The 108th birth anniversary of Late Eng.(Prof.) Robert Hoisington Paul was commemorated with a Memorial Lecture held at the Wimalasurendra Auditorium of the Institution of Engineers, Sri Lanka (IESL) at 120/15, Vijayamawatha, Colombo 7, on Friday 10th February 2012. Considered as the “Father of electrical engineering education in Sri Lanka” for his contributions to our engineering education in the electrical engineering discipline at the university level in its formative stages, the late Professor is a symbol of the very professionalism he tried to inculcate in his students. The R.H.Paul Memorial Lecture this year was delivered by Eng. Mangala P.B.Yapa – Managing Director/CEO of Colombo Dockyard PLC, on the theme “Engineering Education and Practices : Issues and Future Challenges”. At a time when values held sacrosanct by the profession are being eroded apparently, commemorations of great men of the past who had upheld such values could provide the appropriate opportunities for a reawakening process that is clearly and urgently needed.

Delivering the lecture Eng. Mangala Yapa described the late Prof. R.H.Paul as a man of great vision, dedication and commitment to his profession who created the pathway for many Sri Lankans to learn engineering in Sri Lanka. He said that an important part of late Professor Paul’s role as an educationalist and an engineer was the support he extended towards the establishment of an industry in the country, where electrical engineers could practice, at that time under the Department of Government Electrical Undertakings (DGEU). He further said that the late Professor always identified that the role of engineers is to serve their community with a sense of purpose, and to challenge what needs to be done and use the learning as an opportunity to serve the society at large. Subsequently, Eng. Mangala Yapa highlighted the apparent erosion of values the profession has suffered in present times and the importance of the need to find out the reasons for it. He said that the reason perhaps lies in the fact that we have failed to evolve with the changes brought with the times.

The memorial lecture was preceded by the lighting of the traditional oil lamp, garlanding preceded by the lighting of the oil lamp, garlanding by the President, the IESL and the IESL staff. The welcome address by the President of the IESL was delivered by the President – IESL, Eng. (Dr.) Ananda Ranasinghe addressing the audience at the inauguration ceremony. Also in the picture are (L to R) Eng. Wimalasena Gamage – Chairman(Education, Examination & Training Committee) Prof. Ananda Jayawardane – Vice Chancellor, University of Moratuwa,Eng. Tilak De Silva - President Elect, Eng. Ms. Arunadhi Wimalasuriya, Executive Secretary.

The Institute of Engineers, Sri Lanka (IESL) was inaugurated at a ceremony attended by a large number of fresher students, parents, lecturers, Council Members and staff of the IESL on 28th January at the Head Office of the institution at 120/15, Vijayamawatha, Colombo 07.

The course has become a lifeline to many students aspiring to be qualified engineers but unable to gain entrance to the universities due to the higher education bottleneck in the country.

Arbitrators and Adjudicators Training Programme

The IESL will conduct the above Training Programme commencing Saturday, 31st March 2012, 9.00 a.m. and continuing on the following 3 Saturdays. Those interested in following the programme are kindly requested to contact the Deputy Executive Secretary.

Eng. Mangala P B Yapa delivering the Memorial Lecture

A section of audience at the memorial lecture

The President visited Trincomalee recently and had met Eng. K. Sivakumar, the Team Leader of the Gantalawa to Trincomalee Road Rehabilitation Project which is identified as A6. During the discussions that followed Eng. Sivakumar had mentioned about a very interesting project that had been carried out in order to rehabilitate the Trincomalee-Pulumoodu Road identified as B424.

The Contractor for this project was China Auto and the Consultants were RDC & Pacific Construction International. The length of this road was approximately 55 km and the road formation consisted of 15m of road-width. According to Eng. Sivakumar, he had encountered a scarcity of materials in order to lay the base course of the road. Therefore, a decision had been made to utilize the existing material and gravel and to modify this material in order to bear the excessive traffic load which is anticipated after construction.

