Dr. Syed Mansoor Ali Assistant professor Department of Biotechnology Jamia Millia Islamia, New Delhi

23 जामिया मिल्लिया इस्लामिया JAMIA MILLIA ISLAMIA जानिया निर्णत्म २९९९॥[मया (तंतदीय अभिनेयागनुसार केन्द्रीय विश्वविद्यालय) तोच प्रो द्योचित्री विश्वनियात्म बोताना मुहम्मद अली जीहर मार्ग, नई विल्ली-25 एल<sup>47, 2081/17 Estr., 3426, बल्त: +91-011-26980220</sup> (A Central University by an Act of Parliament) Department of Biotechnology Faculty of Natural Sciencess Maulana Mohammed Ali Jauhar Marg. New Delhi-110025 Tei: 2008/1717 Ean. :3426 Fax:+91-011-26980229 Website : http://jmi.ac.in R CERTIFICATE This is to certify that Ms. Fatima Ali, MSc. Biotechnology (2017-2019) final year student of JAMIA MILLIA ISLAMIA, New Delhi has duly completed her dissertation project entitled "Virtual high-throughput screening of natural compounds in-search of potential inhibitors for Carbonic Anhydrase II" (January-June 2019) at Centre for Interdisciplinary Research in Basic Sciences, Jamia Millia Islamia, New Delhi-110025. not Dr. Mohammen Mahfuzul Haque Dr. Sadaf Fatima Professor and Head Department of Biotechnology Assistant Professor Department of Biotechnology Jamia Millia Islamia Jamia Millia Islamia Jamia Nagar, New Delhi 110025 Jamia Nagar, New Delhi 110025 24 जामिया मिल्लिया इस्लामिया JAMIA MILLIA ISLAMIA जामिया मारस्य र स्तामिया (तंतरीय अग्निनमानुसार केन्द्रीय विश्वनियालय) तंतर्य प्रोद्यो गिकी विश्वनियालय) तंतर्य प्रोद्यो गिकी विश्वनियालय तंत्र विश्वनगर हम्म अवि. जैम्बन २१-०११-२६७८२२० जन्म A Central University by an Act of Parliament) Department of Biotenhology Mains Mohammed Ali Juday Mars, New Dehi-110025 Tel: 26981717 Extr.: 3432 Mars, New Dehi-110025 Tel: 26981717 Mars, N CERTIFICATE This is to certify that the M.Sc. dissertation entitled "Identification of bioactive natural products This is to control of the second state of the and simulation study" submitted by Shiza Siddiqui to the Department of Biotechnology, Jamia Millia Islamia, New Delhi, in the partial fulfilment of the requirements of the degree of Master of Science (Biotechnology), is a record of the original bonafide work carried out by her under my guidance and supervision. The report has reached the requisite standards for submission to the best of my knowledge, understanding and belief. Moreover, the results contained in this report have not been submitted in part or full to any other university or institute for the award of any degree or diploma. metfindhy Lahetha Dr. Mohammad Mahfuzul Haque Dr. Mohammad Zahid Ashraf Professor and Head Internal Supervisor Department of biotechnology Department of Biotechnology Jamia Millia Islamia Jamia Nagar, New Delhi 110025 Jamia Millia Islamia Jamia Nagar, New Delhi 110025

25 जामिया मिल्लिया इस्लामिया JAMIA MILLIA ISLAMIA (संतरीय अधिनियामानुसार केन्द्रीय विश्वविद्यालय) जैव प्रोद्योगिकी विभाग बीलाना युहम्मद अली जीहर मार्ग, नई दिल्ली–25 हरूला 2.2081/17 हि.सा. 3426, केला :+01-011-26080229 (A Central University by an Act of Parliament) Department of Biotechnology Faculty of Natural Sciences Maulana Mohammed Ali Jauhar Marg, New Delhi-110025 Tel: 2008/171 Exm.: 3426 Fax:+91-011-26980229 Website:http://jmi.ac.in Date - June 07, 2019 CERTIFICATE This is to certify that the dissertation entitled "Study of effects of radiation on TLR expression in GI tract of C57BL/6 mice" submitted by Simran Sharma, student of MSc. Biotechnology, Jamia Millia Islamia, New Delhi, in the partial fulfilment of the requirements of the degree of Masters of Science in Biotechnology, is a record of the original bonafide work carried out by her under my guidance. The report has reached the requisite standards for submission to the best of my knowledge, understanding and belief. Moreover, the results contained in this report have not been submitted in part or full to any other university or institute for the award of any degree or diploma. metfor hy 24/6/19 Prof. Kapil Dev Prof. Mohammad Mahfuzul Haque Professor and Head Assistant professor (Internal Supervisor) Department of Biotechnology Department of Biotechnology Jamia Millia Islamia Jamia Millia Islamia New Delhi-110025 New Delhi-110025 26 ट्रा स्वितेशनल स्वास्थ्य विद्यान एवं प्रोसीनिकी संख्यान प्रकारमाठात्म् स्वास्थान स्वायान्यप्रकार स्वायान्यप्रकार A 11) y 525 Date: 6<sup>th</sup> June 2019 CERTIFICATE This is to certify that MS. Umang Berry (Roll no.: 20177678), student of Department of Biotechnology, Faculty of Natural Sciences, Jamia Millia Islamia, New Delhi, has worked on the Dissertation project "Cloning and Expression of Human PD-L1". She has carried out the above project under my guidance and supervision during the academic period from 26.12.2018 to 5.06.2019 at Translational Health Science and Technology Institute (THSTI), NCR Biotech Science Cluster, 3rd Milestone, Faridabad-121001 Haryana, India. She has incorporated her findings in her bona fide research work and submitted it for the partial fulfilment of the degree of Masters in Science in Biotechnology as per Jamia Millia Islamia, New-Delhi. Churghwast-Supervisor (Dr. Amit Awasthi) Dr. Amit Awasthi, Ph.D. onal Health Science and Technology In ous institute of the Depitt of Scientification of Science Control of S

