Name	: **Mr. M V SUBBARAJU**		
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SID No.	: 421088945	**Collection On**	: 22/11/2021 9:49 AM
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Investigation	Observed Value	Unit	Biological Reference Interval
HAEMATOLOGY			
Complete Blood Count With - ESR			
Haemoglobin (EDTA Blood/*Electrical Impedance)*	13.5	g/dL	13.5 - 18.0
Packed Cell Volume(PCV)/Haematocrit (EDTA Blood/*Derived from Impedance)*	**41.2**	%	42 - 52
RBC Count (EDTA Blood/*Impedance Variation)*	4.84	mill/cu.mm	4.7 - 6.0
Mean Corpuscular Volume(MCV) (EDTA Blood/*Derived from Impedance)*	85.0	fL	78 - 100
Mean Corpuscular Haemoglobin(MCH) (EDTA Blood/*Derived from Impedance)*	28.0	pg	27 - 32
Mean Corpuscular Haemoglobin concentration(MCHC) (EDTA Blood/*Derived from Impedance)*	32.8	g/dL	32 - 36
RDW-CV (EDTA Blood/*Derived from Impedance)*	14.0	%	11.5 - 16.0
RDW-SD (EDTA Blood/*Derived from Impedance)*	41.65	fL	39 - 46
Total Leukocyte Count (TC) (EDTA Blood/*Impedance Variation)*	5370	cells/cu.mm	4000 - 11000
Neutrophils (EDTA Blood/*Impedance Variation & Flow Cytometry)*	42.29	%	40 - 75
Lymphocytes (EDTA Blood/*Impedance Variation & Flow Cytometry)*	**48.95**	%	20 - 45

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Consultant Pathologist
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The results pertain to sample tested.

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Investigation	Observed Value	Unit	Biological Reference Interval
Eosinophils (EDTA Blood/*Impedance Variation & Flow Cytometry)*	1.88	%	01 - 06
Monocytes (EDTA Blood/*Impedance Variation & Flow Cytometry)*	6.66	%	02 - 10
Basophils (Blood/*Impedance Variation & Flow Cytometry)*	0.22	%	00 - 02
Absolute Neutrophil count (EDTA Blood/*Impedance Variation & Flow Cytometry)*	2.27	10^3 / µl	1.5 - 6.6
Absolute Lymphocyte Count (EDTA Blood/*Impedance Variation & Flow Cytometry)*	2.63	10^3 / µl	1.5 - 3.5
Absolute Eosinophil Count (AEC) (EDTA Blood/*Impedance Variation & Flow Cytometry)*	0.10	10^3 / µl	0.04 - 0.44
Absolute Monocyte Count (EDTA Blood/*Impedance Variation & Flow Cytometry)*	0.36	10^3 / µl	< 1.0
Absolute Basophil count (EDTA Blood/*Impedance Variation & Flow Cytometry)*	0.01	10^3 / µl	< 0.2
Platelet Count (EDTA Blood/*Impedance Variation)*	210.2	10^3 / µl	150 - 450
MPV (EDTA Blood/*Derived from Impedance)*	8.67	fL	7.9 - 13.7
PCT (EDTA Blood/*Automated Blood cell Counter)*	0.18	%	0.18 - 0.28
ESR (Erythrocyte Sedimentation Rate) (Citrated Blood/*Manual Westergren Method)*	20	mm/hr	0 - 20

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Investigation	Observed Value	Unit	Biological Reference Interval
BIOCHEMISTRY			
Liver Function Test			
Bilirubin(Total) (Serum/*Diazotized Sulfanilic Acid)*	0.5	mg/dL	0.1 - 1.2
Bilirubin(Direct) (Serum/*Diazotized Sulfanilic Acid)*	0.3	mg/dL	0.0 - 0.3
Bilirubin(Indirect) (Serum/*Derived)*	0.20	mg/dL	0.1 - 1.0
Total Protein (Serum/*Biuret)*	7.6	g/dL	6.0 - 8.0
Albumin (Serum/*Bromocresol green)*	4.4	g/dL	3.5 - 5.0
Globulin (Serum/*Derived)*	3.20	g/dL	2.3 - 3.5
A : G Ratio (Serum/*Derived)*	1.38		1.1 - 2.4
SGOT/AST (Aspartate Aminotransferase) (Serum/*Modified IFCC without P5P)*	39	U/L	5 - 40
SGPT/ALT (Alanine Aminotransferase) (Serum/*Modified IFCC without P5P)*	**67**	U/L	5 - 41
Alkaline Phosphatase (SAP) (Serum/*Modified IFCC)*	**123**	U/L	56 - 119
GGT(Gamma Glutamyl Transpeptidase) (Serum/*Modified IFCC)*	48	U/L	< 55

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Investigation	Observed Value	Unit	Biological Reference Interval
Lipid Profile			
Cholesterol Total (Serum/*Cholesterol oxidase/Peroxidase)*	188	mg/dL	Optimal: < 200 Borderline: 200 - 239 High Risk: >= 240
Triglycerides (Serum/*Glycerol phosphate oxidase / peroxidase)*	80	mg/dL	Optimal: < 150 Borderline: 150 - 199 High: 200 - 499 Very High: >= 500

INTERPRETATION: The reference ranges are based on fasting condition. Triglyceride levels change drastically in response to food, increasing as much as 5 to 10 times the fasting levels, just a few hours after eating. Fasting triglyceride levels show considerable diurnal variation too. There is evidence recommending triglycerides estimation in non-fasting condition for evaluating the risk of heart disease and screening for metabolic syndrome, as non-fasting sample is more representative of the ñusualò circulating level of triglycerides during most part of the day.

