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GENERAL STUDIES (TEST CODE : 1515)

Name of Candidate	Rishabh Singh		
Medium Eng./Hindi	Eng.	Registration Number	
Center	online	Date	

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Q. No.	Maximum Marks	Marks Obtained
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18	15	
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20	15	

Total Marks Obtained:

Remarks:

INSTRUCTIONS

- 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)।
- There are **TWENTY** questions printed in **ENGLISH & HINDI** इसमें बीस प्रश्न हैं अंग्रेजी और हिन्दी में छपे हैं।
- All questions are compulsory.**
सभी प्रश्न अनिवार्य हैं।
- The number of marks carried by a question/part is indicated against it.
प्रत्येक प्रश्न/भाग के अंक उसके सामने दिए गए हैं।
- Answers must be written in the medium authorized in the Admission Certificate, which must be stated clearly on the cover of this Question-Cum-Answer (QCA) Booklet in the space provided. No marks will be given for answers written in medium other than the authorized one.
प्रश्नों के उत्तर उसी माध्यम में लिखे जाने चाहिए जिसका उल्लेख आपके प्रवेश पत्र में किया गया है और उस माध्यम का स्पष्ट उल्लेख प्रश्न-सह-उत्तर (क्यूसीए) पुस्तिका के मुख्य पृष्ठ पर अंकित निर्दिष्ट स्थान पर किया जाना चाहिए। उल्लिखित माध्यम के अतिरिक्त अन्य किसी माध्यम में लिए गए उत्तर पर कोई अंक नहीं मिलेंगे।
- Word limit in questions, if specified, should be adhered to.
प्रश्नों में शब्द सीमा, जहाँ विनिर्दिष्ट है, का अनुसरण किया जाना चाहिए।
- 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.

1. Explain the meaning of off-budget borrowings and its role in helping the government raise funds for various expenditures. Also, comment on its desirability. (150 words) 10

बजटेतर उधारी (ऑफ-बजट बॉरोइंग्स) का अर्थ स्पष्ट कीजिए और विभिन्न व्ययों के लिए धन जुटाने में सरकार की सहायता करने में इसकी भूमिका का उल्लेख कीजिए। साथ ही, इसकी वांछनीयता पर टिप्पणी कीजिए।

Off budget borrowing refers to a practice whereby the central government does not directly take loans. Rather it encourages a public institution to raise the loans.

Role in raising funds

- ① Due to pandemic, collection of direct & indirect taxes have been low, and govt. borrowings have been high, in this context off budget borrowing helps in boosting expenditure by public sector when the further borrowing (directly) can deteriorate the funds of the centre.

- ② It can help the govt. focus on core issue of fighting the pandemic.

Desirability - Yes

- ① When the borrowings by govt is already huge because of emergency, it provides relief to the govt. through indirect financing.

Desirability - No

- ① The fiscal deficit is not mentioned in the Budget
- ② Aims to bypass FRBM Act
- ③ Can make the monetary policy ineffective.
- ④ Lack of parliamentary scrutiny.
- ⑤ Can cause inflation.

Fiscal space in time of pandemic is being created through Asset monetisation plan.

2. It is argued that genetically modified food crops are required to ensure food security of India. Examine in view of concerns regarding introduction of GM crops. (150 words) 10

यह तर्क दिया जाता है कि भारत की खाद्य सुरक्षा सुनिश्चित करने के लिए आनुवंशिक रूप से संशोधित खाद्य फसलों की आवश्यकता है। जी.एम. फसलों की शुरूआत से संबंधित चिंताओं के आलोक में परीक्षण कीजिए।

Genetically modified crops are those whose genetic structure is changed through use of biotechnology such that a desired quality in the plant/crop is obtained for eg being pest resistant or drought resistant.

Current status of GM crops

- ① only use of BT cotton is allowed.
- ② BT-brinjal & BT mustard is not allowed for cultivation.
- ③ monitoring by Genetic Engineering Appraisal Committee
- ④ standards set by FSSAI.

GM crop for food security

- ① It is believed that the population will stabilise by 2050, therefore till 2050 there will

be increased demand of food, which can be fulfilled by GM crops

- ① Due to climate change, droughts are becoming frequent, drought resistant crops will ensure safety of food even at times of drought.
- ③ Will increase yield.

Concerns Regarding use of GM crop

- ① disturbs the natural ecosystem.
- ② unhealthy to human - consumption may cause Cancer
- ③ disturbs the food chain.
- ④ may lead to contamination of ground water.
- ⑤ may raise cost of production
- ⑥ GM crops are banned in many countries hence exports by India of such crop will not be acceptable. There is need to enhance the production through scheme like Soil health Card, Kisan Credit Card, PM Pashu Palak Yojna, organic farming.

