



## MAINS MOCK TEST, 2022

### GS III PAPER

Date: 20<sup>th</sup> August 2022

Time: 9 AM to 12 PM

Total Marks: 250 marks

Time duration: 3 hours

#### GS III Paper Instructions.

- There are 20 questions printed in ENGLISH.
- All questions are compulsory.
- The number of marks carried by a question/part is printed against it.
- The medium of the answers will be English.
- Answers to questions no. 1 to 10 should be in 150 words, whereas answers to questions no. 11 to 20 should be in 250 words.
- Keep the word limit indicated in the questions in mind.
- Any page or portion of the page left blank, must be struck off clearly.
- You are **directed to scan/ take photos of your answer booklet and send the same to [aptiplus.mains2022.openmock@gmail.com](mailto:aptiplus.mains2022.openmock@gmail.com) ONLY IN PDF FORMAT.**
- **Name the pdf format in the format (aspirant's full name)\_(paper).pdf.** For example, if your full name is Aman Kumar and the paper is on GS III then the file's name will be amankumar\_GSIII.pdf.
- The **deadline** for submitting the answer sheets is **20th August 12:30 PM**



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1. What are AI chips and how are they different from traditional chips? (10 Marks, 150 words)

AI chips are the new generation technology ~~to~~ hardware, based on specific architecture to support deep learning through Active Neural Network.

do not jump straight into differences. Explain about AI chips.

explain what is deep learning briefly

Give equal weightage to both parts of the ques

Differences with traditional chips:

① Traditional chips are pre-programmed ones to carry particular tasks. Thus least flexible.

AI chips learn with time through newer tasks.

AI chips can handle specific programming tasks much faster

② AI chips have much faster computation capabilities compared to traditional ones<sup>2</sup>.



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③ AI chips have parallel processing technology rather than carrying sole ~~task~~ task, one at a time, as in traditional chips.

④ AI chips have higher bandwidth - with memory than traditional ones.

AI chips have an additional Neural Processing Unit (NPU) that is capable of delivering much faster and fulfilling the demands of machine learning. Normal processors are not well suited or equipped enough to fulfil the demands of machine learning.

Thus, AI chips are more efficient in terms of working ability and energy usage than traditional ones, with the use of much compact space.



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2. Widening Current Account Deficit (CAD) indicated that the value of imports is exceeding the value of exports. Justify (10 Marks, 150 words)

The recent trends of CAD for India has been  $\sim > 3.1$ . This creates a negative impact for the currency and debt situation.

Import value exceeding exports.

- ① India is already dependent on crude oil import and the global crisis created by Russia-Ukraine war further alienates the situation.
- ② India's export got affected by global slowdown and inflation of impacting demands.

Increased domestic demand/consumer spending due to domestic economic growth  
Uncompetitive exports due to unfavourable policies

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③ The global inflationary trend has created higher import bill for India — depreciating its currency.

④ The tightening of monetary policy combined with high inflation across developed countries has ~~is~~ slowed down exports.

Thus, the global trade tension, especially impacted by geopolitical crisis — US — china trade war, china's supply chain weaponisation etc. has impacted increased CAD for India.

write briefly how to address CAD

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3. The launch of e-RUPI could potentially highlight the gaps in digital payments infrastructure that will be necessary for the success of the future digital currency. Examine. (10 Marks, 150 words)

e-RUPI is a cashless & contactless method for digital payment using QR code or SMS based e-voucher, for a particular user.

Highlights in the gaps in digital payments infra:

- ① The e-RUPI system does not require any card, digital payments app or internet banking access for the user. Thus, it bypasses all the prerequisites of the existing digital payments infra.

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② No physical interface is required for the use of voucher.

Thus, it may increase user base in deeper rural areas.

③ Future central Bank Digital Currency (CBDC) will need the learnings of e-RUPI. Since, many individuals are already using virtual currencies

like Bitcoin, Ethereum etc, which were unregulated.

④ The e-RUPI ensures a leak-proof delivery of welfare services.

⑤ The currency to GDP ratio is already high in India. The e-RUPI & future CBDC will prove beneficial.



