Examination of Urine: Detection and Estimation of Some Abnormal Constituents.

Student Names:

1-

2-

3-

4-

Part I: detection of some abnormal constituents by test-strips

Parameter	Results of Sample 1	Results of Sample 2
Nitrate		
pH		
Ketone bodies		
Ascorbic acid		
Glucose		
Bilirubin		
Urobilinogen		
Blood		

Clinical Diagnosis of sample 1 :.....

Clinical Diagnosis of sample 2 :.....

Part II: Detection of Amino acids

Method

Tube	**A**	**B**	**C**
	Urine Sample	glycine solution	proline solution
	few drops of ninhydrin solution		
	Boil the contents of each test tube for 2 minutes		
Results	.....	.....	.....

Part III: Quantitative Estimation of Protein in Urine

Method:

It is necessary first to prepare a standard curve as follows. **Bovine albumin standard. (50mg/dl)**

1. Label a fresh set of test tubes 1 to 7.

Tube NO.	Protein STD	0.85% salin ml	1.25% HCl	Urine Sample 4	sulphosalicylic acid
(Blank)	0.0	2	8 ml	-	-
1	4.5	1.5	-	-	8 ml
2	3	3	-	-	8 ml
3	2.4	3.6	-	-	8 ml
4	1.5	4.5	-	-	8 ml
5	0.9	5.1	-	-	8 ml
6	0.3	5.7	-	-	8 ml
Urine Sample 4	-		-	2 ml	8 ml

- -Mix well in each case and stand for 5 minutes.
- -Using the spectrophotometer for the blank solution at 500 nm, transmittance .
- Record the transmittance of the “unknown”.
- If it is above 50 mg/dl repeat the estimation after diluting the urine 1:10 with saline solution. (Normal 0-0.150 g)

Solution	transmittance at 500 nm	Protein (mg/dl)
1		.....
2		.....
3		.....
4		.....
5		.....
6		.....
7 (Blank)		.....

Part IV: Determination of titrable acidity in urine:

METHOD:

1. Pipette 25 ml of urine sample 5 into a 250 ml conical flask, add to spatula full potassium oxalate powder to precipitate calcium.

2. Add 2 drops of phenolphalein

3.titrate with 0.1 M NaOH from a burette. Note the titre value (A ml) when a **permanent pink color appears.**

Note: the volume of urine sample 5 (24 h) = 1600ml/day

RESULTS:

Volume of 0.1 M NaOH required to neutralize the acidity in 25 ml of urine =..... ml

Volume required for 100 ml of urine = ... X 4 = ...

Since 24 h urine output 1500 ml, titrable acidity of urine 4A X 16 ml/day=.....

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