3. India's price intervention policies to support its agricultural sector not only create a broken system but also complicate matters related to international trade rules. Critically discuss. (150 words) 10

अपने कृषि क्षेत्र का समर्थन करने के लिए भारत की मूल्य हस्तक्षेप नीतियां न केवल एक अप्रभावी व्यवस्था का निर्माण करती हैं बल्कि अंतर्राष्ट्रीय व्यापार नियमों से संबंधित मामलों को भी जटिल बनाती हैं। समालोचनात्मक विवेचना कीजिए।

India's intervenes in the agricultural sector through schemes like MSP, Fair & Remunerative Price, State Advisory Price, subsidies to fertilisers, IMAASPA etc.

How it creates broken system?

- ① it benefits cultivation of crops that are not geographically suited in the area for eg rice cultivation in Haryana Punjab.
- ② it benefits only the medium & large farmers.
- ③ Yield is low because of lack of suitability of the crop in the area.
- ④ it creates wastages.

⑥ Reduces pub. incentive to invest.

Concerns related to international trade

- ① At WTO, India is forced to remove the subsidy
- ② It is against the Amber Box subsidy & Domestic level is breached.

③

However, India's argument remains that the subsidies given are not to distort the trade rather to ensure food security. It is also given so that the most vulnerable population i.e. the farmers get adequate security.

As for the argument of broken system exists, direct procurement of rice & wheat from the farmers is essential to maintain PDS shops.

Agriculture Infrastructure Fund can be utilised for developing efficient backward forward linkage.

4. India has an opportunity to become a leading global food supplier provided it has an efficient supply chain and the right marketing strategies. Elucidate. (150 words) 10

भारत के पास एक अग्रणी वैश्विक खाद्य आपूर्तिकर्ता बनने का अवसर है बशर्ते उसके पास एक कुशल आपूर्ति श्रृंखला और सही विपणन रणनीति हो। विशदीकरण कीजिए।

India is 2nd largest producer of horticulture, 2nd largest producer of fisheries, largest producer of milk, rice, banana etc. This shows that India's capability in becoming global food supplier.

Supply chain

- ① Supply chain refers to the process of that is involved from the farm gate to the market.
- ② Supply chain will reduce the post harvest losses which is 30,000 Crore at present time.
- ③ Cold chain supply will ensure longer transportation of milk, tomato and other perishable product.

- ① supply chain that is efficient will increase farmer's income who will be encouraged to cultivate the crop.

Right marketing strategy

- ① Marketing needs to be done through proper grading, sorting of product.
- ② marketing through Mega Food Product and formalisation of Micro Food Enterprise and one District one Product will help in efficient marketing.
- ③ advertisement in form of 'Brand India' needs to be done.
- ④ quality assurance needs to be done.

Exports can be promoted through APEDA, MPEDA under ministry of Commerce so that India becomes global food supplier.

5. Land banks are increasingly gaining prominence in India to encourage land-use efficiency and enable economic growth. In this context, discuss the benefits of a land bank and state the concerns associated with it.

(150 words) 10

भूमि उपयोग दक्षता को प्रोत्साहित करने और आर्थिक वृद्धि को सक्षम बनाने के लिए भूमि बैंक भारत में तेजी से प्रमुखता प्राप्त कर रही हैं। इस संदर्भ में, भूमि बैंक के लाभों तथा इससे संबंधित चिंताओं का उल्लेख कीजिए।

Land banks are a method of monetisation of asset. Land banks provide for usage of land that is owned by govt. sector to the private sector. Here transfer of rights takes place but not ownership.

Benefits of land banks

- ① unutilised land is being brought under usage.
- ② increases economic activity.
- ③ efficient utilisation of resource.
- ④ pub sector will bring innovation, efficiency in usage of land.
- ⑤ creates employment opportunity.

- ⑥ will help in Ease of doing business.
- ⑦ Pub sector has not to start from a scratch, thereby
pub sector will be interested in using such asset.

Concerns

- ① service offered by pub sector using land of
government can be of high price
 - ② It can promote bureaucratic red tapism
 - ③ It can lead to regulation issue.
 - ④ sufficient grievance redressal mechanism is
missing.
 - ⑤ land is a sensitive issue and its transfer to
pub sector may not be accepted by the public
- Kelkar committee recommendation
- an IPP system needs to be incorporated i.e.
setting up of tribunals & effective outside regulation.

6. Desertification has been described as one of the greatest environmental challenges of our time and climate change is making it worse. Discuss.

(150 words) 10

मरुस्थलीकरण को वर्तमान समय की सबसे बड़ी पर्यावरणीय चुनौतियों में से एक के रूप में वर्णित किया गया है तथा जलवायु परिवर्तन इसे और बदतर बना रहा है। चर्चा कीजिए।

Desertification is defined as a phenomenon whereby the soil loses its health & the land is rendered useless.

Desertification- greatest challenge

- ① According to UN Convention to Combat Desertification (UNCCD) 1.9 billion people are affected annually due to desertification.
- ② 35% of land of India is prone to desertification.
- ③ It creates threat to food security as land for agriculture can get desertified.
- ④ It is slowly and spreading, unlike other disaster which can be countered by efficient

relief & rescue operation, desertification has long term impact.

