



# CHRISTIAN MEDICAL COLLEGE

DEPARTMENT OF CLINICAL BIOCHEMISTRY  
CMC EXTERNAL QUALITY ASSURANCE SCHEME  
MONTHLY SUMMARY REPORT - JANUARY 2023



Lab Name **TELANGANA DIAGNOSTIC HUB** Lab No **18032**  
Constituent Group **Chemistry I** Date of Result Entered : **25/01/2023**  
PT item **Lyophilized Serum** Date of Report Published : **09/02/2023**

Sl.No	Analyte	Method / Principle Name	Analyzer Name	No of Participants	DV	Participants		Your Value	SDI	U
						CV	SD			
1	GLUCOSE	Hexokinase	Any Analyser (Automation / Semi Automation)	157	174.21	4.68	8.15	175 mg/dL	0.10	1.30
2	UREA	Urease UV / GLDH	Any Analyser (Automation / Semi Automation)	588	31.57	10.65	3.36	14 mg/dL	-5.23	0.28
3	CREATININE	Enzymatic Colorimetric	Any Analyser (Automation / Semi Automation)	138	1.39	10.91	0.15	1.23 mg/dL	-1.05	0.03
4	T.BILIRUBIN	Others (DPD, Vanadate Oxidation)	Any Analyser (Automation / Semi Automation)	205	3.20	12.17	0.39	4.3 mg/dL	2.82	0.05
5	T-PROTEIN	Biuret - Colorimetric	Any Analyser (Automation / Semi Automation)	956	5.25	9.77	0.51	5.1 g/dL	-0.29	0.03
6	ALBUMIN	BCG - colorimetric	Any Analyser (Automation / Semi Automation)	674	3.31	8.11	0.27	3.2 g/dL	-0.41	0.02
7	CALCIUM	OCPC (O - Cresolphthalein Compleazone)	Any Analyser (Automation / Semi Automation)	177	9.32	8.24	0.77	8.9 mg/dL	-0.55	0.12
8	URIC ACID	Enzymatic / Uricase Colorimetric	Any Analyser (Automation / Semi Automation)	939	4.83	16.02	0.77	4 mg/dL	-1.07	0.05
9	CHOLESTEROL	CHOD-PAP	Any Analyser (Automation / Semi Automation)	974	113.44	5.89	6.68	118 mg/dL	0.68	0.43
10	TRIGLYCERIDE	GPO-PAP / Enzymatic Colorimetric / End Point	Any Analyser (Automation / Semi Automation)	935	109.13	7.82	8.54	120 mg/dL	1.27	0.56
11	HDL	Direct method / Enzymatic colorimetric	Any Analyser (Automation / Semi Automation)	780	30.17	20.45	6.17	26.7 mg/dL	-0.56	0.44
12	SODIUM	ISE - Direct	Any Analyser (Automation / Semi Automation)	969	132.87	2.93	3.88	139.3 mmol/L	1.71	0.25
13	POTASSIUM	ISE - Direct	Any Analyser (Automation / Semi Automation)	997	3.42	5.15	0.18	3.52 mmol/L	0.57	0.01
14	CHLORIDE	ISE - Direct	Any Analyser (Automation / Semi Automation)	809	97.51	4.13	4.03	106.3 mmol/L	2.18	0.28
15	AST	UV kinetic(with & without PLP (P-5-P))	Any Analyser (Automation / Semi Automation)	967	50.29	10.00	5.03	65 U/L	2.92	0.32
16	ALT	UV kinetic(with & without PLP (P-5-P))	Any Analyser (Automation / Semi Automation)	958	57.78	13.00	7.51	68 U/L	1.36	0.49
17	ALP	PNP AMP kinetic	Any Analyser (Automation / Semi Automation)	793	101.50	10.81	10.97	91 U/L	-0.96	0.78
18	AMYLASE	Enzymatic Colorimetric / G7PNP Blocked	Any Analyser (Automation / Semi Automation)	154	44.10	17.79	7.84	56 U/L	1.52	1.26

SDI Range	Interpretation
Within -1.00 to +1.00	Excellent.
Within ±1.01 to ±2.00	Good.
Within ±2.01 to ±2.99	Accept with caution. Warning Signal.
Beyond ±3.0	Unacceptable performance. Action Signal.

