VISION IAS

www.visionias.in

SUBJECT:		Test Code:	2	2	5	1
Name of Candidate	AJAY YADAV					
Medium Hindi/Eng.	ENG	Registration Number	3	8	2	0	3	
Center	KAROL BAGH	Date	0	7	0	9	2	2

INDEX TABLE

Q. No.	Page No.	Maximum Marks	Marks Obtained

Total Marks Obtained:

Remarks :

INSTRUCTIONS

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 that 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।

16-B, 2nd Floor, Above National Trust Building, Bada Bazar Marg, Old Rajinder Nagar, Delhi-110060

Plot No. 857, 1st Floor, Banda Bahadur Marg (Opp. Punjab & Sindh Bank), Dr. Mukherjee Nagar, Delhi- 110009

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

Electric vehicles: Leading India to a greener and Brighter future

Recently in an interview, Minister of Road ~~and~~, Transport and Highway - Nitin Gadkari has said that the Electric vehicles is at the core of NEW INDIA and ENERGY SECURE INDIA. He said that the target of 30% of electric vehicle by 2030 under National Electric Mobility Mission plan is vital for a greener and Brighter future.

This explains the core of electric vehicles is the strategy for new automobile revolution in India. In this essay, we shall ponder on prospects of electric vehicles for greener and cleaner India. Beside this, challenges associated with e-vehicles and steps to be taken for greener future will also be addressed.

e-vehicles : For greener and Brighter future

Yuval Noah Harari in his book 'Homodeus' has brilliantly explained the need for a climate friendly life for continuation of human civilisation. Similarly, World Economic Forum in his Global Risk report has highlighted that climate change threat is a human extential threat. Thus, the biggest advantage of e-vehicles are their environment friendliness.

UNEP in its emission gap report has highlighted that e-vehicles can reduce the emission intensity of automobile sector in India by upto 70%. The recently Panchamrit pledges of India in COP-26 (Glasgow Summit) that the nation would reduce the carbon intensity of the economy and, expected carbon emission by upto 1 Billion tonne, the e-vehicles could play a core role in their acheivements.

Moreover, recently, Lancent Medical report that more than 1.8 million died in India due to air pollution.

The world IQ report highlighted that Indian cities are nothing less than a 'Gas Chamber of harmful gases'. According to Niti Aayog e-vehicles can play a revolutionary role in reducing the air pollution.

The role of e-vehicles are not limited to environment. They can play a vital role in Energy security of India. According to International Energy Agency, India import 85% of its crude oil demand, and a $10 rise in crude oil price reduce the GDP growth prospects by upto 0.4% to 0.5%. The e-vehicles with no reliance on crude oil can be a game changer in ensuring brighter future through energy security.

Moreover, the impact of global instability of fuel price will be reduced on Indian economy. In 2021-22, wholesale price Index was in double digit due to high crude price. Recently, OPEC+ nations have decided to reduce the crude oil supply by further $1 Million barrel. Thus, e-vehicles provides strong insurance to India from global price volatility.

Beside this, India due to its vast land size and tropical location has great prospects for SOLAR energy and wind energy. Niti Aayog has asserted that solar energy can easily through storage can be used for e-vehicles and provide sustainability in energy supplies. Moreover, recently, Indian Automobile Association has argued that India could be a global hub for e-vehicles, and this would boost automobile contribution to GDP from current 7% of GDP to 10% of GDP, and would provide

a precious forex reserve with potential export. They have given the example of TESLA company and its greater role in USA economy due to e-vehicles.

FLIP SIDE OF THE COIN : Challenges

The greatest challenge lies in India in Battery manufacturing and charging stations spatial availability. Currently India import upto 90% of its battery requirements from CHINA. This is against the Atma Nirbhar Bharat principles.

The Goldman and Sachs in its report highlighted the need of $30-$40 Billion investment for battery manufacturing and charging logistics availability.

Moreover, compared to cost with conventional vehicles based on combustion engines, e-vehicles are

₹50,000 to ₹60,000 are more costlier. This is due to lack of availability of lithium in India. India's almost all lithium supply comes from abroad and cost around $3 Billion to $4 Billion every year.

Moreover, the recent report of Niti aayog has highlighted the phenomenon of 'Resistance to Reform' in automobile industry in a post COVID era. The threat of global recession and high inflation (>12%) have put the investment in inertia. Further the incidents like OLA scooters fire catching, Battery Blasts etc have hampered the attitudinal changes in the citizenry.

In addition to this, the e-waste generated from electric vehicles because of usage of many chips, lithium battery etc have

questioned the environmental sustainability. The global e-waste monitoring report has highlighted that India is third largest producer of e-waste and only 25% of e-waste get recycled.

