



# Current Waves

ELECTRICAL CONSULTANTS' ASSOCIATION BANGALORE

VOLUME I - ISSUE 3

www.elcaindia.com

APR - JUN 2003



## EDITOR'S NOTE

At the outset, I regret the delay in releasing this issue of 'Current Waves', which in normal course should have landed on your desk by mid July. I hope you will forgive me for the delay.

I have a good news. Electrical Consultants' Association, (ELCA) Bangalore, will be hosting a multi discipline exposition, MEPEX 2004. Considering the fact that the electrical consultants need to work in close co-ordination with other building service consultants, mainly HVAC and plumbing, in a project for successful end results, ELCA felt that showcasing of products and holding of seminars on MEP services would be very appropriate in the above context.

MEPEX 2004 will be a four day event, from 8th to 11th January 2004, at Palace Grounds, Bangalore.

Our organising committee is working with an aim to make MEPEX 2004 a grand event and success. The focus is, on the two categories of VIPs, viz., the exhibitors and the visitors, to achieve an excellent level of participation and footmarks.

I request you to block these dates in your diary to participate or visit MEPEX 2004.

Thank you.

J. D. Krupakar



ಕರ್ನಾಟಕ ಸರ್ಕಾರ  
Government of Karnataka

DILIP RAU, IAS  
Principal Secretary to Government

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DATED: 14-6-2003.

ದಿನಾಂಕ  
D.O. No. \_\_\_\_\_

## MESSAGE

I am glad to know that Electrical Consultants' Association (ELCA), an association of practicing electrical consultants in Bangalore, is dedicated to spread and implement safe electrical installation, installation practice, electrical safety and conservation. The Association has made sincere attempts to achieve their objectives through seminars, workshops, exhibitions and electrical safety programs.

The Association needs to be commended for bringing out a quarterly news letter "Current Waves" to spread the message of safe electrical installation practice, electrical safety and electrical energy conservation. These are extremely important matters, which unfortunately tend to be neglected.

I wish them all the best in their future activities.

  
(DILIP RAU).



ONE UNIT SAVED - TWO UNITS GENERATED

## The new Chief

ELCA extends a hearty welcome to Mr. T. Munirathnam, B.E., M.I.E., the new Chief Electrical Inspector to Government of Karnataka, Chairman, Licencing Advisory and Examination Board and State Inspector of lifts. He took charge as CEIG on 4. 7. 2003. Mr. Munirathnam is a dynamic person with a pleasant personality and is very keen and determined to implement electrical safety measures very strictly to reduce, if not eliminate, electrical accidents in Karnataka. He has streamlined the procedures for issuing licences to electrical contractors.

We appreciate his ambitions and will join hands and extend all possible co-operation to him and his department to achieve his above objectives and we wish him well and success.





## Definition of engineering consultant

by  
**T. V. Rao**, M.Sc., D.I.I.Sc., M.I.E.  
Electrical Consultant, Bangalore.

Oxford Dictionary defines consultant as one " whose business is to advise those working in his field ". In this context an engineering consultant is one whose business is to advise those working in the engineering field.

FIDIC (International Federation of Consulting Engineers) says,

" A consulting engineer is a professionally qualified engineer in practice ".

A consultant is a person who

gives professional advice or services, the emphasis being on the word "advice" which is defined as a recommendation regarding a decision or course of action.

Consultants existed way back also and were not confined to the west only. Indian history provides ample examples of consultants who held powerful positions in their king's darbar. There were Chanakya, Birbal, Sher Shah Suri and others.

The first stanza in the oldest scripture of India, the Rig Veda (ca.500 B.C.) reads:

" अग्निं देवे पुरोहितं  
होतारं देवतामिव जल  
होतारं पतनस्यै  
तारम् "

The broad meaning of this stanza is "I glorify Agni the high priest, who directs the ministrant to transmit the oblations to the Gods, for obtaining great wealth to the sacrificer".

In the vedic society, priests were the highest ranking professionals. Agni, though in normal sanskrit

usage means fire, the word according to the vedic sanskrit, means "The First One", represents the ideal professional as he guides the human beings to evolve themselves to divine beings. The qualifications and characteristics of Agni, are elaborated in the later verses of vedas. Basically, seven characteristics are specified for Agni:

- Pleasant personality
- Highly knowledgeable
- Unselfish
- Unegoistic
- Does everything in the interest of the sacrificer (the Client)
- Not profit motivated; satisfied with whatever is offered, (the result however depends upon the quantity and quality of offerings)
- Bestower of happiness and satisfaction

The above qualifications for a professional hold good even today.



