## General Studies

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**Registration Number:** 411586  
**Date:** 27.08.2018

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**Total Marks Obtained:**  
**Remarks:**

### Instructions

1. Do furnish the appropriate details in the answer sheet (viz. Name, Registration Number and Test Code).
2. There are TWENTY questions printed in ENGLISH & HINDI.
3. All questions are compulsory.
4. The number of marks carried by a question/part is indicated against it.
5. 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 that the authorized one.
6. Word limit in questions, if specified, should be adhered to.
7. Any page or portion of the page left blank in the Question-Cum-Answer Booklet must be clearly struck off.

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**M-1/4, Plot No-A-12/13, 1<sup>st</sup> Floor, Ansal Building, Dr. Vidya Sagar Homeopathic Clinic, Mukherjee Nagar, Delhi-110009**
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Overall Macro Comments / feedback / suggestions on Answer Booklet:

1.                                                                                   
2.                                                                                   
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5.                                                                                   
6.                                                                                   

All the Best
1. There are many challenges in sustainably scaling up renewable energy in India. Analyse. Also, discuss what can be done to address these challenges. (150 words)

India's target of 175 GW renewable energy by 2022 means massive scaling up is required. This goal faces many challenges, such as:

1) Capacity of distribution and transmission networks to handle renewable energy input.

2) Threatens viability of thermal power plants due to competitive prices, exacerbating NPAs in power sector.

3) Lack of adequate manpower for maintenance of panels, wind mills.

4) Energy storage systems research such as affordable batteries has to catch up.

5) E-waste generated from solar panels and batteries pollutes environment.

6) Extraordinary dependence on imports for solar, wind components and lithium.
Steps which can help to overcome these challenges are:

- Skill India for manpower
- National mission on energy storage systems for domestic battery technology
- Smart grid mission to seamlessly integrate renewable energy
- Make in India for domestic manufacturing
- Preparation of national energy policy to balance non-renewable and renewable.

As India's energy needs are going to rise with economic growth, these steps can go a long way to ensure sustainability.
2. The policies and indicators introduced by the government, in recent times, to finance urban development in India are key in addressing the existing challenges. Discuss with special reference to municipal bonds.

(150 words) 10

India's urban population is going to be 600 million by 2031 according to NITI Aayog which necessitates quick and sustainable urban development.

The government has taken steps in:

1. **Policy**
   - Encourage value capture financing
   - Reform incentive fund to encourage governance and service delivery

2. **Initiatives**
   - Aided launch of municipal bonds such as recently listed bonds on NSE from Madhya Pradesh.

3. **Indicators**
   - [Indicators mentioned]

Hence, through these policies and indicators, the government aims to ensure sustainable urban development in India.
1) ease of living index to foster competitive federalism

2) composite watershed management index for water use efficiency and policy effectiveness

3) Credit rating for municipalities to enhance access to capital markets.

These steps highlight the shortfalls, the areas of improvement, as well as opportunities to harness funds from the market. The recent team from AIB for AIB’s investment in national infrastructure and investment fund can also help.

All these can be used to fill the Rs 40 trillion rupee funds required for urban development as forecasted by Justice Ahsan Bhabha’s committee.
3. With a number of issues continuing to be a roadblock, a large section of India’s rural population is still ‘financially excluded’. Discuss. Analyse how these issues can be addressed and the measures taken by the government and RBI recently in this regard.

India’s 68% population in rural areas faces certain issues that roadblock financial inclusion.

Some issues are:

1) Digital illiteracy hampers use of digital technology
2) Lack of access to smartphones
3) Small credit needs mean unattractive avenues for banks
4) Lack of awareness about insurance, mutual funds

These issues can be addressed by:

1) Information dissemination and awareness generation — Pradhan Mantri Gramin Digital Sahakari Abhiyan.
2) **Strict and uniform application of priority sector lending norms rather than year-end disbursement of loans to fulfil targets** – **RBI has regularly monitored**

3) **PM Jan Dhan Yojana for provision of a bank account**

4) **Common service centres to provide financial transactions online to rural people**

5) **Banking correspondents by RBI**

6) **SHG-Bank linkage programme of NABARD to give credit to self-help groups**

The inclusive growth agenda has to cater to rural areas and such initiatives are welcome.
4. What do you understand by the term 'Environmental Accounting'? Discussing the rationale behind introducing environmental accounting, highlight its status in India.