Climate change making it worse

- ① Climate change has led to increased frequency of droughts.
- ② soil erosion due to wind action can be attributed to climate change.
- ③ the heavy concentration of rainfall in some area due to climate change is also rendering the land useless.
- ④ it is further aggravating the problem - most affected are the small & marginal farmer.

COP at Delhi of UNCCD has led to adoption of Drought toolbox which needs to be implemented efficiently along with watershed management so as to ensure Land Degradation Neutrality.

7. In the context of intellectual property rights, discuss the advantages and disadvantages of releasing projects under an 'Open Source' license.

(150 words) 10

बौद्धिक संपदा अधिकारों के संदर्भ में, 'ओपन सोर्स' लाइसेंस के तहत परियोजनाओं को जारी करने के लाभ और हानियों पर चर्चा कीजिए।

India is Ranked at 40th/60
(Country) in the International IPR Index.

Open source license - is basically availability of
software for the access of the public

Advantages

- ① promotes innovation
- ② beneficial to government - will make governance easy & transparent
- ③ useful for startups
- ④ diverse range of software products are available.

Disadvantages

- ① Cyber security issue
- ② Many softwares are not compatible to run in open source platform programs.
- ③ Lack of user friendliness.

There is need to reducing risk to vulnerable and protecting rights of all stakeholders

8. "Indian space sector has been dominated by a single umbrella of government and government institutions." In light of the statement, discuss the significance of Indian Space Association in providing an impetus to space technology in India. (150 words) 10

"भारतीय अंतरिक्ष क्षेत्रक पर सरकार की एकमात्र संस्था का प्रभुत्व रहा है।" इस कथन के आलोक में, भारत में अंतरिक्ष प्रौद्योगिकी को प्रोत्साहन प्रदान करने में भारतीय अंतरिक्ष संघ के महत्व की विवेचना कीजिए।

Indian space sector has been largely dominated by ISRO. However, private sector are also emerging under Atmanirbhar Bharat Program - INSPACE.

Significance of Indian Space Association

- ① will help ISRO focus on core aspect of space
- ② will bring innovation & efficiency.
- ③ can make India regional player for sending / launching of satellite.
- ④ It can reduce the burden of ISRO as it will be used for sending satellite of other Country like Sri Lanka.

- ⑤ It can foster an environment of research & development
- ⑥ will improve the credibility of space programme of India
- ⑦ will foster competition which will lead to price cutting mechanism.
- ⑧ will have functional autonomy.
- ⑨ has potential for making Reusable Launch vehicle as done by SpaceX
- ⑩ Commercial flights to space as done by Blue origin is also possible
- ⑪ Can add significance in carrying out mining operation in outer space in near future

ISA brings new light to space sector of India which will be complemented by Antares and In

9. Man and machine both have an important role in national security (and making urban areas secure. In this context, discuss how technology is a major stakeholder in addressing the internal security challenges of India.

(150 words) 10

राष्ट्रीय सुरक्षा और शहरी क्षेत्रों को सुरक्षित बनाने में मानव और मशीन दोनों की महत्वपूर्ण भूमिका है। इस संदर्भ में, चर्चा कीजिए कि प्रौद्योगिकी किस प्रकार भारत की आंतरिक सुरक्षा चुनौतियों से निपटने में एक प्रमुख हितधारक है।

India faces internal security
Challenge in form of left wing Extremism, insurgency
in North East, radicalisation of youth, overground
workers etc that pose threat to national security.

Role of man & how technology is Major stakeholder

① in management of border using CBIRMS

& BOLD-BIT

② It has enabled the BSF with night goggles
and advanced machineries & weapons to counter
terrorism

③ for urban areas - IFlow have been launched
for urban floods.

- ① Efficient patrolling because of technology like
CCTV camera etc

Role of machine & how technology is major stakeholder

- ① UAVs are available to the CRPF under SAMADHAN
- ② Use of drones for monitoring of border.
- ③ Use of artificial intelligence & machine learning
to tackle
- ④ Use of technology like cyberdome to protect
against internet threats.
- ⑤ LIDAR is used at the border to prohibit
drug & man smuggling.

Hence the machine & man
can provide effective solution to internal
security problem of India.

10. National Security Guard (NSG) has emerged as a formidable force equipped to handle various manifestations of terrorism. Discuss the mandate and achievements of this force. (150 words) 10

राष्ट्रीय सुरक्षा गार्ड (NSG) एक पराक्रमी बल के रूप में उभरा है जो आतंकवाद के विभिन्न रूपों से निपटने के लिए सुसज्जित है। इस बल के अधिदेश और उपलब्धियों की विवेचना कीजिए।

NSG is a paramilitary force which is also called as 'black cats'. It was formed after 26/11 and primarily aims to counter terrorism.