Due to the availability of gravel in this area, the additional base requirements were augmented by using the existing gravel in the area. This gravel was stabilized using cement and the percentage of cement that had been used for this purpose was less than 3% in volume. As the mixing of gravel and cement could not be carried out in situ, a special machine was imported from China which he identified as a ‘Pugmill’. This equipment is nothing but a mixer having a capacity of 200 Metric Tonnes per hour, to mix large volumes of gravel. As cement was used in bulk, it was stored in silos. Due to the chemical reaction which takes place in cement, mixing time had to be limited to 1-1/2 hours and the stabilized soil mixture laid on the ground immediately after that. After laying the base material, compaction was done using the road rollers. According to Eng. Sivakumar, in order to form the road the sub-

PLease share your valuable experiences – President

Contd. on page 11....
FORTHCOMING ANNUAL EVENTS CALENDAR - 2011 / 2012

<table>
<thead>
<tr>
<th>Event</th>
<th>Dates</th>
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<tbody>
<tr>
<td>Induction and Graduation Ceremony</td>
<td>Friday – August 17, 2012</td>
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<tr>
<td>E O E Pereira Memorial Lecture</td>
<td>Thursday – September 13, 2012</td>
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<tr>
<td>D J Wimalasurendra Memorial Lecture</td>
<td>Monday – September 17, 2012</td>
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<tr>
<td>Techno Exhibition</td>
<td>Friday – Sunday October 5-7, 2012</td>
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<tr>
<td>Inauguration of the Annual Sessions</td>
<td>Friday – October 19, 2012</td>
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<tr>
<td>Annual Sessions Seminar</td>
<td>Saturday – October 20, 2012</td>
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<tr>
<td>Annual Field Visit</td>
<td>Sunday – October 21, 2012</td>
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<tr>
<td>Presentation of Technical papers by Young Members</td>
<td>Monday-Wednesday, October 22, 23 &amp; 24, 2012</td>
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<tr>
<td>Presentation of Technical Papers</td>
<td>Thursday – October 25, 2012</td>
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<tr>
<td>Dr. A N S Kulasinghe Memorial Lecture</td>
<td>Thursday – October 25, 2012</td>
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<tr>
<td>Techno Awards Ceremony</td>
<td>Wednesday – October 24, 2012</td>
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<tr>
<td>Annual General Meeting</td>
<td>Saturday – October 27, 2012</td>
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</table>

The date of the Dr. Ray Wijewardene Memorial Lecture will be notified later.

Note: Associate Members who wish to apply for the Professional Review, are strongly advised to attend all Memorial Lectures and keep a record of the attendance for any future reference.

ANNUAL SUBSCRIPTION FEES FOR THE YEAR 2012

<table>
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<tr>
<th>Class of Membership</th>
<th>Amount in Rs. (Excluding VAT)</th>
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<tbody>
<tr>
<td>Fellow</td>
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<td>Member</td>
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<td>Student Member &gt; 35</td>
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<tr>
<td>International Professional Engineer (IntPEng)</td>
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Subscriptions Fees excluding VAT - Rs 2,500/=  

Discounts

In respect of membership subscription fees, a discount of 25% will apply to members other than Student Members who are above 60 years of age and who declare that their annual income is less than Rs. 600,000/=.

THE INSTITUTION OF ENGINEERS, SRI LANKA

"PROJECT MANAGEMENT PROFESSIONAL TRAINING PROGRAMME"

Programme covers the various project Management areas ; such as Project Management Process, Integration Management, Scope Management, Time Management, Cost Management, Quality Management, Human Resource Management, Communications Management, Risk Management, Procurement Management

For whom: Professionals interested in pursuing the Project Management in their professional roles.

Resource Persons:
- Mr. N R Asoka de Silva, BSc.Eng.,MIE(Ireland),MIE(USA)
  Senior Management Consultant, NIBM
- Mr. L N Theverapperuma, BSc(Eng),MBA(Sri Lanka)
  Former Senior Management Consultant, NIBM
- Mr. Y. Ratnayake, BA (Peradeniya),MBA(Sri Lanka)
  Former Senior Management Consultant, SLIDA

Duration: Commencing on, March 10th 2012, will be conducted on 06 Saturdays from 0900 - 1600 hrs. at IESL.

Course Fee: Rs.27,000/- for members of IESL and Rs.29,000/- for others (inclusive of Handouts, Lunch & Refreshments)

For further details contact Education, Examinations & Training Division
Tel. : 011 2 698 426 Ext. 209/210/211
Fax : 011 2 699 202   E-mail : deetiesl@sltnet.lk

DIRECTOR (EE&T)
120/15, Wijerama Mawatha, Colombo 07.

