

Government Notice No. 97 of 1990 (as amended)

THE LEGAL METROLOGY ACT 1985

Regulations made by the Minister under section 14 of the Metrology Act 1985.

1. These regulations may be cited as the Legal Metrology (Assize) Regulations 1994 (Amended version).
2. In these regulations –

“Act” means the Legal Metrology Act 1985;

“approved” in relation to material, process or pattern means approved by the Controller;

“automatic weighing machine” means a weighing instrument in which self-acting machinery carries out an automatic feed of the load and which does not require an operator for carrying out the weighing process;

“beam scale” means an equal-arm weighing instrument with pans below the beam;

“bulkmeter” means a measuring instrument having capacity to measure liquid fuel for individual deliveries exceeding 500L and which can also make individual deliveries of less than 500 L and includes a vehicle tank meter;

“calibration” in relation to a vehicle tank, means the set of operations to determine and authenticate the capacity of vehicle tank compartments at one or several filling levels;

“counter machine” means an equal-arm weighing instrument with pans above the beam, and of a capacity of not more than 50 kg;

“crane machine” means a weighing instrument of a capacity of 1000 kg or more specially designed for suspension from the hook of crane and fitted with a hook for lifting the load;

“fuel” means liquid fuel, lubricants or any mixture of liquid fuel and lubricants;

“general trade” means commercial transactions other than trade in valuable goods.

“load receptor” means the part of a weighing instrument in which goods being weighed are placed or hooked:

“oscillating weighing instrument” means a weighing instrument with a beam or steelyard which oscillates about or returns to the position of equilibrium when disturbed from that position;

“petrol pump” means a measuring instrument for fuel which:

- (a) has a meter or one or more measuring chamber; and
- (b) is designed to measure individual deliveries of 500L or less (even if the instrument can also make individual deliveries or more than 500 L);

“platform machine” means a weighing instrument, other than a weighbridge, with the load receptor being a platform 3m by 2m in size or less, and a capacity of 5,000 kg or less;

“price indicator” means an indicator showing the value of goods delivered;

“principal regulations” means the Legal Metrology (Assize) Regulations 1990.

“self-indicating weighing machine” means a weighing instrument, on which the whole or part of the weight of goods being weighed is indicated by a pointer moving over a scale or chart graduated in units of mass; or a graduated chart in units of mass; or a graduated chart moving in relation to a fixed pointer; or a digital display, or by means of a printed record;

“spring balance” means a weighing instrument which determines the weight of a body by the extension or compression of spring, such extension or compression being registered by means of a pointer on a dial or by a moving graduated scale;

“steelyard” means an unequal arm single lever weighing instrument, the shorter arm of which carries a load hook suspended from knife edges whilst the longer arm has a poise weight moving over a graduated scale to indicate the weight of the load;

“trade in valuable goods” means commercial transactions in precious metals, jewellery or pharmaceutical products;

“vehicle tank” means an assembly used for measurement and delivery of liquid fuel comprising a tank which may or may not be subdivided into compartments, mounted upon a vehicle or its trailer together with its necessary pipework, valves and other parts;

“verification” , in relation to instrument, weight or measure, means the examination and test of the instrument, weight or measure with a view to ascertain that it conforms to the requirements of these regulations;

“volume indicator” means an indicator showing the volume of liquid delivered:

“weighbridge” means a weighing instrument for weighing a load carried by a vehicle where the load and vehicle are supported on rails or a platform either of which is linked to a system of levers or load cells.

3(1) The stamp of assize shall be a stamp of the coat of arms of the State of Mauritius.

- (2) The rejection mark shall be a mark of a six-pointed star design.
 - (3) An authorized officer shall reject an instrument, weight or measure which -
 - (a) bears a stamp of assize, by obligerating the stamp with a rejection mark;
 - (b) does not bear a stamp of assize, by stamping the rejection mark in a suitable position on the instrument, weight or measure.
 - (4) The authorized officer shall issue a certificate of verification in respect of the assized instrument, weight or measure.
 - (5) Subject to paragraphs (6) and (7), the person to whom a Certificate of Verification is issued shall exhibit the same in a conspicuous place in the premises where the instrument, weight or measure to which the certificate relates is used.
 - (6) Where the person to whom the certificate of verification is issued is a hawker, he shall carry the certificate of verification.
 - (7) Where the certificate of verification is issued to a vehicle tank, it shall be kept on the vehicle.
- 4(1) A weight for general trade shall –
- (a) be of denomination 1 g to 20 kg as specified in column 1 of Table 1 of the First Schedule and have the denomination marked on its top surface;
 - (b) be made of iron, brass, bronze or an approved material;
 - (c) where it is made of iron, be of a denomination of 50 g or greater;
 - (d) be hexagonal or cylindrical in shape or where the weight is of 5 kg or a higher denomination, a rectangular block;
 - (e) have no part which can be removed without breaking a ring, handle or seal;
 - (f) be free from flaws and smooth on all surfaces except for markings of denomination or other identification;
 - (g) where it is marked with the manufacturer's identification, have that marking without figures, and with no letters larger than one-half of the size of the letters or figures marking the denomination;
 - (h) have no more than one adjusting hole, which must be sealed with lead, and