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4. The frequency of purchase, rather than the share of expenditure, shapes inflation. Analyse the statement with the recent food inflation surge in India. (10 Marks, 150 words)

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5. Discuss the recent reforms that have been undertaken in the National Security Architecture of India. (10 Marks, 150 words)

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The National Security Architecture of India is an all-encompassing & overarching framework to employ various instruments of national power - military, economic, diplomatic etc.

explain the need for reforms briefly in introduction

### Recent reforms:

- ① The creation of the post of the chief of Defence Staff of the Indian armed forces, thus integrating the three services.
- ② More focus on indianisation of the defence sector, through the involvement of private sector in manufacturing.



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③ Collaboration with regional groupings like SCO - RATS, Quad Plus, Naval & Military exercises.

Three deputy National Security Advisors have been appointed instead of just one

④ Strategic Defence exports and Self-reliance, indigenisation of missile technology.

⑤ In the internal security aspect, more focus is put on bringing back LWE, Terrorism affected areas in Red Corridors, Border areas into the mainstream through programs like Vibrant Villages Programme, Mission Youth. In J&K etc.

explain the strategy groups, committees agencies established as part of this

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6. Describe the issues associated with online gaming and also provide a way forward. (10 Marks, 150 words)

With the increased users of internet and cyberspace, the online gamers have increased multiple fold in India.

recent studies suggest that 6 to 15 per cent of all gamers exhibit signs that could be characterized as addiction.

Issues associated:

- ① No comprehensive legislation  
Lack of regulation in online gaming.
- ② Societal concern - online gaming creates mental problems, suicides, stress etc.  
blue whale challenge
- ③ It is a state subject and thus, no uniformity is there.

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④ Routing of illegal black money in such games cause tax evasions.

Addiction to shooting games like PUBG may influence children to commit violence

⑤ Addiction, gambling impacts fruitful working hours.

Way forward:

① Regulation, monitoring, taxation.  
② Consult and nudge stakeholders to adopt global good practices.

Establish a single regulatory body for the entire online gaming industry

③ Psychological support, counselling & medical consultations for children suffering depression.

A cap can be introduced on the number of transactions from an individual across platforms or one platform to avoid greater economic losses.



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7. In light of the recent power shortage in India, how to shock-proof India's power sector?  
(10 Marks, 150 words)

India is facing one of the worst power crisis in its history, impacting the industries & thus the Indian economy.

briefly explain the causes for power shortage

ways to shock-proof:

- ① Reform in the Coal sector and increase the supply through more Pvt. investment.
- ② Diversify from the Coal sector to other resources for generat<sup>n</sup>.
- ③ Solve the financial problems of the DISCOMs to make them debt free ensuring Purchase obligations.



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④ The integration of the renewable energy resources with the traditional ones.

⑤ Harness the hydro power sector in the north-east and Himalayas.

⑥ Decentralise Power generation at local resource bases.

⑦ Focus move on clean nuclear energy generation.

Introducing time-of-day pricing and promoting efficient consumption behaviour

⑤ lessons from such countries need to learn in other countries power crisis and plan accordingly.



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8. Discuss the types of wetlands and also the threats to wetlands. (10 Marks, 150 words)

Wetlands are the ecosystems which bridge terrestrial & aquatic zones covering shallow water, rich in biodiversity.

### Types:

① Inland Wetlands: Marshes, Ponds, Lakes, Swamps etc.

② Coastal Wetlands: Saline marshes, Mangrove forests, Seagrass beds etc.   
shorelines, beaches, mangroves, and coral reefs  
ox-bow lakes, River Floodplains

### Threats:

① Urbanisation - blocking & filling of wetlands with debris.



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② Agriculture: Wetlands transformed  
to Paddy fields.

③ Pollution: Eutrophication,  
industrial waste dump etc.,  
heavy metal contaminat<sup>n</sup>

④ climate change: global  
warming & drying up; Acidificat<sup>n</sup>

⑤ Dredging & Draining - dries  
up wetlands aquatic weeds multiply very quickly and cover the water bodies

⑥ Invasive species destroys  
the entire ecosystem.

⑦ Salinisation and acidification  
due to increased BOD.

write conclusion suggesting measures to tackle the problem



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9. Stop and Start approach to fuel price is neither beneficial for consumers nor investors.  
Comment. (10 Marks, 150 words)

explain what is start and stop approach and when is it being used

Despite India officially having a deregulated pricing regime, in practice the stop & start approach to price changes have been adopted.