HDL Cholesterol (Serum/*Immunoinhibition)*	**38**	mg/dL	Optimal(Negative Risk Factor): >= 60 Borderline: 40 - 59 High Risk: < 40
LDL Cholesterol (Serum/*Calculated)*	134	mg/dL	Optimal: < 100 Above Optimal: 100 - 129 Borderline: 130 - 159 High: 160 - 189 Very High: >= 190
VLDL Cholesterol (Serum/*Calculated)*	16	mg/dL	< 30

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Investigation	Observed Value	Unit	Biological Reference Interval
Non HDL Cholesterol (Serum/*Calculated)*	150.0	mg/dL	Optimal: < 130 Above Optimal: 130 - 159 Borderline High: 160 - 189 High: 190 - 219 Very High: >= 220

INTERPRETATION: 1.Non-HDL Cholesterol is now proven to be a better cardiovascular risk marker than LDL Cholesterol.
2.It is the sum of all potentially atherogenic proteins including LDL, IDL, VLDL and chylomicrons and it is the "new bad cholesterol" and is a co-primary target for cholesterol lowering therapy.

Total Cholesterol/HDL Cholesterol Ratio (Serum/*Calculated)*	4.9		Optimal: < 3.3 Low Risk: 3.4 - 4.4 Average Risk: 4.5 - 7.1 Moderate Risk: 7.2 - 11.0 High Risk: > 11.0
Triglyceride/HDL Cholesterol Ratio (TG/HDL) (Serum/*Calculated)*	2.1		Optimal: < 2.5 Mild to moderate risk: 2.5 - 5.0 High Risk: > 5.0
LDL/HDL Cholesterol Ratio (Serum/*Calculated)*	3.5		Optimal: 0.5 - 3.0 Borderline: 3.1 - 6.0 High Risk: > 6.0

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Investigation	Observed Value	Unit	Biological Reference Interval
Glycosylated Haemoglobin (HbA1c)			
HbA1C (Whole Blood/*HPLC)*	**8.23**	%	Normal: 4.5 - 5.6 Prediabetes: 5.7 - 6.4 Diabetic: >= 6.5

INTERPRETATION: If Diabetes - Good control : 6.1 - 7.0 % , Fair control : 7.1 - 8.0 % , Poor control >= 8.1 %

Estimated Average Glucose (Whole Blood*)*	189.5	mg/dL	

INTERPRETATION: Comments

HbA1c provides an index of Average Blood Glucose levels over the past 8 - 12 weeks and is a much better indicator of long term glycemic control as compared to blood and urinary glucose determinations.

Conditions that prolong RBC life span like Iron deficiency anemia, Vitamin B12 & Folate deficiency, hypertriglyceridemia,hyperbilirubinemia,Drugs, Alcohol, Lead Poisoning, Asplenia can give falsely elevated HbA1C values.

Conditions that shorten RBC survival like acute or chronic blood loss, hemolytic anemia, Hemoglobinopathies, Splenomegaly,Vitamin E ingestion, Pregnancy, End stage Renal disease can cause falsely low HbA1c.

Remark: Test done at Central Lab Bangalore

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Investigation	Observed Value	Unit	Biological Reference Interval

IMMUNOASSAY

THYROID PROFILE / TFT

T3 (Triiodothyronine) - Total (Serum/*Chemiluminescent Immunometric Assay (CLIA))*	1.22	ng/ml	0.4 - 1.81

INTERPRETATION:
Comment :
Total T3 variation can be seen in other condition like pregnancy, drugs, nephrosis etc. In such cases, Free T3 is recommended as it is Metabolically active.

T4 (Tyroxine) - Total (Serum/*Chemiluminescent Immunometric Assay (CLIA))*	7.31	µg/dl	4.2 - 12.0

INTERPRETATION:
Comment :
Total T4 variation can be seen in other condition like pregnancy, drugs, nephrosis etc. In such cases, Free T4 is recommended as it is Metabolically active.

TSH (Thyroid Stimulating Hormone) (Serum/*Chemiluminescent Immunometric Assay (CLIA))*	1.84	µIU/mL	0.35 - 5.50

INTERPRETATION:
Reference range for cord blood - upto 20
1 st trimester: 0.1-2.5
2 nd trimester 0.2-3.0
3 rd trimester : 0.3-3.0
(Indian Thyroid Society Guidelines)
Comment :
1.TSH reference range during pregnancy depends on Iodine intake, TPO status, Serum HCG concentration, race, Ethnicity and BMI.
2.TSH Levels are subject to circadian variation, reaching peak levels between 2-4am and at a minimum between 6-10PM.The variation can be of the order of 50%,hence time of the day has influence on the measured serum TSH concentrations.
3.Values&amplt;0.03 µIU/mL need to be clinically correlated due to presence of rare TSH variant in some individuals.

