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SUBJECT:	ESSAY	Test Code:	1	4	6	0		
Name of Candidate	Nitish Mawliya							
Medium Hindi/Eng.	English	Registration Number	5	0	7	9	0	6
Center	ORN	Date	2	6	1	2	2	0

INDEX TABLE				INSTRUCTIONS
Q. No.	Page No.	Maximum Marks	Marks Obtained	
				1. 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)।
				2. All questions are compulsory. सभी प्रश्न अनिवार्य हैं।
				3. The number of marks carried by a question/part is indicated against it. प्रत्येक प्रश्न/भाग के अंक उसके सामने दिए गए हैं।
				4. 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।
				5. Word limit in questions, if specified, should be adhered to. प्रश्नों में शब्द सीमा, जहाँ विनिर्दिष्ट है, का अनुसरण किया जाना चाहिए।
				6. 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:				
Remarks :				

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EVALUATION INDICATORS

1. Contextual Competence
2. Content Competence
3. Language Competence
4. Introduction Competence
5. Structure - Presentation Competence
6. Conclusion Competence

Overall Macro Comments / feedback / suggestions on Answer Booklet:

1.

2.

3.

4.

5.

6.

All the Best

Section - B

TACKLING CLIMATE CHANGE!
ARE WE ON THE RIGHT
PATH?

Climate change is a reality of contemporary times. It is a result of mainly the anthropogenic activities which have resulted in an increase in global average temperature.

Right since this was recognised in 1960s, 1970s, various global as well as national-level efforts have been undertaken to mitigate the crisis.

The 1992 Rio Earth Summit set the tone for shaping the future

efforts. The 1997 Kyoto Protocol set the expectations of reducing global emissions, especially from the developed countries. It established a Clean Development Mechanism (CDM) for trading of carbon credits by a nation.

It also provided for the developed nations to provide climate finance to the developing nations but the targets have been largely missed,

further, various climate finance mechanisms such as Green Climate Fund, Special Climate Change Fund, Adaptation Fund and the Global Environmental Facility.

In 2015, the landmark Paris Agreement was signed during UNFCCC COP 21. The aim is to maintain the global average temperature rise below 2°C and preferably below 1.5°C, the ^{pre-}industrial levels.

The vision is to achieve the net zero carbon emissions by 2050. For this, various parties to the agreement have been asked to submit their Intended Nationally determined Contributions (INDCs). Various nations, including India, have already submitted it.

Moreover, there are market mechanisms for Climate Market. Article 6.2 of Paris Agreement provides for selling of Carbon emissions

reduction credits by a nation to some other nation. While, Article 6.4 provides for a sustainable development Mechanism (SDM) for trading of emission credits by the private companies or individuals. These mechanism aims for overall Mitigation in global emissions (OMGE), away from current approach of Net Zero Sum game.

In addition, the Paris Agreement also continues the climate finance provided by developed nations i.e. around \$100 billion target by year 2025.

In achieving the objectives of Paris Agreement, various nations are at forefront and contributing very actively. Countries such as

India, France are active in form of International Solar Alliance. Further, India has taken the initiative of Coalition for Disaster Resilient Infrastructure (CDRI) with its headquarters at New Delhi.

Also, the European Union has committed to reduce its carbon emissions by 45% by 2030 and achieve the carbon neutrality by the year 2045.

However, this is just one side of the picture. The other side is grim. For instance, United States (US) has withdrawn itself out of the Paris Agreement, despite being the world's second largest carbon emitter.

Further, most of the nations have not yet submitted their climate nationally determined contributions.

The 2020 COP summit was going to be the landmark as different countries were to give their future plans but it could not be held due to COVID-19 pandemic.

In addition, in the recent decades, there has been an ongoing phenomenon of de-globalisation or the increasing nationalism and protectionism in nations such as US.

The irony is that this issue of global commons actually demands a much more cooperation among

various nations, but this issue is actually fuelling protectionist tendencies among nations.

Also, the developed nations have been largely reluctant in achieving their climate finance obligations. They have not achieved the earlier target of \$100 billion by 2020 under Kyoto Protocol and now the deadline year has been shifted to 2025.

The least developed countries (LDCs) are also the ones which are the most vulnerable to adverse impacts of climate change due to their low capacity for adaptation and mitigation.