- (i) have, when new or readjusted no error in deficiency and no error in excess greater than the limit of error for its denomination specified in the second column of Table 1 of the First Schedule.
- (2) The authorized officer shall test the limit of error with working standard weights calibrated to secondary standard weights within errors less than the limit of error specified in the second column of Table 2 of the First Schedule.
- (3) Where a weight for general trade is not in conformity with this regulation, it shall not be passed as correct at verification.
- (4) Where a weight for general trade is passed as correct at verification it shall be stamped
 - (a) where the weight has an adjustable hole, on the lead in that hole, or
 - (b) in any other case, on the base surface of the weight. No person shall use weights for general trade which in service have error in excess or deficiency, greater than the double of the limit of error specified in the second column of Table 1 of the First Schedule, notwithstanding that such weights bear the stamp of assize.
- (5)(1) A weight for trade in valuable goods shall –
 - be of a denomination specified in column 1 of Table 1 of the First Schedule and subject to subparagraph (e) have the denomination marked on its top surface;
 - (a) be of brass, bronze, gun metal or stainless steel;
 - (b) where it is made of aluminium alloy, be of a denomination of 500 mg or less;
 - (c) have no protective coating other, than a coating made of corrosion and friction resistant material;
 - (d) be cylindrical in shape, or where it is of a denomination of 500 mg or less, be a wire shaped into one, two or five sections to indicate its denomination, or be a flat sheet;
 - (e) have, when new or readjusted, no error in deficiency, and no error in excess greater than the limit of error for its denomination as specified in the third column of Table 1 of the First Schedule.
- (2) The authorized officer shall test the limit of error with working standard weights calibrated to secondary standard weights within errors less than the limit of error specified in the third column of Table 2 of the First Schedule.
- (3) Where a weight for trade in valuable goods is not in conformity with this regulation, it shall not be passed as correct at verification.

- (4) Where a weight for trade in valuable goods is passed as correct at verification, it shall be stamped –
- (a) where it is of a denomination of more than 100 g on its base surface;
 - (b) in any other case, on the identification plate on top of the storage box.
- (5) No person shall use weights for trade in valuable goods which in service have errors in excess or in deficiency greater than the double of the limit of error specified in the third column of Table 1 of the First Schedule, notwithstanding that such weights bear the stamp of assize.
- (6) (1) No person shall use for trade a weighing instrument other than –
- (a) a beam scale, either suspended without arrestment device or otherwise supported with or without arrestment device; or
 - (b) a counter machine of a pattern designed for equal load or each load receptor, other than a counter balance with sliding or tare weights; or
 - (c) a steelyard of a capacity exceeding 50 kg but not exceeding 1000 kg for use only for weighing animals or bulk agricultural products; or
 - (d) a spring balance of capacity not less than 500 g;
 - (e) a platform machine;
 - (f) a weighbridge;
 - (g) a precision balance;
 - (h) a self-indicating weighing machine (including a price computing and /or printing electronic balance);
 - (i) a crane machine; and
 - (j) an automatic weighing machine.
- (2) A weighing instrument which is not for trade use shall be indelibly and clearly marked “NOT FOR TRADE USE” or “NOT LEGAL FOR TRADE”.
- (3) (a) Notwithstanding the other provisions of these regulations, a beam scale used by a hawker in the course of his trade shall be exempted from the application of sections 7 and 9(2)(a) of the Act.
- (b) A hawker’s beam scale shall have its beam in a horizontal position, with pointer in the middle-
- (i) when both pans are empty;
 - (ii) when both pans are loaded with weights that are equal, assized and correct.
- (c) This paragraph applies to a hawker who sells vegetables or fish on foot, on bicycle or on motorcycle.

(Made by the Minister on 18 July 1991).