Mandate of NSG

- ① to carry out anti terror operation
- ② to carry out anti hijacking operation
- ③ it complements the CRPF & CISF
- ④ It supplements the role of BSF
- ⑤ to carry out operation on land or water
- ⑥ ~~Trained~~ It is also bordered at the LoC - Line of Control & helps the

Army in carrying out operation against illegal infiltration

Achievement of this force

- ① creating deterrence against terrorist activity.
- ② high operational efficiency.
- ③ maintains secrecy & carries out the operation.
- ④ highly well skilled personnel making it one of the most important paramilitary force
- ⑤ carrying out anti terror operation in Jammu & Kashmir very effectively.

Funds devolution to the organisation & further improving the infrastructure will help in making the NSG Commandos the best in the world.

11. What do you understand by asset monetisation? Why is it needed in India? In this context, discuss the issues that need to be addressed for the National Monetisation Pipeline to succeed. (250 words) 15

परिसंपत्ति मुद्रीकरण से आप क्या समझते हैं? भारत में इसकी आवश्यकता क्यों है? इस संदर्भ में, उन मुद्दों पर चर्चा कीजिए जिन्हें राष्ट्रीय मुद्रीकरण पाइपलाइन के सफल होने के लिए समाधान करने की आवश्यकता है।

The budget has announced the asset monetisation pipeline. It is defined as transfer of rights and not the ownership from the government to the private sector on a contractual basis. Asset monetisation include

- + National Monetisation Pipeline
- + Monetisation of DFC (Dedicated Freight Corridor)
- + Monetisation of land.

Need for asset monetisation

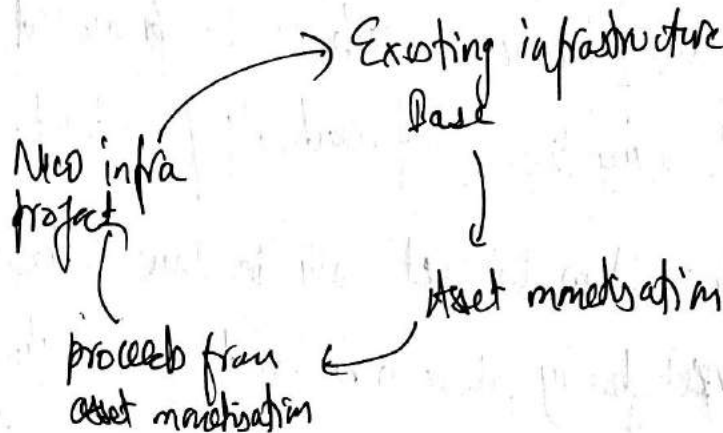
① effective utilisation of resources

Whereby many govt. projects are lying idle and do not contribute to the economy.. They can be utilised by private sector which will benefit the govt.

② Issues fiscal & price to govt

Direct & indirect tax collection has been poor because of pandemic. Asset monetisation will provide govt. sector with much needed funds.

③



④ Other reasons

- employment generation
- will create multiplier economy
- will revive the slowdown
- beneficial to other sector like Cement & steel.
- Realising goal of \$5 trillion economy
- funds will be available for national Infrastructure Pipeline (NIP)

Needs to be addressed

- ① Proper valuation of project needs to be done.
- ② Red tapism needs to be reduced so that pub-
sector can perform efficiently.
- ③ Ease of doing business needs to be promoted
like land acquisition, enforceability of contract.
- ④ Pub sector has interest only in some sectors
like 4 lane highway, there is a need for making
other sector attractive too.
- ⑤ Grievance redressal mechanism needs to be addressed.
- ⑥ Tribunal needs to be set up for fast disposal of case.
- ⑦ Cost of service should not be too high so that
it becomes unaffordable for common man.

Belkar committee recommendation
on PPP model needs to be followed for realising
the goal of 4Ps (as mentioned by PM Modi) - 4th P stands for people.

12. What is social stock exchange (SSE)? Discuss the need for setting up of SSEs and key challenges in their effective implementation. (250 words) 15

सोशल स्टॉक एक्सचेंज (SSE) क्या है? SSEs की स्थापना की आवश्यकता और उनके प्रभावी कार्यान्वयन में विद्यमान प्रमुख चुनौतियों पर चर्चा कीजिए।

Social stock exchange can be defined as a platform whereby NGOs or Non profit Entities ^{can} raise funds for a social sector like education, health etc. other country like UK has SSE.

Need for SSE

- ① Reduces regional inequality by working in the rural area
- ② Reduces govt. burden to provide benefits to the vulnerable. Here the civil society plays important role in carrying out the development.
- ③ The pandemic has raised issue regarding the need for higher expenditure by state on health sector, through SSE other sectors will not get ignored

- ④ The civil societies can bring new innovation & technology to improve social indicators which are lacking due to bureaucratic apathy.
- ⑤ Will bring transparency in working of civil society.
- ⑥ Will improve availability of funds.
- ⑦ Will improve the skill development & technical coefficient of the civil societies.

Key challenges

- ① misutilisation of funds is possible.
- ② Circular lending by private sector.
- ③ can be used to spread propaganda or for religious conversion.
- ④ Such civil society generally work in urban area, thereby rural urban get does not get minimised.