## Streamlining the licencing procedures

by  
**T. Munirathnam**, B.E., M.I.E.  
Chief Electrical Inspector to Govt. of Karnataka, Chairman, Licencing Advisory and Examination Board and State Inspector of lifts.

I am glad to inform you that I have streamlined the licencing procedures in the interest of the applicants, after I took charge as CEI to Government of Karnataka. The procedures and

details are furnished below and I hope that the details will be of use to the applicants.

1. The applicants aspiring to get Class-I, Class-II, Class-III Electrical Contractor's licence, Industrial Supervisor / Mining Supervisor Permits, Special Wiring Permission, Wiremen Permits, Cinema Operator's licence etc., should approach the office of the local Deputy Electrical Inspector and submit their applications with necessary documents and remit the prescribed fee either by cash at the concerned office or submit the chalan of local treasury.
2. The jurisdictional Electrical Inspector will process the applications and will certify that the applications submitted are in conformity with the Licencing Rules 1976.
3. Different dates have been fixed throughout the State, i.e. division-wise, for the jurisdictional Deputy Electrical Inspectors to bring the applications to the Corporate Office, for processing.
4. On test check at Corporate Office, the Head of the Department will sign and issue the licences/permits by hand to the jurisdictional Deputy Electrical Inspectors, who in turn will take the approved/issued licences/permits and deliver the licences/permits to

the respective applicants from his/her office.

5. A separate register shall be maintained at jurisdictional offices, for the applications received, processing of applications, recommendation/rejection of the applications, clearance of licences/permits and pending applications, if any, with reasons.

6. The applicants need not come to the Headquarters/Corporate Office from various places of the State as was done earlier. This will relieve the applicants of the hardship and expenditure caused by visits from far of places. Moreover the applicants will receive their licences/permits within a month's time thereby delay will be avoided.

The following are the documents to be accompanied by the applications:

### FOR FRESH CONTRACTOR'S LICENCE

- a. Applications should be submitted in 'D' form.
- b. Two recent passport size photos duly signed.
- c. Bank Solvency:
 

For Class I Contractor:	Rs. 10,000.00
For Class II Contractor:	Rs. 5,000.00
For Class III Contractor:	Rs. 2,000.00
- d. Ration card, Telephone bill, Electricity bill, Passport copy, I.D. card issued by Election Commission, in proof of address or an affidavit from a notary.
- e. The Electrical Materials prescribed (as detailed in form 'D')
- f. Chalan / Receipt for having paid the Licence fee:



- For Class I Contractor: Rs. 410.00  
 For Class II Contractor: Rs. 310.00  
 For Class III Contractor: Rs. 210.00

### FOR RENEWAL OF ELECTRICAL CONTRACTOR'S LICENCE

- Applications should be submitted in 'E' form.
  - Two recent passport size photos duly signed.
  - Bank Solvency:
    - For Class I Contractor: Rs. 10,000.00
    - For Class II Contractor: Rs. 5,000.00
    - For Class III Contractor: Rs. 2,000.00
  - The details of supervisors having been endorsed to the Licencee/firm.
  - The details of wiremen having been endorsed to the Licencee/firm.
  - Professional Tax clearance certificate in case the annual income exceeds Rs. 2 Lakhs or an affidavit from a notary if the income does not exceed Rs. 2 Lakhs per year.
  - Details of Electrical Materials prescribed.
  - Chalan/Receipt for having paid the Licence Renewal fee:
    - For Class I Contractor: Rs. 400.00
    - For Class II Contractor: Rs. 250.00
    - For Class III Contractor: Rs. 100.00
- Penalty fee of Rs. 25.00 in case of late submission. (before two months)

### FOR INDUSTRIAL SUPERVISOR / MINING SUPERVISOR PERMITS

- Applications should be submitted in 'T' form.
- Two recent passport size photos duly signed.
- In case of B.E./Diploma holder (in Electrical and Mechanical) Degree/Diploma provisional certificate and certified Xerox marks card should be enclosed.
- Chalan/Receipt should be enclosed for having remitted a fee. of Rs. 80.00.
- Ration card, Telephone bill, Electricity bill, Passport copy, I.D. card issued by Election Commission, in proof of address or an affidavit from a notary.