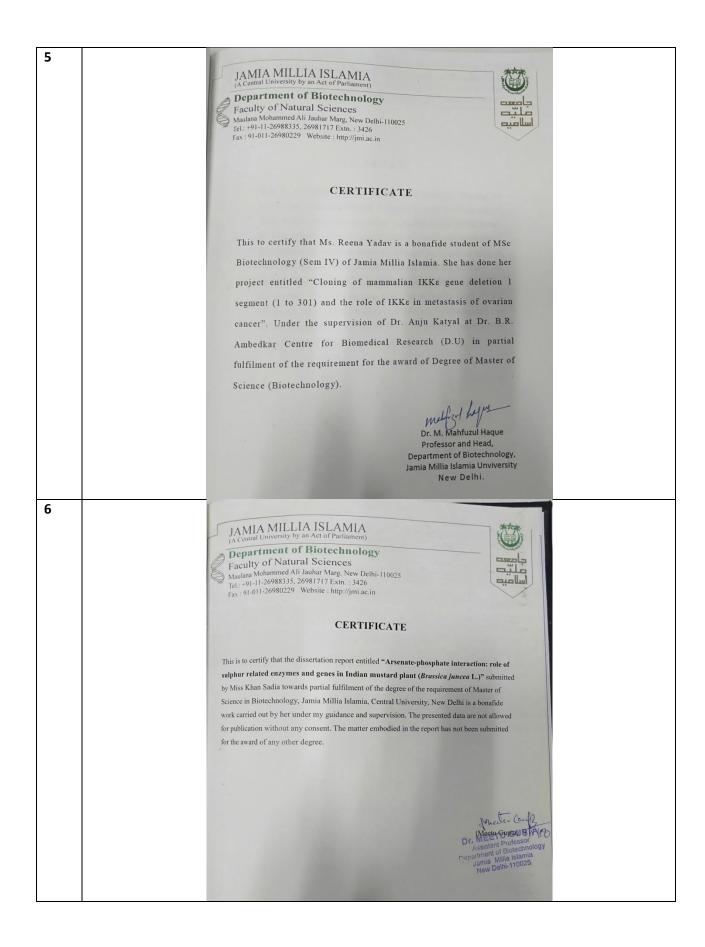
27 जामिया मिल्लिया इस्लामिया JAMIA MILLIA ISLAMIA जी। तंत्रदीय अधिनियामानुसार केन्द्रीय विश्वविद्यालय) (A Central University by an Act of Parliament) Department of Biotechnology Faculty of Natural Sciences Maulana Mohammed Ali Jauhar Marg, New Dethi-110025 (तंबदीय अधिनियामानुसार करपाय ।वर्षावद्यालय) जैव प्रोर्**्योगिकी** विभाग जैवाना मुहम्मद अली जोहर मार्ग, नई दिल्ली-25 व्हला 2081717 Extm. 3426, इन्स: +91-011-26980229 Tel : 26981717 Extn. : 3426 Fax : +91-011-26980229 Website : http://jmi.ac.in Certificate This is to certify that the dissertation entitled "Optimizing protein expression and purification of Dendritic Cell Specific ICAM-3 Grabbing Non-integrin (CD209)", submitted by Ms. Sana Parveen at Jamia Millia Islamia, New Delhi, in partial fulfillment of the requirement of the degree of Master of science in Biotechnology embodies original research work carried out under guidance of Dr. Rupesh Chaturvedi ( School of Biotechnology, JNU) and Dr. Mohammad Mahfuzul Haque (Department of Biotechnology, Jamia Millia Islamia). math Dr. Mohammad Mahfuzul Haque HOD & Internal Supervisor Department of Biotechnology Jamia Millia Islamia New Delhi, 110025 28 JAMIA MILLIA ISLAMIA Department of Biotechnology Faculty of Natural Sciences Maulana Mohammed Ali Jauhar Marg, New Delhi-110025 Tel.: +91-11-26988335, 26981717 Extn. : 3426 Fax : 91-011-26980229 Website : http://jmi.ac.in CERTIFICATE This is to certify that the research work embodied in this thesis entitled "Production and Purification of Anti-Clonotypic Antibody for Immunological Investigations in a TCR Transgenic Mouse Model." submitted in partial fulfillment of the degree Master in Biotechnology to JAMIA MILLIA ISLAMIA, Delhi, has been carried out by Mr. VIDIT GAUR, Enrollment number- 17-2497, under the supervision of Dr. NIMESH GUPTA. It is further stated that no part of this dissertation has been submitted either in part or in full for any other degree of Jamia Millia Islamia or any other University /Institution. He fulfills all the requirements as laid down under the University guidelines. method her Dr. Mohammad Mahfuzul Haque Professor & Head Department of Biotechnology Jamia Millia Islamia

