TESTING MANUAL FOR STEELYARD

1. Definition:

Steelyard is an unequal-armed beam, the load arm being shorter . It may form a complete scale in itself as cotton steelyard or it may form part of a lever system such as in platform scale. Here we are dealing with steelyard as a complete scale in itself.

2. Capacities:

Capacities of steelyard may range from 30kg to 1000kg.

3. General Requirements:

(a) Types not allowed for trade use.

(i) steelyard which is reversible and has three hooks
(ii) accelerating steelyard
(iii) counter steelyard
(iv) steelyard not having a zero graduation
(v) steelyard of capacity less than 30kg.

(b) set of notches or graduations on the shank shall be cut in one place and shall be at right angles to the shank;
(c) there shall be provided a stop or other device to prevent excessive oscillation of the shank;
(d) end fittings, sliding poises and suspending hooks shall not be readily removable;

(e) the sliding poise shall be freely movable without risk of injury to the notches or graduations from constant use with a stop to prevent it going behind the zero mark;
(f) Capacity, graduations and manufacturer's name must be clearly and indelibly marked on the instrument;
(g) Steelyard is made of wrought iron or steel and the shank must be perfectly straight;

4. Testing:

conduct a visual examination for completeness entirely and adherence to the requirements laid down in item 3 above. If the instrument does not conform to the requirements laid down in item 3(b) to (g), the instrument is rejected forthwith, but if it conforms to those requirements, the instrument is tested as follows:-

(a) Balance the scale at zero load;
(b) Load the scale with standard weights corresponding to each numbered graduations and taking note of the errors if any;
(c) You may also test the intermediate graduations if necessary;
(d) test both forwards and backwards i.e. increasing and decreasing loads;
(e) test for error by adding or subtracting a weight which will bring the shank to balance or horizontal position. The weight so added or subtracted shall not exceed the figures given in the table under item 5 below;
(f) test for sensitiveness by adding a small weight which will give an appreciable deflection when the scale is in horizontal (balance) position and fully loaded. The small weight to be added should not exceed the amounts given in the table under item 5 below.

5. **Limits of errors and sensitiveness:**

Capacity	**Sensitiveness**		**Error in excess or deficiency**	
	When new or after repair	On re-verification or inspection	When new or after repair	On re-verification or inspection
5kg	2.5g	7.5g	3.8g	72g
10kg	5g	15g	7.5g	15g
20kg	10g	30g	15g	30g
50kg	25g	75g	50g	100g
100kg	40g	120g	80g	160g
200kg	80g	240g	160g	320g
300kg	120g	360g	240g	480g
500kg	200g	600g	400g	800g
1000kg	400g	1200g	800g	1600g

6. Sealing:

Each instrument shall be provided with a plug or stud of soft metal on the front face of the shoulder of the steelyard to receive the stamp or seal of the verification authority. Such a plug or stud shall be made irremovable by undercutting or by some other suitable method.

TEST FORM FOR STEELYARD

1. **OWNER'S NAME AND ADDRESS:** ……

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2. **GENERAL EXAMINATION:**
   (Note the instrument shall be examined for Recognition, Entirety, Denomination, Strength, Individual novel features, Trade mark, Type, Model, Stamping plug and whether instrument bears a valid stamp)

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3. **ACCURACY TESTS:**

   (a) Balance at zero……..

   (b) Loading with standard weights to determine errors…….

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   (c) Unloading the standard weights (Backward test) to determine errors

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4. **DECISION:**

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Assizer's Signature …… Dat.e ……

Signature of owner / User ……. Date…….