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GENERAL STUDIES (TEST CODE : 707)

Name of Candidate	Mudit Jain	Registration Number	6713
Medium Hindi/Eng.	English	Date	25/10/15
Center	RN		

INDEX TABLE		
Q. No.	Maximum Marks	Marks Obtained
1	12.5	
2	12.5	
3	12.5	
4	12.5	
5	12.5	
6	12.5	
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8	12.5	
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15	12.5	
16	12.5	
17	12.5	
18	12.5	
19	12.5	
20	12.5	

Total Marks Obtained:

Remarks:

Signature of Examiner

INSTRUCTIONS

1. Do furnish the appropriate details in the answer sheet (viz. Name, Registration Number and Test Code).
उत्तर पुस्तिका में सूचनाएं भरना आवश्यक है (नाम, प्रश्न-पत्र कोड, विद्यार्थी क्रमांक आदि)।
2. There are TWENTY questions printed in HINDI and ENGLISH.
इसमें बीस प्रश्न हैं तथा हिन्दी और अंग्रेजी दोनों में छपे हैं।
3. All questions are compulsory.
सभी प्रश्न अनिवार्य हैं।
4. The number of marks carried by a question/part is indicated against it.
प्रत्येक प्रश्न/भाग के अंक उसके सामने दिए गए हैं।
5. Answers must be written in the medium authorized in the Admission Certificate, which must be stated clearly on the cover of this Question-Cum-Answer (QCA) Booklet in the space provided. No marks will be given for answers written in medium other 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।
6. Word limit in questions, if specified, should be adhered to.
प्रश्नों में शब्द सीमा, जहाँ विनिर्दिष्ट है, का अनुसरण किया जाना चाहिए।
7. 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।

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EVALUATION INDICATORS

1. Alignment Competence
2. Context Competence
3. Content Competence
4. Language Competence
5. Introduction Competence
6. Structure - Presentation Competence
7. Conclusion Competence

Overall Macro Comments / feedback / suggestions on Answer Booklet:

1.

2.

3.

4.

5.

6.

Mudit Jain

All the Best

All the questions are compulsory and carry 12.5 marks each. NOT MORE THAN 200 WORDS

1. The National Cyber Security Policy (NCSP), 2013 presented an opportunity to understand existing legal limitations before devising a future framework. In this context, enumerate the objectives and strategies of NCSP. Also, discuss the shortcomings and limitations that it has been suffering from.

राष्ट्रीय साइबर सुरक्षा नीति (एन.सी.एस.पी.), 2013 ने भावी रूपरेखा की रचना करने से पूर्व विद्यमान विधिक सीमाओं को समझने का अवसर प्रस्तुत किया है। इस संदर्भ में, एन.सी.एस.पी. के उद्देश्यों और रणनीतियों को गिनाएं। इसके अतिरिक्त उन कमियों और सीमाओं पर चर्चा करें जिससे इस नीति के क्रियान्वयन में बाधा आती रही है।

National cyber security policy was revealed in backdrop of NSA snooping case of USA. It is an overarching policy to create secure cyberspace in India.

Existing legal limitations range from :-

- (1) Right to privacy
- (2) Blocking of websites
- (3) State behaviour in cyberspace
- (4) online content management
- (5) Freedom of speech etc.

Objectives of NCSP 2013:-

- ① Create secure cyberspace
- ② Protect critical information.
- ③ Raise cyber workforce.
- ④ Mitigate effects of a cyber attack.
- ⑤ Right to privacy.
- ⑥ Prevention against foreign snooping & exploits

Strategies

- ① NCIIPC [National critical information infrastructure protection centre] formed under 70 A section of IT act 2000 to protect critical info.
- ② NCCC [National cyber coordination centre] to be build.

- ③ Raise awareness
- ④ Education facilities
- ⑤ Envisages PPP
- ⑥ 500000 experts in 5 years
- ⑦ CERT-in made nodal agency
to take care of cyber crimes
- ⑧ CISO to be formed in organiza-
tions

Shortcomings A Limitations

- ① How to raise 5 lakh workforce
in only 5 years is not clear.
- ② Implementation tardy till now.
- ③ NCCC not formed till now.
- ④ New threats from newer
technologies [cloud computing] not
targeted.
- ⑤ Cyber crime, forensics not
included etc.

Hence the policy challenges the
cyber issues but still misses
out on newer threats.

2. Any counter-terrorism strategy can succeed only if sources of terrorist funding are blocked by efficient financial regulation. In light of the statement discuss the need for an efficient legal framework to combat terror financing in India and steps taken by the government in this regard.

कोई भी आतंकवाद विरोधी रणनीति केवल तभी सफल हो सकती है, जब आतंकवादियों के वित्त पोषण के स्रोतों को कुशल वित्तीय विनियमन द्वारा अवरुद्ध कर दिया जाए। इस कथन के आलोक में भारत में आतंक के वित्तपोषण का प्रतिकार करने हेतु कुशल विधिक ढांचे की आवश्यकता और इस संबंध में सरकार द्वारा उठाए गए कदमों पर चर्चा करें।

Counter - terrorism is need of state-craft to protect national sovereignty & integrity.

Its challenges are :-

- ① Anonymity.
- ② cross border infiltration.
- ③ Newer methods.
- ④ Bioterrorism
- ⑤ 'state' & 'non-state' actors
- ⑥ Terror funding & organized crime.

Hence there is need of efficient legal framework to combat terror financing as it will :-

- ① Stop funding source for

arms & human trafficking.

② Dismantle terrorists' online recruitment plans.