29 जामिया मिल्लिया इस्लामिया (तंतरीय अभिनियामानुसार केन्द्रीय विश्वविद्यालय) जेव प्रोद्योगिकी विश्वमान्म तंताना मुहम्मद अली जीहर मार्म, नई दिल्ली-25 तल्ला 20081717 Estm. 3426, जेला: +91-011-26980229 JAMIA MILLIA ISLAMIA (A Central University by an Act of Parliament) Department of Biotechnology Faculty of Natural Sciencess Mailan Mohammed Ali Jahar Marg, New Jelik-11002 Tel 2009171 Ean: 3426 Fac:+91-011-20080229 Website : http://milac.in Fac:+91-011-20080229 Website : http://milac.in CERTIFICATE This is to certify that Dissertation entitled "Genetic polymorphism of  $\beta$ -functional gene -GLIS3 in type 2 diabetes" submitted by Diksha towards the partial fulfilment of the requirements for the award of degree of Master of Science in Biotechnology, Jamia Millia Islamia, New Delhi, is a bonafide research work carried out by her. The matter embodied in this report has not been submitted for the award of any diploma /degree by any university at any occasion. Head of Department Supervisor (Dr. Moltammad Mathurul Haque) deiter (Dr. Kapil Dev) Professor & Head Assistant Professor Department of Biotechnology, Department of Biotechnology, Jamia Millia Islamia, New Delhi - 110025 Jamia Millia Islamia, New Delhi - 110025 30 जामिया मिल्लिया इस्लामिया JAMIA MILLIA ISLAMIA (संबदीय अधिनियामानुसार केन्द्रीय विश्वविद्यालय) जोद्य प्रोद्योगिकी विभाग मौताना मुहम्बद अली जोहर मार्ग, नई दिल्ली-25 एलल 2008/177 Esm. 3420, केल. +91-011-26080220 (A Central University by an Act of Parliament) Department of Biotechnology Faculty of Natural Sciences Maulana Mohammed Ali Jauhar Marg, New Delhi-110025 Tel : 2008/171 Exn.: 3426 Fax : +91-011-26980229 Website : http://mi.ac.in CERTIFICATE This is to certify that M.Sc. Dissertation entitled "EFFECT OF GONADOTROPIN RELEASING HORMONE AGONIST ON CELL PROLIFERATION IN GLIOBLASTOMA CELL LINE, U87MG" has been carried out by Ms.Nida Khalid, a final year student of M.Sc Biotechnology, Department of Biotechnology, Jamia Millia Islamia, New Delhi-110025, for the session 2017-2019 under my supervision. This project embodies the original work done by Ms. Nida Khalid and has not been submitted in part or for the award of any other degree Internal Supervisor Dr. Mohammad Mahfuzul Haque Head of Department, Department of Biotechnology, Jamia Millia Islamia, New Delhi-110025

## List of Certificates of Dissertation Work (2018)

S.N. **Certificate of Dissertation Work as a Proof** 1 INTERNATIONAL CENTRE FOR GENETIC ENGINEERING AND BIOTECHNOLOGY Tel: 91-11-26741358/61 91-11-26742357/60 91-11-26742357/60 91-11-26741007 Fax: 91-11-26742316 E-mail: icgeb@icgeb.res.in ICGEB Campus, P.O. Box New Delhi - 110 067, India http://www.icgeb.trieste.it 8th May 2018 CERTIFICATE On the basis of declaration made by the student **SAADIA NASEER**, I hereby certify that the project report entitled " **Cloning of spidroin genes (sp1 & sp2)** with chloroplast transformation vector pVSR326" submitted by Saadia Naseer to the Department of Biotechnology, Faculty of Natural Sciences, Jamia Millia Islamia, New Delhi, for the partial fulfilment of the requirement of the degree of M.Sc. Biotechnology, is carried out by her under my guidance and supervision. The report has reached the requisite standards for submission. 5. Lelan thi Dr. Sadhu Leelavathi S. Leelavathi Group Leader Plant Transformation Group ICGEB 2 JAMIA MILLIA ISLAMIA (A Central University by an Act of Parliament) Department of Biotechnology Bepartment of Biotectinology Faculty of Natural Sciences Maulana Mohammed Ali Jauhar Marg, New Delhi-110025 Tel.: +91-11-26988335, 26981717 Extn.: 3426 Fax: 91-011-26980229 Website : http://jmi.ac.in CERTIFICATE This is to certify that the Dissertation reported entitled "Database Generation of Membrane Mechanical Proteins and Analysis of their Cellular Properties" submitted by Sanchita Jain student of M.Sc. Biotechnology, IV semester of Jamia Millia Islamia, New Delhi in the partial fulfillment of the requirements for the award of degree of Master of Science in Biotechnology was completed under the mildance of Dr. Find Thurbert of CBU business of Generation and unifinent of the requirements for the award of degree of waster of science in Diotechnology was completed under the guidance of Dr. Lipi Thukral at CSIR-Institute of Genomics and Integrative Biology, New Delhi 110025. Walf 31 hof 11/5/18 Prof. Mohammad Mahfuzul Haque Head Department of Biotechnology Jamia Millia Islamia New Delhi-110025

