

ESSAY

Time Allowed: 3 hrs.

Max. Marks: 250

Instructions to Candidate

- Both sections are compulsory.
- Attempt an essay from each section.
- Each essay carries 125 marks.
- Write each essay in about 1000-1200 words.
- After finishing the first essay, attempt the next on a fresh Page.
- Any page left blank in the answer-book must be crossed out clearly.

(Examiner will pay special attention to the candidate's grasp of his/her material, its relevance to the subject chosen, and to his/ her ability to think constructively and to present his/her ideas concisely, logically and effectively).

RemarksName ACHIN GARG.

Mobile No. _____

Date 25/10/15Signature Achin Garg

1. Invigilator Signature _____

2. Invigilator Signature _____

SECTION - A

1. Education is a better safeguard of liberty than a standing army.
2. We have guided missiles and misguided men.
3. Civilizations die from suicide, not by murder.
4. Our brains and our hearts are our temples; service to humanity our religion.

SECTION - B

1. A champion is afraid of losing. Everyone else is afraid of winning.
2. Its human who face threat, Earth has survived many catastrophes.
3. Being pro-market and being pro-poor is not mutually contradictory.
4. The use of space technology for national development.

Education is a better safeguard of liberty than a standing army.

Louis XVI of 18th century France, despite having a strong army, was overthrown by the people to usher in French Revolution. These common people were guided by the educated luminaries of those times such as Voltaire, Montesquieu, etc and embarked on to establish the ideals of liberty, equality and fraternity.

History has been a testimony of how education has safeguarded liberty not in one or two places but across the world. Even in modern societies, values provided by education affect not just level of development of human civilisation but also provide greater security to liberty of individuals than standing army. Might ushers fear

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and restricts thoughts and freedom.

The Indus Valley Civilisation maintained no army yet the creativity and ingenuity of their architecture shows the level of liberty and freedom which people enjoyed. It was perhaps the education that made them so advanced. Chandragupta Maurya under the guidance of Kautilya was able to overthrow the mighty army of Alexander. It was the level of education that made him establish an empire which provided safety to people by developing systems and institutions.

However, when education is suppressed and neglected, the civilisations start declining and in such times even the strongest armies cannot save from

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the ~~iminent~~ imminent doom. The dark ages in Europe testifies this fact. There was no progress of civilisation as the intellectual progress was hampered and rudimentary thoughts and feudalism was pervasive all around. Restrictions were imposed on the people and their freedom was curtailed.

This was even evident in subjugation of various countries of the world by the European powers. The largest of standing armies of the king failed before the technologically advanced Europeans who had gained from Renaissance and modern education.

Education, on the other hand, can defeat the strongest of armies. It is said that pen is mightier than a sword.

Education enables people to fight the tyranny of injustice and provide liberty. Indian freedom Movement is a live example of this. Guided under by Gandhi's non-violence, it overthrew the mighty British Raj to provide freedom to the Indians.

Education gives values to people and makes the society a better place. It creates self enlightenment which enables people to differentiate between good and bad. It promotes positive values of tolerance, respect for others, truth, honesty and so on. Thus, reforming a person ~~is~~ from within it effectively makes society peaceful. It generates social capital. In such

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a harmonious environment, people can exercise liberty of thought, belief, expression, faith and worship as envisaged in the Indian Constitution.

Strong armies or might, on the other hand instils fear in the mind of people. It restricts intellectual growth as fear of life looms around. & this is seen both in domestic and international affairs. Hitler was able to curtail dissent and restrict liberties of people in Nazi Germany using fear and intimidation.

In the international affairs, might affects the balance of powers. American action in Iraq using the most sophisticated weapons and equipments could not create

peace and stability. It robbed people of their life and property. In a way it effected delivery of education and the consequences are witnessed by the whole world in the form of dreaded Islamic state. In fact, Iraq has been a perfect example of how the strongest of armies ~~can~~ instead of safeguarding liberty can actually rob it.

