

## **Response to NC from Clinical Biochemistry Laboratory**

### **NC 1 Response:**

**a.** Attach the HbA1c result for May 2022 month  
Annexure 1: EQAS report HbA1c May 2022

**b.** Attach the root cause analysis for the outliers found in April 2022  
Outlier found in April 2022 - Phosphorus

QC was checked from 11/4/2022 to 16/4/2022 and it turned out to be within acceptable limits. The parameter was under observation with all QC checks on daily basis for the month of April , and following the EQAS report for the next month(May-2022) it was found to be within acceptable limit.(Interpretation : Good, SDI- 1.33). EQAS Report for month of May 2022 is attached.

Therefore, this outlier could be due to Random error

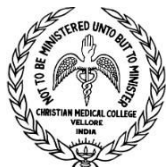
Annexure 2: EQAS May 2022

**c.** Attach the root cause analysis for the outliers found in May 2022 month  
Outlier found in May 2022 - Triacylglycerol

QC was checked from 10/5/2022 to 17/5/2022 and it turned out to be within acceptable limits. The parameter was under observation with all QC checks on daily basis for the month of May , and following the EQAS report for the next month (June-2022) it was found to be within acceptable limit.(Interpretation : Acceptable, SDI- 2.07). EQAS Report for month of June 2022 is attached.

Therefore, this outlier could be due to Random error

Annexure 3: EQAS June 2022



# CHRISTIAN MEDICAL COLLEGE

DEPARTMENT OF CLINICAL BIOCHEMISTRY

CMC EXTERNAL QUALITY ASSURANCE SCHEME

MONTHLY SUMMARY REPORT - JUNE 2022



PC-1024

Lab Name **ESIC MEDICAL COLLEGE AND HOSPITAL** Lab No **7760**  
 Constituent Group **Chemistry I** Date of Result Entered : **17/06/2022**  
 PT item **Lyophilized Serum** Date of Report Published : **07/07/2022**

Sl.No	Analyte	Method / Principle Name	Analyzer Name	No of Participants	DV	Participants		Your Value	SDI	U
						CV	SD			
1	GLUCOSE	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	295	135.84	3.56	4.84	121 mg/dL	-3.06	0.56
2	UREA	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	301	89.10	3.76	3.35	87 mg/dL	-0.63	0.39
3	CREATININE	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	298	8.12	3.87	0.31	7.6 mg/dL	-1.66	0.04
4	T.BILIRUBIN	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	296	5.14	6.60	0.34	4.94 mg/dL	-0.59	0.04
5	T-PROTEIN	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	296	4.29	4.01	0.17	4.1 g/dL	-1.10	0.02
6	ALBUMIN	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	294	2.40	5.93	0.14	2.3 g/dL	-0.70	0.02
7	CALCIUM	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	292	7.32	4.29	0.31	7 mg/dL	-1.02	0.04
8	PHOSPHORUS	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	244	2.92	6.10	0.18	3.1 mg/dL	1.01	0.02
9	URIC ACID	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	290	9.62	3.27	0.32	9.5 mg/dL	-0.38	0.04
10	CHOLESTEROL	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	272	83.86	5.65	4.74	88 mg/dL	0.87	0.57
11	TRIGLYCERIDE	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	277	165.20	4.03	6.66	179 mg/dL	2.07	0.80
12	HDL CHO	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	274	16.77	7.99	1.34	17 mg/dL	0.17	0.16
13	SODIUM	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	227	108.79	2.46	2.68	106 mmol/L	-1.04	0.36
14	POTASSIUM	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	228	2.00	0.00	0.00	2.1 mmol/L	0.00	0.00
15	CHLORIDE	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	186	77.77	2.22	1.73	78 mmol/L	0.13	0.25
16	AST	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	288	64.50	6.31	4.07	65 U/L	0.12	0.48
17	ALT	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	271	110.80	10.12	11.21	96 U/L	-1.32	1.36
18	ALP	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	294	262.99	8.87	23.32	208 U/L	-2.36	2.72
19	AMYLASE	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	162	34.52	13.96	4.82	34 U/L	-0.11	0.76
20	IRON	Dry Chemistry I	Ortho Clinical Diagnostics / Fuji - Dry Chemistry Series	86	170.08	9.18	15.61	182 ug/dL	0.76	3.37
21	MAGNESIUM	Dry Chemistry	Ortho Clinical	111	3.60	4.61	0.17	3.2	-2.41	0.03

Diagnostics Dry Chemistry Series		mg/dL
SDI Range	Interpretation	
Within -1.00 to +1.00	Excellent.	
Within $\pm 1.01$ to $\pm 2.00$	Good.	
Within $\pm 2.01$ to $\pm 2.99$	Accept with caution. Warning Signal.	
Beyond $\pm 3.0$	Unacceptable performance. Action Signal.	

