Regional Laboratory: # 60, 2nd Floor, above Ammas Pastries ,Appa Reddy Palya, Double Road, Indra Nagar, Bangalore, Karnataka - 560038
Ph:- 04061216121

| | | | |
|---|---|---|---|
| Patient Name | : Mrs. TULASI K | Reg. No. | : 00432512270002 |
| Age and Sex | : 37 Yrs / Female | PCC Code | : PCL-KA-656 |
| Referring Doctor | : Dr. Swarna Diagnostic Centre | Sample Drawn Date | : 27-Dec-2025 10:10 AM |
| Referring Customer | : N/A | Registration Date | : 27-Dec-2025 12:48 PM |
| Vial ID | : Q3933726 | Report Date | : 27-Dec-2025 03:19 PM |
| *Sample Type* | : *WB-EDTA* | Report Status | : Final Report |
| *Client Address* | : *New Mico Layout, Garve Bavi Palya, Bangalore* | | |

## HEMATOLOGY

### PATHCHECK ULTIMA

| Test Name | Obtained Value | Units | Bio. Ref. Intervals (Age/Gender specific) | Method |
|---|---|---|---|---|
| **Complete Blood Count (CBC)** | | | | |
| Haemoglobin | 12.9 | g/dL | 11.5-15.5 | Colorimetric |
| RBC Count | 4.7 | 10^12/L | 4.5-5.5 | Electrical Impedance |
| Haematocrit (HCT) | **39.3** | % | 40-50 | Calculated |
| MCV | 83.9 | fl | 83-101 | RBC Histogram |
| MCH | 27.6 | pg | 27-32 | Calculated |
| MCHC | 32.8 | g/dL | 31.5-34.5 | Calculated |
| RDW-CV | 14.0 | % | 11.6-14.0 | RBC Histogram |
| Platelet Count | 205 | 10^9/L | 150-410 | Electrical Impedance/Microscopy |
| WBC count, Total | 5.8 | 10^9/L | 4.0-10.0 | Impedance |
| Neutrophils | 50.0 | % | 40-70 | Microscopy |
| Neutrophil-Absolute Count | 2.9 | 10^9/L | 2.0-7.0 | Calculated |
| Lymphocytes | **41.0** | % | 20-40 | Microscopy |
| Lymphocytes-Absolute Count | 2.4 | 10^9/L | 1.0-3.0 | Calculated |
| Monocytes | 6.0 | % | 2-10 | Microscopy |
| Monocytes-Absolute Count | 0.3 | 10^9/L | 0.2-1.0 | Calculated |
| Eosinophils | 3.0 | % | 1-6 | Microscopy |
| Eosinophils-Absolute Count | 0.2 | 10^9/L | 0.02-0.5 | Calculated |
| Basophils | 0.0 | % | 0-2 | Microscopy |
| Basophils-Absolute Count | 0.0 | 10^9/L | 0.0-0.3 | Calculated |
| Others | 0.0 | % | 00 | Microscopy |
| Remarks | . | | | |

**Sample is Processed on Automated CBC Analyzer**
***Note:*** *Haematocrit (HCT) is derived from calculated MCV based on RBC Histogram as per Manufacturer's Manual*

| | | | |
|---|---|---|---|
| ***Erythrocyte Sedimentation Rate (ESR)** | **16** | mm in 1hr 12 or less | Westergren method |

**Comment:**

Conditions that may be associated with a highly elevated ESR include the Hypersensitivity Vasculitis, Giant Cell Arteritis, Waldenstrom Macroglobulinemia, Polymyalgia Rheumatic, Metastatic Cancer, Chronic infection, Hyperfibrogenemia etc.

