

**GENERAL STUDIES**

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INDEX TABLE			INSTRUCTIONS			
Q.No	Max.Marks	Marks Obtained				
1	10	05	1. Please write your Name, Email, UPSC Roll No. and Mobile number in the answer sheet 2. There are 20 questions printed in English, all questions are compulsory 3. The number of marks carried by a question or part is indicated against it. 4. Answers must be written in the medium authorized in the admission Certificate (English), which must be stated clearly on the cover of this Question-Cum-Answer (QCA) Booklet in the space provided. 5. Word limit in questions, if specified, should be adhered to. Any page or portion of the page left blank in the Question-Cum-Answer Booklet must be struck off.			
2	10	04				
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6	10	05	Any specific message from Educrat IAS Mentors/Evaluators with respect to your copy? Mentor's Remarks: ..... ..... ..... ..... ..... ..... ..... ..... ..... ..... ..... ..... ..... .....			
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19	15	06			Start Time: 11:00	End Time: 2:00
20	15	06			Mode of Examination:	Online <input type="checkbox"/> Offline <input checked="" type="checkbox"/>
Total Marks		108	TEST CODE:	Medium of Examination: English		

1. Discuss how inclusive growth and employment is a prerequisite for macroeconomic stability. (Answer in 150 words, 10 marks)

Inclusive growth refers when pace and pattern of growth is same. when growth is equally shared among sectors - with focus on Human Development.

Good introduction with definition.

Macroeconomic stability is reached when financial factors are favourable and certain. Eg. Controlled Inflation, Unemployment low etc.

Prerequisite for Macroeconomic stability

Inclusive Growth	Employment
<p>→ cater to multiple <u>sectors</u> like <u>Health</u> <u>Education</u>, <u>Nutrition</u></p> <p>↳ Strengthens <u>Human Development</u></p>	<p>→ source of <u>income</u> for different families from every <u>strata</u></p> <p>Eg. <u>Below Poverty line</u>.</p>



Relevant Points

Alternatively you can show the impacts in a cyclic pattern.

→ Ensures Administrative of even pattern.

Eg. Self-employment and Big Business.

→ Maintain equitable demand → so controls price and economic cycle.

→ Inclusive Growth ensures certainty in all region → so leads equitable investment.

(Currently skewed to Maharashtra, Gujarat)

→ It aids RBI, MOSPI for planning on development projects  
Eg. Bank Regulation

macroeconomic stability is due to inclusive growth and Employment both.

→ Employment churns all sectors like rural and urban

(Unemployment in April 2023 was 7.68% as per CMIE)

→ Controls Poverty

(As per Niti's MPI Index 13.5 crore out of poverty)

↳ Role played by MGNREGA.

→ Employment in Gig opens avenue for penetration of pension, insurance

Conclusion can be improved.

2. What is the tax-to-GDP ratio? What problems does a low tax-to-GDP ratio pose for India's growth story? Give innovative suggestions to augment the tax base. (Answer in 150 words, 10 marks)

Tax-to-GDP ratio refers to total direct and indirect tax collected compare to GDP. Currently, India has 11.7% (Budget Estimates 2023-24) tax-to-GDP ratio. (MOSPI report)

Problems of low tax to GDP.

- Relevant Points*
- 1. less development Expenditure  
Eg. low level of spending on Health (1-2% of GDP), Education (3-4%).  
*- Increase in borrowings leading to high fiscal deficit.*
  - 2. leads to disinvestment of Public Assets to overcome fiscal burden.  
Eg. LIC case.
  - 3. Major chunk of Tax on Revenue Expenditure.  
Eg. High pay out on interest payment.
  - 4. Income Inequality remains stark.  
Eg. Top 1% holds 40% wealth in India (Oxfam).
  - 5. Limitations in fiscal devolution to states.  
Eg. Stressful States - WB, Assam.



Tax Base refers to units (people, corporates) that pay tax.

Suggestions to improve Tax Base

1.) Increase taxes in luxury items beyond GST eg. Diamond.

Rationality that tax proposed can be a better suggestion

2.) Change in the tax structure

with minimum rate beyond 2.5

- Selling land on agricultural income to be taxed to check crazy capitalism in agriculture

by using TDS (deduction at source)

3.) Improve tax collection procedure

- Increased formalization of economy

↳ E-governance, Vivad Se Vishwas Scheme

4.) Improve the Corporate tax, low

at 15-20%

5.) Clarity on tax issues of digital goods (eg. YT income), digital currency

6.) Curb Black Money with use of ICT, AI eg. CAG using AI model

Tax is the key for the Economic Welfare State.

3. In the light of recently released Foreign Trade Policy 2023 discuss how does exports contribute to the economic development. (Answer in 150 words, 10 marks)

Foreign Trade Policy 2023  
came in light to 'regulate',  
improve the import-export trade  
with focus on ease of  
doing of Business by Ministry of Commerce  
Components of - FTP 2023

Good introduction.

- Towns of export excellence
- Boosting HMEs
- Handholding support with the help of star exporters.

Ease the Export Mechanism with Single Window Clearance

2. Rationalise Remission, Duties, Coverage of Products

3. Relation with Investors, Exporters, Importers

- Amnesty Scheme for one time settlement of disputes
- Increasing exports to USD 2 trillion by 2030

Exports play important role for developing countries like India, it plays/contribute to economic development in following ways:



1) Reservoir of Forex Reserves

Eg. Trade Balance of \$100 bn with USA.

Good points

⇒ Employment generation with export of labour intensive products. Eg.