Moreover, there is problem in e-vehicles that it cannot be used on large trucks, big Airoplanes, Submarines etc. This has also hampered the growth of e-vehicles programme.

THE JOURNEY OF THOUSAND MILES BEGAN WITH SINGLE STEPS : MEASURES Needed

Recently, ISRO came forward with proposal of technology transfer to domestic industries for lithium batteries development. This will ensure the self reliance in battery manufacturing.

Similarly, for charging infrastructure, Indian government adopted the

Multipronged strategy. In Budget 2022-23, government advocated Battery swapping policy to complement Battery charging infrastructure. This will reduce the issue of charging time.

Moreover, government has signed the MOU with 'lithium triangle' nations to enhance the supply of lithium to India. Beside this, DG of Mines and safety has started the exploration of lithium in brine water of Rajasthan and Dharwarian rocks of Jharkhand. These steps would ensure self reliance in lithium availability.

Further, the government has launched the schemes like FAME 2.0 and National Electric Mobility Mission plan to incentivise the industries

to adopt the e-vehicles. The incentives in the form of tax deduction, tariff reduction and performance based subsidies. The companies like TATA motors and HYUNDAI have shown great interest.

Moreover to reduce the attitudinal barriers, government is using the NUDGE theory. The campaign like LIFE (Lifestyle for Environment) and zero defect, zero effect and zero waste have greatly accepted by the citizenry. This has reflected in the rising sales of electric vehicles.

Further, the government has not letting any stone unturned and motivating institutes like IITs, IISc and other for greater R&D in electric vehicles. Recently, IIT-Delhi has introduced a programme on electric vehicles. Moreover,

to curb the menance of the e-waste, government has brought e-waste management Rules, 2021 with an aim to collect 70% of e-waste by 2026-27.

THE DESTINY AHEAD

The need is to understand that 'Change is the only constant' and automobile Industries have to change with principle of environmental sustainability. The need is gradual transformation with less transitional turbulences. This can be ensure through CROSS SUBSIDY as suggested by many experts. The high tariff on conventional vehicles and subsidy to e-vehicles could help the industry with liquidity crunch problem.

Similarly, a JAN ANDOLAN in line of Swadch Bharat Abhiyan is needed for revolutionary transformation. The need to realise the Indian citizenry about Indian ETHOS - 'Maa maati Prithiviyam Putroham' (Earth is my mother and I am her son). This will help the citizens to accept that e-vehicles are vital of Earth sustainability for a brighter and cleaner future of India.

As said by Benjamin Franklin - 'Nothing is powerful than an Idea whose time has come'. Today this idea is - 'Electric vehicle for Ecological integrity'

7. Can India manufacture for the world?

Recently, Government of India decided to amend the Special Economic zone Act, 2005 with Development of Economic and Service Hubs (DESH) Bill, 2022 to help India to emerge out as the global manufacturing hub for the world. Prime Minister while appealing to the investors has said that India has 4D- (Democracy, Dividend, Demand and De-regulation)) and is willing to developed as manufacturing giant for the world.

However, if we look at the Economic Survey 2021-22 has highlighted multiple issues like Premature de-industrialisation, Middle income trap and Rising inflation are hampering the growth prospects for India. It is not an easy for India to manufactur for the world.

So, in this background we will discuss in this essay - Can India manufacture for the world? We will start with brief idea of Indian manufacturing sector, and then analyse the prospects and hurdles. Finally some suggestion will be given to help the nation to emerge out as manufacturing giant.

Brief idea: Manufacturing Statistics

In India, manufacturing contribute around 16% in GDP and provide employment to around 14% - 15% of population. However the target of India is to make manufacturing to contribute 25% in GDP, highlighted in the National manufacturing Policy, 2019.

Manufacturing sector comprises

industrial clusters like automobiles, textiles, Food parks and other consumer durables across the peninsula. MSME sector plays a role of backbone contribute around 40% in manufacturing output and provide employment to around 11 crore people.

During COVID-19 period of lockdown the manufacturing sector got shrunk. However, according to latest IIP (Indian Industrial Production) index, it is again expanding with quaterly growth around 2-3%.

Prospects: Demography, Demand, Deregulation, Democracy

Let discuss the prospects for India to manufacture for the world. India has demographic dividend, the median age of the population is 27 year (SECC-2011). India will have surplus working population

for around next 35 years according to World Bank data. This demography could be utilised to attract labour intensive industries in India like textiles, Leather and Food processing industries.

Moreover, with population of more than 1.2 Billion and proliferating middle class, India is emerging as strong consumption based market. The Bloomberg in its latest report highlighted that India with $3 trillion GDP is the fifth largest economy of the world. The strong market and rising GDP can be catalysed for India to became manufacturing hub.