7. A weighing instrument shall -
- (a) be properly constructed;
 - (b) not be of or have any part of a material, mode of construction, nature or condition likely to make it unsuitable for use;
 - (c) not have unusual or novel features unless the Controller has confirmed that it is likely to be admitted for verification;
 - (d) be complete in itself;
 - (e) be sufficiently strong to withstand the wear and tear of normal use;
 - (f) be clean;
 - (g) not bear a manufacturer's or other mark which might be mistaken for a stamp of assize;
 - (h) not have interchangeable or reversible parts, unless interchange or reversal of the parts, as the case may be, does not affect its accuracy;
 - (i) not have removable parts if removal of the parts affects its accuracy, unless it is impossible to use the instrument for weighing without the removable parts;
 - (j) not have a broken part (including a scoop, pan or a plate) if that part is essential for its use;
 - (k) not have a load receptor of a size or shape which may cause incorrect weighing by fouling the housing of the instrument, or because contact between the knife edge and the bearings is disturbed;
 - (l) not have a load receptor which is readily absorbant because of imperfect glazing, or extensive cracks or chips;
 - (m) have any friction plate, friction stay, friction hook or friction loop made of hardened steel or an approved material;
 - (n) not have knife-edges which, in the opinion of the authorized officer are loose, not properly aligned, worn out, or otherwise defective for proper operation of the instrument.
8. (1) The maximum capacity of a weighing instrument shall be clearly and conspicuously marked –
- (a) on a descriptive plate fixed to the instrument; or
 - (b) on the instrument.
- (2) The marking shall be indelible and of a size, shape and clarity allowing easy reading under normal conditions of use of the weighing instrument.
- 9.(1) The range of maximum capacities and the corresponding limit of error in respect of –
- (a) weighing instruments for general trade, shall be as specified in the second schedule; and
 - (b) weighing instruments for trade in valuable goods, shall be as specified in the Third Schedule.

- (2) The graduated weight indicating printing and tare devices of any weighing instrument shall have scale intervals expressed in milligrams, grams, kilograms or tones, corresponding to the value 1×10^n , 2×10^n or 5×10^n , the indexⁿ being in a positive or negative whole number or zero.
- (3) Subject to paragraph (8), the total number of scale intervals in a self-indicating weighing machine for general trade shall not be less than -
 - (a) 100, where the value of scale interval is 1 g, or 2 g; and
 - (b) 500, where the value of scale interval is 5 g or more.
- (4) In a self-indicating weighing machine for trade in valuable goods, the number of scale intervals shall not be less than –
 - (a) 100, where the value of scale interval is less 20 mg or 50 mg; and
 - (b) 5000, where the value of scale intervals is 100 mg or more.
- (5) The weighing result and information about correct zero position shall be displayed clearly and simultaneously to the operator and the customer.
- (6) Subject to paragraph (8), in a weighing instrument with scale marks on a dial -
 - (a) the scale spacing (distance between any 2 consecutive scale marks) shall not be less than 1.25 mm for ordinary device and 1.75 mm, for optical projection device;
 - (b) the scale spacing shall be reasonably uniform so that the greatest scale spacing shall not exceed 1.2 times the smallest scale spacing of the same scale; and
 - (c) the width of the extremity of pointer shall be approximately equal to the width of the scale mark and the distance between the pointer and the scale shall not be more than 2 mm.
- (7) In a weighing instrument with a steelyard –
 - (a) the scale marks shall be notches or lines, and shall be in one plane at right angles to the beam, and
 - (b) the poise weight shall be provided with an indicating component, and shall not obscure the scale marks.
- (8) Paragraph (3) and (6) shall, for a period of 5 years from their commencement, not apply to self-indicating weighing machines –
 - (a) already in use before the commencement of these regulations; or
 - (b) in relation to which a certificate of suitability has been issued.
10. (1) Balance shall be indicated on a weighing instrument in the manner set out in the Fourth Schedule.
 - (2) Any balance box or balance screw or gravity ball on a weighing instrument for general trade shall be adjustable only by the use of a mechanical appliance.

11.(1) No person shall use weighing instrument which –

- (a) erected on a loose, weak or unstable base;
- (b) not levelled as its construction requires;
- (c) exposed to wind and draught which affects the indication.

(2) No person shall use a weighing instrument for a load greater than its maximum capacity.

- (3) No person shall use a weighing instrument for retail trade in the presence of a purchaser unless it is constructed and sited so that the weighing of the goods and the indicated weight are simultaneously clearly visible to the purchaser.
- (4) No person shall use a platform machine or weighbridge unless its platform or rails support the load completely.
- (5) No person shall use for trade in valuable goods weighing instruments other than those which comply with the requirements specified in the Third Schedule.

12. (1) At verification of a new or repaired weighing instrument an authorized officer shall -

- (a) visually inspect all parts of the instrument including those which may be dismantled without changing the operation;
- (b) Check whether it conforms with these regulations;
- (c) carry out the applicable tests set out in the Fifth Schedule and such other tests as he may consider necessary in relation to the intended use of the instrument..

(1A) On verification of a new weighing instrument, an authorized officer shall ascertain that a certificate of suitability has been issued in relation to the pattern and design of the instrument;

(2) At in-service inspection (supervision) of a weighing instrument the authorized officer shall carry out the applicable parts of inspection and testing under section (1) and shall in addition visually inspect any stamps and seals on the instrument and the verification certificate.

(3)(a) Subject to paragraph (b), the authorized Officer shall verify a weighing instrument at the site of its intended use.

(b) A portable instrument shall be presented for verification at such place and at such time as may be fixed by the authorized officer.

(4) The authorized officer shall test the limit of error of a weighing instrument with working standard weights calibrated to secondary standard weights within errors of less than one-third of the limit of error for that instrument.