Textile, Merchandise (\$1 trillion aim by 2025)

You can also mention the issues faced by Exports of India :-

3) Improve Brand India, Aatmanirbhar

Eg. Sikkim's Organic products,

One Dist. One Product (UP's Kalamansi)

- Regulatory barriers (sanitary and phytosanitary measures)

4) Improve India's Investor Rankings

(Eg. Upgrade by Moody Investor, World Bank) → this attracts FDI

- Dependence on other countries for export - e.g. - APJ in Pharma

(currently \$84 bn)

5) Improve fundamental economic prospects like Exchange Rates of currency.

\* Export and Import together

comprise 54% of India's GDP (higher than China) holds importance for Inclusive Growth.

4. Discuss the potential of the unorganized food processing sector in the Indian economy. How does the recently launched Scheme for Formalization of Micro Food Processing Enterprises (FME) aim to address lacunae in harnessing the potential of the fishery sector in India? (Answer in 150 words, 10 marks)

As per Food Prospects report, about 80% of food processing industry is unorganised. By 2030 it will reach \$ 535 bn market (McKinsey report).

Good introduction.

- Large domestic market.  
- Increased consumption of processed food.  
- Changing consuming pattern.

Potential of Unorganised Food Processing in Indian Economy.

1.) low price, high demand products are produced.  
Eg. Pickles.

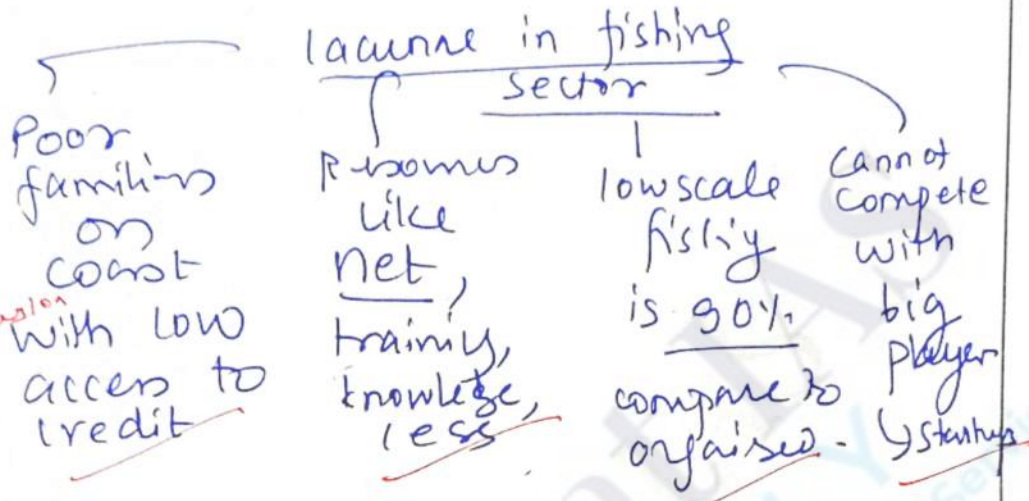
2.) Potential to realise untapped resources  
Eg. 40% of Agri resource (Horticulture) prone to waste.

3. Employment in low income families, enable SHGs (Kudamshu, Jamstara, Ujjat Papad)

4. Empowerment of women.  
↳ Push demand in rural economy  
Tier 3, 4 cities.



You have written relevant points. Again, conclusion can be improved.

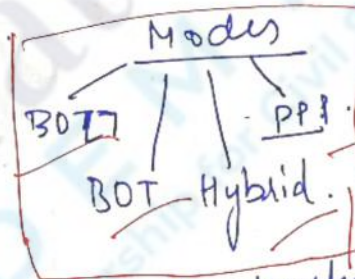
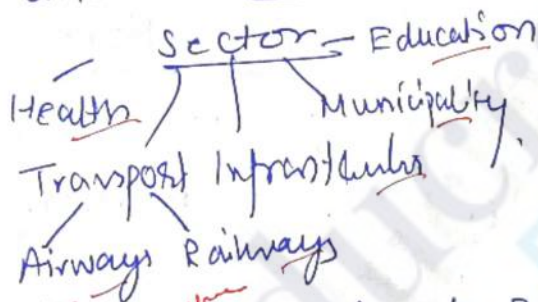


Role of FME in fishing sector.

- ① Enable Credit Access with new Kisan Credit Card for fishermen.
  - ② Access of Resources like fishing kits, nets, boats
  - ③ Enable information like radar based knowledge.
  - ④ Enable Market connect, with better sale
  - ⑤ Formity of Cold Chain Supply.
  - ⑥ Trating, Hand-holding with shape of SHGs.
- Formalisation in food processing lead to data enabled growth in the sector.

5. Explaining the need of public private partnership (PPP) in infrastructure projects, examine the role of PPP model in port infrastructure. (Answer in 150 words, 10 marks)

Public-private partnership (PPP) is the mix of potential of both sectors. There are different modes and sectors of PPP model.



- Long gestation period of infrastructure project

- Increased efficiency of projects

- Government left with the role it is assigned i.e. Governance

Need of PPP in infrastructure projects enable role of pub and public utilities -

Pvt

- > Expertise and Entrepreneurial Experience.
- > Profit Making Role  
Eg. Air India
- > Optimum utilisation of leftover brownfield projects.

- Public
- > Public connect and accountability i.e. less prone to corruption
  - > faster decision as the execution is with pub.

Relevant points.



→ Open avenues  
of Finance  
and tax collection  
eg. Toll tax.

→ Handhold in  
financial constraints  
with public guarantee  
eg. Swamib Scheme  
for Infrastructure.

You can  
cluster the  
Examples of  
PPP model ports

- Low turnaround  
time.

- Improved  
logistic handling  
capacity

There is a role of PPP in Post Infra

1) Beautification and Operation

eg. Delhi Metro.

2) Avenues of Economic Activities  
eg. Market, Haat in Mumbai  
Airport.

