



JSPM UNIVERSITY PUNE

Recognized by UGC u/s 2 (f) of UGC Act 1956 and enacted by the
State Government of Maharashtra - JSPM University Act, 2022 (Mah.IV of 2023)

JSPM University Pune
Faculty of Science and Technology
School of Computational Sciences



NEP Aligned Curriculum Structure

for

Master of Computer Application

(Effective from AY: 2024-25)



JSPM University Pune

FACULTY OF SCIENCE & TECHNOLOGY

SCHOOL OF COMPUTATIONAL SCIENCES

COURSE STRUCTURE (NEP 2020 Aligned)

W. E. F

2024-2025

RELEASE DATE

01/07/2024

FIRST YEAR MASTER OF COMPUTER APPLICATION
(MCA)

REVISION NO.

0.0 (NEP)

SEMESTER I (LEVEL - 6.5)

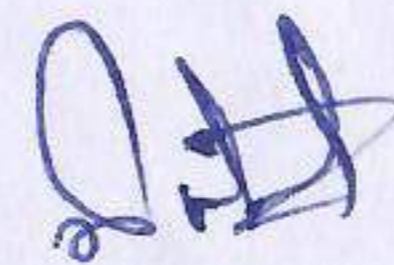
COURSE			TEACHING SCHEME				EXAMINATION SCHEME AND MARKS								TOTAL	CREDITS
TYPE	CODE	COURSE NAME	Hours / Week				THEORY (Equal Weightage for CIE and ESE)			PRACTICAL (Equal Weightage for CIE and ESE)		ORAL (Equal Weightage for CIE and ESE)				
			L	T	P	EL	CONTINUOUS INSEMESTER EVALUATION (100 Marks)			END SEMESTER EXAMINATION (100 / 50 Marks)	CONTINUOUS INSEMESTER EVALUATION (50 Marks)	END SEMESTER EXAMINATION (50 Marks)	CONTINUOUS INSEMESTER EVALUATION (50 Marks)	END SEMESTER EXAMINATION (50 Marks)		
							T1 (30 Marks)	T2 (30 Marks)	Assignments (40 Marks)							
PSMC	230GMAM04_01	Mathematical Foundations of Computer Science	2	1	-	-	30	30	40	100	-	-	-	-	100	3
PCC	231GCAM01_01	Data Structure and Algorithm	2	-	-	2	30	30	40	100	-	-	-	-	100	2.5
PCC	240GCAM31_01	Introduction to Artificial Intelligence and Machine Learning	2	-	-	-	30	30	40	50	-	-	-	-	50	2
PCC	231GCAM03_01	Data Communication and Computer Networking	2	-	-	-	30	30	40	50	-	-	-	-	50	2
SEC	240GCAM40_01	Object-Oriented Programming with Java	2	-	2	-	-	-	-	-	50	50	50	50	100	3
MMC	---	Multidisciplinary Minor Course	1	-	2	-	-	-	-	-	50	50	50	50	100	2
VSC	230IDCB01_01	Design Thinking and Creativity	1	-	-	2	-	-	-	-	-	-	50	50	50	1.5
AEC	230UENM01_01	Communicative English for Professionals	1	-	2	-	30	30	40	50	-	-	-	-	50	2
RMC	230IRMM01_01	Research Methodology	2	-	-	-	30	30	40	50	-	-	-	-	50	2
LC	231GCAM17_01	Data Structure and Algorithm Lab	-	-	2	-	-	-	-	-	50	50	-	-	50	1
LC	240GCAM41_01	Introduction to Artificial Intelligence and Machine Learning Lab	-	-	2	-	-	-	-	-	50	50	-	-	50	1
TOTAL			15	1	10	4									750	22