3 JAMIA MILLIA ISLAMIA entral University by an Act of Parliame **Department of Biotechnology** Faculty of Natural Sciences اسالميت Maulana Mohammed Ali Jauhar Marg, New Delhi-110025 Tel.: +91-11-26988335, 26981717 Extn. : 3426 Fax : 91-011-26980229 Website : http://jmi.ac.in CERTIFICATE This is to certify that the Dissertation Report entitled "EXPRESSION AND PURIFICATION OF ATG8 FAMILY MEMBER PROTEINS" submitted by SHIVANI SINGH student of M.Sc. Biotechnology, of Jamia Millia Islamia, New Delhi in the partial fulfillment of the requirements for the award of degree of Master of Science in Biotechnology was completed under the guidance of Dr. Sarika Chaudhary at CSIR-Institute of Genomic and Intergrative Biology, Sukhdev Vihar Mathura road New Delhi-110025 Mehofgut haf in TSTIS Dr. Mohammad Mahfuzul Haque Head Department of Biotechnology Jamia Millia Islamia New Delhi-110025 4 JAMIA MILLIA ISLAMIA (A Central University by an Act of Parliament) Department of Biotechnology Faculty of Natural Sciences Maulana Mohammed Ali Jauhar Marg, New Delhi-110025 Tel: +91-11-26988335, 26981717 Extn. : 3426 Fax : 91-011-26980229 Website : http://jmi.ac.in CERTIFICATE This is to certify that the Dissertation Report entitled "Expression, Purification and Biophysical Characterization of Human Fas Activated Serine/Threonine Kinase" submitted by Yameena Afreen, student of MSc. Biotechnology, IV semester of Jamia Millia Islamia, New Delhi in the partial fulfilment of the requirements for the award of degree of Master of Science in Biotechnology was completed under the supervision of Dr. Imtaiyaz Hassan at Centre for Interdisciplinary Research in Basic Sciences Jamia Millia Islamia, New Delhi. malifsed have 08/5/18 Prof. Molammad Mahfuzul Haque Department of Biotechnology Jamia Millia Islamia, New Delhi



7 JAMIA MILLIA ISLAMIA Bepartment of Biotechnology Faculty of Natural Sciences Department of Biotecnhology Faculty of Natural Sciences Maulana Mohammed Ali Jauhar Marg. New Delhi-110025 Tel: +01-11-26988335, 26981717 Extn. : 3426 Fax: 91-011-26980229 Website : http://jmi.ac.in متلو BLO UNI CERTIFICATE This is to certify that the project entitled "The Role of Silicon in Mitigation of Arsenic Stress in Indian Mustard Plant (Brassica juncea L.)" submitted by SAHIBA, student of M.Sc. Biotechnology, IV semester of Jamia Millia Islamia University, New Delhi for the partial fulfilment of the degree of Master of Science in Biotechnology, is a record of her original bonafide work completed under Dr. Meetu Gupta, assistant professor at Department of Biotechnology, Jamia Millia Islamia, New Delhi. Metfort hop 97518 Dr. Mohd. Mahfuzul Haque Head Department of Biotechnology Jamia Millia Islamia New Delhi-110025 Dr. Mohammad Mahfuzul Haque Professor & Head Department of Biotechnology Jamia Millia Islamia New Delhi-110025 8 JAMIA MILLIA ISLAMIA **Department** of Biotechnology ملتم Faculty of Natural Sciences اسلاميت Maulana Mohammed Ali Jauhar Marg, New Delhi-110025 Tel.: +91-11-26988335, 26981717 Extn. : 3426 Fax : 91-011-26980229 Website : http://jmi.ac.in CERTIFICATE This is to certify that the research thesis entitled "Analysis of GFP-HBx protein expression by fluorescent microscopy and immunoblotting" submitted by Babangida Alhaji Jinjiri student of M.Sc. Biotechnology, IV semester of Jamia Millia Islamia, New Delhi in the partial fulfillment of the requirements for award of degree of Master of Science in Biotechnology was completed under the guidance of Dr. Syed Naqui Kazim at Centre for Interdisciplinary Research in Basic Sciences, Jamia Millia Islamia, New Delhi. Mather hy 10/5/18 Prof. Mohammad Mahfuzul Haque Head Department of Biotechnology Jamia Millia Islamia, New Delhi-110025

