CHAPTER 11

M A T E R I A L S

The materials required for this study include all the materials required for serum iron estimation, routine haematological and other investigations, sternal puncture studies, electrocardiographic studies etc.

Out of these, all the materials required for the purpose of serum iron estimation deserve greater importance and hence special consideration. These materials may be described under 5 headings viz. (1) glassware, (2) Chemicals, (3) Iron preparations, (4) Sera and (5) Miscellaneous.

The majority of the articles included under the heading of glassware are continuously subjected to wear and tear due to the effect of physical, chemical and mechanical factors involved in the process of serum iron estimation and also

subjected to much handling during the preparation of glassware. It is quite evident from the foregoing facts that the quality of glassware should be such that it can withstand the due wear and tear. The glassware selected for the purpose should, therefore, be of the "Pyrex" variety.

As regards the chemicals required for serum iron estimation, all chemicals must be of the purest form and free from iron-contamination. Hence, the chemicals must be of "Anala-R" grade (Analytical Reagent Grade).

GLASSWARE

(1)	Small test tubes (3" x 1/2')	24
(2)	Big test tubes (5" x 5/8")	12
(3)	Centrifuge tubes (conical, non-calibrated)	12
(4)	Pipettes :	
	(a) 0.2 ml. graduated pipettes	12
	(b) 1 ml. graduated pipettes	2
	(c) 2 ml. graduated pipettes	2
	(d) 2 ml. volumetric pipettes	24
	(e) 5 ml. graduated pipettes	3
	(f) 5 ml. volumetric pipettes	3
	(g) 10 ml. graduated pipettes	2
	(h) 10 ml. volumetric pipettes	2
(5)	Volumetric Flasks :	
	(a) 100 ml. capacity (with glass stoppers)	12

(b) 250 ml. capacity(with glass stoppers) 2

(c) 500 ml. capacity (with glass stoppers) 6

(d) 1000 ml. capacity (with glass stoppers) 1

(6) Measuring Cylinders :

(a) 100 ml. capacity 3

(b) 250 ml. capacity 3

(c) 1000 ml. capacity (with glass lids) 3

(7) Reagent bottles with dust-proof flat glass stoppers :

(a) 250 ml. capacity 6

(b) 500 ml. capacity 6

(c) 1000 ml. capacity 3

(8) Brown coloured Screw capped Bottles :

(a) 100 ml. capacity 3

(b) 500 ml. capacity 3

(c) 1000 ml. capacity 1

(d) 5000 ml. capacity 6

(9) Beakers :

(a) 250 ml. capacity 3

(b) 500 ml. capacity 3

(c) 1000 ml. capacity 3

(10) ALL-GLASS Syringes(10 ml.) 24

(11) Stainless steel needles (No.20) 24

(12) Burette (25 ml. capacity) 3

(13)	Big glass jar with dust proof glass lid	2
(14)	Funnel	3
(15)	Th in Stirring glads rods	36
(16)	Plain bulbs	12
(17)	Cuvettes for spectrophotometric reading :	
	(a) 2 ml. capacity	4
	(b) 1 ml. capacity	4

CHEMICALS

(1)	Concentrated Hydraulic acid (A.R.)	15 Lbs
(2)	Ferric ammonium sulphate (A.R.)	50 gm.
(3)	Oxalic acid (A.R. or C.P.)	10 gm.
(4)	Sodium Hydroxide (Pellets or sticks) (A.R.)	25 gm.
(5)	Sodium acetate (A.R.)	150 gm.
(6)	Trichloracetic acid (A. R .)	300 gm.
(7)	Ascorbic acid (A. R.)	10 gm.
(8)	2:2' Dipyridyl ("Anala-R")	2 gm.
(9)	Phenolphthalein (quantity sufficient)	Q.S.
(10)	Methyl orange (quantity sufficient)	Q.S.
(11)	Triple-glass-distilled water	Q.S.

IRON PREPARATIONS

(1)	Ferrous sulphate tablets containing exactly 60 mg. Elemental Iron per tablet	3000
(2)	Ferrous fumarate tablets containing exactly 60 mg. Elemental Iron per tablet	3000

S E R A

4 ml. of clear serum (without any haemolysis), from each of the 3 blood samples (Fasting, 4 hours after drug and 8 hours after drug) of each patient on first and last day of treatment.

MISCELLANEOUS

(1) Wooden test-tube stand for big test-tubes (5" x 5/8") to accommodate 6 test-tubes in one row.

(2) Wooden test-tube stand for centrifuge tubes to accommodate 18 centrifuge tubes in 2 rows of 9 each.

(3) Copper rack for small test-tubes (3" x 1/2") to accommodate 12 small test-tubes in 2 rows of 6 each.

(4) Copper rack for small test-tubes (3" x 1/2") to accommodate 36 small test-tubes in 3 rows of 12 each.

(5) Metal stand for pipettes to accommodate 24 pipettes (in 3 rows of 8 each).

(6) Burette stand

(7) Gloves (as per the required size).