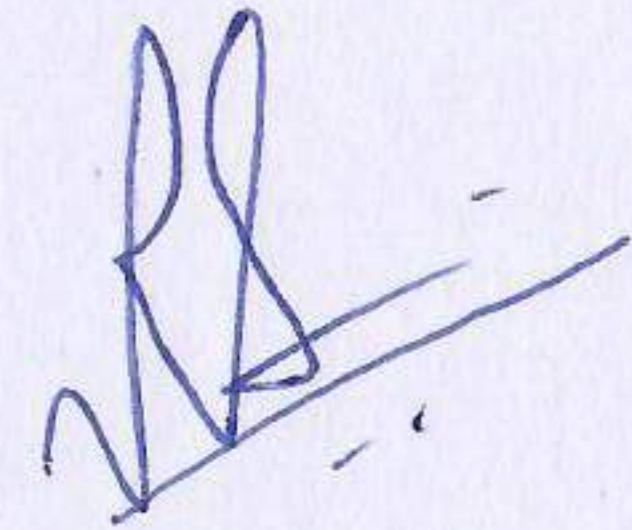
Sem.	Multidisciplinary Minor Course (MMC)			
I	Course Code	230GMEB53_01	230UEEB02_01	230GRAB51_01
	Course Name	CAD/CAM	Public Economics	Robot Modeling
II	Course Code	230VBCB18_02	230GETB34_02	230GRAB52_02
	Course Name	Personal Financial Planning	Internet of Things and Applications	Autonomous Mobile Robot



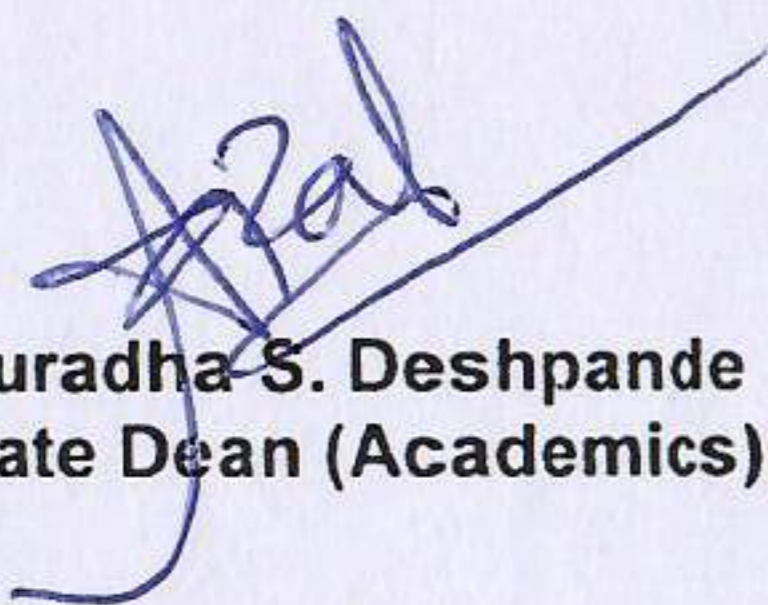
Dr. Arshiya Anjum F.A. Khan
Programme Coordinator, MCA



Dr. G. A. Patil
Director, School of Computational Sciences



Dr. R. S. Deshpande
Dean, Faculty of Science and Technology



Dr. Anuradha S. Deshpande
Associate Dean (Academics)



Vice Chancellor
JSPM University



Prof. B.B. Ahuja
Vice Chancellor, JSPM University Pune



JSPM University Pune

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SCHOOL OF COMPUTATIONAL SCIENCES

COURSE STRUCTURE
(NEP 2020 Aligned)

W. E. F

2024-2025

RELEASE DATE

01/07/2024

FIRST YEAR MASTER OF COMPUTER APPLICATION
(MCA)

RIVISION NO.

0.0 (NEP)

SEMESTER II (LEVEL – 6.5)