3) Lessen burden of fiscal nature on  
govt. eg. Air India Case was loss  
Venture.

4) Economic intervention by govt  
in flights only. eg. UDAN scheme.

5) Post-Infrastructure compete on  
world standard. 6) Protection by  
govt. eg. CISF.

PPP in post (Air, maritime) can be further  
explored.

6. How can the Indian Space Policy-2023 act as a catalyst for the development of a robust, innovative and globally competitive space ecosystem in India? (Answer in 150 words, 10 marks)

Indian Space policy 2023 was designed to enable private sector to play role in Indian space sector.

Good introduction with data.

As per ~~the~~ McKinsey Report,  
 Indian Space startups more than 400  
 3rd highest Startup value worldly  
 4th largest space sector.

Components of Indian Space Policy 2023

- ANTRIS X  
- NSIL  
- IN-SPACE

- 1) Assigned Role of ISRO (Research) in space (vision of PPP)  
 Indian Space India limited (commercialisation of space).
- 2) Access of ISRO's resources to priv. sector like Startup, Academia.
- 3) Possible priv. launches. e.g. Vikrambo



Indian Space Policy 2023 act as a catalyst :-

- Economic gain  
- Positioning of India as a prominent player in space technology  
- Handholding support to private sector by ISRO

Robust

→ Ensure Space Safety in time of Hybrid war

→ Protects India's interest of new tech in areas of space debris

→ Resilience in public launch of projects like Aaditya L1, Gaganyaan

Innovative

→ New R/D by ISRO. as works are assigned

→ Pvt. launch of Satellites & skyroot

→ Newer Technologies like Thermal protection, Soft landing thru PPP

globally competitive

→ compete with global players like Starlink Tesla

→ Newer sectors like AI, ML & infusion with Space by startups in US, China

Space sector open avenues for solution for communication, geospatial waste, agriculture, climate etc. Thus, new policy will further expedite this.

7. What do you mean by metaverse? Also, critically analyse the potential of the metaverse for New India. (Answer in 150 words, 10 marks)

Metaverse refers to a parallel digital space which is based on immersive technology and a simulation of real world.

Good introduction

Components of Metaverse

1) Digital Citizens Concept.

2) Digital Products/Property Concept  
Eg. NFT.  
(Non-Fungible Tokens)

3. Use of Technology apparatus like VR Headsets.

Relevant points.

4. Digital immersive world

5. Use of Technological growth like AI, ML, IoT, 6G, 5G etc.

Potential of Metaverse is multifold for India can be both negative and positive as follows: —



Positive Potential	Negative Potential.
<p><i>- Issues of De-fraud</i> <i>- Financial Frauds</i></p> <p>→ Newer Economic opportunities, i.e. <u>Gaming Sector</u></p> <p>→ Explore Areas like <u>Mental Health</u>, Eg: <u>Startup</u> has created <u>Metaverse</u>.</p> <p>→ Advancement of Technology through AI, <u>ML</u> in sectors like <u>Health</u>, <u>Education</u>, <u>Business Space</u>.</p> <p>→ More inclusive employment as men, women both can explore with rise of <u>Big Economy</u>.</p> <p>→ India's role in <u>Technology</u> improves.</p> <p><i>conclusion is missing</i></p>	<p>→ May be <u>inequal growth</u></p> <p>→ with <u>48%</u> only internet penetration in <u>small india</u>.</p> <p>→ <u>Nascent stage</u> can be <u>harmful</u> for adolescents if <u>unregulated</u></p> <p>→ <u>Regulation by Miety</u> is a <u>concern</u>.</p> <p>→ <u>Data collection</u> is a problem.</p> <p>→ <u>Unemployment</u> in other <u>areas</u> like <u>Telecom</u> etc.</p>



8. Explain the reasons behind increasing human-wildlife conflict in India. Discuss the measures taken by the Government to mitigate the human-wildlife conflict. (Answer in 150 words, 10 marks)

Human wildlife conflict arises with encroachment of either in each other's range, and resulting into unfavourable result like animal-man mortality.

Good introduction.

Reasons behind increasing human-wildlife conflict: -

Relevant points.

a) Growing deforestation. As per Forest Survey Report from 1950-1970 - 4m<sup>hec</sup> trees cut, from 1970-2014 - 1 mn hec trees cut.

b) Growing development projects in range of animals, jungle pass etc. Eg. Elephants death in Kerala.

c) lesser implementation of Supreme



Govt's direction on Exclusive Economic Zone (Kerala).

d) Growing stress in forests like fire water crisis shift population.

e) Natural range of animals to move. Eg. Kuno to Mukundra in (MP) Rajasthan.

f) Growing settlement, population near the forest area. Eg. Aary

- Wildlife friendly highways with underpass.

- Delineating

animal corridors.

e.g. - Elephant Corridor

Forests

Measures by govt

1. Exclusive Economic Zone within 1-10km

2. Protection of Areas as Nat. Park, Sanctuary

3. Natural Borders like Trees, Bush Fences

4. Campaign and Training  
Eg. Chitra Mitra in Kuno (MP)

Σ: Ground work by forest officials.  
Eg. Odisha case - Assam (low rate of death)

Animals + human should live in cooperation and not conflict.



9. Discuss the various factors contribute to the emergence of ethnic insurgencies in North East India. (Answer in 150 words, 10 marks)

Recent case of Manipur crisis opens the debate of ethnic clash and rise of insurgencies in North-East India need to be addressed..

Relevant introduction.

Various factors contribute to emergence of ethnic insurgencies in North-East India:-

a). Underdevelopment theory → lesser avenues for growth push them

towards poverty, opium trade.  
Eg. NSCN(IM) role in opium.

