

## **ISHAN VIKAS PROGRAMME 2016**

Ishan Vikas is a comprehensive programme to introduce school children from the North-Eastern states to institutes of higher education in India. Under this programme, a separate scheme also provides summer internship for college students studying in educational institutions in the North-East.

### **Summer Internship for College Students:**

IIT (BHU), Varanasi hosted the Ishan Vikas participants (Engineering students from North-East states) in the summer-2016 [during 23<sup>rd</sup> May to 22<sup>nd</sup> July, 2016] under Ishan-Vikas Programme of MHRD. Three participants from NIT, Meghalaya and six participants from Bineswar Brahma Engineering College, Kokrajhar participated in this internship programme and worked under faculty members from Department of Electrical Engineering, Mechanical Engineering and Computer Science & Engineering. A few popular lectures were also delivered by the faculty members of our Institute to further nurture their curiosity and interest.

### **For School Children:**

Following the initiative from MHRD, IIT (BHU), Varanasi is going to organize the **Ishan Vikas** programme during **10-21 December, 2016**. The Ishan Vikas programme for school students from the North- Eastern states aims at introducing school children to the best institutions of higher education in India and motivating them to pursue science, technology, engineering and mathematics. We are expecting to host about 39 students of class XI along with 6 escort teachers from the North- Eastern states. The program will consist of Lectures and demonstrations by our faculty colleagues from different departments, hands on sessions in different state of the art laboratories, educational tours, and gymkhana activities.

Please see below the Detail programme schedule.

**INDIAN INSTITUTE OF TECHNOLOGY (BHU), Varanasi**  
**ISHAN VIKAS PROGRAMME**  
**(December 10 – 21, 2016)**

**Venue: Ph-8, Department of Physics, IIT (BHU), Varanasi**

**DAY-1 (10.12.16: Saturday)**

09:30 – 10:30 am	Registration of Participants
10:00 – 10:30 am	<i>Tea</i>
10:30 – 10:40 am	Brief outline of the programme: Coordinator, Ishan Vikas Programme
10:40 – 12:00 noon	<b>Title: James Clerk Maxwell and his Equations</b> Speaker: Prof. B. N. Dwivedi, Dept. of Physics, IIT(BHU)
12.00 – 01:00 pm	<b>Title: The role of Extra-curricular activities in Science and Technology education - hindrance or help</b> Speaker: Prof. A. K. Mukherjee, Dean (Student's Affairs), IIT(BHU) & Dept. of Chemistry, IIT(BHU)
01:00 – 02:30 pm	<i>Lunch Break</i>
02:30 – 04:00 pm	<b>Title: Your health in your genes</b> Speaker: Prof. Rajeeva Raman, Department of Zoology, BHU
04:00 – 04:30 pm	<i>Tea, Informal Discussion &amp; Group Photo</i>
04:30 - 05:30 pm	Interaction: Prof. Rajeev Sangal, Director, IIT (BHU), Varanasi

**DAY-2 (11.12.16: Sunday)**

10:30 – 12:30 pm	Campus Tour
02.30 – 05.00 pm	Gymkhana Activity

**DAY-3 (12.12.16: Monday)**

10:00 – 11:00 am	<b>Title: Awareness about Effective Medication</b> Speaker: Prof. B. Mishra, Dept. of Pharmaceutics, IIT(BHU)
11:00 – 12:00 noon	<b>Title: Sets, Relations and Beyond....</b> Speaker: Prof. A. K. Srivastava, Dept. of Mathematics, BHU
12:30 – 02:30 pm	<i>Lunch Break</i>
02:30 – 04:00 pm	<b>Title: Mysteries of our Universe</b> Speaker: Prof. Y. Singh, Dept. of Physics, BHU
04:00 – 04:30 pm	<i>Tea Break</i>
04:30 – 05:30 pm	Documentary show

**DAY-4 (13.12.16: Tuesday)**

10:00 – 12:30 pm	Activity based session on " <b>Exploring Some Exciting Avenues Of Contemporary Science &amp; Technology</b> " Speaker: Dr. Raka Ray Mandal, Former teacher, Rajghat Besant School
12:30 – 02:30 pm	<i>Lunch Break</i>
02:30 – 04:30 pm	<b>Title: Some Investigations with computers</b> Speaker: Dr. P. Dutta, Dept. of Physics, IIT (BHU)

05:00 – 06:00 pm      **Group Discussion** (*Aspiration, Why are you special?*)  
(Dr. U. N. Singh, Dr. A. K. Srivastava, Dr. A. N, Sahu,  
Dr. Z. Khan, Dr. A. Sarkar, Prof. R. Prasad).

**DAY-5 (14.12.16: Wednesday)**

10:00 – 11:00 am      **Title: Fractals in Science**  
Speaker: Prof. Sanjay Kumar, Dept. of Physics, BHU

11:00 – 12:00 noon      **Title: Recent Advances in Chemistry**  
Speaker: Prof. Pralay Maiti, SMST, IIT(BHU)

12:30 – 02:30 pm      *Lunch Break*

02:30 – 05:00 pm      Tour to Bharat Kala Bhavan

05:30 – 06:30 pm      **Group Discussion** (*Gratitude towards your teacher & family*)  
(Dr. U. N. Singh, Dr. A. K. Srivastava, Dr. A. N, Sahu,  
Dr. Z. Khan, Dr. A. Sarkar, Prof. R. Prasad).