- ⑤ Civil societies can bypass the FARA and FEMA guidelines.
- ⑥ corruption issue can arise.
- ⑦ similar to insider trading in stock exchange
similar unfair means for revenue collection can
be done through SSE.
- ⑧ small organisations will be left out of the
process of getting listed.
- ⑨ issue of digital illiteracy & digital divide will create
hindrance in implementation.
- ⑩

SEBI needs to prepare effective & efficient guidelines by taking into consideration some of the world's best practice for

13. In the context of India, highlight the importance of agriculture extension. What are the challenges faced in provisioning of agriculture extension services? How does the National Mission on Agricultural Extension & Technology (NMAET) address these issues? (250 words) 15

भारत के संदर्भ में, कृषि विस्तार के महत्व पर प्रकाश डालिए। कृषि विस्तार सेवाओं के प्रावधान में सामना की जाने वाली चुनौतियां कौन-सी हैं? कृषि विस्तार और प्रौद्योगिकी पर राष्ट्रीय मिशन (NMAET) इन मुद्दों का कैसे समाधान करता है?

Agriculture extension refers to application of research & scientific findings to the farm field. It tends to reduce the gap between lab & land. It tends to improve the farmer & improve rural economy.

Importance of agricultural extension

- ① It will improve the farmer's income which is approx 6000 Rs/month.
- ② Small & marginal farm holders constitute 85% of the total farmers. Innovative techniques are needed for making profit in scattered & fragmented land because economy of scale is not available.

③ India is facing problem of ground water depletion (15 cm/year in Punjab), agriculture extension can improve efficiency of irrigation.

④ It will improve the backward & forward linkages.

⑤ efficient use of fertilizer & pesticide.

⑥ will help in countering sanitary & phytosanitary measures.

Challenges faced imposed by western countries.

① lack of awareness among the farmer.

② lack of funds available to Indian Council of Agricultural Research

③ Krishi Vigyan Kendra lacks in funds, infrastructure

④ lack of willingness on part of farmer to incorporate new changes because cultivation of crop for farmer is a sentimental issue.

⑤ poor R&D culture in the country & lack of private sector participation.

National Mission on Agricultural Extension

- ① improving awareness among the farmers.
- ② encouraging private sector to participate in research.
- ③ Empowering KVK and ICAR
- ④ Encouraging private colleges to carry out research in agricultural field.
- ⑤ adopting of ^{best} practices all around the globe & encouraging farmer to do the same incorporate the practice
- ⑥

National Mission on Agriculture Extension seeks to make agriculture more sustainable and efficient.

14. Clearly delineate the 'employment problem' that India currently faces. Also, explain the fundamental reasons behind existence of this problem. (250 words) 15

भारत वर्तमान समय में जिस 'रोजगार समस्या' का सामना कर रहा है, उसे स्पष्ट रूप से निरूपित कीजिए। साथ ही, इस समस्या के अस्तित्व के मूल कारणों की व्याख्या कीजिए।

National Skill Report highlights that the employability of Indians is at 46%. There has been rise in the unemployment because of the pandemic which is clear from the reverse migration and high demand for MGNREGA from almost all the states.

Employment problem fundamental reasons.

- ① low skill of the people - which is not at par with the required skill by the private sector.
- ② lack of labour intensive sector - manufacturing sector contributes to only 15% of the employment.
- ③ high informal sector: there is informalisation of work force. ILo reports 80% informal sector in India.

- ④ MSME sector are not able to have the economy of scale.
- ⑤ lack of availability of loan due to poor state of bank - MUDRA loans are unavailable.
- ⑥ labour laws - which became hindrance in expansion of industries & recruitment of people
- ⑦ lack of Academia - Industry linkage
- ⑧ lack of effective regulation of private sector post 1991 reforms.
- ⑨ lack of support to the informal sector by the government.
- ⑩ lack of focus on export - poor implementation of IGST
- ⑪ states running out of MGNREGA - due to poor budgetary support.

Employment problem

- ① High share of informal sector.
- ② In service sector, higher share of traditional services like communication & health.
- ③ lack of female labour force participation.
- ④ Rural to urban migration causing feminisation of agriculture.
- ⑤ agricultural sector contributes only 15% to GDP & 50% people are employed — there is problem of disguised unemployment.
- ⑥ Due to changing technology, the unemployment is also because of not being accommodative of it.

Way forward / Govt Steps:-

— e-Shram portal
— investment in infra
through NIP, NABARD

— Codification of labour laws
— Ease of doing business
— PM Shram Yojana
— Production linked incentives

15. Although steps have been taken for integrating the dispersed logistics activities of maritime trade, much more needs to be done to make India a maritime powerhouse. Discuss. (250 words) 15

हालांकि समुद्री व्यापार की विखंडित लॉजिस्टिक गतिविधियों को एकीकृत करने के लिए विभिन्न कदम उठाए गए हैं, फिर भी भारत को एक समुद्री पावरहाउस बनाने के लिए और भी बहुत कुछ किए जाने की आवश्यकता है। चर्चा कीजिए।

The logistic cost in India is approximately 14% of GDP whereas for USA it is 6-9% of GDP. Logistic cost refers to the cost incurred in trade & transport.