Relevant points.

b). Ethnic identities get hardwired.  
Eg. Kuki, Zomi, Methi.

c). Differences in religious practices.  
Eg. Hindu, Christians, Tribals.

d). Interference by China (funding)  
Myanmar (Training)



- Efforts of Tribal population

- Maintenance of forest rights

- Non-enforcement of forest rights

- Role of State and Non-State actors

e) Issue of Refugee by Bangladesh  
Eg. Assam student union Group

f) Demand for separate state, separate constitution Eg. Nagalim.

g) Dissatisfaction on matters of Reservation, political representation.

h) Feel unheard and use arms.

Measures that can be taken

1. As per Kargil Committee, border states should

have more deployment of central forces.

2. Community Engagement and Dialogue

with Negotiation

Eg. Naga Peace Accord.

3.

AILO

Reservation in the areas

and uphold

Sch VI

in Spisib

North-East is India's gateway to Far East in Asia, jewel in Indian geography. With aim of Ekta and Unity, such case can be minimized.

10.. 'Information disorder' has disproportionately increased with increasing internet penetration. Discuss the potential threats to the law-and-order situation due to it and suggest some solutions.  
(Answer in 150 words, 10 marks)

As per Saunmya Swaminathan present time is of Infodemic and information disorder is the use of information like fake news, sensationalisation deep fakes to excite activities beyond law and order through internet enabled media like social media.

Good introduction.

These are related to increasing internet penetration.

Disproportionately increased

1. With and highest internet subscribers in India

by 2030 730 mn users of Internet.

(As per India Internet Report).

2. Use of mobile phones, smart phones

increased with 90% domestic manufacture

3. Demography is young -  
→ 65% in 15-65 age -

4. low internet price.

5. Free use of social media -  
eg. 43 crore in Facebook.



- Defining fake news and bringing it under ambit of punitive law.

- Establishment of Digital fact check unit; a welcome step.

Potential Threat

① Use of Fake News and Deep Fakes to incite mob violence.

Ep. Nuh, Hongkong case.

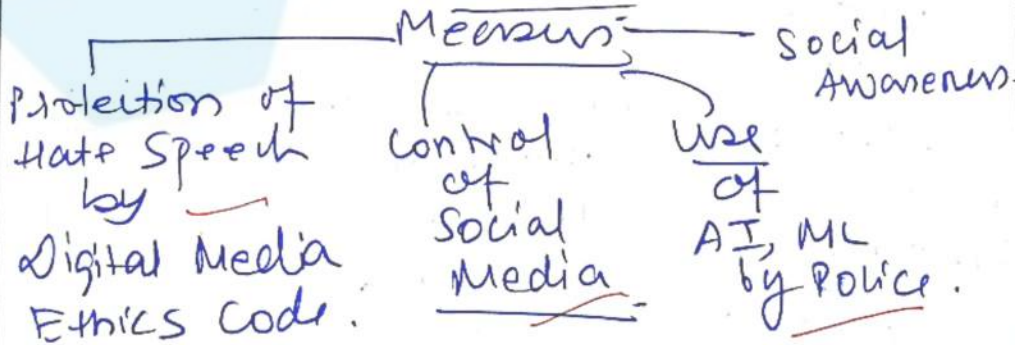
Muzaffarnagar Riots 2013 was based on take news.

② ↑ Rise of Hate Speech, Religious clash, ethnic polarity, divided society, depletes social capital.

③ Easy Access to anti-India campaign by foreign players.

④ Misuse of data, privacy. AI/ML Algorithms

⑤ Use of lack of expertise with Police, CAs.



In time of digital revolution, regulation needed.

11. Even after the concerted efforts by the government and RBI to promote financial inclusion, millions of people are still excluded from basic banking. Discuss how the rapid adoption of new emerging technologies by the banks will be helpful in this regard. (Answer in 250 words, 15 marks)

Recently, Niti Aayog MPI Report highlighted the 80% of population has a bank account, but 42% not used regularly. whereas Internet penetration in small areas (46%).

Good introduction with data...

Efforts by RBI and Govt

- No-frills account
- Digital Payments index
- Financial Literacy Initiatives
- Payment Infra. development
- Coating of KYC notes
- Interoperability recently in UPI

① Campaigns by RBI and social media on Digital India (UPI)

② Enable easy payment by UPI, India Stack, e-KYC

③ Use of regulation to protect interests  
Eg. Ombudsman Scheme, Deposit Protection

④ Internet and non-internet services  
Eg. E-RUPI, e-rupee.

⑤ Internet penetration  
→ More than 700m users.





You missed the  
Government of India's  
Schemes/Initiatives

- JAM Trinity
- Aeps
- DBT etc

Reason for  
Exclusion from Bank's  
facilities.

① Familiarity  
with informal  
and cash based  
economy.

Eg. RBI report -  
says. pre-demonitisation  
crash level back -  
in economy.

② Education  
and inequality  
of Men-Women.

Eg. Only 27%  
enrollment  
in high education  
(Niti Aayog).

③ lack of low-frill  
Account facilities  
by Pvt Banks.

Min Savings A/C balance  
at ₹ 10,000. (ICICI).

④ Dominance  
of informal  
credit by  
Middlemen.

⑤ Behavioural  
issue.

⑥ Trust factors

⑦ Black Money.  
Risk.

New emerging Technologies  
can further help in Banks to  
push for inclusive Banking! —

- a) AI enabled protection. by <sup>use of</sup> Blockchain.  
Banks for low/zero risk transactions.
- b) ML based kiosk facilities in  
Tier-2, 3, 4 cities. e-KYC,  
e-Passbook entry.
- c) Awareness through social media,  
whatsapp messages by Banks.
- d) Innovative products by Bank  
- Eg. Bandhao Bank's financial  
inclusion of SHGs.
- e) Low ticket products, through,  
Mudra Yojna.
- f) Single click payments, infuse  
Direct Benefit Transfers. via  
Banks.
- g) Awareness of use of mobile by Bank  
Sakhis in small areas.
- Banking enables formalisation of economy  
and better financial governance.