COURSE			TEACHING SCHEME				EXAMINATION SCHEME AND MARKS								TOTAL	CREDITS	
TYPE	CODE	COURSE NAME	Hours / Week				THEORY (Equal Weightage for CIE and ESE)			PRACTICAL (Equal Weightage for CIE and ESE)		ORAL (Equal Weightage for CIE and ESE)					
			L	T	P	EL	CONTINUOUS INSEMESTER EVALUATION (100 Marks)			END SEMESTER EXAMINATION (100 / 50 Marks)	CONTINUOUS INSEMESTER EVALUATION (50 Marks)	END SEMESTER EXAMINATION (50 Marks)	CONTINUOUS INSEMESTER EVALUATION (50 Marks)	END SEMESTER EXAMINATION (50 Marks)			
							T1 (30 Marks)	T2 (30 Marks)	Assignments (40 Marks)								
PSMC	240GMAB33_02	Foundation of Data Analysis and Statistical Measures	2	1	-	-	30	30	40	100	-	-	-	-	100	3	
PCC	231GCAM04_02	Advanced Database Management Systems	2	-	-	2	30	30	40	100	-	-	-	-	100	2.5	
PCC	240GDIM15_02	Python Programming for Data Science	2	-	-	-	30	30	40	50	-	-	-	-	50	2	
PCC	240GCAM43_02	Principles of Software Engineering	2	-	-	-	30	30	40	50	-	-	-	-	50	2	
MMC	---	Multidisciplinary Minor Course	1	-	2	-	-	-	-	-	50	50	50	50	100	2	
VSC	230IINB02_02	Innovation	1	-	-	2	-	-	-	-	-	-	50	50	50	1.5	
AEC	230JENM02_02	Business Communication	1	-	2	-	30	30	40	50	-	-	-	-	50	2	
RMC	230IRMM03_02	Research Data Analysis	2	-	-	-	30	30	40	50	-	-	-	-	50	2	
LC	230GCAM19_02	Advanced Database Management System Lab	-	-	2	-	-	-	-	-	50	50	-	-	50	1	
LC	240GDIM25_02	Python Programming for Data Science Lab	-	-	2	-	-	-	-	-	50	50	-	-	50	1	
LC	240GCAM42_02	Foundations of Mobile Application Lab	-	-	2	-	-	-	-	-	50	50	-	-	50	1	
IITP/FP/CEP	230GCAM21_02	Internship/Field Project/Community Engagement Program	4 to 6 weeks				-	-	-	-	-	-	-	50	50	50	2
TOTAL			13	1	10	4									750	22	

Note: A Post Graduate Diploma will be awarded if a student exits after first year.

For "Exit" at the end of First Year the student must complete a total of 8 additional credits.

a) An internship / OJT of 8 - 10 weeks (4 credits) over and above semester 2 internship of minimum 4 weeks.

b) Additional one Course of 4 credits (Course offered will be Vocational Skill Course (VSC) or Skill Enhancement Course (SEC) or a mini project)

L-Lecture

Format No.: JSPMUni/ACAD/001

T-Tutorial

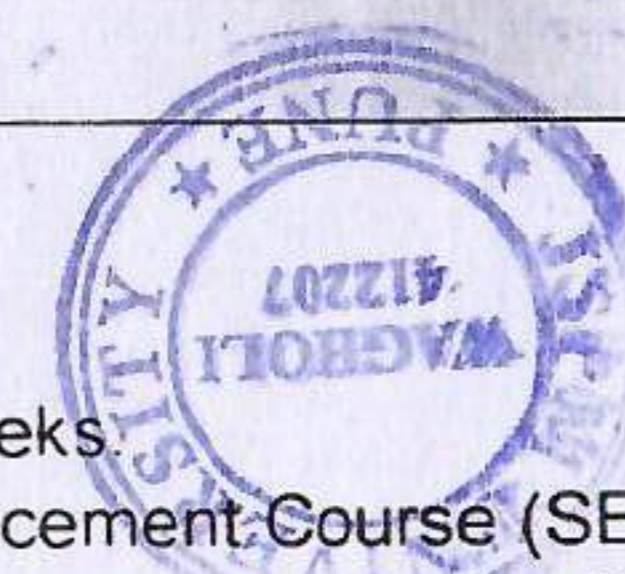
Rev. No.:0.0

P-Practical Session (Laboratory)