- (5) where a weighing instrument does not conform to these regulations an authorized officer shall not pass it as correct at verification.
- (6) Where an authorized officer passes a weighing instrument as correct at verification, he shall stamp it either on or on a lead plug inserted in a conspicuous and easily accessible part of the instrument, so as not to damage the instrument.
- (7) Where an instrument can be opened for adjustment, the authorized officer shall also affix a seal to prevent access without breaking the seal.

13.(1) A measure of length other than calipers for use for trade shall –

- (a) be made of brass, hardened steel, hardwood, woven tape or an approved material;
- (b) be protected against corrosion;
- (c) where it is a measure made of wood, have both ends capped with metal;
- (d) be subdivided only in metres, centimeters or millimetres, and
- (e) have all marks and inscriptions so arranged as not to interfere with the reading of lengths;
- (f) have, been tested in accordance with section (2), no error greater than the limit of error for its denomination or any intermediate value of graduation specified in the sixth Schedule .

(2) The authorized officer shall test a measure of length on verification -

- (a) against a working standard measure of length having errors not exceeding one half of the limits specified in the Sixth Schedule;
- (b) at a temperature of not less than 10oC but not exceeding 30oC
- (c) in the case of a tape measure, while it is supported horizontally over its complete length, and is subjected to the tensile force indicated on that measure or, if not indicated,-
 - (i) 50 newton in the case of a metal measure; or
 - (ii) 10 newton in the case of a measure not made of metal.

(3) Where a measure of length other than calipers does not conform to this regulation, the authorised Officer shall not pass it as correct at Verification.

14. (1) A caliper measure for the measurement of thickness or diameter shall –
- (a) be made of steel alloy or an approved material;
 - (b) have no more play than needed for easy movement;
 - (c) except in the case of timber calipers, have no error greater than –
 - (i) 0.2 mm for calipers for measuring less than 200 mm; or
 - (ii) 0.5 mm for calipers for measuring 200 mm or greater but not more than 500 mm.
- (2) Calipers other than those used for trade are not subject to verification except on request.
15. (1) A measure of volume of liquids for use for trade shall -
- (a) subject to those regulations be of a denomination specified in the Seventh Schedule and have that denomination indelibly marked on the outside of such measure in legible figures or letters;
 - (b) when provided with subdivisions have any intervals of subdivisions only corresponding to the figures 1,2 or 5 divided or multiplied by 10 as appropriate;
 - (c) be made of glass, aluminium, brass, bronze, copper, nickel, sheet iron, silver, steel (including stainless steel), tinfoil, white metal or an approved material, provided that for protection it may be anodized, electro-plated, enameled, galvanized, tinned or otherwise protection by an approved process;
 - (d) if made of brass, bronze or copper, unless otherwise coated, have the inside surface well tinned with pure tin;
 - (e) if coated, have no signs of peeling;
 - (f) be made of hard and sufficiently thick material;
 - (g) not visibly deform during filling;
 - (h) not be seriously damaged or deformed;
 - (i) have no strengthening rib or ring which might be mistaken for a scale mark;
 - (j) have no false bottom;
 - (k) if made of metal, not have a bottom rim deeper than necessary to protect the bottom of the measure;
 - (l) have no lip or retaining edge which increases its capacity by more than 10 per cent;
 - (m) if it has no tap, drain completely when tilted to an angle of 30° below the horizontal;
 - (n) if it has a tap, drain completely without a prolonged dribble when the tap is open and the measure is leveled;
 - (o) have its capacity stamped on the upper part of its body or on a metal plate permanently secured to that upper part;
 - (p) if it is made of glass and has the capacity defined by a line, have the capacity indelibly marked near that line;
 - (q) have its capacity clearly defined in terms of this regulation;

- (r) if it is a graduated glass measure, conform to this regulation;
- (s) have no error greater in excess or deficiency than the limit of error for its denomination or for the graduation concerned as specified in the Seventh Schedule.

(2) The capacity of a measure of volume, other than a graduated glass measure, shall be clearly defined as –

- (a) in the case of a measure with lip or retaining edge, the bottom of the lip or retaining edge;
- (b) in the case of a measure in the form of a milk can, the bottom of the neck of the can;
- (c) in the case of a glass measure which is not graduated the brim of the measure or an indelible line to mark the bottom of the meniscus of the liquid;
- (d) in any other case, the brim of the measure.

(3) A graduated glass measure shall –

- (a) be conical or cylindrical;
- (b) have a level base at right angles to the axis of the measure; and
- (c) have scale marks which are –

- (i) parallel to the base of the measure;
- (ii) not less than 1.5 mm apart; and
- (iii) in the case of back scale marks, on the same horizontal plane as the front scale marks when the base of the measure is horizontal.

(4) An authorised officer shall test a measure of volume -

- (a) by filling it to its capacity with the liquid for which the measure is used, or, except when that liquid is oil or is of high viscosity, with water; and
- (b) by emptying those contents into a working standard measure having limit of error not exceeding one-fourth of those specified in the Seventh Schedule, allowing a drainage time of 30 seconds.