9 JAMIA MILLIA ISLAMIA Department of Biotechnology متلنه Faculty of Natural Sciences اسلاميت Maulana Mohammed Ali Jauhar Marg, New Delhi-110025 Tel.: +91-11-26988335, 26981717 Extn. : 3426 Fax : 91-011-26980229 Website : http://jmi.ac.in CERTIFICATE This is to certify that Ms. Kainat Mirza, a student of M.Sc Biotechnology, IV semester, Jamia Millia Islamia, New Delhi has completed her six months dissertation work entitled "Comparative study of HBV expression markers in HepG2 cells transfected with HBV expressing plasmids" successfully. She has completed this work from Centre for Interdisciplinary Research in Basic Sciences, Jamia Millia Islamia, under the supervision of Dr. Syed Naqui Kazim. The dissertation was a compulsory part of her M.Sc. degree. I wish her good luck and a bright future. matizothe 10/5/18 Prof. Mohammad Mahfuzul Haqu (Professor & Head) Department of Biotechnology Faculty of Natural Sciences Jamia Millia Islamia New Delhi -110025 10 JAMIA MILLIA ISLAMIA (A Central University by an Act of Parliament) Department of Biotechnology owels alle Faculty of Natural Sciences اسالميم Maulana Mohammed Ali Jauhar Marg, New Delhi-110025 Tel.: +91-11-26988335, 26981717 Extn. : 3426 Fax : 91-011-26980229 Website : http://jmi.ac.in CERTIFICATE This is to certify that the dissertation report entitled "Cloning and expression analysis of WRKY transcription factors genes under heavy metal stress in Oryza Sativa." submitted by Miss Aruba Khan towards partial fulfillment of the requirement for the degree of Master of Science in Biotechnology, Jamia Millia Islamia, Central University, New Delhi is a bonifide research work carried out by her under my guidance and supervision. The presented data are not allowed for publication without my consent. The matter embodied in the report has not been sumbmitted for award of any other degree. Mitford happing 10/5/18 Prof. Mahfuzul Haque Head of the Department Dr. Mohammad Mahfuzul Haque Professor & Head Department of Biotechnology Jamia Millia Islamia New Delhi-110025

11 JAMIA MILLIA ISLAMIA (A Central University by an Act of Parliament) Department of Biotechnology Faculty of Natural Sciences Maulana Mohammed Ali Jauhar Marg, New Delhi-110025 Tel.: +91-11-26988335, 26981717 Extn.: 3426 Fax: 91-011-26980229 Website: http://jmi.ac.in Date- 7th May 2018 CERTIFICATE This is to certify that the Dissertation Report entitled "Immuno-informatics approach for designing peptide based vaccines for tuberculosis" submitted by Saba Parveen student of M.Sc. Biotechnology, IV Semester of Jamia Millia Islamia University, New Delhi in the partial fulfilment of the requirements for the award of the degree of Masters of Science in Biotechnology, was completed under guidance of Dr. Sadhna Sharma at DS Kothari Centre (DSKC) for Research and Innovation in Science Education, Miranda House, Department of Zoology, Delhi University, New Delhi-110007. Matford happing 5/18 Prof. Mohammad Mahfuzul Haque Head Department of Biotechnology, Jamia Millia Islamia University. New Delhi-110025. Dr. Mohammad Mahfuzul Haque Professor & Head Department of Biotechnology Jamia Milita Islamia New Delhi-110025 12 JAMIA MILLIA ISLAMIA (A Central University by an Act of Parliament) Department of Biotechnology 3 Faculty of Natural Sciences oilo Maulana Mohammed Ali Jauhar Marg, New Delhi-110025 Tel.: +91-11-26988335, 26981717 Extn. : 3426 اسلاميم Fax : 91-011-26980229 Website : http://jmi.ac.in CERTIFICATE This is to certify that the project report entitled "Deletion constructs of C-terminal domain of Clostridium perfringens enterotoxin: Cloning, expression and purification " submitted by Shireen S, M. Sc. IV Semester of Jamia Millia Islamia University, New Delhi for the partial fulfillment of the requirement for the award of the degree of Masters of Science in Biotechnology, is a record of the her original bonafide work, completed at National Institute of Immunology, New Delhi. Dr. Mohammad Mahfuzul Haque, Head of Department, Department of Biotechnology, Jamia Millia Islamia