Problems:

- ① It makes India vulnerable to global crude price pressures for the investors.
- ② The global investors in the Indian oil & gas sector becomes less interested.
- ③ It is not good for economic recovery in India as the industrial sector may<sup>18</sup>

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be under financial constrain; Post - Pandemic.

④ The future situation may be adverse for both consumers and investors as there is no guaranteed stability.

explain in detail how it is not good for consumers and investors separately

Way forward:

① Reduction in excise duty

② Move away from the heavy dependence on the oil sector & diversify.

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10. What determines the value of the rupee? What factors cause the rupee to lose value against the dollar? (10 Marks, 150 words)

(3)

The value of the rupee is determined by the demand and supply of currency with regards to other currency, used in the trade & transactions globally.

first part of question not answered?

Factors causing the rupee to lose value against the dollar:

- ① Appreciation of dollar against the rupee based on the US Federal Bank Rate. raising its benchmark interest rate
- ② The demand of Indian export compared to imports. how is the demand?



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③ The foreign portfolio investment outflow from India.

④ The rising crude oil import by India, combined with global crisis, price rise.

⑤ The other oil importers have higher demand for dollar, combined with tightening of global financial conditions, Russia - Ukraine conflict.

consistently higher domestic price inflation in India.

② The rupee depreciation may enhance the export competitiveness.

quote  
some figures of  
inflation in conclusion if u remember



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11. Discuss the key components of the Disaster Management Plan of the Ministry of Panchayati Raj. What is the significance of the involvement of Panchayati Raj Institutions in Disaster Management? (15 Marks, 250 words)

The role of the ministry of Panchayati Raj in disaster management is immense due to local and community based planning.

prepared in compliance with Section 37 of the Disaster Management Act and guidelines issued by the National Disaster Management Authority

Key Components:

- ① Every Indian Village would have a Village Disaster Management Plan.
- ② Every Panchayat would have their Disaster Management Plan.
- ③ Aim is to build disaster resilience at the grassroot level.

similar points



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- ④ Align the disaster management measures in rural areas to that of the national level.
- ⑤ It covers the institutional arrangement, ensuring Participatory planning.  
 Hazard Risk, Vulnerability and Capacity Analysis  
 Socially Inclusive Disaster Risk Reduction in Rural Area
- ⑥ Integrated with Gram Panchayat Development Plan (GPDP), Block Development Plan (BDP) and District Development Plan (DDP) for the respective Panchayat.

#### Significance:

- ① unique geo-climatic and Socio-economic conditions addressed.
- ② Comprehensive management through community participation and grassroots involvement.



③ Participatory Planning would help in better implementation and awareness.

④ local empowerment through education and employment of youth in such rescue forces.

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Utilization of traditional knowledge  
Rural population in India was reported at 65.07 % of the total population in 2020.





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12. While most insurgent groups in North-East India have given up violence and are engaged in peace talks with the government, several issues could create hurdles in the future. Discuss. (15 Marks, 250 words)

North - East insurgency is a serious ~~issue~~ threat to the national security of India. Therefore, it is important to connect them to the mainland through peaceful talks. first write few about the agreements made regarding ceasefire and peace

Peace talks and hurdles:

- ① Dialogue with the MNF remains the only example of a success in Mizoram.
- ② Shillong Accord, 1975 with Nagaland, Bodo Land Auto-nomous Council, Assam are with limited success.



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- ③ The Govt. of India is currently trying to bring into force a ceasefire agreement with other militant groups too through persuasion & talks like - NSCN (IM).

Hurdles:

- ① Border issues with neighbours - China, Myanmar, promoting insurgency.
- ② Pakistan's support through ISI to cross border terrorism.
- ③ Chinese assistance to groups like NSCN in 1980s.



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④ Outfits like ULFA, NDFB using militant camps of Myanmar.

⑤ Issues of AFSPA, <sup>power</sup> misuse on civilians have resulted in support to militants.

peace talks with the Assam-based insurgent group such as the ULFA (PT) were supposed to have concluded by December 2019 but are stuck over sovereignty issues.

Implementation of the Citizenship Amendment Act, 2019 (CAA) in Assam's non-scheduled areas has generated resentment against the Union government



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13. Digital rights aim to protect people's rights, support democracy and ensure a fair and safe online environment. Critically analyze. (15 Marks, 250 words)

Digital rights aim to can be defined as a set of rules and restrictions on the digital companies to protect people's legal and fundamental rights through proper monitoring & restricted data flow.