Rev. Date:01/07/2024

EL-Experiential Learning

Page 1 of 2



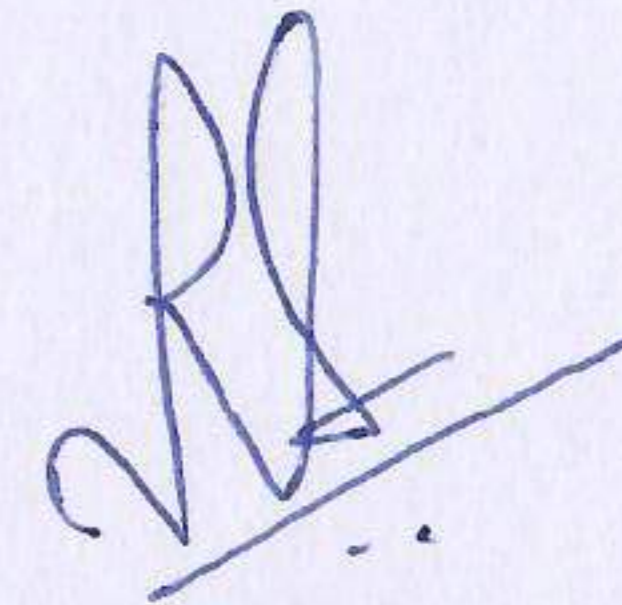
Multidisciplinary Minor Course (MMC)				
I	Course Code	230GMEB53_01	230UEEB02_01	230GRAB51_01
	Course Name	CAD/CAM	Public Economics	Robot Modeling
II	Course Code	230VBCB18_02	230GETB34_02	230GRAB52_02
	Course Name	Personal Financial Planning	Internet of Things and Applications	Autonomous Mobile Robot



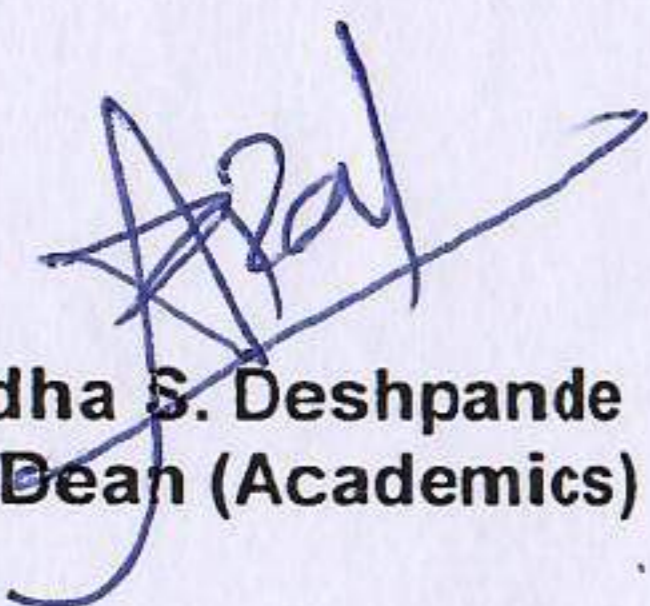
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		JSPM University Pune						COURSE STRUCTURE (NEP 2020 Aligned)									
		FACULTY OF SCIENCE & TECHNOLOGY						W. E. F			2025-2026						
		SCHOOL OF COMPUTATIONAL SCIENCES						RELEASE DATE			01/07/2025						
SECOND YEAR MASTER OF COMPUTER APPLICATION (MCA)						RIVISION NO.			0.0 (NEP)								
SEMESTER III (LEVEL – 7.0)																	
COURSE			TEACHING SCHEME				EXAMINATION SCHEME AND MARKS										C R E D I T S
TYPE	CODE	COURSE NAME	Hours / Week				THEORY (Equal Weightage for CIE and ESE)				PRACTICAL (Equal Weightage for CIE and ESE)		ORAL (Equal Weightage for CIE and ESE)		T O T A L		
			L	T	P	EL	CONTINUOUS INSEMESTER EVALUATION (100 Marks)			END SEMESTER EXAMINATION (100 / 50 Marks)	CONTINUOUS INSEMESTER EVALUATION (50 Marks)	END SEMESTER EXAMINATION (50 Marks)	CONTINUOUS INSEMESTER EVALUATION (50 Marks)	END SEMESTER EXAMINATION (50 Marks)			
							T1 (30 Marks)	T2 (30 Marks)	Assignments (40 Marks)								
PEC		Program Elective Course –I/MOOC	3	-	-	-	30	30	40	100	-	-	-	-	100	3	
PEC		Program Elective Course –II/MOOC	3	-	-	-	30	30	40	100	-	-	-	-	100	3	
IOC		Interdisciplinary Open Course-I	2	-	-	-	30	30	40	100	-	-	-	-	100	2	
IOC		Interdisciplinary Open Course-II	2	-	-	-	30	30	40	100	-	-	-	-	100	2	
VEC	230USYB01_03	Behavioral Science and Ethics	2	-	-	-	30	30	40	50	-	-	-	-	50	2	
PROJ	231GCAM24_03	Field Project	-	-	4	8	-	-	-	-	50	50	50	50	100	4	
SLC	250GCAM50_03	Seminar			-	8	-	-	-	-	-	-	50	50	50	2	
TOTAL			12	0	4	16									600	18	
MLC#	--	Audit Course-1	1	-	-	-	-	-	-	50	-	-	-	-	50	1	