The climate finance to these nations is actually a manifestation of

the principle of "Common but differentiated responsibility" (CBDR).

Now, if we analyse the trajectory of India's climate change efforts, we can see that India has taken some very progressive measures in this direction.

For instance, India has given a serious push to the renewable energy target of 175 GW by 2022 and 450 GW by 2030.

India has announced a National Solar-Wind Hybrid Policy, a scheme for bundling of renewable and thermal-based energy for Round-the-clock power supply.

As per government data, India has achieved 26% of non-fossil fuel based electricity generation and the target is 40% by 2030. This shows India is on right track in this regard.

Further, in order to reduce the emission intensity by 33-35% of GDP by 2030, India has focussed on enhancing energy efficiency. Various measures such as Bureau of Energy Efficiency Star Rating Programme for efficient domestic appliances, Energy Conservation Building Code (ECBC) to move towards green buildings.

Also, for enhancing the capacity in carbon sequestration, India

has adopted a target of additional 2.5 to 3 billion tonnes of CO₂ through additional forest and tree cover by 2030.

Various initiatives such as National Forest Policy 1988, Nagar van Scheme for urban forestry and the Compensatory Afforestation Act 2016 to compensate for degraded forests for developmental purposes.

Moreover, India has launched FAME Scheme for moving towards electric mobility to reduce transport-based emissions. Also, India is giving a push to enhance the share of natural gas to 15% in its energy mix by 2030, thus

moving towards a gas-based economy.

In addition, India is in process of retiring inefficient coal-based thermal plants and also adopted the new emission norms for thermal power plants in 2015.

However, India has still a long way to go to achieve its true potential. For instance, India's 70% of electricity generation is still from coal-based plants.

E-mobility is ~~unrealistic~~ unrealisable without adequate charging infrastructure. Also, the battery manufacturing capacity is low in India mainly due to unavailability of raw materials such as Lithium, Cadmium,

Further, India has a low 24% forest and tree cover out of which 21% is fire prone, as per the Forest Survey of India report.

Therefore, it is evident that although, various international and national-level efforts have commenced, there is a huge scope for real implementation and sound commitments.

Various progressive measures are needed to be taken. Firstly, the different nations should submit their nationally determined contributions to Paris Agreement in COP in 2021. Also, there

should be independent monitoring and audit of the progress made by the nations.

The developed nations need to realise their obligations and achieve their climate finance targets.

They need to abstain from the approach of protectionism and cooperate with other nations in a multipolar world order.

Also, the private parties such as companies need to involve themselves in climate change efforts through mechanisms such as Corporate Environmental Responsibility (CER), Environment ethics.

India should develop its capacity in order to achieve its Intended NDCs. The involvement of local communities, civil society and the private companies would add further value to its efforts in line with National Action Plan for Climate Change (NAPCC).

To conclude, instead of evading their responsibilities, the mankind needs to come together in order to preserve the global commons of environment so that in future, its very own existence is not threatened.

Section - A

"POLICYMAKING MUST CATCH UP
WITH TECHNOLOGY BEFORE IT'S
TOO LATE"

One of the primary tasks of any government is the policymaking. It has been in practice since time immemorial.

In the 19th or 20th Century, a policy lasted for various decades. But in this century, due to very rapid advancements in technology, by the time a policy comes, a new technology has already arrived.

The technology is developed mainly for the benefits of mankind.

However, due to potential for its misuse, it needs to be regulated with an effective policy in a timely manner.

For instance, the Biotechnology has provided the mankind with genome mapping and gene editing in order to treat various untreatable genetic diseases.

But it has a potential for misuse as happened in China where a scientist used it for producing designer babies. Also, the human cloning and gene stigmatization are other concerns.

There are several ethical issues related to use of gene editing

for germ-line therapy, which passes the desired genes down to the next generation. Also, there is a risk of off-target effect on the gene which was not desired to be edited because the research is still in progressive stages.

Further, the Nanotechnology has various potential uses in agriculture, defence, industries etc. But the concerns regarding phyto-toxicity of nano-materials and the illegal uses of nano-sensors, devices or explosives by the criminals and terrorists requires the authorities to bring a policy on it. India brought a National Nano Mission in

2007.

