

Weights & Measures a short History

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Infant weighing Machine
Birmingham,
England, 1870-1910



A metal weight in the shape of Lion - 8th Century B.C. Weighing 3 Minas, from Assyrian city - in British Museum



Chinese Market Scale
This aluminum balance scale is sold and used widely in China. This scale can be held by larger ring beneath the user right hand to produce leverage for heavier loads

AN OLD FOLK TALE

King asked his minister to weigh his Elephant, and the answer was with a boatman = put the Elephant in a boat and mark the water level --- now fill the boat with Sand till that mark --- weight of the Sand is = weight of the Elephant

Weighing an Elephant Yesterday & Today



Symbolism of the Scale
The scale, specially two pan beam balance, wielded by 'Lady of Justice,' is one of the tradition symbol of Justice. This has a origin in Ancient Egypt. The scale is also symbol of Libra
Libra = Scale = (Tula)

SAVY GLOWART - 98225-481136



Weighing has played a pivotal role in trading worldwide from old civilizations like Mesopotamia, Indus Valley, Egyptian & Chinese

NITIRAJ ENGINEERS LTD.
News Letter

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Weights & Measures

Part - 1

NITIRAJ ENGINEERS LTD.

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From the desk of
CEO.....

Dear Friends,

It's human nature
that can't stop at one place until
fully convinced that there is no way ahead.

People have always starved and
continue to starve for Accuracy.
They expect more and more accurate
and fast weighing instruments and systems
for Trading, Research & Industrial purpose.




Rajesh Bhatwal

Quality Policy

We at Nitraj Engineers Ltd. are committed to Design, Develop, Manufacture and Service Electronic Weighing Scales, Currency Counting Machines, Auto Fare Meters, and Electronic Systems to meet Customers Requirement and Satisfaction.

This we shall achieve through the process of continual improvements in Product performance, Customer Satisfaction, Development of employees and implementing Quality Management System in all the areas of organisation to achieve Market Leadership.

This policy shall be reviewed for continuing suitability and shall be revised if needed.

Date : 1 July 2015

PHOENIX


Rajesh Bhatwal
CEO

Weights & Measures a Short History

Part - 1 Salvi P K


Indus Valley Civilization

Like most ancient civilization, the Indus valley people developed a system of weight and measures. With this trade became easier, and also that goods could be valued for tax purpose.

The oldest evidence of the weighing scales dates back to 5400 - 1800 BC in Indus Valley. Uniform polished stones were used as weight setting standard. In Egypt scales can be traced around 1878 BC. Carved stones bearing marks denoting weight and Egyptian hieroglyphic symbol for Gold have been discovered, which suggest that Egyptian merchants were using an established system of weight & measurements to catalogue gold shipment from gold mines.

Weighing has first started in Mesopotamia (modern Iraq) some 4500 years ago. Payments made from weighed amount of Silver. Since then weighed amount of metal such as Gold, Silver, Copper and other metal have been used as money in many places world wide. Weighing was as old as Coin Currency & Trading.

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Cubical weights in gradation size from Harappa, Indus Valley. These weights conform to the standard Harappan binary weight system that was used in all of the settlements. The smallest weight in this series is 0.856 grams and the most common weight is approximately 17.7 Grams, which is in the 16th ratio.

Duck shaped brass weights - ancient Burmese Hinta weights of 15th century



Hieroglyphic symbols - a system of writing that was used in ancient Egypt





Sale in February 2016

FIVE TOP BRANCHES

Jeypore,
Balangir
Raigarh
Sambalpur
Dhule-Mktg.

TOP ZONAL MANAGER

Dillip Kumar Panigrahi
- Jeypore, Sambalpur & Balangir

TOP RM / AREA SALES MANAGER

Dileshwar Majhi (RM),
- Berhampur Branch

TOP FIVE SALES EXECUTIVE

Sales Executive	Branch
Chaudhari Ravindra P.	Buldhana
Praveen Soni	Raigarh
Dhammaraj Mishra	Jeypore
Yudhistir Badgichhila	Balangir
Ranmale Rajesh N.	Dhule-Mktg.

TOP SERVICE ENGINEERS

Ser. Engineers	Branch
Singh Santosh Rajendra	Bilaspur
Koli Santosh Totaram	Jalgaon
Bhanu Pratap Choudhari	Raigarh



Circulars - Month of February 2016

No.	Date	Subject
Circular No.11	1/2/2016	Service Revenue Incentive Scheme for the Period 01/02/2016 To 29/02/2016.