Relevant  
Points



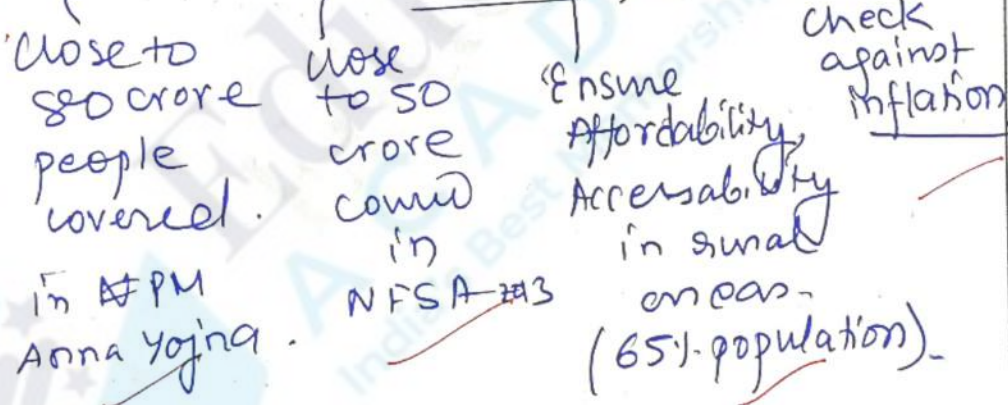
12. A subsidized PDS for the well-targeted groups still remains the best form of food security for the poor. Explain. What are the main problems facing the public distribution system? In what ways can its efficiency be improved? (Answer in 250 words, 15 marks)

Good introduction

Public distribution system was designed as targeted scheme in 1970s, with aim to rationalise subsidy burden and growth.

Relevant points

Subsidised PDS. form of Food Security



Problems of Public Distribution System:

1). Fragmented supply chain from farm to plate. with role of middlemen (Agartyas), Mandis, etc.



- 2) Restriction on sale of farmer's product outside Mandi. assigned.
- 3) Role of corruption, high leakage.
- 4) Lack of cold storage → leads to wastage (high in horticulture like vegetables).
- 5) PDS is not holistic - focus more on rice, wheat → does not meet nutritional needs.
- 6) Physical generation of data (Exclusion/Inclusion errors), and lack of delivery mechanisms to beneficiaries.
- 7) Open ended system of Rice/Wheat leave out other crops. (Lopsided Policy. Procurement ↓ Arguments in degradation of Land.)
- 8) Stagnant growth of Food Corporation of India.
- 9) Role of state. eg. West Bengal  
one nation one ration



Good  
mentioning of  
the committee

- Involvement of  
Private  
Sector in  
Storage  
facilities

This can be improved by  
following Shanta Kumar Committee

↳ Infuse paperless mechanism

Eg. Chhattisgarh's model.  
of e-PDS, ePDS from Arunachal

↳ Social Audit Mechanism for  
data entry.

↳ Improve delivery by PPP mechanism

↳ Include targeted delivery on  
malnutrition issues → targeted states  
like Rajhar., food fortification in  
TPDS.

↳ Rationalise the working of FCI

↳ Invest in cold storage  
structure Eg. 10,000 units  
planned by MoF.

with use of technology and decentralised  
efficiency can we relook to improve PDS  
mechanism.

13. Digitizing land records and conclusive 'land titling' will go a long way in making India a \$5-trillion economy by 2025. Analyze. Also, highlight the steps taken by the government of India in this regard. (Answer in 250 words, 15 marks)

Digitizing land records is process of mapping and technological store of data on title of lands etc. Digitizing land records and conclusive land titling will go a long way for India: —

*Relevant introduction*

Digitizing	Conclusive land titling
1. Proof of Record of land, mitigates litigation (65% of this nature).	1. Ownership is established enables to seek avenues to growth of land.
2. Productive use of land out of conflict.	2. Possible use of Contract farming
3. Geospatial data produce information on land types.	Agri-startup, PM KISUM land



Good coverage of points

→ Agriculture produce can be streamlined

→ credit creation as security of land can be used.

→ Open source of income in rural economy → Double farmers income.

→ Social Mobility  
→ Churn rural economy, demand.

Stallion Economy

Demand generation in rural economy

Better use of land, ↑ yields

More Avenues of Horticulture

Forward + Backward linkage

Measures taken by government

1) State's land digitalisation project. Karnataka's Bhumi project, Rajasthan

2) DILRMP - land Record <sup>Ministry of</sup> Management programme by Min of Agriculture <sup>Rural development</sup> in digital format.

3) Svaminva scheme - Central  
'Sector scheme → common  
repository of data, digital  
record, conclusive title, ease of  
delivery of land records on phone.

You can  
also mention  
the challenges  
faced in  
digitising the  
land records.

4). Geospatial Technology - Bhuvan  
Eg. Bhuvan portal by ISRO.

5). Meity → Aid by technological  
advancements through use of  
Smart contracts, Block chain  
record of data (Gadchiroli's  
Case), Machine learning.

With land's title comes certainty  
of policy making, economic activities  
and betterment of rural economy  
(Ashok Dalwai Committee)



14. The development in the dairy and livestock sector of the country is directly related to a more balanced socio-economic development of the rural economy. Critically examine. (Answer in 250 words, 15 marks)

24% of Global Milk Production in India

India is largest producer of milk and with largest Bovine, livestock population.