13 JAMIA MILLIA ISLAMIA (A Central University by an Act of Parliament) Department of Biotechnology Faculty of Natural Sciences alla Maulana Mohammed Ali Jauhar Marg, New Delhi-110025 Tel.: +91-11-26988335, 26981717 Extn. : 3426 اسلميت Fax : 91-011-26980229 Website : http://jmi.ac.in CERTIFICATE This is to certify that the project report entitled "Cloning of LysR-type transcription regulator from Gordonia" submitted by Vaishnavi Mukkawar, M. Sc. IV Semester of Jamia Millia Islamia University, New Delhi for the partial fulfillment of the requirement for the award of the degree of Masters of Science in Biotechnology, is a record of the her original bonafide work, completed at Indian Institute of Technology Delhi (IIT-D), New Delhi. Mahamad Mahfuzul Haq Head of Department, Department of Biotechnology, Jamia Millia Islamia 14 JAMIA MILLIA ISLAMIA (A Central University by an Act of Parliament) Department of Biotechnology Faculty of Natural Sciences ELL. Maulana Mohammed Ali Jauhar Marg, New Delhi-110025 Tel.: +91-11-26988335, 26981717 Extn. : 3426 Fax : 91-011-26980229 Website : http://jmi.ac.in minilu CERTIFICATE On the basis of declaration made by the student Shahzul Hasan, I hereby certify that the project report entittled "Phytochemical Screening and Biological Activities of Polyherbal plant (Triphala)" submitted by him to Department of Biotechnology, Jamia Millia Islamia for the partial fulfilment of the requirements of the degree of M. Sc. Biotechnology, is carried out by him under the guidance and supervision of Dr. Sadaf Fatima at Department of Biotechnology. The report has reached the requisite standards for submission. (Mohammad Mahfuzul Haque) Professor & Head Department of Biotechnology Jamia Millia Islamia New Delhi 110025

15 JAMIA MILLIA ISLAMIA Department of Faculty of Natural Sciences Maulana Mohammed Ali Jauhar Marg, New Delhi-110025 Tel.: +91-11-26988335, 26981717 Extn.: 3426 Fax: 91-011-26980229 Website: http://jmi.ac.in ساميم CERTIFICATE This is to certify that the Dissertation Report entitled "To study antimalarial potential of novel carbohydrate fused pyrano[3,2-c]pyranones" submitted by Rafia Mehboob student of M.Sc. Biotechnology, IV semester of Jamia Millia Islamia, New Delhi in the partial fulfillment of the requirements for the award of degree of Master of Science in Biotechnology was completed under the guidance of Dr. Shailja Singh at Special Centre for Molecular Medicine, Jawaharlal Nehru University, New Delhi. matified hopen 10/5/18 Prof. Mohammad Mahfuzul Haque Head Department of Biotechnology Jamia Millia Islamia, New Delhi-110025 New Delhi-110025 16 JAMIA MILLIA ISLAMIA (A Central University by an Act of Parliament) **Department of Biotechnology** Faculty of Natural Sciences Maulana Mohammed Ali Jauhar Marg, New Delhi-110025 Tel.: +91-11-26988335, 26981717 Extn. : 3426 Fax : 91-011-26980229 Website : http://jmi.ac.in اسلاصيت CERTIFICATE On the basis of declaration made by the student Prachi Singh, student of M.Sc. Biotechnology, I hereby declare that the project entitled, "Interaction of PRC2 Complex and IncRNA HOTAIR" which is submitted by Prachi Singh to the Department of Biotechnology, Jamia Millia Islamia, New Delhi, in partial fulfilment of the requirement of the degree of M.Sc. Biotechnology, have not been submitted in part or full to any other university or institute for the award of any degree or diploma. Mother hep 115/18 Dr. Mohammad Mahfazul Haq **Head of Department** Department of Biotechnology Jamia Millia Islamia New Delhi

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19 JAMIA MILLIA ISLAMIA Department of Biotechnology Faculty of Natural Sciences Maulana Mohammed Ali Jauhar Marg, New Delhi-110025 Tel.: +91-11-26988335, 26981717 Extn. : 3426 Fax : 91-011-26980229 Website : http://jmi.ac.in CERTIFICATE This is to certify that this dissertation entitled "Isolation of miRNA from Exosomes secreted by Helicobacter pylori infected AGS cells" submitted by Ms. Sofia at Jamia Millia Islamia, New Delhi, in partial fulfillment of the requirement for the award of the degree of Master of Science in Biotechnology embodies original research work carried out under the guidance of Prof. Rupesh Chaturvedi at School of Biotechnology, Jawaharlal Nehru University. Welfsul heg 11/5/18 Prof. Mohammad Mahfuzul Haque Head Department of Biotechnology, Jamia Millia Islamia, New Delhi-110025 2 20 JAMIA MILLIA ISLAMIA (A Central University by an Act of Parliament) Department of Biotechnology Faculty of Natural Sciences Maulana Mohammed Ali Jauhar Marg, New Delhi-110025 Tel:+01-11-26988335, 26981717 Extn.: 3426 Fax:91-011-26980229 Website: http://jmia.c.in 8, May 2018 CERTIFICATE This is to certify that the Dissertation reported entitled "BIOPHYSICAL CHARACTERIZATION OF PROTEIN AFTER ISOLATION AND PURIFICATION FROM MEDICINALLY IMPORTANT PLANT Cassia fistula" submitted by MOHD GUFRAN student of M.Sc. Biotechnology, IV semester of Jamia Millia Islamia, New Delhi in the partial fulfillment of the requirements for the award of degree of Master of Science in Biotechnology was completed under the guidance of Dr. ASIMUL ISLAM, Centre for Interdisciplinary Research in Basic Sciences, Jamia Millia Islamia, New Delhi 110025. melefrat hope of 5/18 Professor Mohammad Mahfuzur Haque Head Department of Biotechnology, Faculty of Natural Sciences, Jamia Millia Islamia, New Delhi- 110025 Dr. Mohammad Mahfuzul Haque Professor & Head Department of Plan Jamia Millia Isl. New Delhi-110.

