


UID NO. : 197

CALIBRATION CERTIFICATE										
ULR NO :		CC310222000002090F			CERTIFICATE No. :		UCSL/07-22/203_01			
Customer Name & Address:					Instrument receipt Date			27.07.2022		
M/s. ICTC LAB					SRF No.			277		
TALUK HEADQUARTERS HOSPITAL					Calibration Date			28.07.2022		
KODUNGALLOOR,680664					Next calibration due			(As per customer request)		
					Certificate Issue date			03.07.2022		
Identification on DUC (Device Under Calibration)										
Instrument Name		MICROPIPETTE			Make		MONOZYMW			
Range		100 µl			Model		EXACTA 100			
Least count					Instrument Condition		OK			
Serial No.		04062169			Calibration Performed at		Mass & Volume Lab			
ID No.		KSCAS/ICTC/KDLR/34			Location					
Environmental Condition			Avg. Temperature (°C)		Avg. RH (%)		Avg. Atmospheric Pressure (hpa)			
			23.9		55		1009			
Equipment & Master Used For calibration										
Instrument Used	Calibrated By	ID No:	Certificate No	Valid Upto	Sr No.	Accreditation No				
Weighing Balance	UCSL	UCSL-WB-01	UCSL/10-21/264_01	28.10.2022	0037905909	CC-3102				
Method Used :				Gravimetric method		Discipline & Category : Mechanical - Volume				
Calibration Reference Standard				Calibration Procedure						
ISO-8655-6 & ISO /TR 20461				UCSL/SOP/01-MPT						
CALIBRATION RESULTS @27°C:-										
1. Lower Volume 100 µl										
1	2	3	4	5	6	7	8	9	10	Mean Volume V
99.76	99.87	99.69	99.54	100.14	100.37	100.45	100.13	100.15	99.84	100.00
Systematic Error es µl :			0.00		Error Limits (±0.80 µl)		Random Error in sr µl :		0.30	
Systematic Error es in % :			0.00		(± 0.80 %)		Random Error in Cv in % :		0.30	
Decision Rule is Applied or Not :						Yes		No		
								✓		
Conclusion /Remarks:										
The Reported Uncertainty is 0.32 µl at ,Coverage Factor K=2, which corresponds to a confidence level at approximately 95 %										
1. The calibration results reported in this certificate are valid at the time of and the stated condition of measurement.										
2.This report is valid for Scientific & Industrial Purpose Only										
3. This report should not be reproduced except in full without our prior permission in writing.										
4. Calibration certificate without signature are not valid.										
5.All the measurements are traceable to SI units through unbroken chain of calibration from the competent laboratories as per ISO/IEC/17025 standard requirements.										
6.This Calibration Certificate relates only to the above DUC										
7. DUC : Device under calibration										
Calibrated by										
					Issued / Approved By (APPU K MANI) Technical Director					



UID NO . 198

CALIBRATION CERTIFICATE											
ULR NO :		CC310222000002819F				CERTIFICATE No. :		UCSL/07-22/203_02			
Customer Name & Address:						Instrument receipt Date		27.07.2022			
M/s. ICTC LAB						SRF No.		277			
TALUK HEADQUARTERS HOSPITAL						Calibration Date		28.07.2022			
KODUNGALLOOR,680664						Next calibration due		28.07.2023			
						(As per customer request)					
						Certificate Issue date		03.07.2022			
Identification on DUC (Device Under Calibration)											
Instrument Name		MICROPIPETTE				Make		VERTEX			
Range		5-50 µl				Model		--			
Least count		1 µl				Instrument Condition		OK			
Serial No.		--				Calibration Performed at		Mass & Volume Lab			
ID No.		KSCAS/ICTC/KDLR/32				Location		--			
Environmental Condition			Avg. Temperature (°C)			Avg. RH (%)			Avg. Atmospheric Pressure (hpa)		
			24.2			53			1009		
Equipment & Master Used For calibration											
Instrument Used		Calibrated		ID No:		Certificate No		Valid Upto		Sr No.	
Weighing Balance		UCSL		UCSL-WB-01		UCSL/10-21/264_01		28.10.2022		0037905909	
Method Used :						Gravimetric method					
Calibration Reference Standard						Discipline & Category : Mechanical - Volume					
ISO-8655-6 & ISO /TR 20461						Calibration Procedure					
						UCSL/SOP/01-MPT					
CALIBRATION RESULTS @ 27 °C :-											
1. Lower Volume 10 µl											
1	2	3	4	5	6	7	8	9	10	Mean Volume V	
10.14	10.05	10.09	10.13	10.14	10.15	10.07	10.17	10.09	10.11	10.12	
Systematic Error es µl :			-0.12			Error Limits (± 0.5 µl)			Random Error in sr µl :		
Systematic Error es in % :			-1.18			(± 5.0 %)			0.04		
						Random Error in Cv in % :			0.38		
									Error Limits (± 0.2 µl)		
									(± 2.0 %)		
2. Middle Volume 25 µl											
1	2	3	4	5	6	7	8	9	10	Mean Volume V	
25.31	25.29	25.32	25.31	25.11	25.21	24.96	25.31	25.06	24.91	25.18	
Systematic Error es µl :			-0.18			Error Limits (± 0.5 µl)			Random Error in sr µl :		
Systematic Error es in % :			-0.72			(± 2.0 %)			0.16		
						Random Error in Cv in % :			0.63		
									Error Limits (± 0.2 µl)		
									(± 0.8 %)		
3. Nominal Volume 50 µl											
1	2	3	4	5	6	7	8	9	10	Mean Volume V	
49.48	49.55	49.57	49.58	49.62	49.63	49.52	49.55	49.46	50.02	49.59	
Systematic Error es µl :			0.41			Error Limits (± 0.5 µl)			Random Error in sr µl :		
Systematic Error es in % :			0.81			(± 1.0 %)			0.16		
						Random Error in Cv in % :			0.32		
									Error Limits (± 0.2 µl)		
									(± 0.4 %)		
Decision Rule is Applied or Not :										Yes	
										No	
										✓	
Conclusion /Remarks:											
The Reported Uncertainty <u>from 10 to 50 µl is 0.32 µl</u> at ,Coverage Factor K=2,which corresponds to a confidence level at approximately 95 %											
1. The calibration results reported in this certificate are valid at the time of and the stated condition of measurement.											
2.This report is valid for Scientific & Industrial Purpose Only											
3. This report should not be reproduced except in full without our prior permission in writing.											
4. Calibration certificate without signature are not valid.											
5.This Calibration Certificate relates only to the above DUC											
6.All the measurements are traceable to SI units through unbroken chain of calibration from the competent laboratories as per ISO/IEC/17025 standard requirements.											
7. DUC : Device under calibration											
Calibrated by						Issued / Approved By (APPU K MANI) (Technical Director)					