Connected with socio-economic development of rural economy:-

- Involvement of women  
- Economic Independence

1) Dairy and livestock sector  
Access to credit in low rates enable SHGs in dairy. Eg. Kiwane Bazar Model.

2) Social Mobility and better position of castes, creed, religious thus Eg. Gujarat's Anand, AMUL model.

3) Formalisation of economy with.

better penetration of internet  
4) Population of livestocks and its concentration help in local economy. Eg. Pashmina Shawl in Ladakh.

Relevant points

5) Food processing sector of meat, dairy products with infrastructure growth.

6) Employed and small left enable local demand for dairy products.  
still, issues of dairy in livestock remain:—

1) Skewed growth.

Arunachal (low) vs. Orissa (high)

6. Use of Antibiotics,

2) Informalised.

4) As high as 90%.

5. Disease prone.  
Eg. Lumpy Skin Disease.

3. Credit Access low.

4. Breeding issues.

Fodder inflation  
unavailability of high quality breeds of cattle.



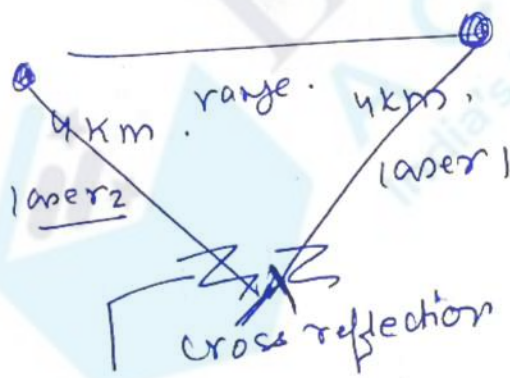
- Measures to follow: —
- Improving the quality of local breeds and their adoption.
  - Promotion of Agri-tech Startups
- 1) Improve breeding of bovines.  
Eg. Govardhan scheme, Gokul scheme.
  - 2) Formal credit in dairy sector.  
Eg. Kisan credit card.
  - 3) Use of technology and better infrastructure for infuse of knowledge, training.

It is imperative to use its potential for both nutrition and economic purposes.

15. Briefly explain the laser Interferometer Gravitational - wave observatory (LIGO). How will the establishment of LIGO - India contribute to advancing India's Scientific capabilities? (Answer in 250 words, 15 marks)

LIGO project is currently working proposed in USA and <sup>and 2 other countries</sup> India. <sup>Proposed in</sup> India.

Laser Interferometer Gravitational Wave Observatory reflect on identifying gravitational waves. In 2016 it did gain success and won Nobel Prize.



any change in laser reflect presence of gravitational waves.

In India, it is proposed in Maharashtra's village by completion of project in 2030. It will contribute in advancing India's

Better to mention working principle / describe about gravitational waves.



scientific capabilities! —

- Economic Potential

- You can quote the example of ISRO's success.

- Knowledge about interaction of celestial bodies like

Black holes.

- Important information regarding origin of universe.

a) Technology to detect gravitational wave

b) India's role in identify other parts like Moon, Dark Matter

c) Improve R/D in other sectors like Space, Telecommunication, Nano Technology.

d) Reservoir of Indian talent in in high-tech projects

e) Improve India's soft power and goodwill

f) Improve avenues of Tech-diplomacy ( India - US, India - Israel )

g) Potential of India in nobel physical science discoveries.

h). Enhance the study of Academia, Industry.

i) Use of gravitational waves in knowledge to collaborate in projects like ITER (Tokamak).

With this project, India will stand out in path of scientific feats.



16. The development in the dairy and livestock sector of the country is directly related to a more balanced socio-economic development of the rural economy. Critically examine. (Answer in 250 words, 15 marks)

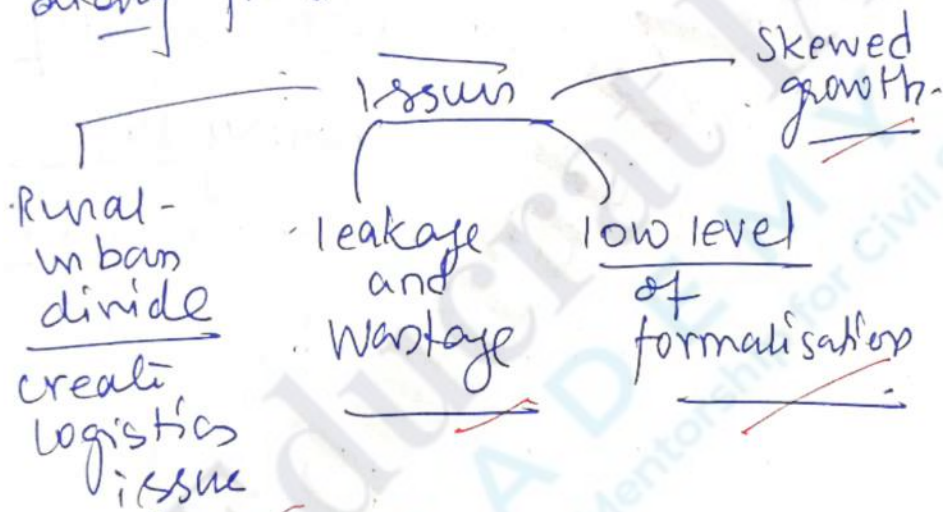
India's milk production is highest in world and livestock sector is 2nd highest.

Relation with more balanced socio-economic development of rural economy.

- 1) Availability of Access to Credit
- 2) Favourable social mobility prospects beyond caste lines  
Eg. Anand, AMUL Model.
- 3) Technological drive in rural india → Internet penetration
- 4) Training of women (social empowerment)

lead to STICs (Kudambshree)

5) - Improve nutritional and animal demand. → increase potential of dairy products.