### FOR RENEWAL OF INDUSTRIAL SUPERVISOR / MINING SUPERVISOR PERMITS

- Applications should be submitted in 'T1' form.
- Two recent passport size photos duly signed.
- Original permit should be enclosed.
- Chalan/Receipt for having remitted a fee of Rs. 100.00 for three years (if submitted before three months) (Original Chalan should be enclosed). Late fee Chalan/Receipt for having remitted a fee of Rs. 125.00 for three years (if submitted before two months).
- Ration card, Telephone bill, Electricity bill, Passport copy, I.D. card issued by Election Commission, in proof of address or an affidavit from a notary.

### FOR FRESH WIREMEN PERMITS

- Applications should be submitted in 'T' form.
- Two recent passport size photos duly signed.
- For having passed I.T.I. (Electrician)/Job Oriented

Diploma course or NCTVT (Electrical Division-Electrical wiring and servicing of electrical appliances) attested educational certificate should be enclosed.

- Chalan/Receipt for having remitted Permit fee of Rs. 55.00 (Original Chalan should be enclosed).
- Ration card, Telephone bill, Electricity bill, Passport copy, I.D. card issued by Election Commission, in proof of address or an affidavit from a notary.

### FOR RENEWAL OF WIREMEN PERMITS

- Applications should be submitted in 'T1' form
- Two recent passport size photos duly signed.
- Chalan/Receipt for having paid renewal fee of Rs. 50.00 for three years.
- Chalan/Receipt for having paid with penal fee (Rs. 25.00+50.00) (if submitted within two months).
- Original Permit should be enclosed.

Fees prescribed for fresh Special Wiring Permission: Rs. 500.00

Fees prescribed for renewal of Special Wiring Permission Rs. 500.00 (For three years if submitted before three months)

Fees prescribed for renewal of Special Wiring Permission Rs. 500.00 plus a penal fee of Rs. 25.00 for three years if submitted before two months.

## DATE BLOCKERS

### VISION 2004

#### A Challenge

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The Indian Society of Lighting Engineers  
Karnataka State Centre

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exhibition on lighting

21st & 22nd November 2003

at the Grand Ashok, Bangalore

For details contact: msn43@yahoo.com

### National Seminar on Renovation Modernisation and Life Extension of Hydro Power Plants

by The Central Board of Irrigation and Power  
11th & 12th December 2003

at New Delhi

For details contact: cbip@nda.vsnl.net.in

### MEPEX 2004

#### Building services

(Mechanical, Electrical, Plumbing)

Exhibition with seminars and  
new product launching

#### Hosted by

Electrical Consultants' Association, Bangalore

8th to 11th January 2004

at Palace grounds, Bangalore

For details contact: info@mepex2004.com

### ELECARAMA-2004

6th International Exhibition of Power, Electrical,  
Industrial Electronics and Allied Products  
3rd to 7th February 2004

at Pragati Maidan, New Delhi, India

For details contact: elecrama@ieema.org





Electrical safety march is in progress. An electrical safety march was held on 13th September 2001 as a part of electrical safety programme to bring awareness to the public. The electrical safety march started in front of Vidhana Soudha (a portion seen in the background) Bangalore and culminated at Sree Kanteerava Indoor Stadium, the venue for ESP.



Electrical Inspectors from the Department of Electrical Inspectorate are seen participating in the electrical safety march. Mr. H. Gangaiah, Chief Electrical Inspector to Government of Karnataka is fourth from left.



An entertainment awareness to the public on safety, held on 14th September 2001.



Mr. K. P. Pandey, IAS, Principal Secretary to Government, Energy Department, Government of Karnataka, seen lighting the inaugural lamp. Also seen are ( L to R ) Mr. B. K. Charan Dev, Secretary ELCA, Mr. Veerakumar A. Patil, Chief Guest, Minister of State for Energy, Government of Karnataka, Mr. B. R. V. Murthy, Treasurer, ELCA and Mr. H. Gangaiah, Chief Electrical Inspector to Government of Karnataka.



Mr. K. P. Pandey, IAS, Guest of Honor, releasing 'Technical safety - A Compendium of Technical Papers and Tables' during the inaugural function.



A view of the invitees for the inaugural function of ESP, on 14th September 2001, at Sree Kanteerava Indoor Stadium, Bangalore.



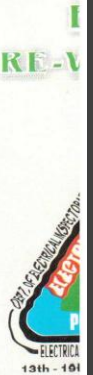
Chief Guest, Mr. Veerakumar A. Patil, Minister of State for Energy, Government of Karnataka, cutting the tape to declare open the exhibition sector of the ESP. Mr. K. P. Pandey, IAS, looks on.