(5) Where a measure made of glass or having a denomination below 50 ml is used in laboratory, and conforms in shape, marking, denomination and limits of error to international standards, it shall not be subject to verification of stamping.

(6) Where a measure of volume does not conform to this regulation, an authorised officer shall not pass it as correct at verification.

(7) When an authorised officer passes a measure of volume as correct at verification, he shall stamp it -

- (a) at the bottom of the inside of any lip or retaining edge of a metal measure; or
- (b) in any other case near the marking of capacity.

16. (1) A petrol pump shall –
- (a) be of a pattern approved by the Controller;
 - (b) be constructed to deliver fuel at only one outlet;
 - (c) have a clear and legible volume indicator;
 - (d) have no counter or totalizing device which might be confused with the volume indicator;
 - (e) have no leakage;
 - (f) except with the approval of the Controller, have any delivery hose 5 m or less in length;
 - (g) where it is of fixed type, be-
 - (i) securely mounted on a solidly constructed level base;
 - (ii) sited so that a purchaser has an unobstructed view of the volume indicator, and of any price indicator and of any measuring chamber;
 - (iii) sited so that the adjusted mechanism and the plug and seal for the verification stamp are readily accessible;
 - (h) if used to measure lubricating oil, have its delivery hose permanently filled to the nozzle;
 - (i) have any price indicator fitted with a device which clearly indicates the price per litre and regulates the registration on the indicator;
 - (j) have the maker's name marked on the instrument;
- (2) The length of a delivery hose shall -
- (a) include the length of the nozzle, but
 - (b) exclude the length of any swing or radial arm; and
 - (c) in the case of a retractable delivery hose, be measured when fully extended and from where it emerges from its housing.
- (3) A petrol pump equipped with a meter shall -
- (a) not deliver fuel unless the volume indicator and any price indicator have been reset to zero;
 - (b) have an air-separator and a cut-off valve which ensures non-registration if the supply of fuel stops; and
 - (c) have a delivery hose permanently filled to the nozzle.
- (4) A petrol pump which has one or more measuring chambers
- (a) except when fitted with valves for automatic filling and emptying the chambers, have visual indication that a chamber is full or is empty;
 - (b) have the delivery hose so positioned as to allow complete discharge of the liquid measured from the delivery outlet of the pump;

- (c) where it has more than one measuring chamber, have
 - (i) a valve to prevent the liquid flowing from the chamber into another; and
 - (ii) each chamber denominated.
- (5) A petrol pump shall, on verification or reverification, have no error in deficiency, and no error in excess greater than 0.5% of the volume purported to be delivered.
- (6) The authorised Officer shall test a petrol pump -
- (a) if it has a measuring chamber, after passing 5L or more of fuel through the delivery hose;
 - (b) using working standard measures having limits of error not exceeding 0.1%;
 - (c) by delivering the fuel into a working standard measures in such number and volumes of deliveries s he thinks necessary;
 - (d) If it has a meter, in addition to other tests, by a slow test at a rate of delivery not greater than 10L per minute;
 - (e) To ensure that the pump works correctly whether the fuel is delivered rapidly or slowly;
 - (f) To ensure that when a delivery has been completed and the dispenser switched off, no further operation can take place until the indicator for quantity has been reset to zero;
 - (g) To ensure that over a number of deliveries, the indications on the price indicator correspond with the indications on the volume indicator and with the price per litre,
 - (h) To ensure that, it has nozzle control valve, no fuel is delivered when that valve is open and the pump is not operating;
 - (i) To ensure that where it has 2 volume indicators or 2 price indicators, both agree after a delivery.
- (7) Where a petrol pump does not conform to this Regulation, authorised officer shall not pass it as correct at verification.
- (8) Where an authorised officer passes a petrol pump as correct at verification, he shall stamp it on a lead plug inserted in a conspicuous and easily accessible part of the pump and shall affix a seal to prevent access without breaking the seal to the working parts or adjustable device (provided that such seal may be broken by an authorised repair service on condition of immediately notifying the Controller).
- (9) No person shall use for trade a petrol pump having error, in excess or deficiency, greater than 0.5%.
- 16A. (1) A bulk meter shall -
- (a) be of a pattern approved by the Controller;
 - (b) have no leakage;
 - (c) have devices which prevent air from passing through the meter to such an extent as not to affect the accuracy of delivery;

- (d) have devices to ensure that no registration takes place when the supply of fuel stops;
- (e) have figures which are indelible, clear and legible, the actual or apparent height of which shall not be less than 4 mm;
- (f) have the makers' name legibly marked on the instrument;
- (g) have the maximum and minimum rates of flow legibly marked either on the dial of the indicating mechanism or on a special plate;
- (h) incorporate a calibrating device which can vary the relationship between the indicated and actual volumes of liquid passing through the meter;
- (i) when new or in service, have no error greater than $\pm 0.5\%$ of the volume purported to be delivered, or 2L, whichever is greater.