Appointments & Promotions

Appointments:

- **Mr. Gujrathi Shamkumar Chandrakant**
Joined as Jr. Engineer
Dept.:Research and Development
- **Mr. Bharti Shashikant Ramesh**
Joined as Sales Executive
POS Software at Akola
- **Mr. Patil Kunal Bapurao**
Joined as Jr. Engineer
POS Software at Head Office
- **Mrs. Bagul Madhri Ramesh**
Joined as Jr. Officer
POS Software at Head Office



Dealer Desk

New Dealers Appointments :

- **TBS Publishers Distributors** - Calicut (Kerala)
- **Atharva Solutions (CCM)** - Parbhani (M.S.)
- **Gadia Brothers** - Chirwa (Rajasthan)
- **Cache Technologies (KOP) Pvt. Ltd.**
Belgaum (Karnataka)
- **Shree Sai Sales and Services** - Mapusa (Goa)
- **Shri Ganapati Traders (CCM)** - Motihari (Bihar)
- **Seth Traders** - Udhampur (J&K)
- **Balaji Electronics** - Solapur (M.S.)
- **Modi Enterprise** - Jamnagar (Gujarat)
- **Micronet Marketing (CCM)** Bilimora (Gujarat)
- **Renuka Electronics** - Pune (M.S.)
- **Limra Instruments** - Vasal (M.S.)
- **Girdhari Enterprise** - Tungidighi (W.B.)



Focus of the Month - February - 2016

Blue Tooth Interface

We have developed an application for Blue Tooth data transfer. Weighing scale data can be transferred to Smart phone with Blue-tooth and Tablet with Blue Tooth. Further Weighing scale data on Smart phone or Tablet can be transferred to Computer.

GSM Interface

We have incorporated GSM facility in weighing scale. Weight data can be sent to any mobile as SMS

Above updated application can be used for any of our weighing scales. Let us bring this innovative concept in the market!!

Dealers Training

Weights & Measures a short History

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Nature, the weighing master

However the first weight was not fashioned by man but by 'Nature.' In order to weigh small amount precisely, small objects that can be easily obtained and of consistent size were needed. So grain and seed of plants were chosen for their elegant uniformity. The grain of Wheat, Mustard seeds were used to weigh gold in India. The seeds of 'Licorice' plant and of 'Carob' tree were also used. The Carob gave us 'Carats,' steel used today to express the value of gold and Diamonds, although now it's metric Carat.



Ratti a seed of 'Abrus Precatorius'.



Wheat



Mustard

Late Middle Age

Depictions of equal arm balances is found in the art of Ajantha Caves No.17 in Maharashtra. Beams of steelyard balances have been unearthed from the 8th Century at Sirpur and Arang archaeological sites.

Ma Huan (1413-51), a Chinese merchant also visited port city of Cochin, says that Gold Coin 'Fanam' issued in Cochin and weighed a total of one 'Fen' and One 'Li' According to Chinese standard, were of fine quality and could be exchanged for 15 silver coins of four Li weight each. This weighing was accepted by Chinese traders

Weighing in Indian subcontinent

Before the introduction of Metric system, Indian weighing system one may divide in three periods.

1) Indian Regional period system, 2) Akbar period system, 3) British colonial period system.

This clay tablet contains a price list
from Mesopotamia in 19th Century BC.
express prices in terms of 'Shakels and Minas',
the standard weight of that time.
One shakel of silver would buy twelve minas of wool,
or ten minas of bronze,
or three measures of barley
or three measures of sesame oil.



In old regional period, weighing system differs from region to region, commodity to commodity also from rural to urban. These systems were based on weight of various seeds, particularly Wheat, Barley & Ratti. Lengths were based on the length of arms and width of fingers.

Since early times the adoption of weight and measurement has reflected in country's architectural, folk and metallurgical artifacts. The system of weighing was very complex in Mouryan period (332 - 185 BC). Later in Mogul empire (1526 - 1851), they used regional system to determine land holding and collection as a part of Mogul land reforms. Akbar realized the need of uniform weight & measurement system to encourage trading and smooth operation in tax collection. He appointed Raja Todar Mal, his finance minister and some Sardar to decide the system, but it did not worked out.

When British came to India as a traders, they accepted Barley corn as unit 'Grain' for weighing Gold, and Wheat for other Commodities. There after British introduced their own - 'Troy Ounce' - system for Gold, Pounds and Ton for commodities and Foot, Furlong and Mile for length. Under British rule Government of India passed a Standard of weight Act in 1939, that came into effect from 1942 allowing co-existence of Tola, Ser, Man and Pound, Ton system

Punjab Weight & Measurement Act of 1941 provided some uniformity. There after in 1956 Government of India passed Weight & Measurement Act to introduce Metric system and it was made mandatory by April 1962.



Chinese Scale

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A page from Egyptian Book of the Dead is a modern name of an ancient Kemet Text (1550 - 50 B.C.)

Balances have a strong symbolic significance in many civilizations. Here is a balance used by the Egyptian 'Jackal headed god, Anubis' to weigh the heart of the dead person against the feather of the truth and decide whether he can enter the Heaven (good place) or thrown to waiting creatures such as crocodile, Lion or Hippopotamus.