Mr. V.P. Baligar, IAS, (4th From left) Chairman, Karnataka Power Transmission Corporation Limited (KPTCL), interacts with the stall holders.

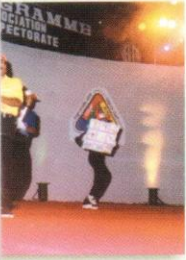


A view of the stalls and a seminar session under progress.

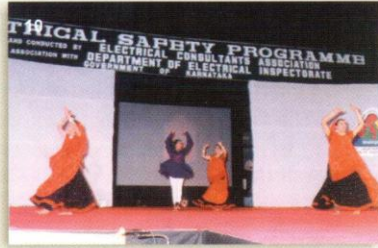


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programme, to bring  
c, about the electrical  
September 2001.



A scene from the entertainment programme on  
15th September 2001.



A drawing and painting competition, on the theme  
'Electrical Safety' was conducted for school children  
in and around Bangalore, during ESP, on 16th  
September 2001, in the age group of 7 - 9, 10 - 12  
and 13 - 16 years. About 800 children participated in  
the competition.



Magic show in the evening of 16th  
September 2001.



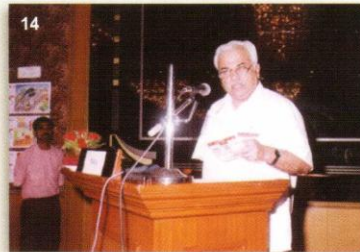
Mr. Kiran S. Koppalkar, DGM ( ELECT ),  
MRPL, Mangalore, addressing the delegates  
during a seminar held at Mangalore, during  
the ESP.

OP  
SITED



## ELECTRICAL SAFETY PROGRAMME

CONDUCTED BY  
ELECTRICAL CONSULTANTS' ASSOCIATION  
IN ASSOCIATION WITH  
DEPARTMENT OF ELECTRICAL INSPECTORATE  
GOVERNMENT OF KARNATAKA



Chief Guest, Mr. R. V. Deshpande,  
Honourable Minister for Heavy and Medium  
Industries, Government of Karnataka,  
addressing the gathering during the  
valedictory function held at, Le Meridien,  
Bangalore, on 19th September 2001.



Guest of Honour, Mr. S. R. Kashappanavar,  
Minister for Small Scale Industries,  
Government of Karnataka, delivering the  
concluding speech during the valedictory  
function on 19th September 2001.



A school kid receiving a participation  
certificate from the Guest of Honour.



Display of paintings during the valedictory  
function.



## HOROLOGY TO THE FORE

BY

M. S. CHANDRASEKHARA IYER

Horologist, Mysore, Karnataka.

Horology is a general term used to describe the art of measuring time. It could be used to analyse different intricate parts of a watch or clock, to study the history of time evolution. Philosophically it means studying the value of the concept of time.

Horology is a wonderful science and art. Hora is a Latin word which is taken from sanskrit. In sanskrit the day is called Haha and night Ratri. Horashastra existed in the ancient times.

In Indian mythology it is stated that "Athri maharushi" was the authority on Horashastra.

In 1150 A.D., Bhaskaracharya wrote in his renowned "siddhanta shiromani",

1 Day has 60 Galigay (24 Hours)

1 Galigay has 60 Vighaligay (24 minutes)

1 Vighaligay has 60 Paragaligay (24 seconds)

1 Paragaligay has 60 Sookshma Galigay (0.4 seconds)

1 Sookshma Galigay = 0.0067 second

In a year there are 365.25848 days, that is 365 Days, 15 Galigay, 30 Vighaligay, 22 Paragaligay and 30 Sookshmagaligay.

The above is an indication of the precision that characterised our ancient Indian horologists.

Now Horology (watch making) is playing a vital role in the advancement of science in the field of advanced electronics and satellites.

Early man approximated time with the help of movement of the Sun. This was known as the Nature watch.

About 4,000 years ago an emperor of China, Hawangati, invented the first water clock. Later, different types like Sand clock, Oil clock, Fire clock and Sundial clock, came into existence.

Sand clock was invented by Ruyat Fraud in the 8th century. In a sand clock the time intervals are measured by the period it takes for the sand to fall from the top bulb to the bottom bulb.

The water clock also follows the same process. The oil clock was developed in the 16th century. It has a scale which moves as the oil burns.