"पर्यावरणीय लेखांकन" ये आर्थिक व्यवस्था में क्या समाज का सपना? पर्यावरणीय लेखांकन आरंभ करने के लिए आवश्यकता की चर्चा करें, भारत में इसकी स्थिति पर प्रकाश डालें।

Environmental accounting is the process of incorporating the benefits to, impact of, damages incurred by and specific allocations for environment during the course of any project or undertaking.

For instance, an industry set up on degraded forest land would have to environmentally account for less of tree cover, effect on dependent population, cost of handling discharge and pollution potential of industry.

"Environmental accounting is required because:

1) integrated nature of development..."
and environment

2) Gross value addition and capital formation should account for depletion of natural resources in the long term.

3) Ecology requires equal concern as human needs.

4) Polluter pays principle is now a standard principle.

Environmental accounting in India is done in the form of environmental impact assessment. CAMPA funds are paid by developers according to the value of forest cut. It is still to become an integral part of development narrative. The increasing awareness among people and enterprises leads to there will assist institutionalization eventually.
5. While access to irrigation is important, efficiency of water use is equally, if not more, crucial. Examine.

Irrigation is one of the major requirements for crops. Access to irrigation has been the focus of government’s concern as accelerated irrigation benefits program me and other showed.

In the Pradhan Mantri Krishi Sinchayee Yojana, the focus on efficiency of “per drop more crop” is seen. It is crucial because:

1) limited 41% fresh water resources of the world for 17% population
2) agriculture already takes 74% of water while according to NITI Ayog 600 million people face water stress
3) extra water causes soil salinity
4) Blended fields also release methane,
a green house gas.

3) extra water percolates with fertilizers to cause underground water pollution and him off causes eutrophication.

the government has encouraged micro irrigation and climate resilient agriculture along with providing access through:

- solar pumps
- canals
- tanks built during NREGA

It is with this combination of access and efficiency only that the agriculture can be sustainable while feeding a population of 1.3 billion.
6. For a holistic approach to disaster risk reduction, there is a need to mainstream indigenous traditional knowledge and link it with modern technologies. Analyse.

The Sendai Framework of disaster risk reduction emphasizes the role of communities in disaster risk reduction (DRR). These communities hold indigenous traditional knowledge which can be mainstreamed such as:

1) **Ecologically friendly living root bridges in Meghalaya**
   - If strengthened with material engineering will reduce vegetation destruction, landslides due to deforestation.

2) **Kundi, Kheles and other natural rainwater harvesting**
   - Mainstreamed with
geological knowledge of the area can aid groundwater recharge, preventing floods and droughts.

This shows that hidden knowledge combined with supplementary technology such as weather forecasts, satellite monitoring, early warning and effective communication via mobile phones can: firstly, reduce disaster risk;

secondly, minimize damage from the risk.
7. What do you understand by food irradiation? Highlighting some of its unique applications, examine its relevance for India.

Food irradiation, a positive use of nuclear technology, uses radioactive materials' radiation to irradiate food items – processed or raw.

Some of its unique applications are:

- Can be done after packaging
- Does not alter the taste or flavour of food
- Cold radiation, therefore no problem of heating of food
- Conserves nutritional value
- Pest removes all kinds of microbes

Since, 40% of food in India is wasted (as per UNDP) due to...
shortage of storage, transport and disposal infrastructure.

Tropical climate with high humidity and temperature aids mould growth.

Record production of food and horticultural products which is too much to handle immediately.

Food irradiation can alter all these by improving shelf life of food.

It is also important because India has 15.4% undernourished population as per global hunger index.

BARE had recently set up a centre in Lalburgaon. These are steps in the right direction.
8. Whereas misuse of technology has abetted the spread of fake news, it is with the aid of technology that this menace can be curbed. Elaborate.

(150 words) 10

Technology is a double-edged sword. Its misuse has abetted the spread of fake news as:

1) Social media aids anonymity; people act as there is less probability to be found out.