**DAY-6 (15.12.16: Thursday)**

10:00 – 11:00 am      **Title: Unravelling Ocean's Secrets: An emerging Science**  
Speaker: Prof. A. D. Singh, Dept. of Geology, BHU

11:30 – 01:00 pm      Visit to Workshop (ID Hall, Main Workshop)

**Title: Manufacturing Practices in Engineering**  
Speaker: Prof. A. K. Jha, Dept. of Mechanical Engg, IIT(BHU)

01:00 – 02:30 pm      *Lunch Break*

02:30 – 05:00 pm      Visit to Workshop

05:30 – 06:30 pm      **Group Discussion** (*Peer Pressure / Self-confidence*)  
(Dr. U. N. Singh, Dr. A. K. Srivastava, Dr. Z. Khan,  
Dr. A. Mohan, Prof. R. Prasad).

**DAY-7 (16.12.16: Friday)**

10:00 – 11:00 am      **Title: Nonconventional Energy Resources: Present and Future Scenarios**  
Speaker: Prof. P. Singh, Dept. of Physics, IIT(BHU)

11.00 – 12:00 am      **Title: Introduction to Electronics and Communication Engineering**  
Speaker: Prof. S. Jit, Dept. of Electronics Engg., IIT(BHU)

12:30 – 02:30 pm      *Lunch Break*

02:30 – 05:00 pm      Visit to Institute of Medical Science, BHU  
Prof. (Mrs.) Royana Singh, Department of Anatomy, IMS, BHU  
Prof. (Mrs.) Amrita Ghosh, Department of Pathology, IMS, BHU

05:30 – 06:30 pm      **Group Discussion** (*Relation*)  
(Dr. U. N. Singh, Dr. A. K. Srivastava, Dr. A. Mohan, Mr. Yogesh).

### **DAY-8 (17.12.16: Saturday)**

- 10:00 – 11:00 am      **Title: Waves that rocked the world**  
Speaker: Prof. B. P. Mandal , Dept. of Physics, BHU
- 11:00 – 12:00 am      **Title: How to see the Universe?**  
Speaker: Dr. P. Dutta, Dept. of Physics, IIT(BHU)
- 12:30 – 02:30 pm      *Lunch Break*
- 02:30 – 03:30 pm      **Title: Why should you study Mathematics with interest?**  
Speaker: Dr. (Mrs.) S. Mukhopadhyay, Dept. of Mathematical Sc, IIT(BHU)
- 03:45 - 04:45 pm      Interaction: Dr. B. K. Sarma, Inst. of Agricultural Sciences, BHU
- 05:30 – 06:30 pm      Cultural Programme

### **DAY-9 (18.12.16: Sunday)**

- 09:00 – 02:00 pm      TOUR TO SARNATH
- 04:00 – 07:00 pm      Boat Trip

### **DAY-10 (19.12.16: Monday)**

- 10:00 – 11:00 am      **Title: Light Quantum to Photon**  
Speaker: Prof. S. C. Tiwari, Dept. of Physics, BHU
- 11:00 – 12:00 noon      **Title: Metals and Materials**  
Speaker: Prof. N. K. Mukhopadhyay, Dept. of Metallurgical Engg., IIT(BHU)
- 12:30 – 02:30 pm      *Lunch Break*
- 02:30 – 05:00 pm      Visit to Chemistry Lab / Central Instrumentation Facility, IIT(BHU)
- 05:30 – 06:30 pm      **Group Discussion** (*Trust and Respect*)

### **DAY-11 (20.12.16: Tuesday)**

- 10:00 – 10:45 pm      Drawing Competition (*Theme: Village life of Your State*)
- 11:00 – 12.30 pm      **Session for “Value Based Education”**  
(Speakers: Dr. Amrendra Kumar, Mr. Yogesh, Dr. U. N. Singh)
- 12:30 – 02:30 pm      *Lunch Break*
- 02:30 – 04.30 pm      **Movie Show (“Right here, Right now”) followed by Discussion on “Value Based Education”**  
(Mrs. Nisha Sangal, Dr. Amrendra Kumar, Mrs. Neeta Mishra, Mr. Yogesh, Dr. U. N. Singh)
- 04:30 – 05:30 pm      Feedback Session

### **DAY-12 (21.12.16: Wednesday)**

- 10:00 – 11:00 am      **Title: Structure of metallic solids and its importance**  
Speaker: Prof. R. K. Mandal, Dept. of Metallurgical Engg., IIT(BHU)
- 11:00 – 12:00 noon      Interaction: Prof. G. V. S. Shastri, Dean (Academic Affairs), IIT(BHU)
- 12.00 – 12:30 pm      Prize Distribution & Closing Remarks

\*Other Activity: Night Sky Watching (depending on the visibility)