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Name of Candidate	VIKRAM GREWAL		
Medium Hindi/Eng.	ENGLISH	Registration Number	1 4 0 6 3 1
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INDEX TABLE				INSTRUCTIONS	
Q. No.	Page No.	Maximum Marks	Marks Obtained	- Do furnish the appropriate details in the answer sheet (viz. Name, Registration Number and Test Code). उत्तर पुस्तिका में सूचनाएं भरना आवश्यक है (नाम, प्रश्न-पत्र कोड, विद्यार्थी क्रमांक आदि)। - All questions are compulsory. सभी प्रश्न अनिवार्य हैं। - The number of marks carried by a question/part is indicated against it. प्रत्येक प्रश्न/भाग के अंक उसके सामने दिए गए हैं। - Answers must be written in the medium authorized in the Admission Certificate, which must be stated clearly on the cover of this Question-Cum-Answer (QCA) Booklet in the space provided. No marks will be given for answers written in medium other than the authorized one. प्रश्नों के उत्तर उसी माध्यम में लिखे जाने चाहिए जिसका उल्लेख आपके प्रवेश पत्र में किया गया है और उस माध्यम का स्पष्ट उल्लेख प्रश्न-सह-उत्तर (क्यूसीए) पुस्तिका के मुख्य पृष्ठ पर अंकित निर्दिष्ट स्थान पर किया जाना चाहिए। उल्लिखित माध्यम के अतिरिक्त अन्य किसी माध्यम में लिए गए उत्तर पर कोई अंक नहीं मिलेंगे। - Word limit in questions, if specified, should be adhered to. प्रश्नों में शब्द सीमा, जहाँ विनिर्दिष्ट है, का अनुसरण किया जाना चाहिए। - Any page or portion of the page left blank in the Question-Cum-Answer Booklet must be clearly struck off. उत्तर पुस्तिका में खाली छोड़ा हुआ पृष्ठ या उसके अंश को स्पष्ट रूप से काटा जाना चाहिए।	
Total Marks Obtained:					

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EVALUATION INDICATORS

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

Overall Macro Comments / feedback / suggestions on Answer Booklet:

1.

2.

3.

4.

5.

6.

All the Best

SEC-A

I Success of a democracy hinges on healthy functioning of its institutions.

PLAN

1. Evolution of democracy.
2. Ideas of social contract
3. American & French Revolutions.
4. Developed democracies vs underdeveloped democracies
5. Continental Analysis
6. Institutions of democracies
7. Growth vs development.
8. Separation of powers.
9. Flexibility vs rigidity.
10. Political & Economic institutions
11. Social & Human devp.
12. Problems: corruption, C4PT, redtapism, bureaucracy.
13. Principles that govern democracy.
14. Need for innovation, e-gov.
15. Capacity for reform - political & economic
16. Ideological impediments.
17. Indicators & reports. GNH etc. - Amartya Sen
18. Step motherly treatment by West agencies.
19. Need to behold the preamble.
20. Way forward: increased people's participation, citizen charter, RTI, mygov.in, monitoring redressal mechanism, 4C's of policy making.

'SECTION - A'

1. SUCCESS OF A DEMOCRACY HINGES ON
HEALTHY FUNCTIONING OF ITS
INSTITUTIONS.

A tree can withstand the
gravest of storms, most violent floods
and severe famines if it has grown
into a 'holistic living system'. That is
to say - its roots are deep and firm;
its trunk is dense and broad; its
branches are tenacious and leaves
functioning incessantly as photosynthetic
'food factories'. All in all, the growth
and survival of a tree are dependant
on the healthy functioning of its
parts. This analogy, borrowed from the
Jatakas, is adept in explaining our

political system. Our democracy is a tree and it must be watered and nourished with care in order to bear us fruit.

The reminiscent of democracy are found in 6th century BCE. The popular 'gana-sanghas', corresponding to the rise of neighbouring Mahajanapadas of the period, were territories governed by several chieftains together. These rudimentary ancient democracies that may be remarked as Indian states analogous to the Greek Athenian democracies promoted free thought and heterodox ideas that is evident with the rise of Buddhism and Jainism here. These ideas were product of the healthy functioning of sabhas village institutions and assemblies of 'ganasanghas'.