## LAB ADDRESS :

ESIC MEDICAL COLLEGE AND HOSPITAL  
 DR. HARNAM KAUR, DEPAT OF BICHEMISTRY  
 FARIDABAD  
 HARYANA121001

Coordinator Contact Details:  
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 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 \*\*\*\*\*

## VIEW LAB MONTHLY SUMMARY

Lab Name	ESIC MEDICAL COLLEGE AND HOSPITAL		<a href="#">Details About Robust Analysis</a>							
Lab No	7760		<a href="#">Detail About Monthly Summary</a>							
Month	April		<a href="#">Detail about SDI</a>							
Year	2022									
Constituent Group	Chemistry I									
<a href="#">Click on the analyte to view Graphical Data</a>			<a href="#">All Analyser Result</a>		<a href="#">Print</a>					
			Date of Result Entered : 13/04/2022							
			Date of Report Published : 05/05/2022							
Sl.No	Analyte	Method / Principle Name	Analyzer Name	No of Participants	DV	Participants CV	SD	Your Value	SDI	U
1	<a href="#">GLUCOSE</a>	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	292	214.22	3.11	6.67	219 mg/dL	0.72	0.78
2	<a href="#">UREA</a>	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	301	36.81	4.87	1.79	36 mg/dL	-0.45	0.21
3	<a href="#">CREATININE</a>	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	297	5.05	5.16	0.26	5.2 mg/dL	0.57	0.03
4	<a href="#">T.BILIRUBIN</a>	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	299	2.60	6.92	0.18	2.4 mg/dL	-1.11	0.02
5	<a href="#">T-PROTEIN</a>	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	294	5.19	4.78	0.25	4.5 g/dL	-2.78	0.03
6	<a href="#">ALBUMIN</a>	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	294	3.07	4.85	0.15	2.9 g/dL	-1.14	0.02
7	<a href="#">CALCIUM</a>	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	288	10.37	3.89	0.40	10.7 mg/dL	0.82	0.05
8	<a href="#">PHOSPHORUS</a>	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	245	6.05	5.32	0.32	3.6 mg/dL	-7.61	0.04
9	<a href="#">URIC ACID</a>	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	290	6.47	2.69	0.17	6.5 mg/dL	0.17	0.02
10	<a href="#">CHOLESTEROL</a>	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	274	106.50	4.45	4.74	107 mg/dL	0.11	0.57
11	<a href="#">TRIGLYCERIDE</a>	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	275	147.38	4.69	6.92	155 mg/dL	1.10	0.83
12	<a href="#">HDL CHO</a>	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	271	23.04	7.13	1.64	23 mg/dL	-0.02	0.20
13	<a href="#">SODIUM</a>	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	227	135.11	2.34	3.16	136 mmol/L	0.28	0.42
14	<a href="#">POTASSIUM</a>	Dry Chemistry	Ortho Clinical Diagnostics Dry	230	4.07	2.90	0.12	4.1 mmol/L	0.25	0.02

			Chemistry Series							
15	<b>CHLORIDE</b>	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	186	106.34	2.73	2.91	105 mmol/L	-0.46	0.43
16	<b>AST</b>	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	293	151.21	6.98	10.55	160 U/L	0.83	1.23
17	<b>ALT</b>	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	292	65.10	8.76	5.70	64 U/L	-0.19	0.67
18	<b>ALP</b>	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	304	104.13	8.52	8.87	111 U/L	0.77	1.02
19	<b>AMYLASE</b>	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	154	72.11	10.71	7.72	74 U/L	0.24	1.24
20	<b>IRON</b>	Dry Chemistry I	Ortho Clinical Diagnostics / Fuji - Dry Chemistry Series	88	83.98	13.97	11.73	84 ug/dL	0.00	2.50
21	<b>MAGNESIUM</b>	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	109	3.38	4.41	0.15	3.5 mg/dL	0.81	0.03

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

### Links

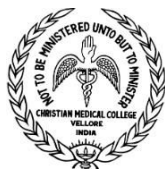
<a href="#">Modify Address</a>	<a href="#">Modify Methods</a>	<a href="#">Submit Lab Results</a>	<a href="#">View Lab Monthly Summary</a>
<a href="#">Yearly Summary</a>	<a href="#">Change Password</a>	<a href="#">Home</a>	<a href="#">Sign-out</a>

