



## GENERAL STUDIES

ESSAY - MOCK TEST 01

Name of Candidate

Test Code

Schedule

Registration No.

Place  Time

Module

Classroom  Distance Learning

Classroom & Distance Learning

### EVALUATION INDICATORS

1. Alignment Competence
2. Context Competence
3. Content Competence
4. Language Competence
5. Introduction Competence
6. Structure - Presentation Competence
7. Conclusion Competence

### INDEX TABLE

Q.No.	Page No.	Maximum Marks	Marks Obtained
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			

Total Marks Obtained

Remarks:

Signature of Examiner

### INSTRUCTIONS:

1. Do furnish the appropriate details in the answer sheet (viz. Name, ID Number and Test Code)  
The Candidate should fill the index table, especially for him/her.
2. In the left margin, she/he should write only question number and in the right margin, nothing should be written.
3. The page number should be coded by the candidate himself and the range of page number related to the answer of the question should be used to complete the index table.
4. All Parts of the questions should be written at one place.
5. No Supplementary sheet shall be provided by the management. So the candidate is advised to accommodate required information within the space provided.
6. The candidate need not write anything in his/her answer that derogates the dignity of an individual or an organization.
7. The candidate should respect the instructions, given by the invigilator.
8. The Examinee has to submit the answer sheet to the invigilator after completion of examination.
9. However, he/she is allowed to take away the question paper.

17/9/12



Alternative Energy - Is Nuclear power an answer to India's growing energy needs post Fukushima.

While we travel into a pre-fukushima world, there were majority of voices in favour of nuclear power as an alternative source of energy, excepting the few who were the victims of Chernobyl Nuclear Accident and Three mile Island mishap.

However, with the occurrence of the frightening Fukushima Nuclear Disaster in March 2011, eyebrows are continuously being raised about the feasibility of Nuclear power as an alternative and better source.

There is a frequent conflict in the minds of individual about the ~~best~~ pros element of nuclear energy and the element of fear related to it.

Certainly, Nuclear Energy is like a coin with two(2) sides. A check on its ill-effects is the need of the hour. What is required is to find the solutions to the causes of the Fukushima disaster.

With 40% of the Indians still continue to live without electricity, there is an urgent need for increased power generation to achieve the unrealistic though not impossible goal of 100% electrification of rural India.

Darkness of all kinds prevails in the life of an individual without the availability of electricity.

A household without electricity is handicapped. Backwardness prevails and he/she becomes stagnant and rather uncompetitive in this dynamic and fast-moving world.

Hence, comes the role of state to overcome the need of sufficient

level of electricity. A regionally balanced approach is what is needed.

To overcome this almost 13% electricity deficiency in India, various forms and alternative sources of energy are available. Starting with thermal, to hydel to solar to wind energy and many more, it is not that production of electricity is not possible. It is that it is not FEASIBLE at various aspects —

- Electricity produced through thermal energy eats up the limited fossil fuel reserves. It is a threat to the goal of sustainability.
- Hydel power plants are a cost-efficient source, however, it lowers the flow of rivers and increases the chances of floods with construction of larger number of dams. Also, it is very region specific.



- Production of electricity through nuclear energy is very cost-effective.
- India having an abundance of thorium reserves is an added advantage to encourage the use of nuclear energy for civil purposes.
- Fourthly, with India having signed a Nuclear deal (123 agreement) with USA in 2008, it is getting an advanced technological support. A Technology is not at all a hindrance for quality and quantity production after the deal.
- Moreover, even if India not being a member of Nuclear supplier's Group (NSG), sanctions are waived off and India now gets the supply of nuclear fuel from other nations which include Russia and Australia.

However, despite its immense benefits, there is a very dark side which prevails.

The world has <sup>already</sup> witnessed how dangerous and destructive nuclear power can be, if not handled cautiously, in the Fukushima disaster.

There is a FEAR all across globe about using it as an alternative energy.

The leakage of nuclear radiations from the nuclear plant in an event of any natural or man-made disaster has already taken thousands of lives. Its ill-effects is still continuing across generations. Protests at the various corners have mandated the governments to close the existing nuclear power plants, few of the countries who have already closed all its nuclear plants include Japan and Germany. France is also in the process of shutting down and all new proposals to set up new plants stands abandoned.



But let us stop for a while and think, is it a solution to shut down the nuclear plants? Is the energy deficit will be overcome without nuclear energy? Do the closure of Kudankulam and Jaitapur nuclear plants will make people safe and prosperous in all terms?

The answer is certainly "NO". There is a need to overcome the ill-effects of nuclear energy production and continue with using it at a faster speed.

How, to curb the threats of using Nuclear Energy — The answer lies in adopting a preventive approach rather than a curative one.

- A prior inspection of the location is a must where the nuclear plants

- is to be set up.
- A thorough analysis of the possible dangers in case of an accident is to be looked into.
- An in-depth seismic analysis to be done to analysis whether the location is prone to earthquake and the possible extent of damage.
- Prior consensus building of the locals living nearby is to be achieved so that or post-construction protests can be avoided.
- Nuclear education is to given to the people to diminish the sense of fear in their minds and enhance awareness about the positivities that Nuclear Energy carries along with it, if used effectively.
- In case of a disaster, the government must be ready to tackle the

same immediately so that radioactive leakages are controlled to a greater extent.

Overall, what is needed is an environment of SAFETY.

- Moreover, a permanent body to act as a watchdog and giving clearances to the construction of nuclear plants is urgently required. Effective and efficient monitoring and control can be done through the establishing of this body of experts.
- A strict legislation is also required to have a proper regulatory framework within which the nuclear plants will work.