2) Digital illiteracy has blinded people who trust everything they read on their WhatsApp, Facebook.

3) Technology is fast and has reached remote areas; fake news spread fast and thick.

4) It is tough for law enforcement agencies to monitor technological we due to lack of manpower as well as expertise.
Lynchings caused due to rumours of child lifting or cow smuggling is an instance of evil side of technological use. But it can also aid curbing these problems:

1) Artificial intelligence to scout and track instances of fake news spread by monitoring traffic

2) Fast and responsive police aided by satellite phones and intelligence networks on phone

3) Automation of verifying of information by tech companies before upload

Thus, the positive edge of the double edged sword can tackle the negative edge too.
9. Explain the salient features of the recently established Defence Planning Committee. How can it help in credible defence preparedness?

(150 words)

Defence preparedness is primary for a country like India with land, marine, cyber, non-state, state threats. Defence Planning Committee (DPC) has been set up to holistically and swiftly plan and expedite:

1) acquisition of arms and weapons
2) co-ordination between defence, bureaucracy, military, intelligence and finance.

DPC is headed by the National Security Advisor (NSA) and includes the Defence Secretary, Finance Secretary and three military chiefs.
It can help in credible defence preparedness by:

1) Ensuring replenishment of stocks without procedural bottlenecks at various levels as all decision makers sit together.

2) Holistic planning of defence needs and how they are best fulfilled.

3) Matching expectations with finances available and pursuing further according to collective decisions.

DPC can overcome the current loophole in defence preparedness framework.
10. Recent reports of Maoist leaders having amassed huge assets in property and cash underlines the significance of probing the funding network as part of counter-terrorism efforts. Discuss.

Maoist leaders leading the secessionist movements against the state are a major threat to internal as well as external security:

1) Collaboration with foreign states such as China to sabotage Indian interests
2) Destruction of infrastructure such as roads, foreign phone towers
3) Killing of people and security forces
4) Challenge to territorial integrity and unity of India

That they have amassed property and cash shows:
1) Loopholes in financial setup
2) Channeling of black money to these...
in return of weapons, ransom

3) failure of security agencies, intelligence networks and finance sector regulators

4) possible role of NGOs as recent ED’s report shows.

This necessitates that a well-coordinated approach is required wherein counter-terrorism activities expose the financial dealings too. The Kashmiri insiders and Marxist leaders’ financial dealings are a case in example where each serves the cause of the other.

Technology and inter-agency cooperation and information such as NATGRID, CCTNS and NCFS can help.
11. Not only do services MSMEs contribute mightily to the overall GDP growth, they have a powerful, multiplier impact on the local economies as well. Elaborating on the statement, highlight the problems faced by service sector MSMEs. How can the government make it easier for MSMEs to start and grow a business?

MSMEs employ around 11.5 crore people and contribute 37.5% to the GDP. Their share in exports is also very considerable. Services MSMEs contribute mightily as:

1) they skill local residents in profitable skill such as mechanics.
2) serve as markets for local manufacturing units eg mobile phone service
3) create demand for electricity, commercial space and other services such as tiffin, cleanliness.

(250 words) 15
4) generate employment

The service MSMEs face problems such as:

- Credit is tough due to lack of collateral
- Do not have professional management skills or accounting practices
- Difficult to upgrade skills of employees as it is either costly or inaccessible
- Tough to hesitation to expand as regulatory burden increases

The government can help MSMEs in following manner:
1) Quality upskilling avenues for people such as Skill India Mission

2) Monitoring of MSME sentiment to activate remedial measures accordingly e.g. CRISILDEX was launched.

3) Cluster based approach to provide facilities e.g. SFURTI

4) Incubation centres for willing individuals e.g. ASPIRE scheme, Startup India hub

5) Easing regulatory processes and compliance burden e.g. Shram Suvidha portal

Given the positive spill-over from MSMEs and need to employ 12 million newly entering workforce every year, in these three steps can help MSMEs.
12. Contract Farming has many advantages, however it suffers from market failures. Elaborate. What can the government do to correct problems that lead to contract failures? Also, discuss whether the Model Contract Farming Act, 2018 is a step in the right direction. (250 words) 15

Contract Farming has many advantages for farmers, contractors as well as consumers. These are:

1) assured returns for farmers
2) assured supply for contractors of raw material
3) stable prices of commodities for consumers

It suffers from market failures such as:

1) inadequate legal framework
2) ineffective linkages of production centres with farms due to poor logistics, dilapidated transport and inadequate connectivity

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The government can take several augmenting steps such as:

1) Lay down a clear, mutually beneficial, transparent, unambiguous contract farming framework to enhance confidence of players.

