

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 - A

2.] Policy-making must catch up with technology before its too late.

The Netflix series of 2020 that was most trending was "Black Mirror". It raised several issues of technology slipping out of hands of control. Black mirror the name itself suggest that technology has attained a status of a mirage, you can see it but you don't really know if it is the reality. The most astonishing fact is that the series that talked about perils of technology was enabled by technology itself i.e. streaming media, that everyone watched it on.

Technology is everywhere.
From your living room to your offices

from classroom to playground. Technology also is part of your personal life as much as your professional life. There is no place where technology has not evaded itself. Even the remotest corners of the most primitive tribal societies have access to mobiles, internet.

The ~~the~~ thought of our entire world being surrounded by technology is nerve-wrecking. One often wonders - Is there any control over the rampant spread of technology? Are we controlling technology or vice versa? Is there any policy that can deal with all aspects of technology?

The answers to these ~~past~~ing questions important to know how policy-formulation works around

technology.

Relationship between policy-making and technology

Technology is the application of scientific knowledge to solve human problems. This simplistic definition is a misnomer. Today's technology is much more than that. Some emerging and budding fields are - Artificial Intelligence, Machine Learning, Internet of Things, Quantum Computing, Nano-technology, etc.

Policy-making ahead of technology

Initially, the introduction of technology was state-driven as seen in Industrial Revolution. Even until 1980s-1990s, in India, the computer revolution was at the behest of government policies. There was a Top-Down

approach.

But as we entered into 21st century, there was a technology-boom.

Policy-making along with technology

In India, the Information Technology act, 2000 was formulated to regulate and promote developments in IT sector. The act also deals with cyber frauds, cyber crimes and recognises several stakeholders. Similarly, there were several government policies on bio-technology, infrastructure R&D, financial-technology or fin-tech. The ISRO has been a champion for developing space-tech in India alongside the developments.

But now the times are changing. Since the start of 2nd decade of 21st century technology is moving faster and path-breakingly ahead.

Technology ahead of policies

Contemporary scenario is a witness to this. For instance, blockchain technology in the form of crypto-currency (bitcoins, ethers) is becoming popular but several countries have chosen to derecognise it. India has banned its use altogether.

Similarly, the laws that govern building technologies are themselves outdated. The IT act needs a revamp to address new developments like social media, streaming platforms, etc. Similarly, the biotechnology has no separate law and is governed under Environment Protection act. It thus becomes difficult to address newer path-breaking developments like "Three parent babies", gene-editing, tailor-made progeny, etc.

Today, mobiles are called "pocket technology" because they help you connect with any part of the world anytime and anywhere. But still a developing country like India has no separate laws and policies dealing with it.

This is the picture of already developed and existing technologies. But the problems worsen with respect to "disruptive technologies" like machine learning, robotics, IoT, quantum physics, etc. The government lacks the necessary resources and expertise to build R&D. The policy-makers are at most time even ignorant of the developments. Most times policies are formulated when there are threats or problems created by a new technology.

Why is there a need to catch up?

Technology represent a disruptive application, it makes the existing set up redundant and makes room for newer changes. Sometimes it results into negative fallouts. When during Industrial Revolution, machines replaced human labour, UK witnessed the Luddite Revolution which was labour class-driven anti-machinery. Taking cue from this, first major problem is technology can replace jobs which are manned by humans. Example robotics in war eliminate soldiers, computers replaced typists in government offices, etc.

secondly, major threat is the misuse of technology. Recently, an ISIS terrorist used a 3-D printed guns and 2008 Mumbai attack terrorists used satellite phones. The Al-Qaeda has its

social media handle "Inspire", and the like makes policy-making to be ahead of technology.

In addition, we when policies govern technologies before hand they give a direction for development. It improves efficacy of policy and the technology for eg. the software revolution that involved government led to equitable access to resources, led to job creation etc.

Thus, policy-making essentially must catch up with technology, for if it loses control it could create havoc.

Catching up with technology: the way forward

First and foremost, the policy making require research and deliberation. The ~~is~~ inadequate knowledge and

awareness about newer developments is the major challenge. For this, the policy-makers need to form expert panels, task forces to study technological advances.

Secondly, international collaboration and joint exploration is another way of catching up with technology. Recently India-Australia during their virtual summit committed to joint research on cyber-technology.

The OECD organisation is a pioneer of emerging technologies. India recently established NEST division in foreign ministry (New and Emerging Strategic technologies).

This could be a game-changer for harnessing technology.

Following suit, India requires holistic laws that deal with newer developments along with amendments to the already existing ones. Newer areas like space, Biotech, nano-tech, social media

need to be addressed integratedly and all-comprehensively. These laws need to be formulated along the guidelines and recommendations of the taskforce.

