



सत्यमेव जयते

GOVERNMENT OF INDIA

DEPARTMENT OF ATOMIC ENERGY

# 29<sup>th</sup> ALL INDIA ESSAY CONTEST ON NUCLEAR SCIENCE & TECHNOLOGY



The Department of Atomic Energy (DAE) invites essays as per following details written in any official Indian language or in English from regular full time students studying for graduation in India (after 10+2), in any discipline, in an Indian university or an institute deemed to be a university. The essays should be submitted by a single author. Those who have won prizes (including consolation prize) in our earlier essay contests are not eligible.

## TOPICS

The essay should begin with an introduction and end with a conclusion. The introduction should highlight the multifarious achievements of DAE in basic sciences and nuclear technology development and how these have helped in overall societal development in the country. The introductory portion should not exceed **350 words** & should be followed by a detailed essay not exceeding **1500 words** in any one of topics given below. The conclusion should not exceed **150 words**. The entire essay should not exceed **2000 words**.

### TOPIC : I

#### Nuclear Power for Combating Climate Changes

- Introduction
- Current Energy Scenario
- Energy Security and Sustainability for future
- Clean Energy Technologies – Nuclear and Renewables
- Development of Nuclear Infrastructure in India
- Economic aspects of Nuclear and other Technologies
- Advanced Safety Technologies and Regulatory Practices
- Optimal Energy mix for India's future – Inevitability of Nuclear Power
- Generating Public Awareness for Nuclear Power
- Conclusion

### TOPIC : II

#### Isotopes and Radiation Technology: Impacting the Quality of Life

- Introduction
- Basis of Applications of Radioactivity
- Genesis of Isotope Programme and Current Technologies for Isotope Production
- Medical Applications and Radiopharmaceuticals
- Isotopes in Hydrology and Water Management
- Applications in Agriculture and Food
- Industrial Applications – Tracers and Sealed Sources
- Innovations in Radiation Processing
- Environmental Applications for Clean India Mission (Swachhh Bharat Abhiyaan)
- Safety Regulations for Radioisotopes and its Applications

### TOPIC : III

#### Role of Power Beams in Clean India Mission

- Introduction
- Laser, Plasma and Electron Beam Sources and their unique features
- Advantages of Power Beams as against conventional methods
- Laser: A cleaning tool in Nuclear industry, heritage conservation and monitoring environment pollution
- Plasma: Role in toxic waste disposal, surface cleaning
- Electron beams: Role in tackling industrial pollution, food preservation
- Conclusions

### HOW TO SEND THE ESSAY

The essay should be sent to the address given below directly by the contestant, along with bonafide studentship certificate from the Principal of his/her College/Institute. No essay will be accepted if sent by E-mail or Telefax. The participant shall write his/her name, College/Institute and Residential address with Contact no and Email-ID of the Student as well as the Institute on a separate detachable sheet to facilitate communicating the results of the written Essay. Name or address should not be written elsewhere on the text of the essay.

### NOTE

Essays not conforming to the said guidelines shall be disqualified.

### MODE OF SELECTION

After initial screening and evaluation, a maximum of thirty six essays will be selected and their authors will be invited to Mumbai in the last week of October 2017 for an oral presentation of the essays. Final selection will be made on the basis of both- performance in oral presentation and quality of the written essay. Candidates are permitted to make powerpoint presentations. **Only the candidates short-listed for oral presentation will be informed. No other correspondence in this matter will be entertained.** Those called for oral presentation in Mumbai shall be eligible for:

- To and fro AC 3-Tier rail fare by the shortest route. Claim for reimbursement of rail fare for journey performed by Rajdhani/August Kranti/Shatabdi Express will be restricted to AC 3-Tier by ordinary Express/Mail train.
- Boarding and lodging in the Guest House of BARC at Anushaktinagar, Mumbai during the authorized period of stay.

**PRIZES**



₹  
★ 21,000/- ★  
(One for each topic)  
**First Prize (3 nos.)**





₹  
★ 14,000/- ★  
(One for each topic)  
**Second Prize (3 nos.)**



₹  
★ 7,000/- ★  
(One for each topic)  
**Third Prize (3 nos.)**



₹  
★ 3,000/- ★  
**\*Consolation Prize**



\* To all those who make oral presentation but do not secure first, second, or third prize.

### ADDRESS FOR SENDING THE ESSAYS

Assistant Administrative Officer, Public Awareness Division,  
Department of Atomic Energy, Government of India,  
Anushakti Bhavan, CSM Marg, Mumbai 400 001.

Email:- [aaopad@dae.gov.in](mailto:aaopad@dae.gov.in)

This information is also available on [www.dae.gov.in](http://www.dae.gov.in)

The prizes will be distributed during celebration of  
**FOUNDER'S DAY MONDAY, OCTOBER 30, 2017**

The last date for receipt of Essay is  
**WEDNESDAY, AUGUST 09, 2017**