Integrating dispersed logistic activities of maritime trade

- ① Maritime trade is important in logistic sector as it is the cheapest way of transport of goods & commodities when compared to road, railway or airway.

- ② Scheme like Sagarmala has been implemented
- port development
 - Coastal Community development
 - Coastal city development
 - skill development

③ Sagarmala aims to integrate the transportation through maritime, ports will be connected through hinterland.

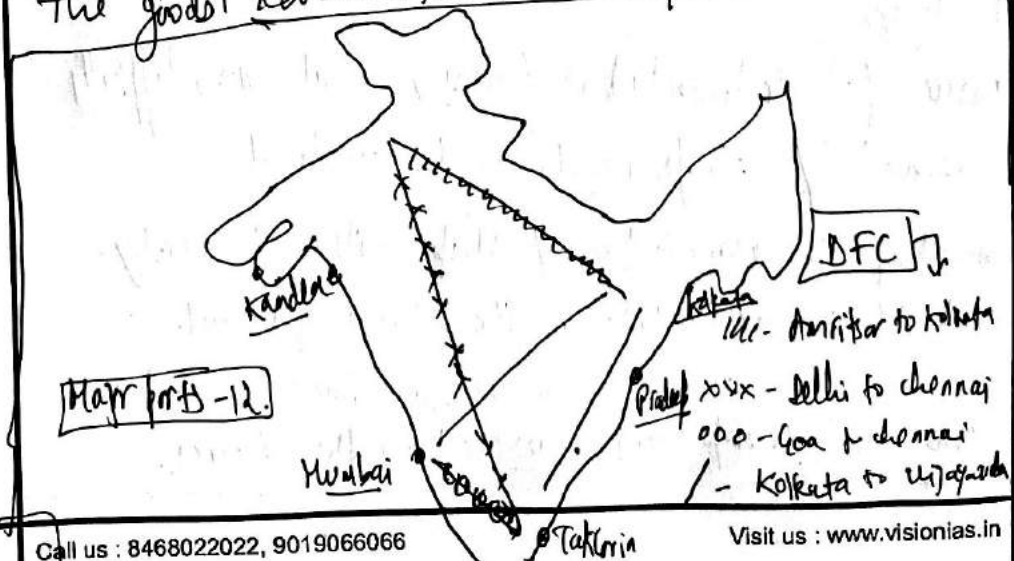
④ Implementation of Water Highway Act, 2017

Jal Marg Videsh Project
from Allahabad to Haldia

NW-2
in Assam, Dhubri

⑤ Implementation of Bharatmala so that ports will be integrated with highways.

⑥ Dedicated Freight Corridor (DFC) ^{which} will ~~be~~ take the goods commodities to the port.



Much more needs to be done

- ① 116 waterways have been identified but only two are functional.
 - ② Need to implement the Major Port Authority Act total in letter & spirit.
 - ③ poor connectivity from states like Bihar, Chhattisgarh to the Coastal cities
 - ④ North East region has been left out to a large extent in getting integrated, because of being landlocked.
 - ⑤ Interlinking of river will provide for free movement of ships.
 - ⑥ issue of sedimentation of river that causes difficulty for movement of ships needs to be resolved.
 - ⑦ Boosting the manufacture of ships within the country so that it can accommodate in the low draft level.
- To conclude, a Maritime powerhouse India will generate high employment, investment & influx of foreign.

16. Accounting for natural capital and ecosystem services is crucial to understand the link between the economy and environment. Discuss with specific references to India's initiatives in this regard. (250 words) 15

अर्थव्यवस्था और पर्यावरण के मध्य संबंध को समझने के लिए प्राकृतिक पूंजी और पारिस्थितिकी तंत्र सेवाओं के लिए लेखांकन महत्वपूर्ण है। इस संबंध में भारत द्वारा की गयी पहलों के विशिष्ट संदर्भ के साथ चर्चा कीजिए।

Natural Capital refers to the natural assets, resources, biodiversity etc.

Ecosystem services are provided in form of

- + Provisional services - food, fruit etc.
- + Regulating services - soil, water, air etc
- + Cultural services - aesthetic, tourism etc

In the quest for economic development the ecosystem is largely compromised which results in large scale ecosystem destruction. This has negative repercussion on the man & wildlife. In order to understand this relation natural capital accounting is done.

Crucial to understand link

- ① TEEB initiative.
- ② India is performing National Accounting with help of international organisation like IRCC.
- Intergovernmental panel on climate change.
- ③ National Mission on Strategic Knowledge of Climate change - a sub mission under NAPCC is helping in understanding the link of economy & environment.
- ④ NCAVES - National Capital Accounting and Valuation of Ecosystem services.
- ⑤ SEEA - for accounting the link.