Arguments in favour:

- ① Respecting individuals rights, honour, using appropriate language.
- ② Equal distribution of internet access regardless of economic background.



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- ③ Prevent tracking and steal privacy by online companies.
  - ④ Solve the problem of threat by misuse of AI system like profiling.
  - ⑤ Citizens get control over the storage of data and their ability to delete them.
  - ⑥ Right to be forgotten? and protection of minors.
- challenges:
- ① It may limit children's digital rights.



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② Dilemma between restrictions and utilisation live the social media's popularity & importance.

Lack of focus on Child rights  
Violation of human rights  
Vulnerable to misuse

③ Free flow of information is key to the internet's revolutionary effect.

write more challenges and way forward

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14. Discuss the benefits of Genome editing for healthcare. Enumerate concerns associated with the use of Genome editing. (15 Marks, 250 words)

Genome editing is a type of genetic engineering in which DNA is inserted, deleted, modified to achieve a desired change in response.  
to change an organism's genome structure.

### Benefits:

- ① Modify disease causing genes, eliminate chances of serious genetic diseases.
- ② Create healthier foods and crops. Eg: disease resistant vegetables, rice etc.
- ③ Can provide solution to life threatening diseases like <sup>31</sup>Cancer



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and AIDS, slow down the spread of diseases by eliminating its means of transmission

④ changes to the germ-line are inherited to the next generations.

⑤ cure monogenetic hereditary diseases like Huntington's disease, muscular dystrophy.

Issues:

① Designer baby - biased towards rich people, thus ethical concern.

② Safety to environment - in certain genetically modified organisms.





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③ May eliminate 'dangerous' species that may cause ecological imbalance.

④ Unintentional editing, mutations may cause health problems.

⑤ uncontrolled clinical trials, without any regulating

⑧

body.

Germline Editing causes irreversible genetic changes  
It will encourage the notions of human beings as biologically perfectible artefacts



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15. What are the advantages of Lithium-ion batteries? List down some of the challenges to the development of Lithium-ion battery manufacturing in India. (15 Marks, 250 words)

Lithium-ion batteries are the new technology in the charging facility that is much more efficient and ~~safe~~ have longer life.

rechargeable, lightweight batteries

### Advantages:

- ① higher energy density - can last longer between charges.
- ② low self-discharge - prevents leakage of harmful chemicals.
- ③ low maintenance - No memory effect.

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④ Much smaller & lighter  
 - easily portable.

⑤ Safer for environment,  
 can be recycled.

challenges in manufacturing in  
 India:

① Lack of input material in  
 India i.e. Lithium - needs  
 outsourcing.

② Lack of pvt. sector interest  
 in initial high capital  
 investment.

③ Issues with environmental  
sustainability in mfg.

how, in advantages you have said safe for environment



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(4) Lack of indigenous production technology in India.

(5) India's diplomatic relation with lithium triangle

(6) of South America not so strong.

nascent industry in India. Currently, Li-ion batteries are imported mostly from China, South Korea and Taiwan

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16. What is Biodiversity? Discuss the concerns with Biological Diversity (Amendment) Bill, 2021 and give your suggestions. (15 Marks, 250 words)

Biodiversity refers to the genetic and species variety of life in a particular ecosystem.

Concern with the Biological Diversity Amendment Bill, 2021.

- ① The Bill prioritised the IP and trade protection at the cost of conservation.
- ② Risk of Bio-piracy as the Bill exempts Ayush practitioners.
- ③ Local communities sidelined & also the Biodiversity Mgmt. Comm.

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④ Allow large companies to evade the requirement of prior approval.

#### Suggestions:

- ① Need details consultations with the stakeholders.
- ② Probit - sharing provisions must be ensured.
- ③ Cultivated medicinal plants must also be brought under the ~~at~~ Bill.
- ④ Bio piracy concerns must be adequately taken care of.

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The integration between Nagoya Protocol and the International Treaty on Plant Genetic Resources for Food and Agriculture (ITPGRFA) needs to consider the legislative, administrative and policy measures that cross each other's paths.