Way ahead

1) Improve formalisation of dairy sector

2) Infuse of capital in form of Kisan credit cards.

3) Use of Advance breeds through



~~the~~ schemes like - Govardhan.

4) - Experiment MSP in Milk  
category.

5) - Encourage Agri-Tech, Startup  
in dairy. Eg. Country Milk  
Co. delivers directly from farms.

6) - More training of testing and  
food processing potential,  
Eg. Australia.

Therefore, with right steps  
the livestock and dairy structure  
can contribute in doubling farmer  
income and reviving rural economy.

17. Explain how flood plain zoning will help in disaster mitigation in the case of floods in India. Also, with reference to NDMA guidelines, discuss the measures to be adopted to mitigate the impact of floods. (Answer in 250 words, 15 marks)

Flood plain zoning is a state list subject under schedule F and Centre has directed states to compulsorily follow, still states like Kerala has not completed after decades.

Relevant introduction

Flood Plain zoning help in disaster mitigation.

In case of floods:

① Mapping of low-risk, high-risk areas.

② Better prevention and preparedness by the SDMA, NDMA.

③ Urban, Rural planning of exposure.

Good points.

④ Flood Plain Construction can be stalled.

⑤ Frequent data pattern can mitigate loss of property, lives.



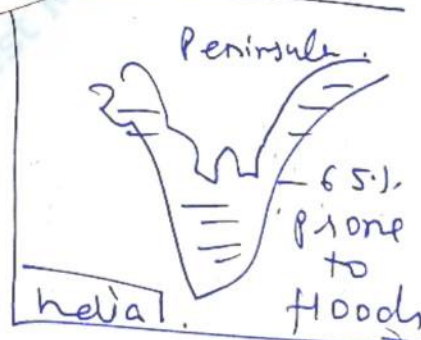
National disaster Management Authority under Disaster Management

*- Information dissemination centrally.*  
Act 2005 is charged with issuing guidelines to States and SDMA.

*- Development of Early Warning System.*  
In light of that, measures to be adopted to mitigate the impact of floods: —

a) Mapping and zoning within States of flood plains, coastal Areas.

b) Training and capacity building of the forces.  
Eg. Aapda mitra of floods.



c) Preventive Measures on Shelter zones, Highland Mapping.

1) Devise step-wise communication  
mechanism during flood situations

Eg. CAG filed Kedarnath flood  
was missing on the

e) Categorisation as flash floods  
(Chamoli), Urban floods (Chennai)  
help to mitigate

f) Flood evacuation projects like  
Nala, Check Dams, Sewage, Water  
Pumps to be ready.

g) Simulation and drilling of SDMA

h) community led preparation  
with role of Panchayati,  
Municipalities.

disasters should be dealt  
holistically to answer preparedness.



18. Biodiversity underpins the health of the planet and has a direct impact on all our lives. Discuss the extent of biodiversity loss and its impacts. What steps have been taken at the national and international levels to arrest biodiversity loss? (Answer in 250 words, 15 marks)

Good  
Introduction

As per UK's centre of ecology  
anthropogenic activities cause 40%  
extinction risk of wild animals.  
and reveal risk of shrinking biodiversity  
in <sup>global</sup> hotspots.

Relevant  
Points

Biodiversity has impact on health  
of planet and our lives

- Promote one health concept
- Promote some of medicine
- Increases the optimum capacity of nature
- 40% of allopathic medicine has natural source.
- Promotes diversity of flora, fauna for balance in ecosystem
- Some of oxygen, carbon sink, Resins like wood, food etc.

- Coral bleaching in Great Barrier Reef.

1) Extinction Rate of Wild Animals has increased  
Eg- Critically Endangered Asian Cheetah.

Extent of Biodiversity Loss

2. Shrinkage of Biodiversity Hotspots and encroachment of Human due to deforestation. (2021)  
Eg- For first time Amazon Forest turned carbon negative.

3. More cases of wild fires  
Eg- 1 bn animals loss (2021)

Impact of Biodiversity Loss

<u>Forest</u>	<u>Animals</u>	<u>Humans Health</u>	<u>Climate</u>	<u>Economy</u>
Shrink in India, only 24%, aim to ↑ to 33%.	loss of lives Eg. <u>Australian case</u>	<u>Fragile to animal led disease</u> ↳ <u>Monkey Pox</u>	<u>Carbon Sink decrease</u>	loss on forests, biodiversity can <u>retard</u> the speed of inclusive growth.

Good categorization of dimensions.



Steps taken at National  
and International level! -

Wildlife Protection Act,  
Environmental Protection Act,  
Protected Areas  
Networks

National

- 1) Project Tiger
- 2) Project Elephant
- 3) Forest Movement  
under National  
Forest Policy i.e  
5m each in non-  
and forest areas
- 4) Biodiversity rich  
places like translocation  
of Cheetah
- 5) Signatory to  
CITES, UNFCCC,  
CoP2+, Paris Climate,  
IPCC, Red Code,

International

- ↳ CITES -  
Protection of  
Endangered Species
- ↳ IUCN's role  
in category of  
animals.
- ↳ Biodiversity  
Hotspots
- ↳ Role of WWF, FAO  
in conservation
- ↳ Protection of  
varieties of  
Flora fauna  
in trade (WTO)

UNEP  
UNCAD  
SDG  
goals

• Biodiversity rich nations / solutions can  
handle the future.

19. Despite commonalities and synergies between money laundering and tax crimes, leveraging anti-money laundering (AML) measures for tackling tax crimes presents political, legal as well as operational challenges. Discuss. (Answer in 250 words, 15 marks)

Anti-money laundering activities refers to prevention, control and regulation of laundering of money into Black Money.