American Revolution in 1775 and French Revolution in 1789 were bulwarks in recognizing the institutions that would increase people's participation in decision-making: 'equality, liberty, fraternity'. Democracy was viewed as an ideal 'social contract' by Jean Jacques Rousseau. John Locke added the clause of preservation of natural inalienable rights to guarantee healthy functioning of democracies.

India has borrowed heavily from western ideals in shaping its contemporary political regime. It is hailed as the 'largest democracy' of the world. This partly must be credited to the exhaustive Constitution of the country. However, the real success of democracy can only be measured by its effective implementation.

European democracies have led the path of progress by adopting ways for providing basic amenities and rights to its citizens. The functioning of their democratic institutions has been top notch. Germany has risen as the fourth largest economy after the totalitarian regime of Hitler collapsed and the East and West parts of the nation came under one 'democratic umbrella' after the fall of the Berlin Wall.

The basic principle of 'separation of powers' is integral to democracy. The executive, judiciary and legislative are vital organs of the system and their functioning has a massive bearing on the democratic setup. United States of America has been a successful democracy in this regard : its Senate, President and Supreme Court are effectively 'separate'.

The success of the European and American states also is seen as a consequence of capitalism: an ideology that fuelled imperialism and exploited 'developing' nations before the Great Wars. This 'developed-developing' conflict is highly active now. The race to declare 'successful democracies' is a recent trend in the global community, especially among the members of the United Nations.

Apart from 'equality, liberty and justice that form the principles of democracy; and judiciary, executive and legislative that form institutions of democracy, the elements of social and human development are crucial for its healthy functioning.

The necessities of food, power, housing, water, education and health constitute this.

The 'rigidity versus flexibility' of the constitution is another aspect of ensuring healthy functioning of a democracy. A rigid nature guarantees firmness and determination for achieving a set of goals ~~where~~ as a const constitution's flexibility guarantees its evolution to grapple with new developmental impediments to democracy. For example, in case of India, amendments such as 'anti-defection law' and Right to Education as fundamental right have reaffirmed the role of institutions in developing democracy.

Dr. Amartya Sen defined the key to a successful democracy as being able to enlarge its citizen's choices and capabilities. Thus, institutions such as schools and hospitals are given significantly immense status as 'social institutions' of democracy.

We have so far discussed political institutions (executive, legislative, judiciary) and social institutions that must function efficiently to produce a successful democracy. Apart from these, the cultural institutions of the country play an important role. The fabric of secularism and tolerance, an essence of 'diverse integration and integral diversity' in the minds of the people work as independent institutions in themselves - working for a healthier democracy. India is a classic example.

Cultural institutions of democracy also include political ideologies. Our nation has witnessed a wide array of these - from Nehruvian Socialism to Communism to Liberalism and Conservatism. These ideologies burgeon the cultural mindset as well as political perspective in the country. A healthy assimilation of these is necessary

for the successful functioning of a democracy. There are basic tenets to democracy in the matrix of fundamental rights. Rights form the most cherished and direct link between citizens and democracy. The 'Right to vote' under Universal Adult Franchise was viewed as by far 'the core' of democratic values by Abraham Lincoln. Protection of rights renders protection of democratic institutions and reflects the efficacy of the justice system of the nation.

The functioning of economic institutions is another significant aspect of a 'successful democracy'. This includes autonomy of the central bank and effective service providers in the form of banks and non-banking institutions. The flawless working of markets with fair practices and consumer protection is a must. Moreover, 'financial inclusion'

is a goal that the economic establishment must work towards. A better delivery of accounts, credit, ~~loans~~ investment etc. highlight the nature of a democracy that not only hinges on ensuring political equality but also economic equality.

Thus, equidistribution of resources is extremely important, however, India with a wide ranging income disparity has failed to satisfy this aspect.

There are several 'diseases' that plague our democracy such as corruption, poverty, terrorism, communism and casteism. These need to be uprooted in order to secure a status of 'successful democracy' for India. The 'Sankalp se Siddhi' campaign aims for the eradication of these evils. Bureaucratic redtapism and nepotism are other major issues that are being worked on.

The capacity for reform is a facet that judges a democracy. If a nation is able to reform the working of its institution in a well placed manner it can be said to be a successful democracy. The new developments in digital and communication technology pose opportunities as well as threats. How well does a democracy grapple with these issues - is a question that would determine whether its institutions can function in good health or not.

For example, India is harnessing digital arena with e-governance and is also working for data protection against ransomware. Thus, it can be said it is working towards a 'successful' state of democracy. Moreover, platform like PRAGATI and mygov.in are increasing citizen-oriented services.