THE INSTITUTION OF ENGINEERS, SRI LANKA

"Project Management Professional Training Programme"
March 10, 2012
Six Saturdays from 0900-1600 hrs

REGISTRATION FORM

Director, Education Examinations & Training
The Institution of Engineers, Sri Lanka
120/15, Wijerama Mawatha
Colombo 07.
(Tel. 2 698426 Ext. 209/210   Fax:2 699202   E-mail : deetiesl@sltnet.lk)

<table>
<thead>
<tr>
<th>1. Name</th>
<th>Mr./Ms.</th>
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<tbody>
<tr>
<td>2. IESL Membership No. (If any)</td>
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<td>3. Designation</td>
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<td>6. Contact Nos.</td>
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<td>Fax :</td>
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<tr>
<td>7. Food preference</td>
<td>Non-vegetarian</td>
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Name of the Nominating Officer/Applicant * ..........................................................
Designation ..........................................................................................................
Signature .............................................................................................................
Date ......................................................................................................................

Await in March 2012
Half a Day Seminar on ‘Current Status and Future of Oil Industry in Sri Lanka’ organized by the Chemical and Process Engineering Sectional Committee of IESL.

THE INSTITUTION OF ENGINEERS, SRI LANKA

"PROJECT MANAGEMENT PROFESSIONAL TRAINING PROGRAMME”
HIGHWAY DRIVING – 2
THE CORNERING MANEUVER – SLOW IN - FAST OUT

by Eng Sarath Chandrasiri

Whether it is normal driving or highway driving, cornering may be considered as a maneuver, with which a high degree of risk is associated. The motto to be followed in cornering may be summarized as: SLOW IN - FAST OUT. Perhaps in competitive racing, this rule has to be violated to some extent. But in day to day driving it is a golden rule that can keep you out of trouble.

In the SLOW IN - FAST OUT technique, as you approach a corner (a bend on the road), you have to slow down gradually by smoothly pressing the brake pedal. Once you enter the corner you must keep your foot off the brake pedal and come out of the corner with your foot on the accelerator, achieving a higher speed than the speed of entry.

In general highways are constructed without sharp curves and any curves, that are there, are banked to suit the high speeds at which the vehicles are driven on highways makes the cornering, to fully appreciate the usefulness of the SLOW IN - FAST OUT approach a useful motto even on them.

On the other hand, on other roads of Sri Lanka, it is an imperative. Therefore, it is necessary to understand the dynamics involved in cornering, to fully appreciate the usefulness of the SLOW IN - FAST OUT methodology.

Frame of Reference: First of all, in order to start out in a mathematically rigorous manner, we have to define the frame of reference we are using, which in this case happens to be our good friend - THE STATIONARY, FLAT EARTH FRAME of REFERENCE. It also makes literal sense, because hopefully, it will help the inexperienced and untrained drivers to remain firmly attached to the good

Now we have a forward accelerating force \( F \) at the center of mass and a couple \( FX_d \) acting on the whole vehicle. The first propels the car forward while the second tends to rotate it in a clockwise direction in the plane of the paper. What interests us here is this couple, as a result of which the front tyres of the car get pushed up and the rear tyres get pushed down. The opposite happens when you brake. What this means is that acceleration and braking affects the weight distribution on the 4 tyres of the vehicle.

Tyre Grip: How the weight of the vehicle is distributed among the 4 wheels is very important for the stability or road holding of the vehicle. This is because the weight on a tyre decides how much grip there is on it. By grip we mean the forces exerted at the patch of contact of the tyre with road surface (Fig-2). The grip can extend in two directions, (i) The Longitudinal Grip \( F_1 \) in the plane of rotation of the tyre and (ii) The Lateral Grip \( F_2 \) in a direction perpendicular to the same plane. The sign of \( F_1 \) depends on whether you are accelerating or braking. When you travel at a fixed speed, the accelerator has to be pressed to provide sufficient drive force to overcome \( F_1 \).

Grip Variations: For purposes of vehicle stability, it is beneficial to have a high level of grip of the tyres. There are many factors, which decide the level of grip of a tyre, which we leave for a later discussion. But in general, we can say that the grip at a given tyre increases with the weight borne by it. In the case of straight motion, the lateral grip is small and is not of much importance, while the longitudinal grips are of major importance.

The other important phenomenon that we have to understand is that the maximum value of the lateral grip available depends on how much of the available longitudinal grip you are using at a given moment and vice versa. In other words, the two types of grips are interdependent. If you use up all the available Longitudinal Grip, then the available lateral grip is reduced to a minimum. This means that there is a trade off here between lateral and longitudinal grips and when you need one you have to minimize the use of the other.

Grip can be compared to a pie (see the figure), from which we can cut off two types of pieces, a longitudinal piece and a lateral piece. We all like to have a bigger Pie and the overall size of the Grip Pie can be increased by increasing the weight distributed on the tyre. But if you cut off too large a piece of longitudinal grip then you are left only with a correspondingly small piece of lateral grip.