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| | | | |
|---|---|---|---|
| Patient Name | : Mrs. TULASI K | Reg. No. | : 00432512270002 |
| Age and Sex | : 37 Yrs / Female | PCC Code | : PCL-KA-656 |
| Referring Doctor | : Dr. Swarna Diagnostic Centre | Sample Drawn Date | : 27-Dec-2025 10:10 AM |
| Referring Customer | : N/A | Registration Date | : 27-Dec-2025 12:48 PM |
| Vial ID | : Q3933724, Q3933726, Q3933725 | Report Date | : 27-Dec-2025 01:48 PM |
| *Sample Type* | *: Serum, WB-EDTA , Plasma-Sodium* | Report Status | : Final Report |
| *Client Address* | *: New Mico Layout, Garve Bavi Palya, Bangalore* | | |

## CLINICAL BIOCHEMISTRY

### PATHCHECK ULTIMA

| Test Name | Obtained Value | Units | Bio. Ref. Intervals (Age/Gender specific) | Method |
|---|---|---|---|---|
| ***25 - Hydroxy Vitamin D- Serum** | **12.87** | ng/mL | Deficiency - < 20<br>Insufficiency - 20 -30<br>Sufficiency - 30 - 100<br>Toxicity - >100 | CMIA |

**Comments:**

- 25 OH Vitamin D is total of Vitamin D in Bone and mineral metabolism was recognized from its first identification as a factor that could cure rickets. However, Vitamin D is now recognized as a prohormone which has multiple roles in maintaining optimal health.
- Vitamin D toxicity is a recognized problem but a rare occurrence. Instead, a recent growing public health problem is Vitamin D insufficiency.

| | | | | |
|---|---|---|---|---|
| ***Glycosylated Hemoglobin(GHb/HbA1c)** | 4.97 | % | <5.7 Non diabetic,5.7 – 6.4 Borderline diabetic,>6.4 Diabetic | Boronate Affinity HPLC |
| ***Glycosylated Hemoglobin** | 30.82 | mmol/mol | | Calculated |
| ***Mean Blood Glucose** | 95.94 | mg/dL | 90 - 120 : Excellent Control 121 - 150 : Good Control 151 - 180 : Average Control 181 - 210 : Action Suggested >211 :Panic Value | Calculated |

**Comments:**

- HbA1c is an indicator of glycemic control. HbA1c represents average Glycemia over the past six to eight weeks. Glycation of Hemoglobin occurs over the entire 120 day life span of the Red Blood Cell, but within this 120 days. Clinical studies suggest that a patient in stable control will have 50% of their HbA1c formed in the month before sampling, 25% in the month before that, and the remaining 25% in months two to four.
- Mean Plasma Glucose mg/dL = 28.7 x A1C - 46.7. Correlation between HbA1c and Mean Plasma Glucose (MPG) is not "perfect" but rather only this means that to predict or estimate average glucose from HbA1c or vice-versa is not "perfect" but gives a good working ballpark estimate.
- Afternoon and evening results correlate more closely to HbA1c than morning results, perhaps because morning fasting glucose levels vary much more than daytime Glucose levels, which are easier to predict and control. As per IFCC recommendations 2007, HbA1c being reported as above maintaining traceability to both IFCC (mmol/mol) & NGSP (%) units.
- Reference: ADA (American Diabetic Assosciation) Guidelines 2023.

| | | | | |
|---|---|---|---|---|
| ***Glucose-Plasma -Fasting** | 88.0 | mg/dL | Normal < 100<br>Pre-diabetic 100-125<br>Diabetic >= 126 | Hexokinase |

**Comments:**

- Glucose is the major carbohydrate present in blood. Its oxidation in the cells is the source of energy for the body. Increased levels of Glucose are found in Diabetes Mellitus, Hyperparathyroidism, Pancreatitis and renal failure.
- Decreased levels are found in Insulinoma, Hypothyroidism, Hypopituitarism and extensive Liver disease

**Criteria for diagnosis of Diabetes mellitus:**

FPG >/=126 mg/dL, Fasting is defined as no caloric intake for atleast 8 hours.

Fasting hypoglycemia may be observed in persons taking certain diabetes medications, antibiotics and alcoholic beverages.

Additionally intestinal disorders, endocrine disorders, insulin surge, nature of diet, reduced food intake than usual and stress are among several other factors. Please correlate clinically.