Thus, what is needed is an atmosphere where people are FEARFREE and they feel safe and secure.

Nuclear energy is certainly a boon if we are able to overcome its deficiencies.

It is definitely an answer to the India's growing energy needs, However, it is not the only answer. <sup>More</sup> Research and development to explore other cheap and pollution-free as well as fear free sources of energy is also to be looked into.

Also, there is a need to have an efficient power distribution system so that the wastage of electricity through leakages can be curbed.

A decentralised grid system rather than a centralised one can also check the leakages of electricity.

Moreover, what is needed are transformers with advanced technologies to contain the wastage.

With all these concrete steps, the energy deficit can be overcome to a great extent.

"A unit of electricity saved, is the unit of it produced".

A balanced and integrated approach is what is needed. With the above advancements and a safer production of Nuclear energy, definitely there lies a solution to the growing energy needs of our nation.

— x —

Question No.  
(प्रश्न संख्या)

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Question No.  
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Intro

Rough

If we travel into a pre-fukushima world, there were ~~judging~~ <sup>a majority of voices</sup> ~~almost all voices~~ in the favour of Nuclear energy, <sup>as a better alternative</sup> excepting the few who were the victims of chernobyl nuclear accident and Three miles island accident. But with the occurrence of a frightening Fukushima disaster in March 2011, question one continuously being raised about the feasibility of Nuclear power as a boom or a bane. <sup>Scientists across the globe are in a hurry</sup>

Certainly, Nuclear power is <sup>like</sup> a coin with ~~its~~ sides. A check on <sup>its</sup> ~~the~~ ~~over~~ ~~side~~ ~~with~~ ill effects is the need of the hour. <sup>What we need is</sup> a preventive approach rather than a curative one.

~~With~~ India's 40% of the population still living in the dark without <sup>electricity</sup> ~~availability~~, there is an urgent need to <sup>increase</sup> ~~improve~~ for increased power generation for achieving the goal of 100%. <sup>unrealistic thought unrealistic</sup> ~~most~~ ~~electricity~~ ~~of~~ ~~need~~ India. ~~The word "darkness" highlights the lack of~~

~~is not only~~ with <sup>prevalence</sup> Darkness of all kinds ~~rather~~ ~~admitted~~, prevails in the life of individual without electricity, <sup>household</sup> ~~As a result~~ w/o electricity is handicapped. is backwardness prevails and he/she becomes stagnant and uncompetitive in this dynamic & fast growing world. Hence, comes the <sup>need</sup> ~~importance~~ of sufficient <sup>out of</sup> electricity, which must be regionally balanced in its approach.



Conclusions

Rough

Yes, we need ~~having analysed~~ <sup>the</sup> nuclear power as an alternative energy, <sup>however</sup> it is not ~~that~~ ~~impossible~~ to ~~make~~ achieve the ~~13%~~ <sup>13%</sup> of electricity deficiency of electricity, with nuclear energy. A effective and effective power distribution systems can save a lot of electricity which goes waste on a daily basis.

"Unit of energy saved is energy produced"

Share of nuclear energy  
2-3% only

A decentralised grid system rather than a centralised one is required. Moreover, what is needed ~~an advanced~~ transformers with advanced technologies to check leakages.

With these advancements, definitely the growing needs of electricity can be met to some extent, as —

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- Better dist<sup>n</sup> system (grid <sup>grid</sup> failure), Pre-incident analysis.
- Decentralised grid, consensus, pass-2 crisis analysis.
- Seismic analysis.
- Monitoring & control, safety measures.

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Yes!!

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Effective.  
Efficient.

## Points in favour of Tiy Electricity

- Electricity is a basic to all other kinds of development.
- In this globalised & competitive world, an individual is handicapped w/o the use of electricity.

Kudankulam (Russia).  
Jaitapur (AECVA)

Electricity in agriculture, financial inclusion, global connectivity, Education & health services, Deficient monsoon. The role of irrigation.

Global examples  
who closed nuclear  
reactors

# ROUGH

Germany.  
France.  
Japan (related all points).

## Points in favour of nuclear power (new reactors)

- 123 deal.
- NSG waiver (Russia & Australia supplying).
- Abundance of thorium (FR).
- Technology transfer.
- No carbon emission.
- No pollution.
- Cost effective.
- It is only nuclear power which can provide a sustainable kind of development.

## Points against

- Unsafe in case of natural disaster (say, earthquake).
- A sense of fear in the minds of people living nearby, which is genuine.
- Hindrance in setting Nuclear plants.
- Coalition politician, Opposition parties.
- External NGOs playing a role in instigating the fear.

From example - 2-3% uranium enrichment,

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Benefits against other forms

- Wind Energy - ~~is~~ region specific.  
Costly.  
Needs more advanced technologies.

- Tidal Energy.
- Gas Thermal.
- Solar energy → Abundance in India,

Thermal

- Acidic pollution
- Limited fossil fuels getting consumed at a faster rate → a threat to sustenance.

Hydro electric.

- Construction of large dams lowers the speed of flow in the rivers.
- Results frequent floods.

Rough

- Introduction - Need for electricity (growing).
- Various alternatives available - : - - - - -
- Nuclear energy has a vast potential to serve.
- Post Fukushima - fear in the mind of people. + Global examples.
- Points against other sources of energy. + Indian examples.
- Points in favour of Nuclear power. + Kudankulam protests, killings.
- Points against nuclear power.
- ~~A balanced approach~~ Measures to overcome the limitations.  
(So that large sum of money is not blocked with the construction of a) ceased midway).
- Balanced approach.
- Other measures. (as a conclusion).

Rough