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Reg No : 142072

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Investigation	Observed Value	Unit	Biological Reference Interval
CLINICAL PATHOLOGY			
PHYSICAL EXAMINATION			
Colour (Urine)	Pale Yellow		
Volume (Urine)	30	mL	
Appearance (Urine)	Clear		Clear
CHEMICAL EXAMINATION			
pH (Urine)	5.5		4.6 - 8.0
Specific Gravity (Urine)	1.020		1.003 - 1.030
Protein (Urine)	Negative		Negative
Glucose (Urine)	Negative		Negative
Ketones (Urine)	Negative		Negative
Leukocytes (Urine)	Negative		Negative
Nitrite (Urine)	Negative		Negative

Neenu.M M.Sc
BIO CHEMISTRY

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Investigation	Observed Value	Unit	Biological Reference Interval
Bilirubin (Urine)	Negative		Negative
Blood (Urine)	Negative		Negative
Urobilinogen (Urine)	0.1	mg/dL	0.1 - 1.0
Urine Microscopy Pictures			
Pus Cells (Urine)	3-4	/hpf	0 - 2
Epithelial Cells (Urine)	2-3	/hpf	0 - 2
RBCs (Urine)	Nil	/hpf	0 - 1
Others (Urine)	Nil		Nil
Casts (Urine)	Nil		0 - 1
Crystals (Urine)	Nil		NIL
Bacteria	Nil		

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Investigation	Observed Value	Unit	Biological Reference Interval
IMMUNOHAEMATOLOGY			
BLOOD GROUPING AND Rh TYPING (EDTA Blood/*Agglutination)*	'B' 'Positive'		

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Investigation	Observed Value	Unit	Biological Reference Interval
BIOCHEMISTRY			
Glucose Fasting (FBS) (Plasma - F/*GOD- POD)*	**111**	mg/dL	Normal: < 100 Pre Diabetic: 100 - 125 Diabetic: >= 126

INTERPRETATION: Factors such as type, quantity and time of food intake, Physical activity, Psychological stress, and drugs can influence blood glucose level.

Urine Glucose - Fasting (Urine - F/*GOD - POD)*	Negative		Negative
Glucose Postprandial (PPBS) (Plasma - PP/*GOD - POD)*	**170**	mg/dL	70 - 140

INTERPRETATION:
Factors such as type, quantity and time of food intake, Physical activity, Psychological stress, and drugs can influence blood glucose level. Fasting blood glucose level may be higher than Postprandial glucose, because of physiological surge in Postprandial Insulin secretion, Insulin resistance, Exercise or Stress, Dawn Phenomenon, Somogyi Phenomenon, Anti- diabetic medication during treatment for Diabetes.

Blood Urea Nitrogen (BUN) (Serum/*Urease-GLDH)*	10	mg/dL	7.0 - 21
Creatinine (Serum/*Modified Jaffe)*	0.9	mg/dL	0.9 - 1.3

INTERPRETATION: Elevated Creatinine values are encountered in increased muscle mass, severe dehydration, Pre-eclampsia, increased ingestion of cooked meat, consuming Protein/ Creatine supplements, Diabetic Ketoacidosis, prolonged fasting, renal dysfunction and drugs such as cefoxitin ,cefazolin, ACE inhibitors ,angiotensin II receptor antagonists,N-acetylcyteine , chemotherapeutic agent such as flucytosine etc.

Uric Acid (Serum/*Uricase/Peroxidase)*	4.6	mg/dL	3.5 - 7.2

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Investigation	Observed Value	Unit	Biological Reference Interval
IMMUNOASSAY			
Prostate specific antigen - Total(PSA) (Serum/*Manometric method)*	1.00	ng/mL	Normal: 0.0 - 4.0 Inflammatory & Non Malignant conditions of Prostate & genitourinary system: 4.01 - 10.0 Suspicious of Malignant disease of Prostate: > 10.0

INTERPRETATION: Analytical sensitivity: 0.008 - 100 ng/mL
PSA is a tumor marker for screening of prostate cancer. Increased levels of PSA are associated with prostate cancer and benign conditions like bacterial infection, inflammation of prostate gland and benign hypertrophy of prostate/ benign prostatic hyperplasia (BPH).
Transient elevation of PSA levels are seen following digital rectal examination, rigorous physical activity like bicycle riding, ejaculation within 24 hours.
PSA levels tend to increase in all men as they age.
Clinical Utility of PSA:
ÅIn the early detection of Prostate cancer.
ÅAs an aid in discriminating between Prostate cancer and Benign Prostatic disease.
ÅTo detect cancer recurrence or disease progression.

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-- End of Report --