**Reference:** American Diabetes association guidelines 2021.

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| | | | |
|---|---|---|---|
| Patient Name | : Mrs. TULASI K | Reg. No. | : 00432512270002 |
| Age and Sex | : 37 Yrs / Female | PCC Code | : PCL-KA-656 |
| Referring Doctor | : Dr. Swarna Diagnostic Centre | Sample Drawn Date | : 27-Dec-2025 10:10 AM |
| Referring Customer | : N/A | Registration Date | : 27-Dec-2025 12:48 PM |
| Vial ID | : Q3933724, Q3933726, Q3933725 | Report Date | : 27-Dec-2025 01:48 PM |
| *Sample Type* | : *Serum, WB-EDTA , Plasma-Sodium* | Report Status | : Final Report |
| *Client Address* | : *New Mico Layout, Garve Bavi Palya, Bangalore* | | |

## CLINICAL BIOCHEMISTRY

### PATHCHECK ULTIMA

| Test Name | Obtained Value | Units | Bio. Ref. Intervals (Age/Gender specific) | Method |
|---|---|---|---|---|
| ***Thyroid Stimulating Hormone (TSH)** | 2.06 | µIU/mL | 0.4-4.2 | CMIA |

| Biological Reference Intervals : TSH(µIU/mL) | |
|---|---|
| **Pregnancy (As per American Thyroid Association)** | |
| 1 Trimester | 0.10-2.50 |
| 2 Trimester | 0.2-3.00 |
| 3 Trimester | 0.3-3.00 |

**Interpretation:**

- Assay results should be interpreted in context to the clinical condition and associated results of other investigations.
- Previous treatment with Corticosteroid therapy may result in lower TSH levels while Thyroid hormone levels are normal.
- Results are invalidated if the client has undergone a radionuclide scan within 7-14 days before the test.
- Abnormal Thyroid test findings often found in critically ill clients should be repeated after the critical nature of the condition is resolved.
- The production, circulation, and disposal of Thyroid hormone are altered throughout the stages of pregnancy.

**Electrolyte Profile - Serum**

| | | | | |
|---|---|---|---|---|
| Sodium (Na) | 141 | mmol/L | 135 - 145 | ISE Direct |
| Potassium (K) | 4.9 | mmol/L | 3.5 - 5.1 | ISE Direct |
| Chloride(CL) | 104 | mmol/L | 98 - 107 | ISE Direct |

Comments:-

An electrolyte panel is often part of a routine blood screening or a comprehensive metabolic panel. The test may also be used to find out if your body has a fluid imbalance or an imbalance in acid and base levels.

Electrolytes are usually measured together. But sometimes they are tested individually. Separate testing may be done to suspect a problem with a specific electrolyte.

Result rechecked and verified for abnormal cases.

*** End Of Report ***

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| | | | |
|---|---|---|---|
| Patient Name | : Mrs. TULASI K | Reg. No. | : 00432512270002 |
| Age and Sex | : 37 Yrs / Female | PCC Code | : PCL-KA-656 |
| Referring Doctor | : Dr. Swarna Diagnostic Centre | Sample Drawn Date | : 27-Dec-2025 10:10 AM |
| Referring Customer | : N/A | Registration Date | : 27-Dec-2025 12:48 PM |
| Vial ID | : Q3933724 | Report Date | : 27-Dec-2025 01:27 PM |
| *Sample Type* | : *Serum* | Report Status | : Final Report |
| *Client Address* | : *New Mico Layout, Garve Bavi Palya, Bangalore* | | |