(2) The authorised officer shall test a bulk meter -

- (a) Under conditions which resemble its normal operating conditions as closely as possible particularly in respect of rates of flow and the product involved;
- (b) Using working standard measures or a calibrated master meter having error not exceeding $\pm 0.15\%$.
- (c) By passing the liquid through the meter into a working standard measure in such number and volumes of deliveries as he may consider necessary or by comparing the indication of the meter under test with the indication of a calibration master meter.

(3) where a bulk meter does not comply with this regulation, the authorised officer shall not pass it as correct at verification;

(4) where an authorised officer passes a bulk meter as correct at verification, he shall -

- (a) stamp it on a lead plug inserted in a conspicuous and easily accessible part of the meter; and
- (b) affix seals to prevent access to the working parts or adjusting device without the seals being broken.

16B.(1) Every tank compartment in a vehicle tank shall

- (a) be of such shape that no air is trapped on filling and no liquid is retained on emptying, when the vehicle is standing on a level surface;
- (b) (i) have no leakage;
(ii) after filling, show no traces of leakage or dampness at the joints, walls, couplings and other parts;
- (c) have its discharge device connected to the lowest part of the tank to ensure complete and rapid discharge of the liquid in the compartment;
- (d) have its discharge pipe –
 - (i) as short as possible
 - (ii) sloping towards the stop valve; and
 - (iii) easily verifiable;

- (e) have a single drain orifice;
- (f) have a single stop valve which shall be readily accessible and which shall be at the rear or on the appropriate side of the tank compartment;
- (g) have means for being discharged independently;
- (h) be provided with access to enable the operator conveniently to open and close the filling aperture, to observe the liquid level and to observe the emptying of the tank compartment;

- (i) have its number legibly and indelibly marked on each compartment sequentially from the front of the vehicle and adjacent to the stop valve pertaining to the compartment;
- (j) have its nominal capacity marked legibly, indelibly and conspicuously on each side of the compartment and on the manhole cover pertaining to the compartment;
- (k) be checked by the authorised officer for complete drainage to ensure that the quantity of liquid not likely to drain out from the compartment under normal operation conditions does not exceed 0.05% of its nominal capacity;
- (l) be calibrated by the authorised officer with working standard measures or a calibrated master-meter having error not exceeding $\pm 0.15\%$.

(2) No baffles or stiffeners inside the tank compartment shall interfere with its filling or emptying.

(3) No deadwood or any other body which when removed or changed, could modify the capacity of the compartment, shall be placed inside the tank compartment for the purposes of adjusting its capacity to a given value.

(4) The discharge device may incorporate a supplementary safety valve (foot valve) to stop the flow of liquid between the tank compartment and the discharge pipe.

(5) A discharge manifold may be permitted when making large deliveries from more than one compartment.

(6) The tank may be thermally insulated.

(7) (a) The dip/ullage stick used to determine the distance of the liquid-level from the bottom/top shall -

- (i) be made of suitable hard material;
- (ii) be sufficiently straight to be satisfactory for measurement; and
- (iii) have a metal rivet fixed near the top for receiving the stamp of assize.

(b) where a compartment is fitted with ullage indicator, the indicator shall be so constructed that -

- (i) it can be set to any desired level to which the liquid in the compartment is required to be filled; and
- (ii) it is possible to seal it in such a way that its position cannot be changed without breaking the seal.

(c) The registration number of the vehicle tank, the compartment number and the capacity of the compartment shall be indelibly marked at the top end of the dip/ullage stick.

(8) (a) The vehicle tank shall have a metallic plate riveted on it to receive the stamp of calibrating authority.

(b) The plate shall bear -

- (i) the title of the Weights & Measures Act
- (ii) the name of the owner of the vehicle tank; and
- (iii) the registration number of the vehicle tank.

(c) The plate shall be in the form specified in the Eight Schedule.

(9) The error on calibration shall not exceed +/-0.5% of the nominal capacity of each compartment.

(10) The vehicle tank submitted for calibration shall be clean internally, as any deposits on the internal walls would affect the accuracy of calibration.

(11) The authorised officer shall issue a verification certificate containing the calibration details to the person submitting the vehicle tank and shall put stamp of assize on the plate and dip/ullage stick.

17. For the purpose of section 14(2)b) of the Act –

- (a) electricity meters;
- (b) water meters; and
- (c) instruments used for grading or testing agricultural produce by weight

are exempted from the provisions of the Act.