Understanding this is essential for mastering safe cornering. Cornering: The first part of the rule, SLOW IN, means that you have to reduce the speed to a safe value before entering the corner. This ensures that you do not have to do any braking after entering the corner because all the braking that is needed for executing the maneuver has been completed prior to that. In fact in certain situations, it is advantageous to slightly press the accelerator, while you are negotiating the corner and in that case the extent of braking has to be increased so as to leave a sufficient margin for that.

Cornering involves circular motion and as engineers we know that circular motion involves our well known friends, centrifugal and centripetal forces. This knowledge gives us a major advantage over the other drivers and could make us much better and safer drivers.

The centripetal force required for cornering is provided by the lateral grip at the four tyres. Thus the cornering process places a high demand on the lateral grips available at the tyres. The lateral grip available at the tyres can be maximized by adopting the following measures:

Reduce the demand on the longitudinal grip, (i.e.) reduce the size of the longitudinal piece of the pie. We know that braking places an increased demand on the
Predicting the Future!

There was an interesting article in a recent issue of the 'Scientific American' titled "The future is for fools". The article talks about the famous predictions that had gone wrong seriously such as the prediction made in 1943 by the IBM Chairman that there would be a world market for may be five computers! The writer of the article however suggests that "It's not predictions in general that will get you into trouble, though. The danger lies in predicting that things can't be done or will never work. Those are the forecasts that will make you look shortsighted." He goes on to say that "In general, it’s much safer to predict things that will happen. If you’re right, you’ll look like a genius. Take Jules Verne, whose articles and stories described electric submarines, TV news, solar sails, “phonotelephone” (video calling), “atmospheric advertisements” (skywriting) and “electronic control devices” (tasers). Or Arthur C. Clarke’s “newspad” (iPad), Ray Bradbury’s “thimble radios” (earbuds), Isaac Asimov’s pocket calculators and George Orwell’s security cameras.”

Perhaps taking advice from the writer, we could make our own predictions about the future. In this context, may I invite our readers to send in information on what they perceive as to be in store for us in the future. When one looks out to the future, there will certainly be no limit to one’s imagination provided basic scientific tenets are not violated. Hence, concepts such as perpetual motion, though very much scientific tenets are not violated. Hence, concepts such as perpetual motion, though very much interesting, will not get qualified to be entertained.

Once again, let me invite engineers, both the young and the old, to send in your ideas while being mindful to the saying “The best way to predict the future is to invent it.”

Lakshitha Weerasinghe, Editor
lakshitha@ieee.org

NOTICE
THE INSTITUTION OF ENGINEERS,
SRI LANKA
APPLICATION FOR INCLUSION IN DIRECTORY OF QUALIFIED PERSONS, BUILDING SERVICES ENGINEERING

According to Urban Development Authority Law No.41 of 1978, when Building Plans are submitted for approval the UDA may request that such drawings are prepared by a Qualified Person in the field of Building Services Engineering.

In order to fulfill this requirement the IESL is calling applications from its Corporate Members who wish to be included in the Directory of Qualified Persons in the said field. Applications can be downloaded from the IESL Website or collected from the IESL Secretariat.

Please note that the closing date for applications is March 15, 2012 and a sum of Rs 1500/- is payable by the applicant in order to cover the cost of the directory.

Sri Lanka Engineering News
Puzzle - 46

UNOP Task Force

47-A: The Easy One

Once I was taken blindfolded to a secret underground nuclear facility to do some maintenance work. We went down a helical staircase, which went round and round many times. I managed to determine that the angle of descent of the staircase was 30° right through and using a hidden instrument I managed to measure the linear length of the helical line of intersection of the staircase and the wall of the well as 1000 ft. How far did we descend vertically?

Puzzle Guru Sarath Chandrasiri

Solution for Puzzle No. 42

How not to Kill the Equation

S
ome expressed misconceptions that this puzzle is too easy and below standard to be published in a reputed engineering journal. The results however show that it was not that easy. Out of the 26 solutions received, only 16 were found to be correct, which means nearly half of them got it wrong. I had a feeling that it would be so. Actually, when my colleague Ms. Atha Sultana gave me this puzzle, I said to myself: 'Hey, man, here is a simple puzzle from which we can learn a lot'. Let me explain.

Puzzle Theory: A Guru is not a genuine Guru if he does not continually spin out new theories and methods. What is more, he should reject anything without proper investigation and accept it only when you are fully satisfied that there is sufficient grounds to do so.