## VIEW LAB MONTHLY SUMMARY

Lab Name	ESIC MEDICAL COLLEGE AND HOSPITAL		<a href="#">Details About Robust Analysis</a>							
Lab No	7760		<a href="#">Detail About Monthly Summary</a>							
Month	April		<a href="#">Detail about SDI</a>							
Year	2022									
Constituent Group	HbA1c									
<a href="#">Click on the analyte to view Graphical Data</a>			<a href="#">All Analyser Result</a>	<a href="#">Print</a>						
Date of Result Entered : 13/04/2022										
Date of Report Published : 05/05/2022										
Sl.No	Analyte	Method / Principle Name	Analyzer Name	No of Participants	DV	Participants CV	Participants SD	Your Value	SDI	U
1	HbA1c	Turbidimetric Inhibition Immunoassay	Any Analyser	279	6.67	13.32	0.89	6.1 %	-0.64	0.11
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.								

## Links

<a href="#">Modify Address</a>	<a href="#">Modify Methods</a>	<a href="#">Submit Lab Results</a>	<a href="#">View Lab Monthly Summary</a>
<a href="#">Yearly Summary</a>	<a href="#">Change Password</a>	<a href="#">Home</a>	<a href="#">Sign-out</a>



# CHRISTIAN MEDICAL COLLEGE

DEPARTMENT OF CLINICAL BIOCHEMISTRY

CMC EXTERNAL QUALITY ASSURANCE SCHEME

MONTHLY SUMMARY REPORT - MAY 2022



PC-1024

Lab Name **ESIC MEDICAL COLLEGE AND HOSPITAL**

Lab No **7760**

Constituent Group **Chemistry I**

Date of Result Entered : **15/05/2022**

PT item **Lyophilized Serum**

Date of Report Published : **08/06/2022**

Sl.No	Analyte	Method / Principle Name	Analyzer Name	No of Participants	DV	Participants		Your Value	SDI	U
						CV	SD			
1	GLUCOSE	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	296	179.51	4.12	7.39	160 mg/dL	-2.64	0.86
2	UREA	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	303	64.05	4.50	2.88	60 mg/dL	-1.41	0.33
3	CREATININE	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	298	2.49	4.61	0.12	2.4 mg/dL	-0.78	0.01
4	T.BILIRUBIN	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	297	3.23	8.12	0.26	2.86 mg/dL	-1.41	0.03
5	T-PROTEIN	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	295	5.54	4.59	0.25	5.6 g/dL	0.24	0.03
6	ALBUMIN	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	295	3.32	4.89	0.16	3.2 g/dL	-0.74	0.02
7	CALCIUM	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	292	10.85	3.81	0.41	10.6 mg/dL	-0.61	0.05
8	PHOSPHORUS	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	245	4.83	5.76	0.28	5.2 mg/dL	1.33	0.04
9	URIC ACID	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	291	4.68	3.59	0.17	4.6 mg/dL	-0.48	0.02
10	CHOLESTEROL	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	275	115.56	5.15	5.95	122 mg/dL	1.08	0.72
11	TRIGLYCERIDE	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	275	124.13	5.18	6.43	144 mg/dL	3.09	0.78
12	HDL CHO	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	271	23.24	6.71	1.56	23 mg/dL	-0.15	0.19
13	SODIUM	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	228	139.36	2.87	4.00	145 mmol/L	1.41	0.53
14	POTASSIUM	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	230	4.82	2.86	0.14	5 mmol/L	1.30	0.02
15	CHLORIDE	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	177	100.24	2.68	2.68	103 mmol/L	1.03	0.40
16	AST	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	296	90.21	6.78	6.12	93 U/L	0.46	0.71
17	ALT	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	295	57.87	9.95	5.76	46 U/L	-2.06	0.67

18	ALP	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	300	91.80	8.27	7.60	81 U/L	-1.42	0.88
19	AMYLASE	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	163	47.62	12.67	6.03	51 U/L	0.56	0.95
20	IRON	Dry Chemistry I	Ortho Clinical Diagnostics / Fuji - Dry Chemistry Series	85	89.78	9.63	8.64	79 ug/dL	-1.25	1.87
21	MAGNESIUM	Dry Chemistry	Ortho Clinical Diagnostics Dry Chemistry Series	112	2.63	5.36	0.14	2.5 mg/dL	-0.92	0.03

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

## LAB ADDRESS :

ESIC MEDICAL COLLEGE AND HOSPITAL  
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 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 \*\*\*\*\*