LAB ADDRESS :  
TELANGANA DIAGNOSTIC HUB  
GOVERNMENT GENERAL HOSPITAL

2/10/23, 1:22 PM

External Quality Assurance Scheme - Print Monthly Summary

NIZAMABAD  
TELANGANA503001

**Coordinator Contact Details:**  
Email: [clinqc@cmcvellore.ac.in](mailto:clinqc@cmcvellore.ac.in)  
Contact Number: 0416-2283102

*Pamela Christudoss*

**Dr. Pamela Christudoss  
CMC EQAS Coordinator  
Christian Medical College, Vellore**

**Homogeneity and Stability of the sample is passed.  
Data in CMC EQAS reports is confidential  
CMC EQAS does not sub contract any components  
\*\*\*\*\* End of Report \*\*\*\*\***



**TELANGANA DIAGNOSTICS HUB,  
NIZAMABAD**

**Form: TD/QSP/08-EQCAR**

**TITLE** EQAS CORRECTIVE ACTION FORM

Issue No. 01

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EQAS Details	CME - EQAS Biochemistry
Analyte:	Chemistry - I
Month:	February - 2023
Date Sample Tested:	17-02-2023

SPECIMEN HANDLING		
Were specimens received in an acceptable condition?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Were specimens stored according to the instructions on the result forms?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Were the samples hemolyzed?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Were samples tested within the time allowed for sample stability?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
If applicable, were the samples reconstituted correctly?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Notes: CME-EQAS sample is reconstituted with 2ml of distilled water and run on the same day, under supervision.		
CLERICAL ERRORS		
Were the results transcribed onto the result forms correctly?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Were the results transcribed from the result forms to the website correctly?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Were the results recorded on the correct result form?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Was the correct instrument/reagent/kit selected?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Were the results recorded in the correct units?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Were the results on your evaluation the same as the results you reported?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Notes: We have crosschecked all the methods and then entered the results correctly.		
QUALITY CONTROL		
Were quality control materials within the acceptable range on the date of PT testing? (Verify the quality control acceptable range in use.)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Is there any indication of trending or shifting of the control results? (for few analytes)	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Notes: IQC is in range for all parameters on 17-02-2023. For few parameters like calcium, bilirubin → shift is seen but calibrated and now fine.		
CALIBRATION		
Were there any problems with the most recent calibration?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
When was the last calibration performed? - on 13-02-2023 (few Amylase, calcium)		
How often is a calibration performed? - as per manufacturer's instructions		
When was the last calibration verification performed? - 9/02 & 13/02/2023.		
Notes: on 9-02-23 (calcium, glucose, Albumin, creatinine) are calibrated and it is fine. on 13-02-23 (calcium, Amylase) are calibrated and it is verified & accepted.		
INSTRUMENT		

<b>PREPARED BY : LAB MANAGER : SIRISHA</b>	<b>APPROVED &amp; ISSUED BY:</b>
<b>REVIEWED BY CONSULTANT BIOCHEMIST</b>	<b>LAB HEAD: Dr. NADIPALLY DIVYA</b>
<b>Dr. M. SWATHI</b>	

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**TELANGANA DIAGNOSTICS HUB,  
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Were instrument problems noted the day the samples were tested? - <i>Minor problems</i>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Has there been any recent maintenance on the analyzer? <i>Minor Cuvette replacement</i>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Have you contacted your analyzer manufacturer for assistance?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

Notes: *In view of frequent minor breakdowns (before day also), contacted manufacturer and rectified.*

**REAGENTS**

Were the reagents stored properly?	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Were the reagents expired or was the open vial stability exceeded?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>
Have there been any changes in reagent manufacturer or formulation?	Yes <input type="checkbox"/>	No <input checked="" type="checkbox"/>

Notes: *All the reagents were stored & maintained as per manufacturer's instructions.*