2) Provide connectivity and logistics facilities e.g., Pradhan Mantri Gram Sadak Yojana, multimodal logistics parks.

3) Develop mega food parks with hub and spoke model.

4) Ensure irrigation and power supply for farming and industry, respectively.

5) Provide legal aid to farmers in case of contract violations and encourage alternative dispute resolution.
mechanisms.

The model contract farming act released by NITI is a step in the right direction as it protects the farmer’s land by mandating a legally backed, transparent contract. The contractor cannot build a permanent structure on the farm.

It provides a facility facilitating authority at state level and offices at district level to oversee contract. The farmer’s interest is thus protected and the contractor has to provide insurance. Too, contractor’s claims for the produce is also protected for the contract period. It is a good beginning step.
13. Suggest the measures needed to improve the employability of labour force as well as increasing number of employment opportunities in light of structural changes being brought by disruptive technologies.

(250 words)

Technological disruptions such as automation, artificial intelligence (AI), blockchain, digitalization and big data are bringing structural changes.

1. Deployment of robots in manufacturing reduces
   - Import needs of developed countries
   - As they use cheaper automation than costlier manual labour
   - Reduces hiring by companies in general

2. Greater reliance on data to
design products as per consumer choices and buying behaviors.

3. AI in banking and finance to detect frauds, automation of bank end processes.

4. More investment in digital infrastructure rather than physical infrastructure (e.g., investing in chatbots rather than office space for customer care).

5. e-governance and electronic delivery of services.


In this situation, measures to improve:
Employability

1) Skill of
Labourforce
Skilled India can have
such components

2) Upskilling of current
workforce for
adaptability

3) Vocational
educations
per industry needs
eg: Germany model

4) Enhancing interest
in science and
innovation
eg: Rosetta
Armistkaar
Ashuwan

No of opportunities

1) Develop
industry in
these areas
through
policy
eg: SEZs

for technology
intensive
sectors

2) SERVICES
sector for
these technologies
has a huge
potential
eg: Repairs

robots
14. India's trade policy in agriculture, marred by ad-hocism and pro-consumer bias, has constrained realization of export potential, and prevented the farmers from reaping the benefits. Examine the statement and discuss ways, including government initiatives, to improve agricultural exports.

(250 words) 15

तदथेता और उपभोक्ता समर्थक पक्षपात में प्रभावित, कृषि में भारत की व्यापार नीति ने निर्यात सामग्री की प्रामाण्यता को बाधित किया है तथा किसानों को लाभ उठाने में रोका है। इस क्रय-विक्रय का परिवर्तन कीजिए और मनकारी पदार्थों में सही निर्यात भी मुशार लाने के तरीकों पर चर्चा कीजिए।

India's trade policy in agriculture has been said to be marred by ad-hocism because:

1) There is no trade policy in agriculture or provisions in foreign trade policy

2) Imports are done based on domestic food prices on a case by case basis e.g. import of pulses

3) There is lack of focus on promotion of cultivation of globally demanded produce e.g. herbs, medicinal plants

The pro-consumer bias is visible.
1) Ban on exports, e.g. of pulses, even in record produce years to prevent rise in prices for consumers.

2) Release of buffer stocks into market as soon as prices rise, preventing any profit for farmers.

These policies have constrained the export potential as well as prevented meaningful profits for farmers which is often called the subsidization of urban rich by rural farmers.

The government's steps can include:

1) Liberalization of agricultural trade on lines with LPG reforms if a promise was made in this
year's budget.

2) Promoting storage, logistics, marketing and branding facilities to agriculture produce.

3) Legally prescribed limits on buffer stocks and the rest to be unloaded in international markets at prevailing prices.

