



GOVERNMENT OF INDIA
DEPARTMENT OF ATOMIC ENERGY
30th ALL INDIA ESSAY CONTEST
ON NUCLEAR SCIENCE & TECHNOLOGY



Eligibility Criteria: Regular full time students doing graduation in India (after 10+2), in any discipline, in an Indian university or an institute deemed to be a university. Essays should be submitted by a single author. Language: Any official Indian language or in English.
Note: Those who have won prizes (including consolation prize) in our earlier essay contests are not eligible.

Essay Structure & Topics	Introduction: Maximum of 350 words. Highlight the multifarious achievements of DAE in basic sciences and nuclear technology development and their use in overall societal development in the country. Detailed essay: Maximum of 1500 words. Conclusion: Maximum of 150 words. Entire essay not to exceed 2000 words.
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TOPIC : 1	Evolution of Nuclear Power in India	1. Role of research reactors in introducing nuclear power to India 2. PHWR for power generation 3. Various types of reactors 4. Front end and back end technologies 5. Safety approach 6. Present status and future plans 7. Future reactors and evolving trends (Molten salt and gas cooled reactors etc.) 8. Reactors for incineration of nuclear waste 9. Public awareness and myths about hazards of nuclear power 10. Conclusion
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TOPIC : 2	Radioisotope Production and Radiation Technology Applications	<div>1. Radioisotopes production</div> <div><ul style="list-style-type: none">Accelerators : 1. Cyclotrons (F-18, Ge-68, I-123, Ga-87 etc.) 2. Linear AcceleratorsNuclear reactor : 1. Nuclear irradiation of targets (Mo-99, I-131, Lu-177, Sm- 153, I-125, Au-198 etc.) 2. Recovery from nuclear waste (Cs-137, Sr-90, Ce-134, Ru- 106 etc.)</div> <div>2. Chemical processing of irradiated targets</div> <div>3. Applications of radioisotopes in Healthcare, Agriculture and Industry</div> <div><ul style="list-style-type: none">Healthcare : 1. Radiotherapy (Teletherapy & Brachytherapy) 2. Radiopharmaceutical (Diagnosis, Therapy, Invitro Analysis)Industry : 1. Radiotracer applications 2. Radiation processing using gamma and electron beam sources 3. Nucleonic gauging 4. Radiography & Tomography for Non-destructive Applications 5. Isotope hydrology for water resource management 6. Industrial effluents and municipal waste hygienizationAgriculture : 1. Mutation breeding to increase yield 2. Disease resistance 3. Radiotracer studies for optimum utilisation of fertiliser</div> <div>4. Conclusions</div>
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TOPIC : 3	Lasers and Their Impact on Mankind	<div>1. Introduction</div> <div><ul style="list-style-type: none">How scientific discoveries alter human life • Laser, a major discovery of the 20th century • Its mark on everyday life</div> <div>2. Laser Fundamentals</div> <div><ul style="list-style-type: none">Laser working principle • Unique properties • Types of lasers</div> <div>3. Applications in key areas that have influenced human life</div> <div><ul style="list-style-type: none">Nuclear industry • Health care • Defense • Communication • Holography and entertainment</div> <div>4. Future directions and conclusions</div>
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HOW TO SEND THE ESSAY

Along with bonafide studentship certificate from the Principal of his/her College/Institute. Name, College/Institute and Residential address with Contact no and Email-ID of the Student as well as the Institute to be provided on a separate detachable sheet to communicate the results of the written essay. Name or address should NOT be written elsewhere on the text of the essay.
No essay will be accepted if sent by E-mail or Telefax.

NOTE: Essays not conforming to the said guidelines shall be disqualified.

PRIZES TO BE WON!	1 ST	₹ 25,000/-	First Prize (3 nos.) (One for each topic)
	2 ND	₹ 20,000/-	Second Prize (3 nos.) (One for each topic)
	3 RD	₹ 15,000/-	Third Prize (3 nos.) (One for each topic)
	* Consolation	₹ 7,000/-	

* To all those who make oral presentation but do not secure First, Second or Third prize.

The prizes will be distributed during celebration of
FOUNDER'S DAY TUESDAY, OCTOBER 30, 2018
The last date for receipt of Essay is
MONDAY, AUGUST 06, 2018

MODE OF SELECTION

A maximum of 36 essays will be selected and their authors will be invited to Mumbai in the last week of October 2018 for an oral presentation. 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 candidates short-listed for oral presentation will be informed. The decision of the judges is final and no other correspondence in this matter will be entertained. Those called for oral presentation in Mumbai shall be eligible for:

- a) 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.
- b) Boarding and lodging in the Guest House of BARC at Anushaktinagar, Mumbai during the authorized period of stay.

WHERE TO SEND THE ESSAYS

Assistant Personnel Officer,
Public Awareness Division,
Department of Atomic Energy, Government of India,
Anushakti Bhavan, CSM Marg, Mumbai 400 001.
Email:- aaopad@dae.gov.in

This information is also available on
www.dae.gov.in