Despite these advancements, India has been lagging behind in Human Development Index, Global Competitiveness and Corruption Indices released by international organizations. This shows that there is still a long way to go. A successful democracy cannot be predicted by its GDP or GNP, it is a more intricate feature. Bhutan's Gross National Happiness (GNH) is an innovative way of calculating growth.

Growth and development are ~~quantitative~~ quantitative and qualitative variables respectively, however 'successful democracy' is a more abstract entity and thus requires more holistic approach. India is in a phase of transition presently. It is shedding its colonial demerits and moving towards a 'potential Superpower', thus it is at a crucial juncture in which it must maintain and consolidate its democratic ideals.

The need to behold the principle of the Preamble at all costs is explicitly underlined by Dr. B.R. Ambedkar in his constitutional debates. The challenge now is to take the democracy to the poor and underprivileged and guarantee wider participation of common man in the decision-making of the democracy.

The community-based approach, consolidation of rights and principles as well as considerate policy formation with effective redressal mechanisms must be the way forward: As these would ensure a healthier functioning of the institutions.

Our goal of achieving a successful democracy is equivalent to the nurturing of the aforementioned tree. Its trunk may be held by political organs and the branches manifested by the bureaucracy but the people - the citizens form the roots.

SEC-B

3. Role of space technology in socio-economic development of India

PLAN

1. Bird-eye view.
 2. Human's attempt at understanding himself.
 3. Use of space - power, science etc.
 4. Newer use - socio-economic.
 5. Universal development.
 6. Aryabhata, INSAT, etc.
 7. NAVIC, IRNSS.
 8. Geo mapping. Education, health, communication.
 9. Geo fencing.
 10. General use & restricted use.
 11. PPP partnership.
 12. Digital India.
 13. Last mile connectivity.
 14. National integration.
 15. Science is unbiased.
 16. Faster, efficient governance.
 17. Maths & stats - lingue franca.
 18. Harnessing demographic dividend.
 19. Food & services.
 20. Natural resources, ecological devp.
- Geo survey

'SECTION - B'

3. ROLE OF SPACE TECHNOLOGY IN SOCIO-ECONOMIC DEVELOPMENT IN INDIA

Carl Sagan, the eminent American scientist, writes in his popular book 'Cosmos' that the Earth is a 'lonely bright speck in a vast arena of darkness'. He highlights that we humans haven't encountered any evidence of life beyond our home, we merely suspect it. And consequently we don't have anyone else but ourselves to depend on. We ourselves are responsible for the sustenance of our planet, our community and its socio-economic development.

Sagan records that in 1969 man reached the moon and a new chapter in the history of human civilization was opened. India too beheld this moment with consideration and the same year marked its entry in the bedazzling domain of space technology with the establishment of Indian Space Research Organization (ISRO). Dr. Vikram Sarabhai was the visionary behind India's space program.

Space technology was initially used for symbolic purposes by the two superpowers USA and USSR during the cold war. It was exhibited as a sign of power and capability. However, with passing time the scientific research and the need to deploy space for socio-economic development came about.

The curiosity of humans to understand themselves from a completely different vantage point commanded the Space program. The launch of Sputnik-I - the first satellite by USSR ~~Arya~~ and subsequently launch of Aryabhata and later RISAT and INSAT satellites by India were seen as watersheds in Indo-USSR relations as well as Indian space technology.

ISRO came up with ASTROSAT with a new establishment of ISAC ISRO Satellite Centre in Bangalore. Distinct contributions by Dr. U.R. Rao and inputs by foreign agencies like NASA, ESA and Roscosmos have increased Indian space technology's capacity.

The socio-economic development of India is streamlined by ISRO in four basic divisions : (i) Navigation; (ii) Communication; (iii) Remote Sensing and (iv) Scientific exploration. These four areas are helmed by Space technology development.

The recent IRNSS - Indian Regional Navigation Satellite System under the 'Nav-IC' - Navigation with Indian Constellation project has augmented geopositioning and navigating abilities of Indian transport. It will be instrumental as an Indian variant of GPS - thus facilitating better transportation, trade and regional mobility. A clear advantage to the socio-economic infrastructure. A better knowledge of roads, traffic and waterways (including coastal zones) is bound to bring socio-economic development.