I am happy to say that young Eng Lanka Perera has done just as I advised. She analyzed the solution using simple and straightforward geometry and she found that the solution was flawed. The ladder is too short by about 7 inches to use the method given in the solution.

Actually, I found that Eng Lanka and Eng Vernon Weerasinghe have given a different way of reaching the fortress. They had some of the soldiers standing on the ladders as counter weights. The problem with that is that, militarily speaking, they are not going to survive long unless those defending the fort were nincompoops.

I invite all readers to look for a better solution. A nice reward awaits you.

Contd. on page 11....
Trusted name in Electrical Wiring Devices, Protection systems and Accessories in Sri Lanka.

All our products comply with international and local statutory requirements and are manufactured in facilities having ISO 9001:2008 quality system certification.

Kevilton switches are tested for continuous operation of 30,000 ON/OFF cycles to assure prolong life span.

Kevilton wiring devices are made out of fire retardant engineering plastics.

Switched Socket outlets under go endurance tests to verify safety shutters and conductive parts could serve more than 15,000 insertions.

Tracking test conducted on plastics that insulate current carrying parts.

Residual Current Circuit Breakers are tested to monitor correct operation times during an earth leakage fault.

All CFLs will have strong and Robust Caps to ensure correct electrical contacts and mechanical strength.

Protection Devices
RCCB (IEC 60947), RCCB (IEC 60947), MOB (IEC 60947) Isolator (IEC 60947/3)

Lamp Holders complied to SLS 138:2009 standards

148, Vauxhall Street, Colombo 2. Tel: +94 11 4760100 Fax: +94 11 5352741
### Office Bearers of the IESL Wayamba Centre

#### Session 2011 / 2012

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<thead>
<tr>
<th>Position</th>
<th>Name</th>
<th>Official Address</th>
<th>Contact Details</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Chairman</td>
<td>Eng. R.A.H. Rajamanthri</td>
<td>Mobile: 0773 – 852176</td>
<td>Email: <a href="mailto:rajanwp@hotmail.com">rajanwp@hotmail.com</a></td>
</tr>
<tr>
<td>2. Vice Chairman</td>
<td>Eng. Prasad Ratnayake</td>
<td>Mobile: 0714 – 298934</td>
<td>Email: <a href="mailto:prasad1430@gmail.com">prasad1430@gmail.com</a></td>
</tr>
<tr>
<td>3. Senior Secretary</td>
<td>Eng. Samitha N.Jayasinghe</td>
<td>Mobile: 0714 – 950066</td>
<td>Email: <a href="mailto:samitha1000@hotmail.com">samitha1000@hotmail.com</a></td>
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<tr>
<td>4. Joint Secretary</td>
<td>Eng. Saman Piyasilinghe</td>
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<tr>
<td>5. Joint Secretary</td>
<td>Lalintha Wijekoon</td>
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<tr>
<td>6. Treasurer</td>
<td>Eng. S. M. B. Dissanayake</td>
<td>Mobile: 0777 – 480184</td>
<td>Email: <a href="mailto:mckg@sltnet.lk">mckg@sltnet.lk</a></td>
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<td>7. Assistant Treasurer</td>
<td>Eng. M. D. K. Mahiti</td>
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<td>8. Editor &amp; Web Master</td>
<td>Eng. M. I. M. Irshad</td>
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<tr>
<td>9. 1st Committee Member (Past Chairperson)</td>
<td>Eng. Ms. Chitra Nissanka</td>
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<td>10. 2nd Committee Member (Past Chairperson)</td>
<td>Eng. Ms. Mangala Tennakoon</td>
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<tr>
<td>11. 3rd Committee Member (Past Chairmen)</td>
<td>Eng. Bandula Witharama</td>
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<tr>
<td>12. 4th Committee Member</td>
<td>Eng. Rohitha M. Thanthilage</td>
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<tr>
<td>13. 5th Committee Member</td>
<td>Eng. Kapila Weerasooriya</td>
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<td>14. 6th Committee Member</td>
<td>Eng. Kusum Priyananda</td>
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<td>15. 7th Committee Member</td>
<td>Eng. Sunil Jayatissa</td>
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<td>16. 8th Committee Member</td>
<td>Eng. J. M. W. K. Hunukumbura</td>
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<td>17. 9th Committee Member</td>
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<td>18. 10th Committee Member</td>
<td>Eng. Ms. A. D. S. Piyadasanari,</td>
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<td>19. 11th Committee Member</td>
<td>Eng. P. V. J. Fernando,</td>
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<td>21. 13th Committee Member</td>
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<td>22. 14th Committee Member</td>
<td>Eng. W.C.F. Warakulasooriya</td>
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### Representatives of the Organization