Negotiations and dialogue which comes through education on the other hand have done wonders in providing and strengthening liberty. The success of the P5+1 (US, UK, Germany, France, Russia and China) and Iran ⁱⁿ arriving

at a peaceful solution to the nuclear issue in Iran substantiates this fact.

In fact, in ~~the~~ world which is still fighting hunger and malnutrition with more than 1 in 7 person living under \$2.25 a day, standing armies cannot be afforded. They are not just gross injustice but in some terms failure of humanity. The defense budget of the world far exceeds the money required in bringing 1 billion people living in extreme poverty even today.

~~The~~ Providing them education, ~~and~~ food, health, housing and a decent job is necessary for providing them liberty. By diverting more resources towards

education and achieving universal literacy, the basic human rights of the poor and marginalised can be protected. Else the growing conflicts, natural disasters, and epidemics will continue to take their toll which no army can stop.

It makes it necessary that the technologies developed by humans be first provided for fulfilment of basic human needs to ensure liberty. Science which comes from education and rational thinking need to promote channelise resources in the right direction to fight malnutrition and poverty. ~~For~~ Technologies such as tele-education, tele-medicine, space technology for

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Increasing yields of food grains and so on can increase awareness, literacy and ~~is~~ make people aware of their rights. This awareness is a prerequisite for realising liberty.

A peaceful, prosperous and secure world comes from spreading human values of love, justice, equality, etc. This in no situation can be attained by might. Might, on the other hand, promotes alienation of people and excludes them from mainstream. Wars ~~to~~ wipe out the human progress and take us back centuries in the past. The wars in ~~the~~ Afghanistan, Iraq, Syria, and others have shown this.

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At such times education provide morals and values. It creates bonds and friendship. It promotes ~~values~~ of peace and cooperation. ~~It~~ Ignorance and darkness can be ~~is~~ removed only through education. †

Hence, to promote liberty and freedom and to usher a civilisation of peace and prosperity, it is essential that a rethinking be done. Weapons, wars and conflicts ~~cannot~~ do not enable us to achieve full human potential. Education and enlightenment are only way ahead.

Section B

Use of space technology for national development

When in 1975, India launched its first satellite Aryabhata, no body would have imagined that within four decades India would be become a major hub for launch of satellites from all over the world.

While the space technology has grown exponentially in the country, its contribution to the national development has grown with even rapid pace. It has not only helped in national integration but also in almost all aspects of everyday life. Yet, the potential is enormous and can be realised by overcoming the challenges.

From a humble beginning of the Indian space programme during 1960s,

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The space technology in India has grown phenomenally. While help of other nations was required even for launching the basic satellites during early decades of the space programme, the launch of Aryabhata, Bhaskara, etc. during 1970s and early 1980s was done by the help of USSR.

However, over the years, despite stringent control of western nations regarding sharing of technology, Indian space scientists have continuously developed low cost indigenous technologies. The strong foundation was given by the great scientists such as Vikram Sarabhai, Satish Dhawan, and others who helped in creating institutions which

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today are among the best in the world.

Today, the Indian space technology has grown to such extent that ISRO (Indian Space Research Organisation), the premier space agency of India, was successful in reaching Mars in the very 1st attempt.

This is an achievement which even the most developed nations could not perform. This feat of ISRO has risen the head of every Indian. In proud, more so, because the Mars Orbiter Mission was the cheapest and had a budget of almost a tenth of NASA's Mars Mission.

This along with other feats such as the successful Chandrayan mission, etc have helped in national integration and brought people from all over the country together. A Malayali feels as proud as

a Kashmiri and a Gujarati and a Manipuri. While this was not an objective of space technology, yet, it delivered on it.

The Indian space programme had one of the primary objective of national development using space technology. In pursuance of this objective; ISRO and other agencies have steadily contributed towards this.

Space technology has enabled us to launch satellites such as INSAT series, IRS series, etc which have contributed significantly in the development of various sector. In the field of education, satellite technology has enabled tele-education, e-education, etc which allow people students from even the remotest corner to

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access the courses and material from best of universities. The availability of courses through NPTEL have ~~enabled~~ ^{enabled} access of world class education from premier institutes such as IITs to everyone. This has reduced education divide.