21 JAMIA MILLIA ISLAMIA (A Central University by an Act of Parliament) Department of Biotechnology Faculty of Natural Sciences Maulana Mohammed Ali Jauhar Marg, New Delhi-110025 Tel.: +91-11-26988335, 26981717 Extn. : 3426 Fax : 91-011-26980229 Website : http://jmi.ac.in anolla 1 CERTIFICATE This is to certify that the Dissertation report entitled "Regeneration and Agrobacterium mediated Transformation studies of Glycine max (Soya bean) and Screening of Vigna radiata (Mung bean) Transgenic Plants" submitted by, ABHISHEK student of M.Sc. Biotechnology, IV Semester of Jamia Millia Islamia, New Delhi in the partial fulfilment of the requirements for the award of degree of Master of Science in Biotechnology was completed under the guidance of Dr. Sadhu Leelavathi at International Centre for Genetic Engineering and Biotechnology, Aruna Asaf Ali Marg, New Delhi. Dr. Mahfuzul Haque 09/5718 Dr. Mohammad Mahfuzul Haque Professor & Head Department of Biotechnology Jamia Millia Islamia New Delhi-110025 22 JAMIA MILLIA ISLAMIA (A Central University by an Act of Parliament) **Department of Biotechnology** ملتم Faculty of Natural Sciences اسلاميت Maulana Mohammed Ali Jauhar Marg, New Delhi-110025 Tel.: +91-11-26988335, 26981717 Extn. : 3426 Fax : 91-011-26980229 Website : http://jmi.ac.in CERTIFICATE This is to certify that the Dissertation Report entitled "Purification of Protein from Cassia fistula using Ion Exchange and Gel Filtration Chromatography and its biophysical Characterization" submitted by MAH ALAM student of M.Sc. Biotechnology, IV semester of Jamia Millia Islamia, New Delhi in the partial fulfillment of the requirements for the award of degree of Master of Science in Biotechnology was completed under the guidance of Dr. Asimul Islam at Centre for Interdisciplinary Research in Basic Sciences, Jamia Millia Islamia, New Delhi. . metfor her ostoll 8 Prof. Mohammad Mahfuzul Haque Department of Biotechnology Jamia Millia Islamia New Delhi-110025

23 JAMIA MILLIA ISLAMIA Department of Biotechnology Faculty of Natural Sciences ELL **Guol**lul Maulana Mohammed Ali Jauhar Marg, New Delhi-110025 Tel.: +91-11-26988335, 26981717 Extn. : 3426 Fax : 91-011-26980229 Website : http://jmi.ac.in CERTIFICATE This is to certify that the Dissertation Report entitled "Effect of molecular chaperone protein STUB1/CHIP on the stability kinetics of GST" submitted by Md. Kaisar Imam student of M.Sc. Biotechnology, IV semester of Jamia Millia Islamia, New Delhi in the partial fulfillment of the requirements for the award of degree of Master of Science in Biotechnology was completed under the guidance of Dr. Syed Naqui Kazim at the Centre for Interdisciplinary Research in Basic Sciences, Jamia Millia Islamia, New Delhi. matf 31 hop 10/5/18 Prof. Mohammad Mahfuzul Haque Head Department of Biotechnology Jamia Millia Islamia New Delhi-110025 24 JAMIA MILLIA ISLAMIA Department of Biotechnology Faculty of Natural Sciences Maulana Mohammed Ali Jauhar Marg, New Delhi-110025 Tel.: +91-11-26988355, 26981717 Extn. : 3426 Fax: 91-011-26980229 Website : http://jmi.ac.in 3 Date- 10th May 2018 CERTIFICATE This is to certify that the Dissertation Report entitled "Investigating the Role of Endogenous Hydrogen Sulfide in Brain during Unstimulated State" submitted by MEO KHAN student of M.Sc. Biotechnology, IV Semester of Jamia Millia Islamia , New Delhi in the partial fulfilment of the requirements for the award of the degree of Masters of Science in Biotechnology, was completed under guidance of Dr. Manish Sharma (Se 'D') at Defence Institute of Physiology and Allied Sciences (DIPAS); Defence Research and Development Organization (DRDO), Timarpur, New Delhi-110054. Mathered happy 1015/18 Dr. Mohammad Mahfuzul Haque Head Department of Biotechnology Jamia Millia Islamia New Delhi-110025

