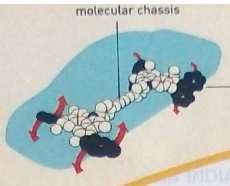

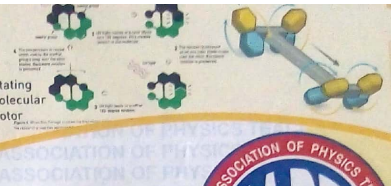

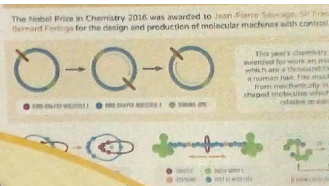

Indian Association of Physics Teachers

(Registered Under Section XXI of Societies Act 1860, Reg.No. K – 1448)

NATIONAL STANDARD EXAMINATION IN CHEMISTRY

NSEC–2016-17

REVANURU VINAY KUMAR

is awarded

Certificate of Merit

for being placed in

Statewise Top 1%

out of 1599 candidates enrolled in the State of Andhra Pradesh.

11

01-02- 2017

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INDIAN INSTITUTE OF SCIENCE
BANGALORE - 560 012

Dr. G. VENKATESH
(Chief Co-ordinator, NSE)

Dr. M.K. RAGHAVENDRA
(Co-ordinator, NSE)

How Molecules Became Machines

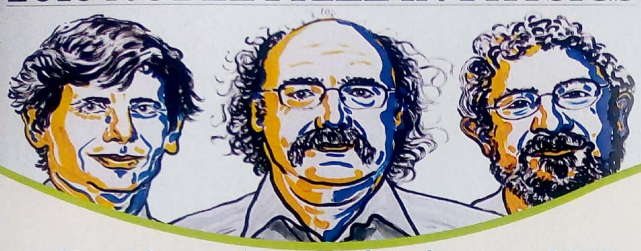
The Nobel Prize in Chemistry 2016 is awarded to Jean-Pierre Sauvage, Sir J. Fraser Stoddart and Bernard L. Feringa for their development of molecular machines that are a thousand times thinner than a hair strand. They linked molecules together to design everything from a tiny lift to motors and minuscule muscles.

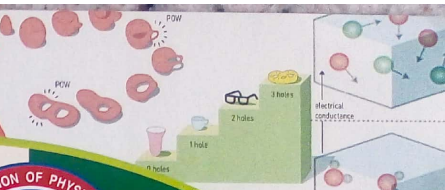
Jean-Pierre Sauvage worked with photochemistry, in which chemists develop molecular complexes that can capture the energy contained in the sun's rays and utilise it to drive chemical reactions. When JeanPierre Sauvage built a model of one of these photochemically active complexes, he suddenly saw its similarity to a molecular chain: two molecules were intertwined around a central copper ion.

In 1991, his research group built an open ring that lacked electrons, and a long rod, or axle, that had electron-rich structures in two places. When the two molecules met in a solution, electron-poor was attracted to electron-rich, and the ring threaded onto the axle. In the next step, the research group closed the opening in the ring so that it remained on the molecular axle. He had thus, with a high yield, created a rotaxane: a ring-shaped molecule that is mechanically attached to an axle.

In 1999, when Ben Feringa produced the first molecular motor, he used a number of clever tricks to get it to spin in one and the same direction. Normally, molecules' movements are governed by chance; on average, a spinning molecule moves as many times to the right as to the left. But Ben Feringa designed a molecule that was mechanically constructed to spin in a particular direction. In 2011, the research group also built a four-wheel drive nanocar; a molecular chassis held together four motors that functioned as wheels. When the wheels span, the car moved forward over a surface.

2016 NOBEL PRIZE IN PHYSICS





Indian Association of Physics Teachers

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NATIONAL STANDARD EXAMINATION IN PHYSICS

NSEP–2016-17

REVANURU VINAY KUMAR

is awarded

Certificate of Merit

for being placed in

National Top 1%

out of 44174 candidates enrolled.

381

01-02- 2017

IAPT BANGALORE OFFICE
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INDIAN INSTITUTE OF SCIENCE
BANGALORE - 560 012

Dr. G. VENKATESH
(Chief Co-ordinator, NSE)

Dr. M.K. RAGHAVENDRA
(Co-ordinator, NSE)

Strange Phenomena in Matter's Flatlands

The Nobel Prize in Physics 2016 is awarded with one half to David J. Thouless, University of Washington, Seattle, and the other half to F. Duncan M. Haldane, Princeton University, and J. Michael Kosterlitz, Brown University, Providence. Using topology as a tool, they were able to astound the experts.

Michael Kosterlitz and David Thouless could explain the occurrence of superconductivity or suprafluidity in thin layers. They demonstrated that superconductivity could occur at low temperatures and also explained the phase transition mechanism that makes superconductivity disappear at higher temperatures. Thouless was able to explain a previous experiment with very thin electrically conducting layers in which conductance was precisely measured as integer steps (quantum Hall conductance). He showed that these integers were topological in their nature. At around the same time, Duncan Haldane discovered how topological concepts can be used to understand the properties of chains of small magnets found in some materials. Many topological phases, not only in thin layers and threads, but also in ordinary three-dimensional materials are known over the last decade. This area has boosted frontline research in condensed matter physics with a hope that topological materials could be used in new generations of electronics and superconductors, or in future quantum computers. Current research is revealing the secrets of matter in the exotic worlds discovered by this year's Nobel Laureates.