Further, the Edusat of ISRO ~~has~~ enabled Ubc to launch various informative programmes which made education interesting. Bryan Dhanshan is a wonderful example of this.

In the field of health, space technology enables e-medicine, tele-medicine, etc., thus increasing the reach of healthcare facilities to the remotest ~~and~~ corner of the country. It enables access to affordable world class health^{care} from excellent hospitals and doctors, thus eliminating the need for patients to travel hundreds of kilometer.

to big cities.

The mobile telephone revolution in India ~~was~~ largely possible due to the availability of communication satellites. With almost a billion ~~people~~ mobile connections, the country is connected like never before. It has ~~enabled~~ ^{brought} that the ~~rest~~ whole world effectively on the fingertips. It has tremendously improved access to information through internet and made communication seamless.

In the field of meteorology, space technology's contribution is unmatched. The ability of the meteorologists to accurately predict the climate ~~has~~ using satellites and complex models

has helped in predicting monsoons and natural disasters such as cyclones.

It has indirectly helped immensely to the farmers, who still form 50% of the population, to decide their cropping pattern and use of inputs. This has improved yields and helped country become self sufficient in food grains.

In fact, India is now a large exporter of food grains. The recent Kisan Channel, ~~which~~ provides information to farmers, is also largely possible due to developments in space ~~technology~~ and communication technologies.

Further, the accurate mapping of cyclones such as Phailin, Nilofar, etc help ~~set~~ administration to take necessary measures. This has saved lives of so many people.

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The contribution of space ^{technology} in field of security is worth mentioning. Through the remote sensing satellites, it has enabled the country to strengthen vigilance across border areas. ~~and~~ It has provided vital information of enemy movements and thus helping in taking preventive steps. Not to mention of the indispensable satellite phones in the border posts which enable round the clock communication.

The role of space technology has been immense in other areas of nation development as well such as in identification of natural resources, checking illegal mining, etc.

An ~~area~~ emerging new area is the satellite launch business.

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ISRO ~~has~~ using its workhorse PSLV (Polar satellite launch vehicle) has so far launched large number of foreign satellites earning precious foreign exchange for the country. In fact, ~~the~~ India is slowly developing as a hub for launch of low cost satellites, thanks to ISRO.

However, sometimes the question arise when India is facing with extreme poverty and hunger to the extent that it has highest malnourished children in the world, does it make sense to spend ~~to much~~ on space technology? The answer ~~of~~ to this question is that the space technology has indirectly contributed in the development welfare initiatives such as by achieving food security as discussed. Further, newer technologies

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enable ~~these~~ ^{faster} ways of tackling the problems which India is facing.

The three string budget of ISRO has enabled it to ~~continue~~ still contribute immensely to the national development.

Although the space technology has progressed exponentially, there are certain areas which still requires efforts. The development of GSLV (Geo-stationary satellite launch Vehicle) is one such area. India spends almost ₹ 500 cr for launching a GSLV satellite from using foreign space agencies. This can be eliminated with success of cryogenic engine which ISRO is developing.

Further, the country is today facing

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extreme shortage of transponders and have to borrow from foreign nations. This has in a way compromised Indian space as these nations are launching satellites in Indian space to meet the demand. This problem ~~can~~ needs to be solved by launching greater number of communication satellites in geo stationary orbit.

While the Indian space scientists have succeeded in providing a new dimension to the national development using space technology, it is expected that will also overcome these challenges.

The government's push towards space technology is welcomed. ~~and~~

The space technology has contributed ~~in~~ greatly in national development.

and helped in making lives of people better. A greater focus on this technology can help realise its true potential.