25 JAMIA MILLIA ISLAMIA Department of Biotechnology Faculty of Natural Sciences Maulana Mohammed Ali Jauhar Marg, New Delhi-110025 Tel.: +01-11-26988335, 26081717 Extn. : 3426 Fax: 91-011-26980229 Website: http://jmi.ac.in Date- 10th May 2018 CERTIFICATE This is to certify that the Dissertation Report entitled "Role of Hydrogen Sulfide in Modulating Pathologic Responses to Hypobaric-Hypoxia in Heart" submitted by ANJUM NISHA student of M.Sc. Biotechnology, IV Semester of Jamia Millia Islamia , New Delhi in the partial fulfilment of the requirements for the award of the degree of Masters of Science in Biotechnology, was completed under guidance of Dr. Manish Sharma (Sc 'D') at Defence Institute of Physiology and Allied Sciences (DIPAS); Defence Research and Development Organization (DRDO), Timarpur, New Delhi-110054. Metified heaving 10/5/18 Dr. Mohammad Mahfuzul Haque Head Head Department of Biotechnology Jamia Millia Islamia New Delhi-110025 26 JAMIA MILLIA ISLAMIA (A Central University by an Act of Parliament) and Department of Biotechnology ماتم Faculty of Natural Sciences اسلاميت Maulana Mohammed Ali Jauhar Marg, New Delhi-110025 Tel.: +01-11-26988335, 26981717 Extn. : 3426 Fax : 91-011-26980229 Website : http://jmi.ac.in Date- 7th May 2018 CERTIFICATE This is to certify that the Dissertation Report entitled "Purification and Biochemical Analysis of Plasmodium falciparum Cysteinyl tRNA Synthetase " submitted by Anisha Handoo student of M.Sc. Biotechnology, IV Semester of Jamia Millia Islamia University, New Delhi in the partial fulfilment of the requirements for the award of the degree of Masters of Science in Biotechnology, was completed under guidance of Dr. Amit Sharma at International Centre for Genetic Engineering and Biotechnology (ICGEB), New Delhi for the duration of four months (1st of January to 30th of April. 2018). Muther hof 08/5/18 Dr. Mohammad Mahfuzul Haque Head Department of Biotechnology, Jamia Millia Islamia University, New Delhi-110025.

27 INTERNATIONAL CENTRE FOR GENETIC ENGINEERING AND BIOTECHNOLOGY ICGEB Campus, P.O. Box. 10504, Aruna Asaf Ali Marg. Tel: 91-11-2674135851 ICGEB Campus, P.O. Box : New Delhi - 110 067, India http://www.icgeb.trieste.it el 91-11-26741358/5 91-11-26742357/6 91-11-26742057 Fax 91-11-2674231 Date -7th May, 2018 **CERTIFICATE** This is to certify that the project entitled as " Drug binding studies of novel antimalarial compounds targeting Plasmodium falciparum Prolyl tRNA synthetase" submitted by Dipika Sharma, MscIV semester of Jamia Millia Islamia University, New Delhi for the partial fulfillment of the requirement for the award of the degree of Masters of Science in Biotechnology, is a record of her original bonafide work completed at International Centre for Genetic Engineering and Biotechnology (ICGEB), New Delhi for the duration of four months (1st of January to 30th of April. 2018). Ashel Dr. Amit Sharma Group Leader Structural Parasitology, Molecular Medicine International Centre for Genetic Engineering and Biotechnology (ICGEB) ArunaAsaf Ali Road New Delhi - 110067 E-mail: amit.icgeb@gmail.com आई.सी.एम.आर. - राष्ट्रीय विकृति विज्ञान संस्थान 28 I.C.M.R. - NATIONAL INSTITUTE OF PATHOLOGY (भारतीय आयुदिज्ञान अनुसंधान परिषद) (Indian Council of Medical Research) "SRIRAMACHARI BHAWAN", Safdarjang Hospital Campus, شكل المعلم ال CERTIFICATE This is to certify that the project entitled, "Association of Hyperlipidemia with Prostate Cancer" submitted by Ms. Zaheen Khan (Roll no. 16MBT026) to Jamia Millia Islamia, New Delhi, in the partial fulfillment of the requirement for the award of the degree of MSc. Biotechnology is a record of bonafide work carried by her under my guidance. The project fulfills the requirements as per the regulation of this institute and in my opinion meets the necessary standards for submission. The contents of this report have not been submitted and will not be submitted either in part or full, for the award of any other degree or diploma and the same is certified. (de Supervisor Dr. Anju Bansal Scientist "E" National Institute of Pathology,ICMR New Delhi- 110029 रमाष +91-11-26198402-6, 26176473, 26106475-80 Fax/केंस्स+91-11-26198401, 26160135 Tel.Fax/टैलीफैक्स+91-11-26170499 ov.in Visit us: www.instpath.gov.in