Need for accounting

- ① It studies impact of Climate change.
- ② policies & regulations are directed in more efficient manner.
- ③ Vulnerable section like Women, farmer - impact on their health condition is examined.
- ④ private sector can participate in the economy accordingly.
- ⑤ Investment from western country is more in such country that give due importance to environment - such accounting can help in enhancing India's credibility & thereby increasing investment.

There is a need to shift focus from GDP to GEP (Global Environment Product) for account of natural assets.

17. Rapid and unplanned urbanisation accompanied by population growth have increased both the risk and impact of natural disasters. Discuss the statement along with adequate measures to address the relevant concerns in India. (250 words) 15

जनसंख्या वृद्धि के साथ-साथ तीव्र और अनियोजित शहरीकरण ने प्राकृतिक आपदाओं के जोखिम और प्रभाव दोनों को बढ़ा दिया है। भारत में विद्यमान प्रासंगिक चिंताओं के निवारण हेतु यथोचित उपायों के साथ इस कथन की व्याख्या कीजिए।

It is estimated by 2050 70% of population will live in urban centres. The disasters in urban centres - the recent Chennai Hyderabad flood are going to get worse if there is not planned urbanisation.

Increasing risk of natural disaster

- ① Due to concretisation, water has no way left for getting discharged - this results in urban floods.
- ② Due to urban heat effect the local environment/ climate of urban area gets affected, this also results in ~~the~~ disaster.
- ③ Frequent cloudburst incidence in Uttarakhand eg: Kedarnath

① landslides are becoming very frequent because of unplanned urbanization mainly in the hilly states of India.

② Submerging wetlands leading to flood eg:
Guregram floods

Increasing impact

Due to high population density the impact of natural disaster is very bad especially on the vulnerable section like - women, children & elderly. The rescue & relief operations are also slow because of high population density.

Measures to tackle

① urban forestry through Nager Van scheme eg Norge Forest in Pune to improve the ground water penetration of the rain.

- ③ 3Fs - funds, function & functionary to the urban local body that the organisation takes way in planned manner.
- ④ Implementation of Smart Cities Program & AMRUT scheme
- ⑤ Wetland Rules 2017 needs to be adhered.
- ⑥ Rurban mission will reduce rural to urban migration & reduce the burden on cities.
- ⑦ focus needs to be on public transport - CATAT initiative, cicahile, vehicle scrapping will help in curbing pollution thereby reducing urban heat island effect.
- ⑧ Fire safety Code, Earthquake proof building, refurbishing, mock drills, etc can help in reducing the impact.

Finance Commission has granted 8000 crore for development of new cities and it's essential that the development takes way in well planned & organised manner.

18. National Hydrogen Mission can be a game changer for India's rising energy demands. Comment. (250 words) 15
- भारत की बढ़ती ऊर्जा मांगों के लिए राष्ट्रीय हाइड्रोजन मिशन एक गेम चेंजर हो सकता है। टिप्पणी कीजिए।

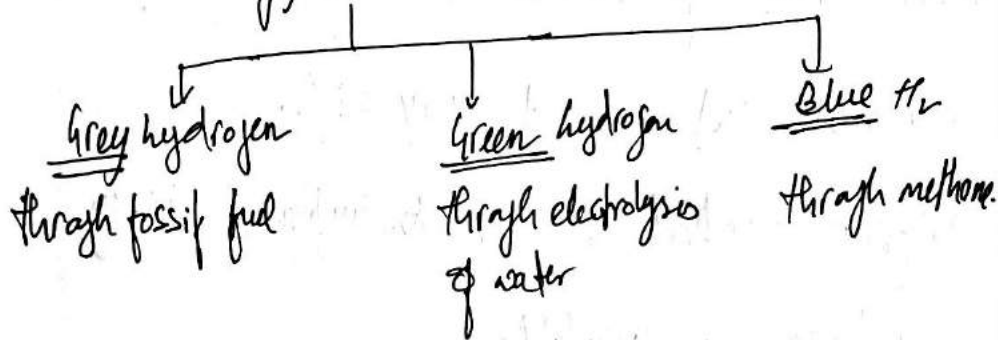
National Hydrogen Mission has been announced in the budget of 2021. It seeks to harness energy from the hydrogen in environment friendly manner.

Rising energy demand

- ① With greater disposable income & the rising middle class population, energy needs are bound to rise in the near future.
- ② Eco survey points out that India has 18% of population but just 6% of energy consumption hence there is large scope and need for energy.
- ③ Improving physical infrastructure like road, highway will also lead to higher demand.

National hydrogen mission - a game changer

① The energy is extracted in three manner



② abundance of hydrogen in the country therefore no need for dependence on import and no worry for extinguishing the resource ^{unlike} Life ~~and~~ based power plant.

③ Continuous generation of energy throughout day & night unlike solar energy which needs sunlight & cannot function at night time.

④ Clean energy through green & blue hydrogen unlike TPP whereby CO₂, SO₂, Hg etc is released.