Commonalities

(ML)

- ↳ Evaded tax money is channelised.
- ↳ Use regularly to transfer funds... to Havala channels, Safe Havens.
- ↳ proceeds come from organised crime.

(Tax Crimes)

- ↳ Evade tax
- ↳ Use Rerouting to save tax.
- ↳ e.g. Transfer Pricing.
- ↳ use of proceeds from illegal source unidentified.

Relevant introduction

Good mention of commonalities



## Challenges of AML :-

### Political

Loan Photo in Lok Sabha Act / power of CBI

(1) Role of politicians in tax crime. ML (Vohra committee).

Speaker's permission before investigating Minister MP

(2) Both have different connotation tax crime (Economic fugitives) ML (National Interest).

### Legal

(1) Lack of definition and IPC section clarity

conviction rate in corruption cases by CBI (~4%)

(2) Role of <sup>ED</sup> CVC, CBI, RBI, CAG, intersect

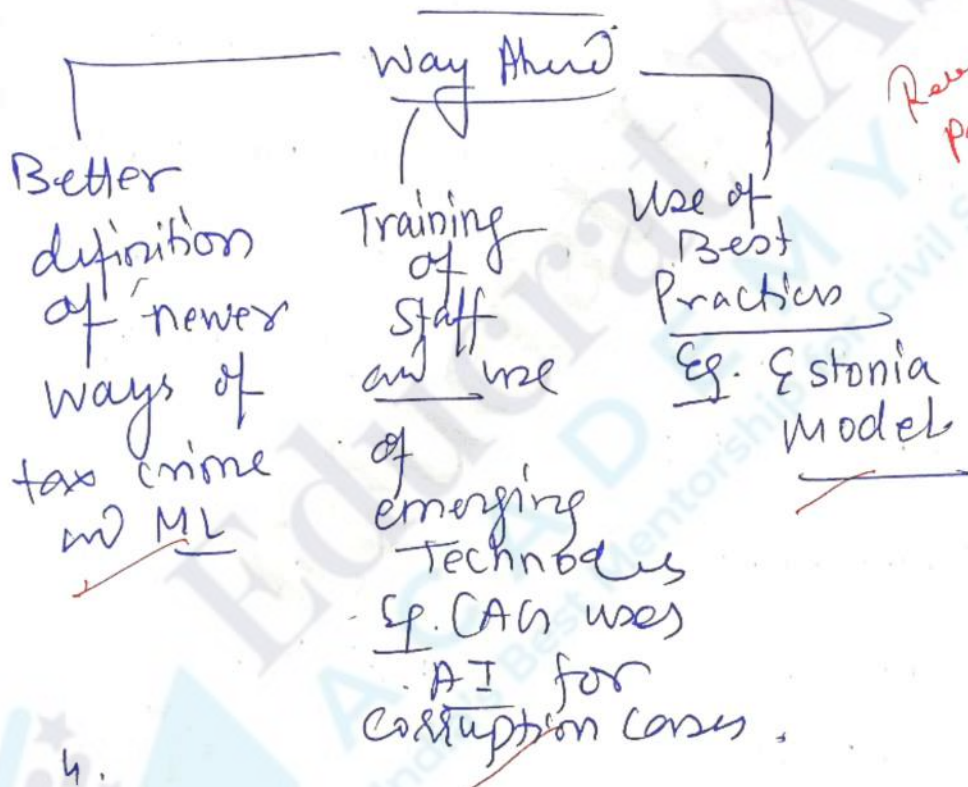
(3) legal aspects of tax crimes differ → evasion, avoidance etc.

Operational (1) calculation and data collection. eg. Opaqueness in Non-fungible Tokens, Cryptocurrency.

Dark net

(ii) Physical infuse by cross border  
ML (fake's counterfeit currency)

(iii) ) To collect proceeds from overseas



4. Seek coordination international  
eg. OECD, FATF, Five Eyes,  
G7, Tax Havens.

Tax crimes and ML should be dealt holistically.



20. The geographical proximity to both Golden Crescent and Golden Triangle, major opium production regions of the world, puts India in a very precarious position. Assessing the vulnerabilities, discuss the challenge of narcotics trading in internal security. Suggest a way forward to curb the menace of Drug trafficking. (Answer in 250 words, 15 marks)

*Good introduction*  
Golden Crescent and Golden Triangle refers to the opium and drug production zones in north-west of India (Pak, Iran, Afghan) and South-East, East (Myanmar, Thailand, Laos).

Vulnerabilities

- uses Deep web Dark for drug trading*
- 1) Poverty in border states  
 e.g. 76% in Jammu in poor families
  - 2) Young demography in border states



- ) informal connect with border nations → counterfeit currency
- 4) Proximity and use of Drones.
- 5) Poxom areas in N.E.

Challenges of Noncoition in I.S.

1. Money laundering rate is high

2. Influx in border States by China, Myanmar, Pakistan and direct terror activities

3. Refugee crisis Eg. Manipur

4. Put the Human Development on list Eg. Jammu

5. Encourage secessionist tendencies. Eg. Punjab

Mention about the report of Indian army.  
↓  
Direction of funds to  
LWB

Way Forward :-

- 5) Integrated checkpoints to be increased. Eg. Bhutan's case.



*Community awareness program*  
b) Vigil on new technologies like drone (Eg. Jammu case).

*Proposed implementation of NDPS Act, 1985*  
c) Offer alternative employment. Eg. Opium in N-E replaced by Balmoil Mission.

*Broadening the definition of drug & Narcotic substances*  
d) Awareness and Employment in migration of youth to other areas  
Eg - IIIT Jammu.

e) 'Keep the drug network in the border at bay.

f) Separate dedicated team to focus.

Drug menace need multi-stakeholder  
and community based model.