<table>
<thead>
<tr>
<th>Organization</th>
<th>Name</th>
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<tbody>
<tr>
<td>23. Road Development Authority</td>
<td>Eng. Sudesh Perera</td>
</tr>
<tr>
<td>25. North Western Province Engineering Department</td>
<td>Eng. Salinda Bandara</td>
</tr>
<tr>
<td>27. Irrigation Department</td>
<td>Eng. B.V. Indrapala</td>
</tr>
<tr>
<td>28. Provincial Road Development Department</td>
<td>Eng. Rasika Mallawarachchi</td>
</tr>
<tr>
<td>29. Private Sector (Kurunegala District)</td>
<td>Eng. H. G. N. Nalin Pathirana</td>
</tr>
<tr>
<td>30. RDA – Puttalam District</td>
<td>Eng. P. Chares Jugin</td>
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</table>

### Contract Administration - Full day Seminar

Representatives of the Organization

23. Road Development Authority
25. North Western Province Engineering Department
26. Ceylon Electricity Board
27. Irrigation Department
28. Provincial Road Development Department
29. Private Sector (Kurunegala District)
30. RDA – Puttalam District
IESL BENEVOLENT FUND

The IESL Benevolent Fund provides much needed relief to members and their families rendered distraught by unfortunate events.

The fund, at present, offers financial assistance up to Rs 60,000/= in the event of sudden death / sickness of a member, unexpected and serious loss of income to a member or any other cause which the Board of Management of the Benevolent Fund considers as deserving such assistance.

All members, irrespective of class of their membership and regardless of their contributions are eligible to be beneficiaries of the fund. Appeals for financial assistance from the IESL Benevolent Fund should be channelled through the Executive Secretary by filling out the form specified for the purpose which is available on request.
**Notice for all member categories:**

**Membership Subscription Payments and Receipt of Publications**

Council of the IESL has decided to strictly implement the following conditions regarding the receipt of membership subscriptions and the issuing of publications.

1. If the subscription for the particular year is in arrears by 31st March of the same year, issuing of publications to that member will be stopped from that day onwards.

2. If the subscription for the particular year is in arrears by 31st October of the same year, then the name of that member will be removed from the IESL membership roll according to the By-laws of the Institution.

For the attention of the applicants for memberships:

(A) Submission of membership applications:

Applications for All membership Categories (Including Transfers):

Duly completed membership applications for all member categories (including the transfers) are accepted at the Membership Division of the IESL on Mondays, Tuesdays and Fridays (but not on holydays which may fall on these days).

All applicants are kindly requested to refrain from coming to IESL for such submissions on Wednesdays, Thursdays and during week-ends.

(B) Applications/Transfers to “Member” category:

All Engineers who wish to apply for the Corporate Membership (To obtain Chartered Engineer Status) are advised to read the “Professional Review Rules” of the IESL.

(Available in the Website)

All applicants are supposed to do a self assessment with reference to the “Professional Review Rules” before submitting an application.

Those who really need further clarification may write (Emailing is ok) to The Executive Secretary—IESL

or

Meet the Director (Membership), but restricting to above 3 days (Monday, Tuesday and Friday) of the week.

**THE INSTITUTION OF ENGINEERS, SRI LANKA**

**Competition on**

“Eco Efficient Water Infrastructure for Sustainable Development – Experiences gained from Integrated Water Resources Infrastructure Development in Sri Lanka”

**Session 2011/2012**

**Sponsored by**

St. Anthony’s Industries Group (Private) Ltd.

(MANUFACTURES OF ANTON PVC PIPES AND FITTINGS)

Two competitions will be held this year for the award of certificates and cash prizes. The competition soliciting original Technical Papers on research and case studies are accepted from members of IESL who are above 35 years.

There will also be another competition for members who are 35 years and below on 01 October 2012. This competition is open to members of IESL and final year students of Faculties of Engineering of Universities in Sri Lanka who are student members of IESL or who obtain such membership before submitting their technical papers.