Likewise, to prevent the misuse and abuse of technology the solution lies in deterrence and resilience of the system. Nareesh Chandra taskforce recommended establishing newer military divisions like cyberspace and space to prevent any technology-enabled attacks.

Taking the cue from here, the idea of policy-making again being ahead of technology could also be hopeful. By studying developments in recent times, it is possible to have futureistic and resilient policies to address technology and its dimensions.

Going Beyond Policy-making

Policy-making is a major yet one aspect of addressing changing technology. Other ways to catch up with it is social awareness. People must be made aware of new developments, its threats and merits. That way technology will have a more "human face". Secondly, using technology to catch up with technology. Like reverse engineering, ethical hacking technology is itself used to counter, address and promote technology.

In this way, policy-making along with aware citizenry and techno-savvy approach could help policy-formulation to become equal stakeholders in technology - of - today and technology - of - tomorrow.

Victor Hugo said -

"No power can stop an idea
whose time has come"

and this idea is technology.
Thus we must not try to stop it
but welcome it and keep pace with
this idea to make the most out
of it.

Section - B

8] Tackling Climate Change : Are We on the Right Path?

The year is 2100AD, I am on my usual street with my hand on my trolley. I am surprised to see a glass box mounted on the trolley with a potted plant inside. I look more curiously and see a cable that connects it to the oxygen mask I am wearing. I am shocked and look around, but to my surprise, everyone around me has a similar trolley with plants. I also notice familiar brands like Nike and Puma on it. I feel restless at the sight. Suddenly my alarm goes on and I am relieved that it was just a dream.

Why was this dream a nightmare?
Is this the future the world is headed

towards? Can this future be reversed?
Is the world really on the right path
to save it from climate change?

These questions are very
vital yet very unsettling. Before we find
answers to these questions we need to
dwell upon how important is climate to
humanity and how is it changing.

Climate : uniqueness of the Earth

The earth's climate makes it the
most unique planet in the universe.
Climate has made existence of life possible.
Climate affects physical features on earth
like wind and water cause erosion,
change the landscapes. Thus ultimately
changing human settlement, occupations.
Climate and weather phenomenon are
in some societies worshipped like the
Indra the god of thunder, Soma the
god of plants and shrubs. Thus climate

is integrated into human life throughout the earth.

Climate is the long term aggregate of weather phenomena of a particular place, say about 70-80 years. For eg, India has a monsoonal climate while southern Europe has Mediterranean climate. But over the past few years there are some drastic changes in climate.

Climate Change: a reality

Although climate change is not a new phenomenon and earth has witnessed several climate changes temporally and spatially. But this current climate change is different in two aspects. One, it is very rapid. The pace is unprecedented. The Greenland is losing its ice caps at the rate of 120 cm per year, while average sea level has risen

by two centimeter over last 5 decades.

secondly, this climate change is human-induced or anthropogenic in nature. NO other animal has ever influenced climate like humans. The WWF report said that if everyone consumed natural resources like the USA, we will require seven more earths. The climate change is seen in global warming - which is the rise of global temperatures. It has hazardous impacts on health, green cover, wildlife extinction. coral reefs are very temperature ~~senti~~ sensitive and any increase in sea temperature will wipe them out.

similarly, climate change also means cooling in some places like the recent cold waves in USA and Canada. There is severe droughts in some parts like India, Australia and contrarily

there are torrential rains in some parts of African Sahara, China, Latin America.

This shows the global nature of climate change. The smaller island nations are the worst sufferers amongst all. Their lands are shrinking due to rising sea levels, several disasters are creating havoc. Even in India, the Arabian sea not known for cyclones, in 2019 witnessed two supercyclones Keyarr and Naha, simultaneously.

This brings us to the question if we are on the right track?

Climate Change actions: Promise or Peril?

The world has been shaken from its deep slumber. The climate change actions on a global level began with Kyoto Protocol to reduce Greenhouse gases (GHGs) and Montreal Protocol for eliminating Ozone depleting substances (ODS). Both the

protocols were successful in achieving their aims. But the problem lied in the Kyoto commitment period II beginning from 2017 which failed due to lack of consensus. US and few other countries walked out of Kyoto protocol making matters worse.

Similarly, the actions and mitigation measures for climate change have become an arena for power politics and diplomacy. The Paris climate deal of 2015 was stuck for a long time due to debate over responsibilities of New Emerging economies and historical responsibilities of Developed countries. This showed a gloomy picture of the world level actions.

The UNFCCC report says that even if all the countries fulfill their Nationally Determined Contributions (NDCs) the global temperature will still rise beyond 3°C opposed to the targeted less than

2°C. The entire global action agenda are aimed at "blame-game" and "not in my backyard" attitude. The developed countries were committed to provide \$100 Bn per year in the Green Climate Fund for capacity development of third World countries. But by 2020, a meagre \$10 Bn in total has been contributed. This shows the acadaisical approach toward mitigation.