## CLINICAL BIOCHEMISTRY

### PATHCHECK ULTIMA

| Test Name | Obtained Value | Units | Bio. Ref. Intervals (Age/Gender specific) | Method |
|---|---|---|---|---|
| **Liver Function Test (LFT)** | | | | |
| Bilirubin Total | 0.50 | mg/dL | 0.2-1.2 | Diazotization |
| Bilirubin Direct | 0.30 | mg/dL | 0.1-0.5 | Diazotization |
| Bilirubin Indirect | 0.2 | mg/dL | 0.2 - 1.0 | Calculated |
| Alkaline Phosphatase (ALP) | 54.0 | U/L | 46-116 | Para-Nitrophenyl-phosphate |
| Aspartate Aminotransferase (SGOT) | 17.0 | U/L | 5-34 | NADH w/o P-5'-P |
| Alanine Transaminase (ALT/SGPT) | 13.0 | U/L | 0.0-55 | NADH w/o P-5'-P |
| Gamma Glutamyl Transferase (GGT) | 13 | U/L | 9-36 | L-g-g-3-Carboxy-4-Nitroanilide subs |
| Protein Total | 6.8 | g/dL | 6.4-8.3 | Biuret |
| Albumin | 4.0 | g/dL | 3.5-5.2 | Bromcresol Green |
| Globulin | 2.8 | g/dl | 2.5 - 3.8 | Calculated |
| Albumin / Globulin Ratio | 1.4 | | 1.0 - 2.1 | Calculated |
| SGOT/SGPT Ratio | 1 | U/U | >2.0 suggests alcoholic liver disease. | Calculated |

*Liver function tests are blood tests used to help diagnose and monitor Liver disease or damage. Screen for Liver infections, such as Hepatitis, monitor possible side effects of medications.Measure the severity of a disease, particularly scarring of the Liver (Cirrhosis)
*__Alanine Transaminase (ALT)-__ an enzyme found in the Liver that helps your body metabolize protein. When the Liver is damaged, ALT is released into the bloodstream and levels increase.
*__Aspartate Transaminase (AST)-__ an enzyme that helps metabolize Alanine, an amino acid. Like ALT, AST is normally present in blood at low levels. An increase in AST levels may indicate Liver damage or disease or Muscle damage.
*__Alkaline Phosphatase (ALP)__- an enzyme in the Liver, bile ducts and bone. Higher-than-normal levels of ALP may indicate liver damage or disease, such as a blocked bile duct, or certain bone diseases.
*__Albumin and Total Protein-__ Albumin is one of several proteins made in the Liver. Your body needs these proteins to fight infections and to perform other functions. Lower-than-normal levels of albumin and total protein might indicate Liver damage or disease
*__Bilirubin-__ a substance produced during the normal breakdown of red blood cells. Bilirubin passes through the liver and is excreted in stool. Elevated levels of bilirubin (jaundice) might indicate liver damage or disease or certain types of anemia.
*__Gamma-Glutamyltransferase (GGT)-__ GGT is an enzyme in the blood. Higher-than-normal levels may indicate liver or bile duct damage.

*** End Of Report ***

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| | | | |
|---|---|---|---|
| Patient Name | : Mrs. TULASI K | Reg. No. | : 00432512270002 |
| Age and Sex | : 37 Yrs / Female | PCC Code | : PCL-KA-656 |
| Referring Doctor | : Dr. Swarna Diagnostic Centre | Sample Drawn Date | : 27-Dec-2025 10:10 AM |
| Referring Customer | : N/A | Registration Date | : 27-Dec-2025 12:48 PM |
| Vial ID | : Q3933724 | Report Date | : 27-Dec-2025 01:49 PM |
| *Sample Type* | *: Serum* | Report Status | : Final Report |
| *Client Address* | *: New Mico Layout, Garve Bavi Palya, Bangalore* | | |