**AWARDS & PRIZES**

**ABOVE 35 YEARS ON 2012.10.01 35 YEARS AND BELOW ON 2012.10.01**

**First Prize** - Rs. 50,000/=  
**Second Prize** - Rs. 25,000/=  
**Third Prize** - Rs. 10,000/=  

The members (Fellows, Members, Associate Members, Associates, Companions and Students) who wish to participate must obtain the application forms from IESL and submit bio-data & full Technical Papers to reach the Executive Secretary, Institution of Engineers Sri Lanka, No. 120/15, Wijerama Mawatha, Colombo 07 on or before 30 May 2012.

Further information could be obtained from the Chairman, Steering Committee on Water Resources Development of The Institution of Engineers, Sri Lanka, on Tel: 072- 3421493 or Publicity Officer-IESL 011-2684900, 011-2698426 or 011-2699210, ext-232, 207, 207, E-mail: dir.pub@iesl.lk, ieslpub@gmail.com, Fax : 011-2699202

**THE INSTITUTION OF ENGINEERS, SRI LANKA**

**Competition on**


**Sponsored by**

International Water Management Institute (IWMI)

We are pleased to announce that arrangements are being made for the forthcoming Competition on Water Resources Development sponsored by IWMI towards the Annual Sessions of IESL in October 2012. The prizes will be given for the two best Technical Papers under the above mentioned theme prepared for this competition by Associate Members & Corporate Members of IESL. Jointly authored papers will be accepted, provided at least one of the authors satisfies the above criteria. Papers must be original and demonstrate the author’s knowledge and experience of the subject. The award winning articles will be published in the journal, "Engineer" of the IESL.

Water is a vital input in industrial, energy, tourism, recreational, navigation, agriculture, forestry, livestock and fishery sectors. As water scarcity grows, competition among sectors and users, and between the human needs and the environment intensifies. Effective and efficient water management is therefore a prerequisite for sustainable socio-economic development.

The paper can address extraction, storage, distribution, use and disposal issues in any economic sector. It should illustrate how engineering and technology is applied in increasing productivity, in balancing supply and demand of water and/or in reducing water pollution and protecting freshwater ecosystems.

Preference will be given to papers of an empirical and analytical nature based on primary and/or secondary data although papers addressing topical issues through conceptual development may also be forwarded.

**AWARDS & PRIZES**

(A) Rs. 45,000.00 - For members of IESL over 35 years of age on 01 October 2012

(B) Rs. 30,000.00 - Engineering graduates holding membership of IESL and 35 years of age and below on 01 October 2012

Intention to participate in this competition should be intimated to us along with your biodata & the full Technical Papers on or before 30 May 2012. IESL form IWMI/1 should be used for this purpose.

Further information could be obtained from the Chairman, Steering Committee on Water Resources Development of The Institution of Engineers, Sri Lanka, on Tel: 072-3421493 or Publicity Officer-IESL 011-2684900, 011-2698426 or 011-2699210, ext-232, 207, E-mail: dir.pub@iesl.lk, ieslpub@gmail.com, Fax : 011-2699202
Sri Lanka Engineering News - February 2012

IESL NEWS

8 भीषण बाबसूर्ती....

कुछ तारीख....

मृत्युशहीद आश्रम का मृत्युमार्ग स्मरणित करताचा दृश्यांकन निर्देशित झाला. शहीदांना उपलब्ध असलेल्या सुरक्षासाठी वाचवलेल्या सूचनाद्वारा गरजेच्या वाहकांनी उपस्थित राहून दिली आहे. शहीदांना त्यांच्या मृत्युमार्गाला दिली होतील. 70 जणांना वार्षिक मृत्यू स्मरणीय समारोहाचा आयोजन केला गेला. 1950 मध्ये आपल्या पैतृक रूपांतरावरील अन्य मृत्यूमार्गाकडून त्यांना लक्षात आलेल्या अनेकांना मृत्यू म्हणून त्यांना लवकर बांधून आले. 21 जानेवारी 2012 रोजी आयोजित केलेल्या येथील कार्यक्रमात सुरक्षित घटनांची ओळख केली गेली. नवीन प्रगती यांना समर्पणात दिलेला येथील कार्यक्रमातून दिसतला, ज्याचे म्हणजेच विभागांचे नवीन मूल्यांकन सुरु केली गेली. येथील कार्यक्रमामध्ये आपल्या मृत्यूमार्गाच्या अनुभवांचा एक योगदान देत आहे. 11 जानेवारी 2012
Contd. from page 5... Solution for Puzzle No. 42...

Any reasonable person would agree that the first solution is much better than the second. In fact the second solution is considered as "Leda Muranath Badha Buddha" although the patient’s stomach was well and truly purged by type of solution.