18. These regulations shall come into operation on the same day as the Act.

**FIRST SCHEDULE
(regulations 4 and 5)**

TABLE 1

LIMITS OF ERROR FOR WEIGHTS USED FOR TRADE

Denomination	Limit of error	
	Weights for general trade	Weights for trade in valuable goods
10mg	-	0.25mg
20	-	0.3
50	-	0.4
100	-	0.5
200	-	0.6
500	-	0.8
1g	10mg	1.0
2	12	1.2
5	15	1.5
10	20	2.0
20	25	2.5
50	30	3
100	50	5
200	100	10
500	250	25
1kg	500	50
2	1000	100
5	2500	250
10	5000	500
20	10000	1000

TABLE 2

LIMITS OF ERROR FOR WORKING STANDARD WEIGHTS

Denomination	Limit of Error	
	Working standards for testing weights for general trade	Working standards for testing weights for trade in valuable goods
10 mg	-	±0.08 mg
20	-	0.10
50	-	0.12
100	-	0.15
200	-	0.20
500	-	0.25
1 g	±3 mg	0.3
2	4	0.4
5	5	0.5
10	6	0.6
20	8	0.8
50	10	1.0
100	15	1.5
200	30	3.0
500	75	7.5
1 kg	150	15
2	300	30
5	750	75
10	1500	150
20	3000	300

SECOND SCHEDULE
(Regulation 9)

REQUIREMENTS

FOR WEIGHING MACHINES USED FOR GENERAL TRADE
(excluding valuable goods such as precious metals, pharmaceutical products, etc)

Maximum Capacity		Limit of Error +/-
Equal to or greater than	And lower than	
100 g	500 g	±0.5 g
500	1 kg	1
1 kg	2.5	2
2.5	10	5
10	20	10
20	50	20
50	100	50
100	200	100
200	500	200
500	1000	500
1000	2000	1 kg
2000	5000	2
5000	10000	5
10000	20000	10
20000	50000	20
50000	100000	50

- (1) For a self-indicating or an automatic weighing machine having scale interval less than the limit of error specified in the above Table, the limit of error shall be one scale interval.
- (2) For a self-indicating or an automatic weighing machine having a capacity exceeding 2,000 scale intervals, the limit of error shall be 2 scale intervals for loads exceeding 2,000 scale intervals.

THIRD SCHEDULE

(Regulation 9)

REQUIREMENTS FOR WEIGHING

INSTRUMENTS FOR VALUABLE GOODS

(precious metals, pharmaceutical products, etc)

Maximum Capacity		Limit of Error +/-
Equal to or greater than	And lower than	
2 g	50 g	+2 mg
50 g	100	5
100	200	10
200	500	20
500	1 kg	50
1 kg	2.5 kg	100
2.5 kg	10	200
10	20	500
20	100 (included)	1000

1. For a self-indicating or an automatic weighing machine having scale interval less than the limit of error specified in the above Table, the limit of error shall be one scale interval.
2. For a self-indicating weighing machine having a capacity exceeding 20,000 scale intervals, the limit of error shall be 2 scale intervals for loads exceeding 20,000 scale intervals.

FOURTH SCHEDULE

(Regulation 10)

	Type of weighing instrument	Indication of balance
(a)	Oscillating	Beam returns to position of equilibrium when disturbed from it.
(b)	Self-indicating by pointer or with graduated indicating plate; or with difference chart	Pointer or plate comes to rest at the position of equilibrium or zero scale mark with the bubble of any spirit level in the true position.
©	Indicating by digital display or printed statement	The figure zero (0) being indicated or printed at no load.

FIFTH SCHEDULE

(Regulation 12)

A. General Tests at Verification

The authorised officer shall carry out the following tests on each weighing instrument at verification:

1. *Discrimination*

- (a) When a weighing machine not equipped with digital indication is at rest and in balance and a load equal to half the limit of error specified in paragraph 6, is applied without shock to the load receptor, both at no load and at full load the machine shall show a clearly visible change of indication.
- (b) When a weighing machine with digital indication is at rest both at no load and at full load its indication shall change when an extra load of not more than one and a half scale intervals is applied without shock to the load receptor.

2. *Sensitivity*

A non-self indicating weighing instrument shall have a sensitivity such that, for any load, a change of load equal to the limit of error specified in paragraph 6 corresponds to a permanent displacement of the index of at least

2 mm for weighing instruments other than mechanical platform machines and weighbridges.

5 mm for platform machines and weighbridges.

3. *Repetition of indication*

When the same load is weighed 3 or more times, the difference between the indication of any two weighings shall not exceed the absolute value of the limit of error specified in paragraph 6.

4. *Position of load*

When a load of one-third of the capacity of the instrument is displaced from the center of the load receptor to a position off-centre, the indicated weight shall remain within the limit of error specified in paragraph 6.

5. *Interchangeability*

When, for a balance equal-armed weighing instrument, the load and working standard weights are interchanged on the load receptors, the indicated weight shall not change by more than twice the absolute value of the limit of error specified in paragraph 6.

6. *Limit of error*

(a) Initial verification

The error of a new or repaired weighing instrument shall, at any load, not exceed the limit of error specified in schedules 2 and 3, or for a self-indicating or an automatic weighing machine, 1 scale interval whichever value is the smaller provided that

-for a self-indicating weighing machine used for general trade, or an automatic weighing machine, having a capacity of more than 2,000 scale intervals and the limit of error at initial verification shall be increased to 2 scale intervals for loads exceeding 2,000 scale intervals, and that

-for a self-indicating weighing machine used for trade with valuable goods having a capacity of more than 20,000 scale intervals the limit of error at initial verification shall be increased to 2 scale intervals for loads exceeding 20,000 scale intervals.