Similarly, government policies are also accelerating the manufacturing sector growth. In Ease of Doing business report of world bank, India jumped from 130 (2015-16) to 63rd Rank (2020). World bank

in its report appreciated the government measures. This has appealed the global investors and India has witnessed the strong FDI in manufacturing sector. For instance, the defence sector Export increased by 300% from around 1400 crore (2015-16) to around 8000 crore (2021).

Likewise the government emphasize on self-reliance through Atma Nirbhar Bharat initiative is helping the domestic Industries. The campaign like Vocal for local has boosted the prospects of MSME sector. The CAGR (compound Annual growth rate) of MSME was 15% in FY 2022.

Moreover, India also emerging out as a start up and unicorn hub of the world. According to minister of commerce India add one unicorn in every seven days in FY 2023. India added more

than 47 unicorns in FY22, one of the highest in the world. many of these are in manufacturing sectors.

Further the government policies also emphasizing the Gandhian idea - Production by masses rather mass production is the need of the hour. Government is trying to integrate self-help groups (SHG), co-operatives and Farmer Produce organisation to realise the dream of manufacturing hub.

For instance, under PM - formalisation of micro industries, many of the informal sector driven SHGs, co-operatives and MSMEs get formalised. Moreover, government is planning to develop industrial parks, manufacturing clusters and MEGA parks to give impetus to manufacturing.

The Mitra scheme for textile sector for MEGA textile parks ~~are~~ is a classic example.

Moreover, in the Post-fordism era, where developed nations are facing problem of de-industrialisation and dislocalisation, India has emerged out as a alternative destination. For instance, Apple, Samsung and HYUNDAI have decided to make India a core hub for their manufacturing products.

Hurdles: clearances, corruption, cost-inefficiencies compliance

Despite strong prospects, India is facing multiple hurdles. The vast unskilled and semi-skilled labour is hampering the growth prospects. The

Indian Skill report 2022 has highlighted that more than 46% graduates are unemployable due to poor skill.

Further, the red-tapism and regulator cholestral as mentioned by Economic Survey 2017-18 have obstacled the flying evings of Indian Economy. For instance in EoDB report sub component like Enforcing contract and starting business, India ranked at 163 and 136 respectively, which is very low.

Moreover, Indian Economy facing problem like middle-income trap where its manufacturing cannot compete with developed nations due to poor technological advancement, and also less competitive to underdeveloped nations

since they are getting duty free access to major - economies.

According to Raghuram Rajan, post LPG era, India has faced Jobless growth and premature de-industrialisation where Service sector boomed while manufacturing sector remain stagnant. This distorted growth has reduced the potential of manufacturing sector. The major FDI and entrepreneurship have cornered by the service sector.

Moreover, frequent problem of Labour unrest and Socialistic policies for vote bank politics have curtailed growth of manufacturing sector. The great Bombay textile Strike of 1992 has shaken the textile foundation in bombay. Today we are witnessing the similar protest

in Gujarat, West bengal and odisha.

Further, the environmental activism based on greenery life style and Carbon Neutrality have increased the compliance costs for many manufacturing hubs. For instance, Kanpur leather-tannery units nearly 70% close down after government strictly implemented the environmental norms.

Destiny Ahead: Innovation, Integration, Indigenisation

Now, let discuss some measures to help India to became a destiny for global manufacturing. The need is to streamline the factor of production Land, labour, Capital and Entrepreneurship.

For land, the need to

strengthen the Land acquisition policies.

The government initiative like Land pooling strategy and Digitalisation of Land Records are good start.

For labour regulation, the need to implement the four labour codes to streamline the Labour market. Government should start a policy like platform India on the line of Startup India for gig economy as suggested by the Niti-Aayog. This will integrate the Gig economy with manufacturing sector.

Similarly, for capital, the need to promote 100% FDI in almost all manufacturing sector as done by China. Resolve the

twin balance sheet syndrome with proper implementation of Insolvency and Bankruptcy code. Further provide cheap loans to MSME and SHG sector. The initiative like Mudra Yojna, Emergency credit guarantee scheme and champion portal are good start.

similarly for factor of entrepreneurship the need to promote the idea of innovation, integration and indigenisation as suggested by PM modi. The government need to enhance the R&D budgetary support which is struggling around 0.65% of GDP. Proper incubation and accelerator facilities with mentoring is the need of hour for manufacturing sector.

Similarly, government should strengthen infrastructure and logistics facilities. Indian logistics cost (14% of GDP) is far higher than developed nation (8-10% of GDP). The proper execution of PM Gati shakti plan, National Infrastructure Pipeline and National Monetisation Plan could be a game changer.

Further, as suggested by Niti Aayog, SMART manufacturing is the defining aspect of 21st century. The need to integrate artificial intelligence, Robotics arms and Internet of things to streamline the supply chain management of manufacturing sector.