## CLINICAL BIOCHEMISTRY

### PATHCHECK ULTIMA

| Test Name | Obtained Value | Units | Bio. Ref. Intervals (Age/Gender specific) | Method |
|---|---|---|---|---|
| **Lipid Profile** | | | | |
| Cholesterol Total | 135 | mg/dL | Adult: Desirable<200 mg/dL, Borderline: 200 – 239 mg/dL, High:>240 mg/dL | Enzymatic |
| Cholesterol HDL | 51 | mg / dL | 40 - 60 | Direct Homogenous |
| Cholesterol - LDL | 75 | mg/dL | <100 Optimal | Calculated |
| Cholesterol VLDL | 9 | mg/dL | 7-40 | Calculated |
| Non-HDL cholesterol | 84 | mg/dL | Optimal < 130 | Calculated |
| Triglycerides | 45.0 | mg/dL | Normal: <150<br>Borderline High: 150–199<br>High: 200–499<br>Very High: >500 | Glycerol Phosphate Oxidase |
| Cholesterol Total/Cholesterol HDL Ratio | 2.6 | | 0 - 4.0 | Calculated |
| Cholesterol LDL/Cholesterol HDL | 1.5 | | 0 - 3.5 | Calculated |

**COMMENTS: Therapeutic target levels of lipids as per NCEP – ATP III recommendations:**

| | |
|---|---|
| **Total Cholesterol (mg/dL)** | <200 - Desirable, 200-239 - Borderline High, >240 - High |
| **HDL Cholesterol (mg/dL)** | <40 - Low, >60 - High |
| **LDL Cholesterol (mg/dL)** | <100 Optimal, [Primary Target of Therapy], 100-129 - Near Optimal/Above Optimal, 130-159 - Borderline High, 160-189 - High, >190 Very High |
| **Serum Triglycerides (mg/dL)** | <150 Normal, 150-199 Borderline High, 200-499 High, >500 Very High |

NCEP recommends lowering of LDL Cholesterol as the primary therapeutic target with Lipid lowering agents, however, if Triglycerides remain >200 mg/dL after LDL goal is reached, set secondary goal for non-HDL Cholesterol (total minus HDL) 30 mg/dL higher than LDL goal.

**When Triglyceride level is > 400 mg/dL, Friedewald Equation is not applicable for calculation of LDL & VLDL. Hence the calculated values are not provided for such samples.**

**ATP III Guidelines:**

| Risk Category | LDL Goal | LDL Level at Which to Initiate Therapeutic Lifestyle Changes (TLC) | LDL Level at Which to Consider Drug Therapy |
|---|---|---|---|
| CHD or CHD RiskEquivalents(10-year risk >20%) | <100 mg/dL | >100 mg/dL | >130 mg/dL (100-129 mg/dL: drug optional)* |
| 2+ Risk Factors (10-year risk <20%) | <130 mg/dL | >130 mg/dL | 10-year risk 10-20%: >130 mg/dL 10-year risk <10%:>160mg/dL |
| 0-1 Risk Factor | <160 mg/dL | >160 mg/dL | >190 mg/dL (160-189 mg/dL: LDL-lowering drug optional) |

*** End Of Report ***

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| | | | |
|---|---|---|---|
| Patient Name | : Mrs. TULASI K | Reg. No. | : 00432512270002 |
| Age and Sex | : 37 Yrs / Female | PCC Code | : PCL-KA-656 |
| Referring Doctor | : Dr. Swarna Diagnostic Centre | Sample Drawn Date | : 27-Dec-2025 10:10 AM |
| Referring Customer | : N/A | Registration Date | : 27-Dec-2025 12:48 PM |
| Vial ID | : Q3933724 | Report Date | : 27-Dec-2025 02:31 PM |
| *Sample Type* | : *Serum* | Report Status | : Final Report |
| *Client Address* | : *New Mico Layout, Garve Bavi Palya, Bangalore* | | |

## CLINICAL BIOCHEMISTRY

### PATHCHECK ULTIMA

| Test Name | Obtained Value | Units | Bio. Ref. Intervals (Age/Gender specific) | Method |
|---|---|---|---|---|
| **Iron Deficiency Profile-II** | | | | |
| Iron | 116 | µg/dL | 50-170 | Ferene |
| Iron Binding Capacity - Total (TIBC) | 290 | µg/dL | 250-450 | Calculated |
| Transferrin | 202.5 | mg/dL | 176 - 280 | Calculated |
| % Iron Saturation | 40 | % | 20 - 50 | Calculated |