**TESTING PERSONNEL**

Date of last competency assessment for testing personnel <i>10-10-2022</i>	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Review assay procedure and proficiency test sample preparation instructions with testing personnel to ensure that instructions were followed	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>
Review with testing personnel how samples were loaded to rule out misidentification or transposition of samples.	Yes <input checked="" type="checkbox"/>	No <input type="checkbox"/>

Notes: *The whole work process is supervised by the faculty of biochemistry posted in T-Hub (under the guidance of HOD, Biochemistry).*

Corrective Action: *1) All analytes are in range except for AST/SGOT (SDI → 2.12)*

*→ AS IOC was fine for AST → it may be a random error. We have re-run the CML sample (aliquoted and stored at -20°C) on 10-03-2023.*

*→ The re-run value is 204 U/L ( $190.14 \pm 2 \times 28.72$ )<sup>M SD</sup> which is in range.*

 Person Performing Investigation: Mr. Shiva L.T

 Date: 17-02-2023.

 Consultant Biochemist Dr. M. Swathi

 Date: 17-02-2023.
**PREPARED BY : LAB MANAGER : SIRISHA**
**APPROVED & ISSUED BY:  
LAB HEAD: Dr. NADIPALLY DIVYA**
**REVIEWED BY CONSULTANT BIOCHEMIST**
**Dr. M. SWATHI**
*N. Divya*
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**INVESTIGATION SUMMARY: ROOT CAUSE**

Pre-analytic Phase of Testing	Analytic Phase of Testing	Post-Analytic Phase of Testing
<input type="checkbox"/> PROBLEM WITH PT SAMPLE <input type="checkbox"/> SAMPLE PROCESSING <input type="checkbox"/> DATA ENTRY <input type="checkbox"/> OTHER (SPECIFY): <u>- No -</u>	<input type="checkbox"/> METHODOLOGICAL PROBLEM <input type="checkbox"/> TECHNICAL PROBLEM <input type="checkbox"/> REAGENT PROBLEM <input type="checkbox"/> CALIBRATOR PROBLEM <input type="checkbox"/> OTHER (SPECIFY): <u>- No -</u>	<input type="checkbox"/> CLERICAL ERROR <input type="checkbox"/> REPORTING PROBLEM <input type="checkbox"/> NO EXPLANATION AFTER INVESTIGATION OTHER (SPECIFY): <u>- No -</u>

**PREVENTION**

Preventive action proposed

- Maintenance and calibration schedule is followed as per manufacturer's instructions.  
 - IQC is reviewed daily.  
 - In view of frequent breakdowns, preventive maintenance of instrument is recommended and contacted the manufacturer.

Preventive action Plan

→ Daily & scheduled maintenance is done as per S.O.P.  
 - IQC is monitored and calibration schedule is followed as per S.O.P.  
 - If any outliers in IQC → it is re-run / calibrated and root-cause analysis is done and corrective actions taken accordingly.

Responsibility

- The technicians are trained regularly.  
 - The faculty posted at T-hub supervise the routine work guided by the HOD of Biochemistry.

(Re-run)

Date	10-03-2023	Testing Personnel	Ms. Thirupathi (L.T)
Date	10-03-2023	Department Technical In charge	Dr. M. Swathi (Swathi)

The HOD, Biochemistry, 10-3-23

<b>PREPARED BY : LAB MANAGER : SIRISHA</b>	<b>APPROVED &amp; ISSUED BY:</b>
<b>REVIEWED BY CONSULTANT BIOCHEMIST</b>	<b>LAB HEAD: Dr. NADIPALLY DIVYA</b>
Dr. M. SWATHI	N. Divya

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# CHRISTIAN MEDICAL COLLEGE

DEPARTMENT OF CLINICAL BIOCHEMISTRY  
CMC EXTERNAL QUALITY ASSURANCE SCHEME  
MONTHLY SUMMARY REPORT - FEBRUARY 2023



Lab Name	TELANGANA DIAGNOSTIC HUB	Lab No	18032
Constituent Group	Chemistry I	Date of Result Entered :	20/02/2023
PT item	Lyophilized human serum based	Date of Report Published :	08/03/2023