GAGAN - GPS aided Geo-Augmented Navigation developed by ISRO and Airports Authority of India will provide an efficient air traffic control system. Thus, Space technology will not only aid mobility on water and land but also air. Further innovations related to underwater i.e. Submarine zone are anticipated.

'Communications' is the second pillar of the Indian Space Program. Media and mass communication industry is thriving in the era of information and communication technology (ICT). Smart phones in every village are bringing people closer to each other beyond geographical barriers. The JAM (Jan Dhan Aadhaar Mobile) Scheme of the Government is hinged on space technology in a direct way.

Farmers are informed about agro policies through apps such as FASAL and m-Kisan. Women are being empowered by running helplines and m-SAKHI apps. Popular participation in decision making is being done through mygov.in. Therefore, Space technology has emerged as a bulwark of communications thus ensuring socio-economic development.

'Remote Sensing' is the most useful domains of satellite technology. Remote sensing facilitates mapping of resources - both natural and anthropogenic thus enabling us to efficiently allocate these and guarantee social inclusion by balancing the surplus and deficit regions. Geo-tagging is an application of remote sensing that demarcates geographical regions for specific purposes.

Geo-fencing contributes vastly to harnessing of natural resources and organizing the geographical landscape of the country. It also helps in conservation of flora and fauna.

The 'HySpex Imaging' technology that operates on hyper spectral analysis would enhance resolution of Indian Satellite thus providing a truer and unambiguous picture of earthly resources. This has the potential to revolutionize remote sensing and lead to better rendering of socio-economic services.

The 'bird-eye' vision that we are blessed with through the means of space technology is a harbinger of better capacity at Statistics and strategy. Government institutions are now working in tandem with ISRO to aid policy making.

Scientific Exploration is another significant domain of space technology. This is a pillar in promotion of Space education. Research and Development needs a boost to in turn give a boost to socio-economic development. Space observatory, ASTROSAT and ground observatories such as GMRT in Pune, India-Belgium project in Nainital and high altitude space observatory telescope at Ladakh are important contributors of information.

Space Technology is unbiased. It does not differentiate or discriminate. It doesn't visualize caste, race, sex or profession. It views people as humans - in all their virtues of humanity. And hence, it promotes a sense of universal brotherhood on the road to socio-economic equity.

Indian space program aids the Digital India campaign as well as the Swachh Bharat campaign - two major movements for progress. It enables last mile connectivity through national integration via space technology. Several regions in the North East have been mapped and taken account of for better allocation of resources and infrastructure project deployment.

The Economic Survey and NITI Aayog reports continuously cite images from Indian satellites thus exhibiting the importance of space technology for analysing the socio-economic conditions of regions. The Namami Gange project has applied to ISRO for assistance in their goal of cleaning the Ganga river.

Apart from faster delivery of goods and services, the development of scientific temper among the youth is an objective of space technology. Recent boom in start ups have led to reinforced importance ~~for~~ of private sector. Recently ISAC has allowed strategic partnership with private firms for satellite building. Thus PPP in space technology is another welcome change.

The need to harness the demographic dividend can be realized through the language of science. 'Maths and stats' are touted as a 'lingua franca' for scholars. This would lead to further innovation in devising efficient ways for bringing about socio-economic development.

Military application is a restricted feature of space technology. A better knowledge of the neighbourhood is instrumental in better internal security.

Space technology is the most pivotal facilitator for risk reduction, rehabilitation and even prevention of natural disasters. Aerial diagnosis of vulnerable regions is crucial in improving preparedness in the face of disasters. National Institute of Disaster Management in New Delhi is a close associate of ISRO in Bengaluru. Nothing is more central to socio-economic development than aversion of loss to human life and property.

Climate Change is by far the most common and necessary field on which Space technology is working. Melting of polar caps, glaciers, changes in natural vegetation - all are closely monitored. The Gadgil report on Western Ghats and TERI report on Himalayan Tsunami used geo-mapping and weather forecasting reports from INSAT-1B.

Stephen Hawking in 'A Brief History of Time' remarks that the curiosity in a human brain is like dark energy - we know a little about it and an exponentially large amount remains to be explored. He exclaims how interesting it is to know that the more farther we move away from ourselves, the more we get to know about ourselves.

Space technology is a 'gold mine' that has the potential to analyze 'our home' closely and hence provide us with the ability to govern ourselves better - to live better lives, to empathize with our fellow species and to work for the development of the society. After all a society is the microcosm to the ever-expanding universe.