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17. Concerning National Policy on Biofuels, discuss the ethanol-blending in India and what is the environmental cost of ethanol blending? (15 Marks, 250 words)

The National Policy on Biofuels allow for 20% blending of ethanol in petrol and 5% bio-diesel in diesel by 2025.

Ethanol blending in India

① Ethanol blended petrol (EBP) program seeks to reduce pollution, conserve foren, increase value addition to the sugar industry.

② PM - JIVAN Yojana creates an ecosystem for commercial 2G Ethanol production.





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③ **LOBAR Dhan** scheme focuses on converting cattle dung & solid waste in farms to biogas, bio-CNG.

focus on ethanol blending in india

how india gradually started blending ethanol ?

④ **RUCO** initiative of FSSAI helps in used cooking oil conversion to biodiesel.

Environmental Cost:

① The primary source of molasses - Sugar mills, distilleries may cause huge pollution.

② Sugar cane guzzling is a water-crop.

no reduction in nitrous oxides due to usage of ethanol blended petrol, one of the major environmental pollutants



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③ Huge groundwater extraction and water scarcity concern.

④ Effluents from the mills may cause water pollution

⑤ and the BOD may shoot up.

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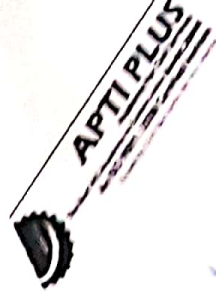
18. Analyze the storage infrastructure in the farm sector. Also, discuss the measures taken by the government to address the existing impediments. (15 Marks, 250 words)

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3

19. Identifying the key vulnerabilities in India's cyberspace, and discussing the framework which should be adopted in the envisaged new cyber security policy in India. (15 Marks, 250 words)

India's cyberspace is gradually coming under threats from international agents as envisaged in the recent attack on the Indian oil refinery and Kudankulam Nuclear Plant.

what is cyberspace?

#### Key vulnerabilities:

- ① No common rules & norms to govern the internet.
- ② AI & new gen tech capable of producing lethal weapons in cyber space.



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- ③ Vulnerabilities to illegal activities - selling drugs, false currency etc.
  - ④ Global threat of cyber warfare using 'Data' as the new oil.
  - ⑤ Inter connectivity & inter-dependence in cyber space causing data breaches.
  - ⑥ Rising fake news concern.  
pirated and unlicensed software which exposes them to cyber risks.
  - ⑦ Lack of awareness & shortage of 3 million cyber security professionals in India.
  - ⑦ digital literacy.
- Way forward:
- ① Quantum tech may replace the old world internet models.



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- ② Partnership with other like-minded countries for cyber security.
- ③ Inclusion of more stakeholders, states and engineers through hackathon competitions to brainstorm new ideas.
- ④ Blend ethical values with cyber security.
- ⑤ Cyber awareness campaigns and filling infra gaps.

There should be a Data Protection Act and an independent Data Protection Authority  
An SOS lockdown policy should also be in place to take critical infrastructure off the internet immediately, in case of an attack.





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20. What do you understand about the knowledge-based economy? What are the powers and components of a knowledge-based economy? Can India be considered a knowledge-based economy? (15 Marks, 250 words)

Knowledge-based economy refers to the goods & services based on technology and scientific innovations that contribute to major part of the GDP.

the output of the economy is predominately based on knowledge as compared to manufacturing and agriculture.

### Powers & Components:

- ① More dependence on human capital + intellectual property for innovative ideas.
- ② Highly skilled workforce, institutions ✓ industries create demanding specialised jobs & specialised skills.



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- ③ Knowledge is the labour and capital input, to create economic value.
- ④ It has power to create knowledge diplomacy in international relations.
- ⑤ May transform the entire economy by being a global leader in services & info. sector.

Emphasis on quality education

It believes in creating employment rather than people looking for jobs.

### India's scenario:

- ① India aims to be a knowledge economy and progress towards it.



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② Certain Services sector & Tech startup growth shows India's promising progress.

③ The intangible assets created in the space, Pharma, IT, e-learning sectors in India shows its progress.

quote examples as to how india is striving to become KBE

5 But, still, lots more needs to be done in transforming India to a knowledge economy.

Final Comments:

1. Define keywords in introduction
2. End the answer with a conclusion which suggests way forward according to the question asked
3. your understanding of the question is good, and the content written is fine
4. Diversify the content and include more points in your answer