Sem.	Interdisciplinary Open Course (IOC)-I				Interdisciplinary Open Course (IOC)-II				
III	Course Code	230GETB38_03	230GETB37_03	230VBCB14_03	230GMTB62_03				
	Course Name	Wireless Communication	Principles of Communication System	E-Commerce	Fundamentals of Mechatronics				

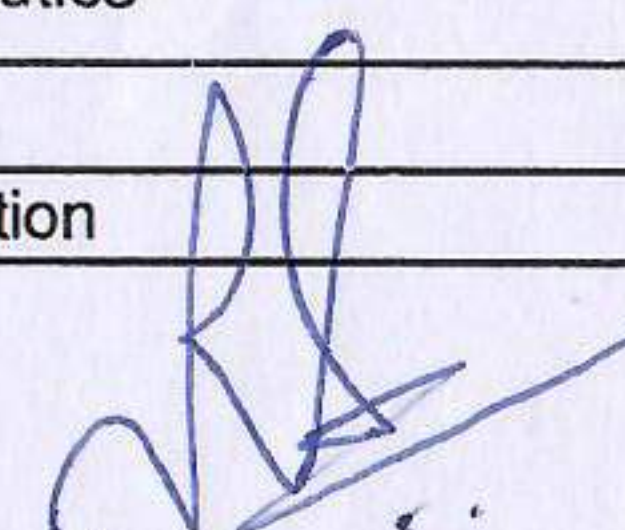


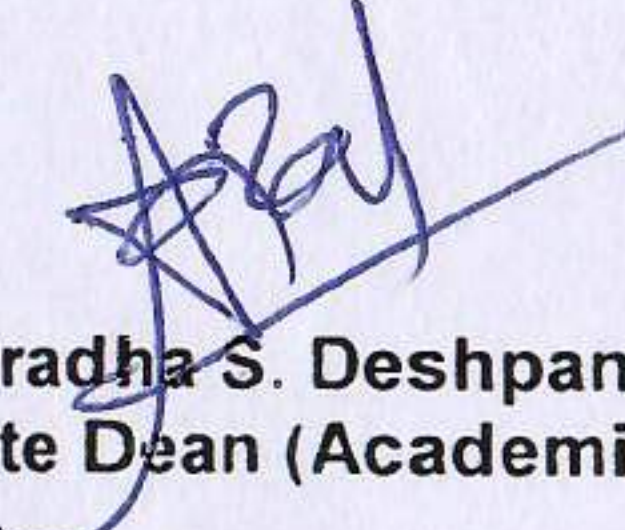
Sem.	PEC	Program Elective Course (PEC)				
		Specialization	AI and ML	Data Science Analytics	Cloud Computing and Virtualization	Blockchain Technology
III	PEC-I	Course Code	230GCAM08_03	230GDIM21_03	240GCAM36_03	240GCAM32_03
		Course Name	Fundamentals of Soft Computing	Introduction to Data Science	Cloud Computing Fundamentals	Introduction to Blockchain Technology
III	PEC-II	Course Code	230GCAM09_03	230GDIM22_03	240GCAM37_03	240GCAM33_03
		Course Name	Introduction to Deep Learning	Foundations of Big Data Analytics	Cloud Infrastructure and Services	Cryptography and Blockchain Security
IV	PEC-III	Course Code	230GCAM10_04	230GDIM23_04	240GCAM38_04	240GCAM34_04
		Course Name	Fundamentals of Natural Language Processing	Data Warehousing and Mining	Cloud Security and Privacy	Blockchain Platforms and Technologies
IV	PEC-IV	Course Code	230GCAM11_04	230GDIM24_04	240GCAM39_04	240GCAM35_04
		Course Name	Foundations of Brain Computer Interface	Advanced Data Visualization and Analytics	Cloud Application Development and Deployment	Blockchain in Business and Industry