4) Raising the administrative process.

5) Post and connectivity development to link hinterlands and ports, e.g., Sagarmala.

The government can balance the food security and farmer's interest through prudent policy to keep agriculture remunerative for the 50% of our workforce that it employs.
15. Is currency exchange rate a suitable measure of relative economic performance of countries? Despite improving macro-economic fundamentals, trade deficit in India continues to widen. Bring out the factors responsible for this situation.

(250 words) 15

The relative economic performance of countries is measured through GDP growth rate, unemployment, inflation, credit uptake, and currency exchange rate (CER) among others. CER is not a suitable measure because:

1) Manipulations are done by countries such as China.

2) Higher exports imply competitiveness of local industry too, but lowering of lending rates can boost economic growth but weakens the domestic currency which is not.
a true reflection of the domestic economy which will grow due to credit uptake and investments.

India's macroeconomic fundamentals are improving:

→ GDP growth poised to be more than 7.5% (according to IMF)

→ Fiscal deficit to be lower than last year

The trade deficit continues to widen due to:

1) exports growth lower than growth in imports
2) global demand is suppressed
3) Indian currency is at a record
low with respect to the dollar.

4) Domestic demand of foreign goods such as electronics raises imports.

5) Crude oil price is rising and India imports 82% of its requirement.

6) India's exports sector has suffered due to protectionist measures of countries such as USA.

7) Exports are generally higher as India's domestic manufacturing industry is not competitive in sectors such as plastics, APIs, consumer goods.

The solution as per the economic survey is to boost exports through policy and infrastructural boosts.
16. It will take much more than relief packages to address the problems being faced by the sugar industry in India. Discuss.

(250 words)

The sugar industry in India is facing problems for a few years now. This has persisted despite the relief packages by the government because:

1) The market price of sugar is lower than the procurement price of cane.

2) The production of cane is much more than the mills can efficiently handle and process.

3) The glut in the market does not let remunerative prices return by the industry.

(Handwritten notes:)

भारत में स्वीकृत उच्चता द्वारा सामना की आ रही समस्याओं को दूर करने के लिए राहत पैकेज से आगे और कुछ करने की आवश्यकता है। यह कीजिए।
The relief packages temporarily put off the problem into the future by aiding industry to pay off cane growers even as the industry itself continues to pile losses.

This requires a comprehensive package of reforms for a long-term solution:

1) Long-term support to the industry to expand processing capacity.
2) Credit subsidy for infrastructural investments
3) States and centre should coordinate when it comes to fixing the fair and remunerative prices and state administered prices
4) Institutionalised price fixation mechanism to curb populism
state governments.

5) Supporting diversification of crops by farmers through technological support such as better seeds, weather forecasts, sowing advisories.

6) Economic survey also points for abolition of untargeted subsidies such as power which encourage water and intensive crops such as sugarcane.

A holistic process involving cultivators and industry along with states can solve the crisis through strong political will.
17. NAPCC, almost 10 years old and formulated with lofty objectives, has not served as the best answer to cope with the impacts of climate change. Critically discuss.

The national action plan on climate change (NAPCC) has 8 components:

- National solar mission to add 100 Gw of solar power capacity
- National water mission to enhance water use efficiency by 20%
- National mission on enhanced energy efficiency (NMEEE)
- National mission of green forbidden area (GMIM) to enhance cover on 6 million hectares
- National mission on sustainable agriculture (NMSA)
- National mission on sustainable habitat (NMSH)
- National mission of human's sustainability (NMHS)
- National mission on strategic knowledge (NMSK)
The objectives of these missions are lofty and have achieved significant outcomes:

→ Solar power generation has increased rapidly.

→ Compensatory afforestation enhances cover on degraded lands and green highway policy launched.

→ Domestic and street lighting with efficient LEDs as well as UJALA scheme for household LEDs.

→ PM Krishi Sinchayi Yojana.

→ BIOTECH Kisan, mega gain, mega gain.

→ Genes, PM Kisan aid locally relevant agriculture practices mediated by technological innovation.