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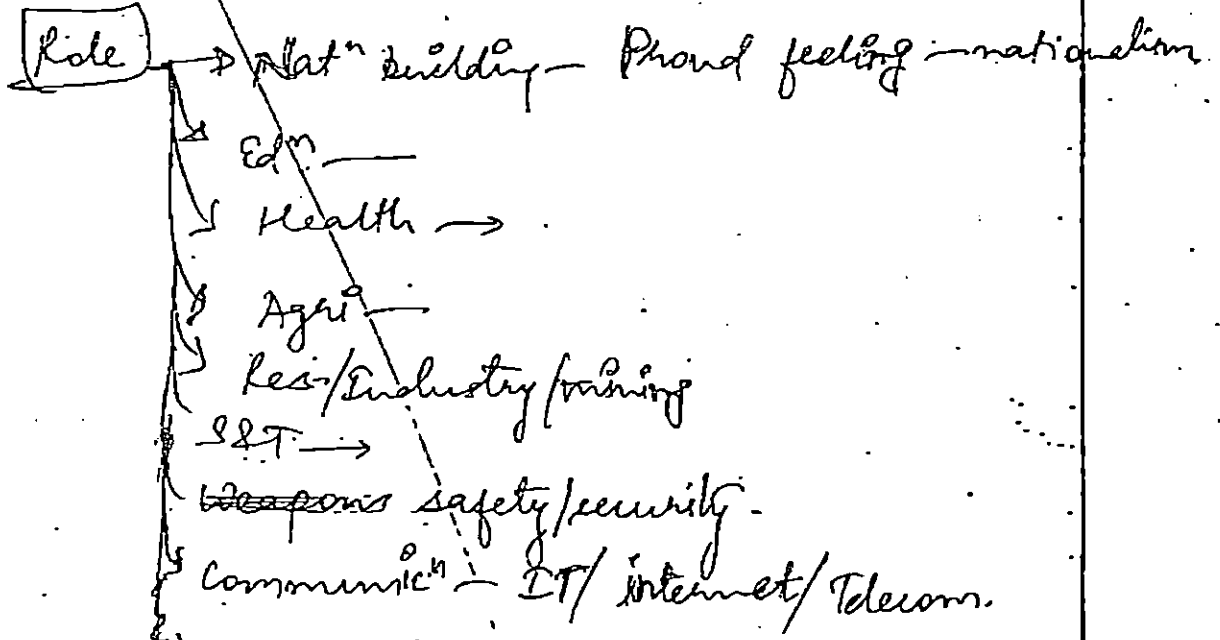
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Use of space technology for national development

History - 1960s space prog started
 major goals -

- ↳ IT/comm
- sat - communication - INSAT series
- remote sensing - res., spying, etc



Q -> space for welfare -> X
 space -> IT

Challenges -

way forward -

The common ~~man~~^{people} of France were able to overthrow
the Louis XVI despite he had a strong army and
richer in fr. persistent to provide L&F to the people.
These ppl were influenced by intellectuals who were
the educated bourgeoisie, such as Voltaire,
Montesquieu,
etc.

Remarks

imminent

Edⁿ is a better safeguard of liberty than standing army

Hist. → IVC - x army → Edⁿ / engg → civiⁿ → thousands yr.
Kantilya - ~~Shikhi~~ → created → expelled Alexander

In Europe

lives Europe - Dark age - x edⁿ - x thought → x lib.

Modern world

Fr. / Am. Revⁿ → edⁿ → defeated Amies.

Ind →

Ind - freedom movmt →

Society - edⁿ values → internal reforms → social well being
army → deterrence violence

Intⁿ relⁿ

edⁿ → friendly relⁿ → cooperⁿ & peace
cultural ties → peace

war - WWs / ~~Terror~~
Terrorism. → x edⁿ

Economically

Edⁿ - cheaper.

vs / standing army - ↑

direct resources.

affect socio - eco. dev → x edⁿ → ↑ army.

S&T - edⁿ → Tech → ↑ of civiⁿ → standing army x base
from colonialism.

In present world edⁿ → Dⁿ → Corporates

Security → liberty from peace - freedom nations - dominate

liberty & SA → fear, x freedom → restricted thoughts

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Philosophical thesis - values / morality - edⁿ

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