- ⑤ Can help in fulfilling the target of 50% Renewable by 2030 - as targeted under INDC target of COP 26 at Glasgow summit
- ⑥ Operational cost are not very high.
- ⑦ Indigenous technology for production of energy from hydrogen is available
- ⑧ Effective utilisation of land unlike the wind energy whereby wind mills occupy large area & much of the area is unused.

Concerns related to the same

- ① most of the energy is derived from the grey hydrogen which is polluting in nature.
- ② It is at infant stage and much hand holding is required to make it grow.
However, hydrogen mission will make India realise the goal of Atmanirbhar Bharat

19. Despite geo-strategic instability of its region and a keen awareness of the cyber threat it faces, India has made only 'modest progress' in developing its policy and doctrine for cyberspace security. Critically examine.

(250 words) 15

अपने क्षेत्र की भू-रणनीतिक अस्थिरता और इसके समक्ष विद्यमान साइबर खतरों के संबंध में व्यापक जागरूकता के बावजूद, भारत ने साइबरस्पेस सुरक्षा के लिए अपनी नीति और सिद्धांत विकसित करने में केवल 'साधारण प्रगति' की है। समालोचनात्मक परीक्षण कीजिए।

Cyber crimes/threats are emerging as 5th sector of warfare after land, air, water & space. It is the use of cyber space to carry out unethical/fraud activity either against individual or the state.

Geo strategic instability & keen awareness of cyber threat

- ① Threat comes from country like Pakistan & China.
- ② Nuclear Programme at Kudankulam was attacked by D-Track.
- ③ issue of Pegasus.
- ④ frequent identity & financial fraud.
- ⑤ Radicalisation of youth in ISIS / terrorist groups ~~are~~ due to neighbour like Pakistan.

India has made only modest progress

- ① National Cybersecurity Policy, 2013 aimed at skill development of 50,000 workforce which has still not been achieved.
- ② poor R&D against cyber threats.
- ③ nuclear power plant still at risk.

However, in the recent years India has also been able to shield itself against the cyber attacks & threats by :-

- ① protection of critical ^{infrastructure} information by NCIIRC
- ② protection of non critical infrastructure by CERT-In
- ③ National Cyber Crime Coordination Centre responsible for handling cyber crime.
- ④ Innovative projects like Cyberdome project whereby a PPP model is used for threat against cyber security

- ⑤ Inf National Cyber Security Policy, 2013 has led to greater R&D and awareness generation, also modest number of individuals have been trained.
- ⑥ Cyber Security Cell under SP of every district in Maharashtra.
- ⑦ ban on Huawei to carry out 5G trials in India.
- ⑧ ban on 200 Chinese apps by GoI.
- ⑨ gathering of information regarding cyber threat by IB, R&AW.
- ⑩ Cabinet Committee on Security monitors the cyber security condition of the country.

More encouragement for R&D is required, because Internet of Things-security = Internet of threats

IoT-security = Internet of threats

20. Developmental interventions alone cannot play a defining role in the resolution of existing and protracted internal conflicts in various parts of India within a reasonable time frame. Discuss. (250 words) 15

भारत के विभिन्न हिस्सों में व्याप्त और दीर्घकाल से जारी आंतरिक संघर्षों को उचित समय सीमा के भीतर हल करने में केवल विकासात्मक हस्तक्षेप एक निर्णायक भूमिका नहीं निभा सकते हैं। चर्चा कीजिए।

India faces internal conflict in the form of Maoism / Naxalism in Central & Eastern state, insurgency in North East. Govt opts for developmental as well as use of hard power to suppress such conflicts.

Developmental intervention by Govt

Left wing Extremism

- + improving road connectivity
- + installation of mobile towers
- + grants given to individual who quits LWE.
- + Media Action Plan, Civic Action Plan

North East Insurgency

Bodo Accord which has following provision:-

- + 1500 crore granted for 3 years for development of the Region.
- + 15 lakh to those who quit the demand for Bodokind & Join mainstream.

Shilong Agreement with NAA

- + developmental projects being carried out

Why developmental project alone is not sufficient?

- ① recent attack on CRPF in Bastar region of Chhattisgarh
- ② the ideology of 'annihilation of class enemy' by LWE does not seem to be weakening much.
- ③ Developmental projects are utilised to launch attacks against the police organisation.

What else needs to be done?

- ① Empowering the CRPF with latest technology, armoured vehicle, etc (through SAMADHAN) as it will create deterrence.

- ② modernisation of police force so that they can effectively fight against the insurgent element.
- ③ winning support of the local is very important.
- ④ the financing of the insurgents group needs to be cut down.
- ⑤ action against the insurgent by the organisation will not make them think that state is weak.
- ⑥ Deterrence / violent crackdown is also in favour of Bentham's Utilisphy of Greatest good to greatest no. of people.

There needs a mix of hard as well as soft action, the ~~hard~~ actions should ~~also~~ only be taken in extreme situation, this is also because India being land of Mahavira, Buddha & Gandhi have belived in achieving aim through non violent method also because an eye for an eye makes the whole world blind.