Sl.No	Analyte	Method / Principle Name	Analyzer Name	No of Participants	DV	Participants		Your Value	SDI	U
						CV	SD			
1	GLUCOSE	Hexokinase	Any Analyser (Automation / Semi Automation)	182	120.06	5.58	6.70	120 mg/dL	-0.01	0.99
2	UREA	Urease UV / GLDH	Any Analyser (Automation / Semi Automation)	648	129.71	8.40	10.90	128.7 mg/dL	-0.09	0.86
3	CREATININE	Enzymatic Colorimetric	Any Analyser (Automation / Semi Automation)	151	5.17	6.52	0.34	4.95 mg/dL	-0.65	0.05
4	T.BILIRUBIN	Others ( DPD, Vanadate Oxidation )	Any Analyser (Automation / Semi Automation)	211	1.48	14.72	0.22	1.8 mg/dL	1.47	0.03
5	T-PROTEIN	Biuret - Colorimetric	Any Analyser (Automation / Semi Automation)	1100	4.63	9.80	0.45	4.1 g/dL	-1.17	0.03
6	ALBUMIN	BCG - colorimetric	Any Analyser (Automation / Semi Automation)	730	2.91	8.69	0.25	2.7 g/dL	-0.83	0.02
7	CALCIUM	OCPC ( O - Cresolphthalein Compleazone )	Any Analyser (Automation / Semi Automation)	195	10.23	8.50	0.87	10.4 mg/dL	0.20	0.12
8	URIC ACID	Enzymatic / Uricase Colorimetric	Any Analyser (Automation / Semi Automation)	1011	6.92	10.14	0.70	6.2 mg/dL	-1.03	0.04
9	CHOLESTEROL	CHOD-PAP	Any Analyser (Automation / Semi Automation)	1046	98.66	7.43	7.33	100 mg/dL	0.18	0.45
10	TRIGLYCERIDE	GPO-PAP / Enzymatic Colorimetric / End Point	Any Analyser (Automation / Semi Automation)	988	87.48	8.82	7.72	92 mg/dL	0.59	0.49
11	HDL	Direct method / Enzymatic colorimetric	Any Analyser (Automation / Semi Automation)	714	28.16	19.26	5.42	20.3 mg/dL	-1.45	0.41
12	SODIUM	ISE - Direct	Any Analyser (Automation / Semi Automation)	1147	120.46	4.12	4.96	126.4 mmol/L	1.20	0.29
13	POTASSIUM	ISE - Direct	Any Analyser (Automation / Semi Automation)	1129	5.00	5.46	0.27	4.86 mmol/L	-0.51	0.02
14	CHLORIDE	ISE - Direct	Any Analyser (Automation / Semi Automation)	921	92.85	4.47	4.15	98.7 mmol/L	1.41	0.27
15	AST	UV kinetic(with & without PLP (P-5-P))	Any Analyser (Automation / Semi Automation)	1021	190.14	15.11	28.72	251 U/L	2.12	1.80
16	ALT	UV kinetic(with & without PLP (P-5-P))	Any Analyser (Automation / Semi Automation)	1025	49.30	15.70	7.74	52 U/L	0.35	0.48
17	AMYLASE	Enzymatic Colorimetric / G7PNP Blocked	Any Analyser (Automation / Semi Automation)	187	79.27	16.96	13.45	102 U/L	1.69	1.97

SDI Range	Interpretation
Within -1.00 to +1.00	Excellent.
Within ±1.01 to ±2.00	Good.
Within ±2.01 to ±2.99	Accept with caution. Warning Signal.
Beyond ±3.0	Unacceptable performance. Action Signal.

LAB ADDRESS :  
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GOVERNMENT GENERAL HOSPITAL  
NIZAMABAD  
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*Pamela Christudoss*

**Coordinator Contact Details:**  
**Email:** [clinqc@cmcvellore.ac.in](mailto:clinqc@cmcvellore.ac.in)  
**Contact Number:** 0416-2283102

**Dr. Pamela Christudoss**  
**CMC EQAS Coordinator**  
Christian Medical College, Vellore

**Homogeneity and Stability of the sample is passed.**  
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**\*\*\*\*\* End of Report \*\*\*\*\***