Mandatory Learning Course (MLC [#]) Audit Course		
	Audit-I	Audit-II
Course Code	250GCAM52	250GCAM55
Course Name	Cloud Computing and Cloud Security	Chatbots and Conversational AI
Course Code	250GCAM54	250GCAM56
Course Name	DevOps and Continuous Integration/Continuous Deployment (CI/CD)	AI for Healthcare and Bioinformatics
Course Code	250GCAM53	230UPOB02_07
Course Name	Agile Methodologies in Software Development	Introduction to Indian Constitution



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	SCHOOL OF COMPUTATIONAL SCIENCES		RELEASE DATE	01/07/2025
SECOND YEAR MASTER OF COMPUTER APPLICATION (MCA)			RIVISION NO.	0.0 (NEP)


SEMESTER IV (LEVEL – 7.0)


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TYPE	CODE	COURSE NAME	Hours / Week				THEORY (Equal Weightage for CIE and ESE)			PRACTICAL (Equal Weightage for CIE and ESE)		ORAL (Equal Weightage for CIE and ESE)				
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							T1 (30 Marks)	T2 (30 Marks)	Assignments (40 Marks)							
PEC		Program Elective Course –III/ MOOC	3	-	-	-	25			75	-	-	-	-	100	3
PEC		Program Elective Course –IV/MOOC	3	-	-	-	25			75	-	-	-	-	100	3
PROJ	231GCAM25_04	Project/Internship with Project	-	-	12	24	-	-	-	-	200	200	100	100	300	12
TOTAL			6	0	12	24								500	18	
MLC#		Audit Course-II	1	-	-	-	-	-	-	50	-	-	-	-	50	1



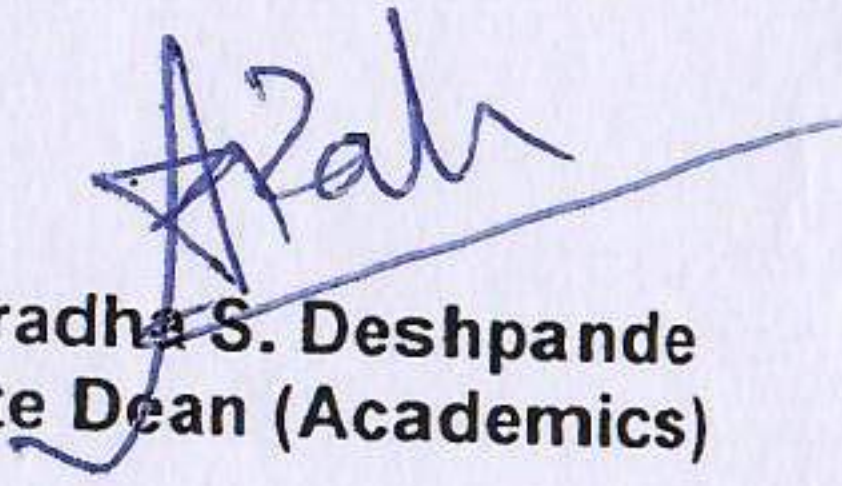
Sem.	PEC	Program Elective Course (PEC)				
		Specialization	AI and ML	Data Science Analytics	Cloud Computing and Virtualization	Blockchain Technology
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Mandatory Learning Course (MLC [#]) Audit Course		
	Audit-I	Audit-II
Course Code	250GCAM52	250GCAM55
Course Name	Cloud Computing and Cloud Security	Chatbots and Conversational AI
Course Code	250GCAM54	250GCAM56
Course Name	DevOps and Continuous Integration/Continuous Deployment (CI/CD)	AI for Healthcare and Bioinformatics
Course Code	250GCAM53	230UPOB02
Course Name	Agile Methodologies in Software Development	Introduction to Indian Constitution

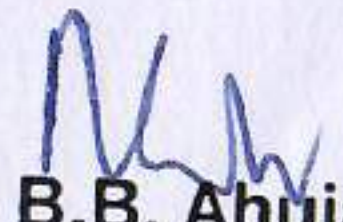

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