The scale interval referred to in this schedule is the one marked on the chart, display or identification label and if not so marked the smallest value of the scale division or any other value decided by the Controller.

(b) *In-service*

It shall be permitted to use for trade a weighing instrument which in service has errors not exceeding the double of the limit of error at initial verification defined in (a) or, for self-indicating machines, 3 scale intervals whichever value is the smaller.

© *Test loads*

Except where other wise provided in part B of this annex, tests are carried out for all weighing instruments at the following loads –

- zero load
- half load
- maximum load, including if applicable maximum additive tare
- loads at which the method of balancing is modified by addition or subtraction of a unit weight

Self-indicating weighing machines are in addition tested at:

- capacity of self-indication if different from maximum load
- loads at which the limit of error defined in (a) changes
- at as many loads as the authorised officer may consider desirable in view of the particular construction.

B. Tests on platform machines and weighbridges

1. The authorised Officer shall carry out the following tests on a platform machine or weighbridge at verification.

(a) *Linearity*

The upper surface or edge of the steelyard must be in one plane from the zero scale mark to the nose end;

(b) *Removable parts*

The instrument must not have readily removable parts (except any counterbalance supporting counterpoise weights):

© *Stops*

The instrument must have stops to prevent any poise weight from moving past the zero scale mark;

(d) *Load rail*

Any load rail must be not less than 10 mm from other rails and if two loads rails overlap or have a bridging piece, there must be not less than 5 mm gap between overlapping or bridging parts:

(e) *Travel or steelyard*

The travel of the pointer of the steelyard each way from the horizontal position must not be less than 10 mm:

(f) *Position of load*

Tests for position of load are made in accordance with section 4 of part A of this schedule.

Provided that weighbridges may be tested using a vehicle with a total load not exceeding 80 per cent of the sum of the maximum capacity and maximum tare which is successively immobilized at different points of the load receptor.

(g) *Limit of error*

Tests for discrimination, sensitivity and limit of error are carried out according to Part A of this schedule provided that procedures and means for applying high test loads are established by the Controller according to the pattern of construction of the weighbridge and available tests equipment.

2. The authorised officer shall check that a weighbridge has:

(a) *Drainage*

Adequate drainage with no accumulation of water, mud or debris in the pit;

(b) *Approaches*

Smooth, straight and horizontal approaches for a distance of at least half the length of the platform at each end of the weighbridge:

© *Clear View*

the building with the dial or steelyard so constructed that the operator has an unobstructed view of the whole platform;

(d) *Platform Protection*

the platform so protected that vehicles can only go onto it or leave it at the ends;

(e) *Foundations*

adequate foundations to support it at maximum load without movement;

(f) *Counterpoise weight*

If not fitted with a tare-beam, a counterpoise weight (of distinctive shape from other counterpoise weights for the instrument) which accurately compensates for the weight of any loose receptor or frame used with the instrument and which has the words "TARE WEIGHT" legibly and conspicuously stamped on its edge.

SIXTH SCHEDULE
(Regulation 13)

MEASURES OF LENGTH

Denomination Or Value of graduation	Limit of Error	
	End Measurement	Line Measurement
0.5 m	+ 1 mm	+ 0.5 mm
1 m	1 mm	0.7 mm
1.5 m	2 mm	1 mm
2 m	2 mm	1 mm
3 m	2 mm	2 mm
4 m	-	2 mm
5 m	-	2 mm
10 m	-	4 mm
15 m	-	6 mm
20 m	-	8 mm
25 m	-	10 mm
30 m	-	11 mm
50 m	-	18 mm
60 m	-	22 mm
100 m	-	36 mm

SEVENTH SCHEDULE
(Regulation 15)

MEASURES OF VOLUME OF LIQUIDS

TABLE 1

Capacity of measure Or Value of graduation	Limit of error
50 ml	+/-2 ml
100 ml	3 ml
200 ml	5 ml
250 ml	5 ml
500 ml	10 ml
1 L	15 ml
2 L	25 ml
5 L	50 ml
10 L	80 ml
20 L	Or more 0.5 per cent

(regulation 15)

TABLE 2

MEASURES OF VOLUME PERMITTED FOR LIQUOR

Capacity of measures	Limit of error
25 ml	+/-1ml
35 ml	+/-1.5 ml
50 ml	+/-2 ml

EIGHTH SCHEDULE

(regulation 168)

FORM OF PLATE OF VEHICLE TANK

THE LEGAL METROLOGY ACT 1985

Name of the owner

Registration number of the vehicle tank

Compartment
number

Compartment
capacity in
litres

Space for
stamp