In the second solution we have killed the equation and what remains is an inequality. It is true that this inequality is true, but if you read the text of the puzzle, what you get is a request for you to create the equation. Not to destroy it. The equation is not to be killed because it is not a correct ‘non-equation’.

Let’s say someone gives his pet dog for you to correct its bad habits like wetting the floor. How would he feel if you solve the problem by simply killing the dog? True. It is a highly effective solution that guarantees the total absence of canine urine on the floor, but don’t think the owner would be amused by it. It would be rather like a Rahadannedatta type solution.

Many readers went for this approach because it was the easiest thing to do. It would be rather like a Rahadannedatta type solution. Less time consuming to kill the dog rather than spend months trying to house train it – provided you can get away with it and get your training fee too.

What happened in this case was that many saw this solution and adopted it. They were patting themselves on the back for their cleverness. While this is not the trap door in its path. They simply fell down it.

In real life problem solving it is very easy for even the most intelligent to fall in to such traps. We have to know that such temptations can lead to disastrous. When you hit upon any solution ask yourself these questions:

- Does the solution fit all the evidence/conditions?
- Are there any other solutions that you have missed or ignored?
- Is this your best solution?

It is my experience that, when you hit upon the best solution, you will immediately understand because you get that unique feeling.

Prize Winner: Judging from the number of responses received, this turn out to be the most popular puzzle published in Puzzle Corner. The month’s prize goes to Student Member R. Anghumaran as the youngest among them. The other readers who sent in correct solutions are:

1. D. Channinda Indrath
2. J. N. Watthasinghe
3. Anusha Udunuwara

Contd. from page 3... HIGHWAY DRIVING....

longitudinal grip and hence, we have to avoid braking. This way, we can maximize the lateral forces that are available for cornering. The SLOW IN approach helps us to do that by making braking unnecessarily while on the corner.

Secondly, it is advantageous to maintain the differences in the weight distribution on tyres within limits. This can be achieved by maintaining the tire pressure within limits. Too much acceleration can lead to instability of its longitudinal grip and hence, it is not to maintain exact equality. Since the tendency of the vehicle is towards oversteering, we have to oversteer it by slightly reducing the speed. This will ensure that the speed would be low enough, leaving room for accelerating while turning.

The transfer of the centrifugal forces acting at the points of contact of the tyres to the center of mass of the vehicle is reduced which tends to topple the vehicle to the outside of the curve as shown in Fig-3. This effect produces inequalities in weight distribution. These effects are very clearly seen in Fig-5, where the inner rear wheel is completely lifted above the road, thus loosing its grip altogether.

Contd. from page 1... PLEASE SHARE....

base having a CIB (California Bearing Ratio) of more than 67.10 is to be used. According to the pavement design that had been carried out he has laid the base course to a thickness of 200mm. Once the formation of the road was done, he had used a mixture of 40% by weight of bitumen content as permitted by DBST (Double Bitumen Surface Treatment). Therefore, existing material (Table No. 4) of mixtures has been used. According to the pavement design that had been carried out he has laid the base course to a thickness of 200mm. The President congratulated this young engineer who had used an innovative method to rehabilitate this stretch of road. However, Eng. Sivakumar was humble enough to say that the inspiration he had got was derived from another project which had been given by the Chairman and the Director General of the Roads and Traffic Authority.

Therefore, the President believes that the different types of experiences should be assimilated among our fellow engineers as an exercise to widen their knowledge in the field of engineering. As Eng. Sivakumar had been very busy as the Team Leader of some other similar project, the President took upon himself to write this note to SLEEN. At the same time the President is also inviting those who have first hand experiences to write to SLEEN about what they do in their provinces so that engineers can learn from the experiences gained by their brothers and sisters in the profession.

MORE ON PUZZLES 41 & 46....

Contd. from page 5....

How can we say that this is inadmissible. What is the litmus test for the admissibility or non admissibility of a solution within the rules of this puzzle? I said that changing the voice is a way of communication and how do you throw a ball and you go deep in to it, even in the official solution the authors of the puzzle communicate some additional info. which the next competitor can use. In fact without such info you cannot improve the chances of winning and there is no substance in the puzzle.

Therefore, I developed this test for checking the validity of the method. The judge goes to each competitor and asks them about the method that they have used. Eng. L.H. Fernando as the most senior member. Congratulations Eng. Fernando! We could have awarded you a special prize. Happy Puzzling to All!!

Puzzle Guru Sarath Chandrasiri

Contd. from page 3... MORE ON PUZZLES 41 & 46....

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