Like wise, the developing countries like India, Brazil, China demand their "right to exploit" natural resources for they were "late entrants" in the "great game" of development. India came up with "Common But Differentiated Responsibilities" CBDR principle to manage climate change. It means that everyone has a responsibility but the scope is

different for each country on the basis of capacity and developmental standards.

The Brighter side : not all is lost

To say that everything is doomed regarding climate change is false. Countries at international level have also done well in certain parameters.

The European Union is the leader in emission reduction targets. It aims to become carbon neutral by 2050. The World Bank report "2°C compatible" title put India in the 2°C compatible category which is laudable. Nearly 165 countries have submitted their NDCs and majority are on the right path of fulfilment.

Following suit, the role of emerging global leadership in the form

of France, India, Japan, Australia are influencing global opinions. India - France established International Solar Alliance to move towards renewable energy and reduce carbon footprint.

Several international forum and institutions are aiding small ~~Island~~ Island nations and developing countries to shift towards green technology, carbon-neutral / negative industries, etc.

To protect and improve disaster-risk reduction due to climate change, India has championed the Coalition for Disaster-Resilient Infrastructure (CDRI).

Domestically, there is rising awareness about minimalistic lifestyle i.e. simple and need-based living as opposed to extravagant and resource-guzzling lifestyle. This has become

popular especially during the COVID-19 pandemic.

Similarly, the "Friday for Future" initiative of Greta Thunberg shows that the civil society and younger generations are more conscious of climate change. This shows that we are on right path. But there is more that we can do.

Traversing the right path: way forward

Most times climate change is seen as a counter to development and that is why most countries' policies do not favour it. But the WEF's report on Climate Actions said that if we invest \$1 in climate actions we derive a benefit of \$4. Climate actions has the potential to create 500 mn jobs in emerging fields like recycling industry,

renewable energy, etc.

Countries and policy-makers need to be made aware of these benefits to combine economic prosperity with ecological sustainability.

The circular economy concept hits the right tunes with climate actions. It reduces effects and hazards and employs all the by-products again into the economy.

On the international fora efforts need to be made to reverse the trends of "Climate denials" as seen Brazil, USA. Consensus-building for CBRD principle and also stringent actions for non-fulfillment of commitments. Former UN Secretary-general Ban-ki-moon stated "The Future is green or not at all".

This is a warning to speed up the deliberation. The Sustainable Development Goals aim to reverse the climate change and reduce the anthropogenic effects on it as much as possible.

Thus, the responsibility lies not only in political heads but all the stakeholders. From government to administration; from civil society to common people; from present generation to the future generations. If we want our future to not depend on hollies with plants to support them, then we must act ~~on~~ now.

"We do not have a Plan B
because we do not have
a PLANET - B"

- Banki Moon
(former UN Secretary-General)

- CC denials.
- short term vs long term.
- How can we?

↳ circular economy
↳ resource effici
↳ renewable energy

↳ minimalistic lifestyle.

↳ SDGs
↳ M.K. Gandhi
↳ Int. of Cooperaⁿ.

Ind^v, regional, community, nation, international.
how dare you?

with potted plants. I also see some familiar brands of Nike, Puma on the trolleys. Everyone had oxygen masks on and no one found it ~~any~~ weird. I got anxious and restless, but then my alarm went off, I woke up ~~thankingly~~ relieved that it was just a dream.

connecting Os

• how imp is climate

- essentially life.
- all living beings
- economic activities
- infra
- climate - manipulates → religion for some.
- any change will lead to change in

• Climate Change a reality?

- air → animal extinction → ice caps melting.
- temp^t → agriculture →
- GW → fishing.
- ocean level → climate refugees.

• what is the right track?

• Yes as we are?

- UNFCCC
- SDG
- NDCs - Paris agree^t
- Kyoto - temp^t. GHGs.
- Montreal. O3
-

Not enough

- UNEP.
- UNFCCC.
- energy consumption
- carbon footprint
- 4 earths.
- climate diplomacy.
- backing out
- funding
- developing cos < Developed Cos.

Tackling Climate Change : Are we on the right path?

→ The future is green or not at all.

→ There is no Plan B . . .

→ US : requires 4 earths .

→ WB : economics → \$1 ⇒ \$4 benefits .

→ Are we on the right path?

① Importance of climate → unique climate

② Manifestation of cc : how is it happening?

③ Yes, we are .

④ No, we are not .

⑤ What is the right path?

⑥ How can we move towards the right path?

⑦ Conclusion → planet B .

~~The year is 2100, I wake up to my alarm. I take my trolley and walking on the street with one hand on my trolley. The trolley had a glass box with a potted plant in it. The glass box had a pipe reaching a mask that I wore. It was an oxygen mask that was driven by the plant. The image is disturbing, I look around and see more and more trolleybags.~~