Now, lets conclude with Amartya Sen said for India in his book 'An uncertain glory' that 'Indian can be never a giant manufacturing house with unskilled and unhealthy labour ~~force house~~'. The need is ~~that~~ to strengthen its human resource so that demography can be cultivati into demographic dividend, which can be then catalyst for economic growth.

(21) Premature deindustrialisation

(22) Labour unrest → Bombay textile labour strike

(24) Capital intensive → capital issue → ILFS crisis → NPA + TBS

(23) Env. activism → compliance cost ↑

(25) Leather Industries (Kanpur)

Way Ahead: 4I: Innovation, Integration, Indigenisation

(28) Post covid recovery → V-shaped
→ govt. initiatives → MSEM / Agriculture ECLGS
Infra Fund

(26) Labour codes —

(27) Land acquisition → Land Pooling + digitalisation

(28) SEZ / DESH → SDB

(29) NIP + NMP : Infra → Logistic b

(30) Sector specific → PLI
→ Mitra scheme
→ mega food parks

(31) Technological upgradation → ATUFS

(32) IR 4.0 → Smart manufacturing
SD AI

U.C Amartya Sen – Un uncertain glory

(I) SEZ → DESH Bill + 4D

(IS)

(MB)

About
1. 16% of GDP — 28%.
2. E →(About) 15-16%.
3. Covid — shrink, recent IIP → +ve
4. Automobile + Textile + Electronics + FPI
5. NMP, 2019 —

Prospects : AD

6. Demographic dividend + workage
7. Ease of Doing business + T81 FDI
8. market + $3 trillion (8th largest)
9. Rising middle class → MII | EODB
10. Govt. favourable policies → DI | ANB
11. Start up ↑ + unicorn
12. MSME → Booming
13. (14) Agriculture → + FPO → FPI; women → SHG
(15) Post fordism + deindustrialisation

Challenges : 3C — cost inefficiencies, clearances, corruption

16. Unskilled labour + I.S. Report → 46%.
17. Amartya Sen —
18. Clearances + Land acquisition → Bullet train issue (eg) Niyamgiri Hills
19. EODB → enforcing contract, Starting Business
20. Middle income trap + R&D → low

Journey of thousand miles always begin with single steps: MEASURES needed

(20) Battery ⇒ ISRO + Private players + PLI scheme

(21) charging infra ⇒ multipronged strategy
Battery Swapping policy

(22) cost reduction → Taxation ↓ + Subsidies (FAME 2.0)

(23) Lithium Avail. → Domestic → RJ, UJ, JH
↳ International → MOU : Lithium Δ

(24) Incentives to automobile companies ⇒ NEMMP

(25) Attitudinal barriers ⇒ nudge theory
~~circular economy~~
LIFE style for Env. movement
~~Sanskrit sloka~~

(26) Waste ⇒ e-waste management rules
↳ circular economy (ZD, ZE, ZW)

(27) R&D → Mission mode → IIT, IISc
↳ national Automotive testing Policy

W.F

(28) Gradually → implement → NU shock
↳ National Automotive Assessed
↳ Proper R&D
Ola Schooter ⇒ Burning issue
↳ Proper study

(29) cross subsidy

(30) A Movement on SBM line

(31) Integrate e-vehicle with environmental movement for attitudinal changes. → Sanskrit sloka

→ ~~NEMMP~~ ~~2020~~ 30% ev targets → Penultimate conclusion

Benjamin franklin ⇒ Idea → PV

Don't write anything this margin (इस भाग में कुछ ना लिखें)

NEMMP - by 2030

Greener and Brighter future

1. Energy → 85%.
2. Price surge → OPEC+
3. Macro economic instability WPI ⇒ Double digit
4. Forex ↓ → drastically
5. Post covid environment → Panchamrit pledge → 1B
   - 500 GW non-fossil fuels
6. Air pollution → IQAir report
   - Lancet medical report
7. NEO-malthusian perspective → + IPCC 6th report
8. Economical → Tropical county ⇒ Solar energy surplus
   - wind energy
9. Principle of Equity → Poor people
   - Eg. e-Rickshaw
10. Geopolitical Angle ⇒ Energy security + West Asia hegemony
    - Ore
11. Auto mobile Hub
    - Tesla (USA)
    - 13% of GDP

Other side of the coin : challenges

12. Battery → Mfg + Advanced battery → China : 90%.
13. Charging infra ⇒ Goldman Sach report
14. cost comparative to conventional vehicle
15. Lithium availability ⇒ Niti Aayog
16. Resistance to Reform ⇒ Reasons
17. Attitudinal barrier ⇒ Nudge Theory
18. e-waste ↑ ⇒ Global waste monitoring report
19. Not covered all
    - flights
    - Big Stuff
    - submarine