**Iron** Iron found in the blood is mainly present in the hemoglobin of the RBCs. Its role in the body is mainly in the transportation. Iron is absorbed in the Small Intestine, and bound to a globulin in the plasma called Transferrin and transported to the Bone Marrow for the formation of Hemoglobin. Increased serum levels are found in Hemolytic Anemias, Hepatitis, Lead and Iron poisoning. Decreased serum levels are found in Anemias caused by Iron Deficiency due to insufficient intake or absorption of Iron, chronic blood loss, late pregnancy and Cancer

**TIBC** The serum TIBC varies in disorders of Iron metabolism. In Iron-deficiency Anemia the TIBC is elevated and the transferrin saturation is lowered to 15% or less. Low serum Iron associated with low TIBC is characteristic of the anemia of chronic disorders, malignant tumors, and infections.

| | | | | |
|---|---|---|---|---|
| ***Calcium** | 9.40 | mg/dl | 8.4-10.2 | Arsenazo III Complex |

**Interpretation:**

| Category | Normal Ref. Range |
|---|---|
| Premature | 6.2 mg/dL to 11.0 mg/dL |
| 0 to 10 days | 7.6 mg/dL to 10.4 mg/dL |
| 10 days to 24 months | 9.0 mg/dL to 11.0 mg/dL |
| Child 2 to 12 years | 8.8 mg/dL to 10.8 mg/dL |
| Adult | 8.4 mg/dL to 10.2 mg/dL |
| Male > 60 years | 8.8 mg/dL to 10.0 mg/dL |

**Comments:**
* Calcium in the body is found mainly in the bones (approximately 99%). In serum, Calcium exists in a free ionised form and in bound form (with Albumin). Hence, a decrease in Albumin causes lower Calcium levels and vice-versa.
* Calcium levels in serum depend on the Parathyroid Hormone.
* Increased Calcium levels are found in Bone tumors, Hyperparathyroidism. decreased levels are found in Hypoparathyroidism, renal failure, Rickets.

| | | | | |
|---|---|---|---|---|
| ***Vitamin - B12** | 276.9 | pg/mL | 187-833 | CMIA |

**Comments:**
- Vitamin B12 is essential in DNA synthesis Hematopoiesis, and Central Nervous System integrity.
- Its absorption depends on the presence of intrinsic factor (IF) and may be due to lack of IF secretion by gastric mucosa.
- Vitamin B12 deficiency frequently causes Macrocytic Anemia, Glossitis, Pheripheral Neuropathy, Weakness, Hyperflexia, Ataxia, Loss of Proprioception, poor coordination and effective behavioural changes. A significant increase in RBC MCV may be an important indicator of Vitamin B12 deficiency.

*** End Of Report ***

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| | | | |
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| Patient Name | : Mrs. TULASI K | Reg. No. | : 00432512270002 |
| Age and Sex | : 37 Yrs / Female | PCC Code | : PCL-KA-656 |
| Referring Doctor | : Dr. Swarna Diagnostic Centre | Sample Drawn Date | : 27-Dec-2025 10:10 AM |
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| Vial ID | : Q3933724 | Report Date | : 27-Dec-2025 01:49 PM |
| *Sample Type* | *: Serum* | Report Status | : Final Report |
| *Client Address* | *: New Mico Layout, Garve Bavi Palya, Bangalore* | | |

## CLINICAL BIOCHEMISTRY

### PATHCHECK ULTIMA

| Test Name | Obtained Value | Units | Bio. Ref. Intervals (Age/Gender specific) | Method |
|---|---|---|---|---|
| **Kidney Function Test (KFT) - III** | | | | |
| Creatinine | 0.92 | mg/dL | 0.57-1.11 | Kinetic Alkaline picrate |
| Urea | 22.7 | mg/dL | 15.0-40.0 | Calculated |
| Uric Acid | 3.6 | mg/dL | 2.6-6.0 | Uricase |
| Urea / Creatinine Ratio | 24.67 | mg/mg | Elevated ratio: >100:1<br>Reduced ratio: <40:1 | Calculated |

Correlate Clinically.

*** End Of Report ***

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