In the 8th century the Sundial clock was the most popular time measuring device. A vertical stick's shadow was the needle of measurement. This clock cannot be

used in cloudy conditions and also in the night times.

The first generation of mechanical clocks were crude. They were large sized, weight-driven machines fitted into the towers and known as Turrent clocks.

The first public striking clock was erected in Milan, Italy in 1335. The oldest serving clock in England is that at Salisbury Cathedral which dates back to 1366.

The most famous of tower clocks is the Big Ben in London. The improved form of the double three legged gravity escapement invented by Edmund Backett and later by Gorinthorbe was used in the Big Ben, that was installed in 1859.

The Big Ben has four dials each with a breadth of 23 feet. The length of the minute hand is 14 feet and that of the figures in the dial is 2 feet. Its pendulum is 13 feet long and the tower is 314 feet in height.

In 1480, the main spring was invented by Nurenberg locksmith Peeter Henlin. Clocks made with iron were heavy and so were replaced by brass in 1530.

Watches can be divided into two groups:

1. Mechanical hand wound watches, Mechanical automatic watches and Mechanical Chronometer watches.

2. Electronic digital and quartz analogue watches.

The first hand wound wrist watch was made by New Sam, an English man, in 1571. It had only the Hour hand. The minute hand was added to the watch in 1670 by Knibb and Quary, the two leading watch makers of London.

Robert Hoke was the first to control the oscillation by a Hair Spring in 1660. The accuracy of a watch depends upon the balance wheel and hair spring.

The balance wheel of a watch turns as fast as an express train travelling at 80 kilometers per hour. The balance wheel of a watch makes 16 million turns a year. The tiny tick we hear is made by the constant heart beat, and is over 400 thousand times a day. The hair spring coils and uncoils 4,32,000 times a day. One steel screw in a watch is smaller than the sign of the full

stop. The head has a diameter of 0.0018 of an inch.

In 1704, in Switzerland, Nicholas Facio introduced jewel bearing. Jewels have a hard surface, perfect enough to allow metal parts to turn smoothly with a minimum wear and friction. Jewel also holds the droplets of oil that



Mr. M. S. Chandrasekhara Iyer, born in 1933, in Mysore, is a horologist by profession. He is the fourth generation horologist and horology was being practiced and continued in his family since 100 years. He has published many articles on horology in the leading newspapers of the country. He has to his credit articles on horology published in the leading international watch magazine 'Swiss Watch Journal' in Lausanne, Switzerland. Mr. Iyer has delivered speeches at various organisations and has conducted workshop in Titan Watch factory at Hosur. He has addressed the public frequently through electronic media like TV and All India Radio.

Mr. Iyer, with 50 years of experience in horology, is a soft spoken person and is ever enthusiastic to talk about horology and he is eager to spread awareness about this science. Mr. Iyer is of the opinion that if a person cultivates the habit of time keeping, he will cultivate the habit of precision work which will result in perfection.

( If you have the inclination he has the time. Mr. Iyer can be contacted on 0821 - 245 5794 for further information on horology, watches etc. )



lubricate each tiny pivot points.

In a watch there are five types of Jewels:

- Hole or Friction Jewel
- Cap Jewel
- Roller Jewel
- Pallet Jewel
- Shock absorber Jewel

The first automatic watch was made by John Harwood in 1928. The self winding watch does not require hand winding. The hand movements help the watch wind automatically. It prevents over winding.

#### CHRONOGRAPH WATCHES

The Chronograph watch has many uses. It gives accurate time. It is a stop watch that has a special minute recording hand, a special dial for half hours, and some times for hours. Chronographs are used to measure time and speed, in sports, races and scientific laboratories.

#### ELECTRONIC DIGITAL WATCHES

Electronic digital watches made their entries in 1953. They work on 1.5 volts battery and have no hands. Time is shown in digits on a small screen.

#### QUARTZ WATCHES

Quartz is a component of silicon. A highly refined form of silicon is a quartz crystal. It is used in watches in purest form and is synthetically grown under controlled conditions in the laboratory. Quartz watches have a 1.5 volts battery, integrated circuit, coil board, trimmer, stepper motors, train wheels and an analogy display.

In the Quartz watch, the tiny piece of quartz crystal

gets power from a battery and oscillates at a very high and stable frequency of 32.768 kilo Hertz and produces electronic pulses. The Quartz watch loses or gains 20 seconds in a month.

#### ATOMIC CLOCK

The most accurate and sophisticated time measuring instrument is the atomic clock. An atomic clock powered by hydrogen atom was developed by expert horologists. It loses or gains one second in 30,000 years.