Also, the DNA Technology is very helpful for ascertainment of someone's identity, law enforcement purposes. However, it is subject to potential misuse by criminals and the threat of privacy and cyber crimes on DNA databanks. India has brought up a DNA Technology (Use and Regulation) Bill, 2018.

Moreover, the use of drones, as we all know, can bring huge dividends in e-commerce, disaster management, agriculture, e-governance etc. But there are genuine concerns regarding intrusion of someone's privacy, surveillance

threats and the use for criminal purposes. Realising this, India has already launched Drone Policy 1.0 and is in process of coming up with a new Drone Policy 2.0.

Furthermore, the blockchain technology has the potential to bring benefits in terms of faster, secure financial transactions. But there are apprehensions regarding its use for illegal businesses and various nations, thus, have either banned it or started regulating it.

Artificial Intelligence (AI) is another beneficial technology for the mankind. It has applications in areas such as agriculture, manufacturing,

finance, banking, e-governance,
disaster management etc.

However, it has emerging mis-
uses such as deepfakes, cyber
crimes. Also, it has ethical concerns
of biasedness of AI-based
technologies based social stereotypes.
Due to this, India has launched
a National Strategy on Artificial
Intelligence but it needs to be
revised and updated periodically.

In the context of social media,
it is evident that it has
brought people together and
provided a freedom of speech
and expression to them.

However, it is being misused for various purposes. The spreading of fake news, fanning the violence lead to violation of people's right to correct information. Also, this erodes the social cohesion and fuels the mistrust in the society.

Today, the terrorists are also spreading their hate campaigns through social media in form of Online extremism. Social media platforms have failed to regulate these effectively.

So, there is a need for national policies, international cooperation or MOUs and the self-accountability

of social media platforms in
order to minimise the misuses.

Further, the cyber crimes are on
the rise worldwide, India is
country with 65% increase in
number of cybercrimes during 2018-
19 as per NCRB report.

Also, a darknet narcotics operation
was arrested recently which
highlights the fact that the
technology aids the evolution
of new methods of crimes and
the policy makers thus need to
be pro-active in policy making.

In addition, the misuse of
cyber technology is also being

done by terrorists in form of cyber-terror for money-laundering, online radicalisation, online training and hacking of critical information infrastructure of a nation.

So, India must revise its National Cyber Security Policy 2013 which is already seven years old, and doesn't reflect the advancements in technology over this period.

Moreover, the big data is a very pragmatic technology for the use of data in governance, policy-making, welfare of marginalised sections and also in private businesses.

But the concerns regarding data

privacy and the misuse of personal data are on the rise.

Regarding this, India has brought a personal data protection Bill and also the RBI brought a data localisation guidelines for digital payment players. But these policies need to be updated periodically with growth of technology.

Also, in recent times, a concern has erupted regarding the misuse of Assisted Reproductive technologies (ARTs) such as in-vitro fertilisation.

Various ethical, moral and religious issues have come up

regarding the ~~to~~ handling of sperm outside the human body. Further, there is a threat of commercialisation of the technology,

These concerns coupled with the fact that various new ART methods are increasingly being invented, call for a simultaneous bringing up and timely updation of a policy on ARTs.

In this direction, India has come up with Assisted Reproductive Technologies Bill and the Surrogacy (Regulation) Bill.

further, we also need to analyse the concerns and benefits of genetic engineering based

Genetically Modified Crops (GM),
These crops increase the yield
and productivity but have concerns
regarding the effects on human
and environment.

India has approved the use of
only GM Cotton crop. Recently,
various instances of illegal use
of unapproved GM crops such
as Bt Brinjal have come up.

Thus India cannot be anymore
ambivalent on its stance with
respect to use of GM crops.

India should involve all the
stakeholders and bring a credible
policy on GM crops which is
backed by research of scientists

and the environmentalists.

Hence, it is clear that technology always keeps the policy makers on their foot. Even an already established policy needs to be amended and revised periodically in order to minimise the possibilities of misuse of a technology.

To conclude, the original intended objective of the technology was the welfare of mankind. When the scenario becomes against the well-being of humans themselves, there is a need for optimum regulation of the technology in order to maximise the benefits and reduce the costs.