→ Secure Himalayas initiative to sustainably develop the region.
Despite these initial efforts, certain bottlenecks remain:

1) Overexploitation of water can cause a loss of 6% of GDP (NITI Aayog)

2) 50,000 crores funds of CAMPA lying idle

3) India is the largest user of underground water for agriculture

4) Extreme rainfall and temperature events continue, Kerala floods, sandstorms in North India.

5) As per IMD, temperature has risen by 0.6°C.

This implies that problems remain despite action. The way forward is to intensify actions in terms of funds (use global finance), technology, to monitor impact and modify accordingly, and community participation.
18. Proliferation of nuclear weapons and the threat of their use are key concerns for global security. Nonetheless, existing international arrangements seem to be ineffective. Comment. Also, identify the salient features of India's policy in this context and discuss whether India should join the NPT in the current form.

(250 words) 15

Nuclear weapons have the potential to kill entire humanity. The proliferation of NWs as seen in case of North Korea's tests and Iran's suspended programme under JCPOA is a cause of concern.

The international arrangement such as NSG (Nuclear Suppliers Group) and NPT (nuclear non-proliferation Treaty) have been ineffective. Pakistan helped North Korea under the radar of current regimes.
Other countries such as Japan and Germany can build a weapon if they wish given that there has been no progress on disarmament and US and Russia are strengthening their nuclear war chests. In such circumstances, NSG and NFJ failed.

India’s nuclear policy is:

- no first use
- no use on non-nuclear power
- assured retaliation of nuclear attack
- use in case of biological or chemical attack on forces or territory

In the current form, India
Should not join NPT because it would require India to give up its nuclear capabilities. With China and Pakistan principle adversaries having nuclear weapons, this will weaken India's security infrastructure.

It is a discriminatory treaty in design. India already has an NSG waiver that de facto recognizes its nuclear credentials. So, NPT is at present a perfunctory treaty as far as India is concerned.
19. The maritime security domain requires collective multilateral and regional cooperation to combat non-traditional threats. Discuss in the context of threats in the Western Indian Ocean and the recent amendments in the Djibouti Code of Conduct.

The maritime security domain requires multilateral India’s 7550 km long coast require security and surveillance provisions which are difficult to suffice due to resource constraints as well as the vastness of territorial expanse. This necessitates collective multilateral and regional cooperation.

- Indian Ocean Naval Symposium
- Indian Ocean Regional Association
- White Shipping Agreements
- Maritime Domain Awareness
agreements with Indian ocean littoral countries. India has provided
bomber aircrafts to Seychelles
and has also set up radar in
Mauritius.

This is because non-traditional
threats exist such as:

1) piracy
2) terrorist attacks (Mumbai
   attack)
3) safety of fishermen, commercial
   ships during storms and
   cyclones.
4) maritime pollution, oil
   spills
The threats 1), 2), and 4) are especially relevant in western Indian Ocean which is less prone to cyclones.

In such cases, countries can help by sharing shipping information, exchanging data on vessels and movement and jointly undertake counter-terrorism and anti-piracy operations.
20. India's space programme was initiated with the vision of utilising outer space for peaceful purposes, however with changing times it has the potential to play a significant role in strengthening security capabilities of India. Discuss with adequate examples.

India's space programme has succeeded in the missions for peaceful purposes. Some instances are:

1) **Astrasat** discovering far-off stars
2) **Mars Orbiter Mission** sending crucial information on Mars' atmosphere
3) **Chandrayaan-2** aiding discovery of water and ice on Moon
4) **PSLVs** and **GSLV Mk III** capable of launching geostationary and sun synchronous satellites
5) Commercialisation of launch for other countries, forex earnings.
Our space competence can play a significant role in strengthening security capabilities too:

→ GSAT aids the navy to navigate and operate - securing our maritime borders.

→ IRNSS & NAVIC gives us own system to do precise navigation through restricted services.

→ GAGAN reduces dependence of our commercial aviation on foreign navigation.

→ India is capable to launch an indigenously developed surveillance satellite for military intelligence, surveillance of enemy territory, and movement in inaccessible high terrain (e.g. Himalayas).
These examples show how space domain can aid and supplement security capabilities. This can be further institutionalized with a space-use strategy developed in collaboration between all agencies involved.