#### ATOMIC FOUNTAIN CLOCK

Now another latest atomic clock is manufactured. This is a highly improved form of atomic clock. This is called as atomic fountain clock. In the atomic fountain clock laser cooled Cesium atoms are allowed to move upwards which after reaching a certain height start falling back in a fountain like fashion. Its accuracy is incredible. It loses or gains just a second in 20 million years.

Sign board at a watch shop:

'Please wait patiently to be served. I have only two hands.'

"I am the most important part of the watch, without me you cannot tell the hours", said the hour hand.

"No. I am the most important part, without me you cannot tell the minutes", boasted the minute hand.

The hair spring was working silently.

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8 - 11 JANUARY  
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# POTPOURRI PAGE

A man  
is incomplete  
until he is  
married,  
afterwards he is  
finished.

## SIGN BOARD @

- A dress shop window:** *Don't stand outside and faint, come in and have a fit.*
- A travel agency:** *Why don't you go away?*
- A repair shop door:** *We can repair anything. ( Please knock hard on the door -the bell doesn't work. )*
- A farm gate:** *Beware! I shoot every tenth trespasser and the ninth has just left.*
- A Doctor's office:** *What cannot be endured must be cured.*
- A funeral parlour:** *We are the last persons to let you down.*
- An auto repair service:** *Free pickup and delivery. Try us once and you will never go anywhere again.*

When NASA began to launch astronauts into space, they found that the pens would not work at zero gravity because ink would not flow to the writing surface. In order to overcome the problem NASA hired a consulting firm. After a decade and \$ 10 million, they developed a pen that worked at zero gravity, upside down, under water, practically on all surfaces and at a temperature ranging from below freezing point to over 300 degree C.

The Russians used pencil !!

- 2000 B.C. *Here, eat this root.*
- 1000 A.D. *That root is heathen. Here, say this prayer.*
- 1850 A.D. *That prayer is superstition. Here, drink this potion.*
- 1940 A.D. *That potion is snake oil. Here, swallow this pill.*
- 1985 A.D. *That pill is ineffective. Here, take this antibiotic.*
- 2000 A.D. *That antibiotic is artificial. Here, eat this root.*

There are three marks of a superior man  
Being virtuous, he is free from anxiety  
Being wise, he is free from perplexity  
Being brave, he is free from fear  
- Confucius ↓

## PHOBIA

What is phobia?  
A morbid and irrational fear, hatred or aversion  
of a specific object, condition, etc.

Let's see how many phobias you know?

- |                            |                       |                                |                            |
|----------------------------|-----------------------|--------------------------------|----------------------------|
| M<br>O<br>R<br>B<br>I<br>D | F<br>E<br>A<br>R<br>S | 1. Light: .....                | P<br>H<br>O<br>B<br>I<br>A |
|                            |                       | 2. Open space: .....           |                            |
|                            |                       | 3. Enclosed space: .....       |                            |
|                            |                       | 4. Heights: .....              |                            |
|                            |                       | 5. Water: .....                |                            |
|                            |                       | 6. Corpses: .....              |                            |
|                            |                       | 7. Foreigners: .....           |                            |
|                            |                       | 8. Dogs: .....                 |                            |
|                            |                       | 9. Darkness: .....             |                            |
|                            |                       | 10. Lightning & Thunder: ..... |                            |
|                            |                       | 11. Fire: .....                |                            |
|                            |                       | 12. Disease: .....             |                            |
|                            |                       | 13. Groundless fear: .....     |                            |
|                            |                       | 14. Everything: .....          |                            |

Answers: 1. Photo. 2. Agora. 3. Claustro. 4. Acro. 5. Hydro. 6. Neco. 7. Xeno. 8. Cyno. 9. Nacto. 10. Astira. 11. Pyro. 12. Noso. 13. Pano. 14. Panto.

**TEACHER:** *SAM, IF YOU HAD 20 RUPEES AND YOU ASKED YOUR FATHER FOR ANOTHER 20 RUPEES, HOW MANY RUPEES WOULD YOU HAVE?*

**SAM:** *20 RUPEES.*

**TEACHER:** *YOU DON'T KNOW YOUR ARITHMETIC.*

**SAM:** *YOU DON'T KNOW MY FATHER.*

Regional Manger / Branch Manager  
M/s. Basant Construction  
99, Jakkasandra, Sajjapur Road,  
Bangalore - 560 034