CERTIFICATE
OF APPRECIATION

UNIFIED COUNCIL
Foundation for success

May it be known that this certificate has been presented to

VINAY

a student of SRI CHAITANYA TECHNO SCHOOL

class 6 *H.T.No.* 1279C021

By

UNIFIED COUNCIL

An ISO 9001:2000 Certified Organisation

in appreciation of the excellent performance shown in the

State *Level Science Talent Search Examination* **(A.P)**

held on 06th February,2011 *He/She secured* 790

Rank in the ~~National~~ / State / ~~District~~ Level.

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(Andhra Pradesh)

BRANCH : Madanapalli

CERTIFICATE

This is to certify that Master / ~~Miss~~. Vinay kumar

of class VI stood First position in Jr. Chess Champion

during the Academic year 2010 - 2011.

Date :

Place : Madanapalli.

PRINCIPAL

IKO

INTERNATIONAL OKINAWA GOJU-RYU KENSHIKAI KARATE KOBUDO ORGANIZATION INDIA

Affiliated to All India Karate Do Federation Recognized by Govt. Of India

沖縄剛柔流拳志会空手道・古武道総本部

拳志會

拳志會

CERTIFICATE

This certificate is awarded as a testimonial to VINAY

professing that the above named person has earned the grade of

Belt YELLOW 7th Kyu Colour Belt upon examination according to the code for Karate Kobudo grade promotion as set forth by the **Chief Technical Director** **International Okinawa Goju-Ryu Kenshikai Karate Kobudo Organisation India.**

Dated this 27 day of 2-2010

S. Ismail

Sensei S. ISMAIL
PRESIDENT & CHIEF KARATE INSTRUCTOR
EXPIRES ... G.K.K.O. INDIA

Authorised Instructor

S. Sekar

National Chief Coach

Shihan **S.SEKAR** B.Lit.
Black Belt VI DAN Karate Kobudo Okinawa Japan
Chief Instructor & Technical Director
International Okinawa Goju-Ryu Kenshikai
Karate Kobudo Organisation - INDIA.

जवाहर नवोदया विद्यालय :: वलसप्पल्लि
चित्तूर जिला, आन्ध्रा प्रदेश – ५१७ ३२५
(मानव संसाधन विकास मंत्रालय, शिक्षा विभाग
का एक स्वायन्त संस्थान, भारत सरकार)
ईमेल : jnv_chittoor@yahoo.com
2) jnvchittoor@rediffmail.com
दूरभाष/फ़ेक्स – ०८५७१ – २३०६३१

Grams: NAVSAM, Madanapalle
Phone & Fax : 08571 - 230631
E-mail : jnv_chittoor@yahoo.com
JAWAHAR NAVODAYA VIDYALAYA
VALASAPALLE, CHITTOOR DISTRICT,
ANDHRA PRADESH – 517 325
(An Autonomous Organisation under
Ministry of Human Resource
Development Department of School Education & Literacy,
Govt. of India)

F.No: 3-16 /VI Admissions./JNV/CTR/2010-11/ Dated : 16/06/10

3

TO,
SRI. R. SRINIVASULU,
F/O. R. VINAY KUMAR,
1-595/A, B.T. COLLEGE ROAD,
MADANAPALLI - 517 325.
CHITTOOR DIST. A.P.

CALL LETTER

Sub: Jawahar Navodaya Vidyalaya Selection Test -2010 - Admission into Class VI 2010-2011 - Scrutiny of Certificates - Reg.

It is to inform you that on the basis of Selection Test for Admission into Jawahar Navodaya Vidyalaya conducted by C.B.S.E on 07-02-2010, your ward Master/ ~~Kumari~~ R. Vinay Kumar Roll No. B 02457 has been provisionally selected for admission into Class VI.

You are requested to produce the following documents for verification of fulfillment of eligibility criteria for admission:-

1. Filled in Bio-Data Form.(Enclosed) duly signed by the Head Master of the School from which the candidate passed III, IV & V Classes and also countersigned by the MEO/Urban DI.
2. Hall Ticket(Admission Card).
3. Call Letter.
4. In case of SC/ST's Caste Certificate issued by the M.R.O.
5. Xerox Copy of School Recognition Certificate issued by the D.E.O. for 3,4,5 classes. (If you are studied in different schools, obtained Recognition Certificate from Concerned schools).
6. Residence Certificate issued by the Tehsildar/SDM.
7. Affidavit by the Parent.
8. Medical Certificate with Govt. Doctor in the prescribed proforma.
9. P.H. Candidates are produce the P.H. certificate which is issued by the Dist. Authorities.
10. Progress Report of V Class.

You are advised **not to obtain Original Record Sheet/Transfer Certificate** from the School until the Scrutiny is completed and you are asked to produce the same. The final admission shall also be subject fulfillment of all eligibility criteria for admission and to your ward being found Medically fit.

You are requested to report to the undersigned with the Candidate on 23/06/10 at 10-00 a.m .in Vidyalaya Office for scrutiny of certificates.

Yours faithfully

(BALASUBRAMANYA)
PRINCIPAL

Encl: a/a.