③ Dismantle chain or nexus of organized crime & terrorism.

Organized crime $\xleftrightarrow{\text{arms, drugs}}$ terrorists
 $\xleftrightarrow{\text{funds}}$

④ Target money laundering & improve PMLA.

⑤ Target unlawful activities under UAPA.

⑥ Need of overarching act to curb black money, laundring, tax evasion etc to increase coordination

⑦ Target drug chains like golden triangle. etc.

⑧ This will hamper functioning of terror groups like Let, Hagani etc.

Steps taken by government:-

- ① Black money act 2015.
- ② Anti-money laundering & counterfeited terrorism [AMLA CFT] treaties signed.
- ③ FATF membership.
- ④ ^{Bilateral} Partnerships :-
 - India - Bangladesh : on Fake currency
 - India - Seychelles : on Black money
 - India - US : FATCA
 - India - multilateral : ICRS, MCAA
 - India - UN : UN convention of corruption, UN office on drug & crime [UNODC] etc.
- ⑤ Strengthening agencies like FIU, PMLA act, UAPA act etc.

Hence terror financing shall be countered and global solution like one pitched by India at UNGA is needed.

3. What is Bio-Terrorism? Why is it more perilous than acts of conventional terrorism? Is India prepared to deal with bio-terrorism? Examine.

जैव-आतंकवाद क्या है? पारंपरिक आतंकवाद के कृत्यों की तुलना में यह अधिक खतरनाक क्यों है? क्या भारत जैव-आतंकवाद से निपटने के लिए तैयार है? जांच करें।

Bio-terrorism is intentional use of biological 'agents' like virus & bacteria to inflict terrorism, cause deaths, fear in mind of state etc.

- ex : ① Bubonic plague of 14th cent
② Anthrax in WW-1
③ Anthrax in 2001 in US
④ Clostridium Botulinum toxin etc

Perilious than conventional as :-

- ① Even small quantity of agent causes larger destruction.
- ② It is easier & cheaper than conventional bomb attacks.
- ③ Lack of information about it among anti-terror agencies

as it requires skill training
unlike conventional means
that are better known &
dismantled.

- ④ small quantities of bio-
agents go unnoticed.
- ⑤ Bio-agents do not react
immediately unlike conventional
means hence diagnosis &
prevention is very late.
- ⑥ overall they have created
more fear & panic among
people.

India & bio-terrorism

- ① In wake of newer challenges
Indian security agencies were
given training of countering
bio-terrorism.

② India has forged bilateral partnerships for joint military exercises & bio-terrorism features among these ex with Israel & US.

③ still challenges remain like: -

- ① capacity building
 - Training
 - Skill development of workforce.
 - Research & development [DRDO]
 - Immediate response & coordination etc.

Hence though India has worked to counter bio-terrorism challenges remain to be sorted.

4. The formation of the United Liberation Front of Western South East Asia (UNLFW) poses a serious threat to the North-East region. In this context, discuss the implications of coming together of various insurgent groups on the security of North-East region. What strategies should be adopted to counter this threat?

पश्चिमी दक्षिण-पूर्व एशिया संयुक्त मुक्ति मोर्चा (यू.एन.एल.एफ.डब्लू) का गठन उत्तर-पूर्व क्षेत्र के लिए गंभीर खतरा है। इस संदर्भ में उत्तर-पूर्व क्षेत्र की सुरक्षा पर, विभिन्न उग्रवादी गुटों के साथ आने के निहितार्थों पर चर्चा करें। इस खतरे का सामना करने हेतु क्या रणनीति अपनायी जानी चाहिए?

United national liberation front of western south east asia (UNLF- WESEA) is a recently formed 'rainbow-coalition' of insurgent groups in north-east

It includes Ukha (i), NSCN (K) & other splinter groups. News of NSCN (i-m) regrouping is also making rounds.

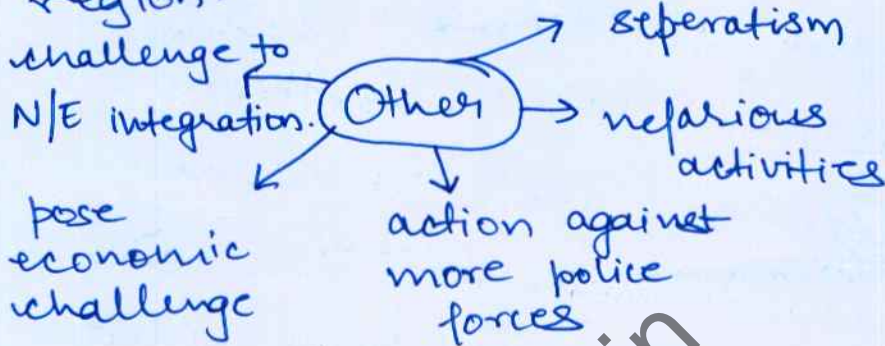
Implications on security :-

- ① It allows insurgents to come together as instigate a joint attack like June mayhem in which 20 soldiers of

Dogra 6 regiments were killed.

- ② It will lead to greater coordination among them.
- ③ Other splinter groups from myanmar can join them.
- ④ Allegations are that China was instrumental in this coalition formation. This is huge threat for Arunachal & North east.
- ⑤ will increase terror funding.
- ⑥ will lead to organized crime
- ⑦ Drug smuggling from golden triangle, cox bazar etc can increase.
- ⑧ Increase extortions, kidnapping in north-east was in news recently.

④ can champion connectivity projects (BCIM, Kaladan, IMT highway] & development in region.

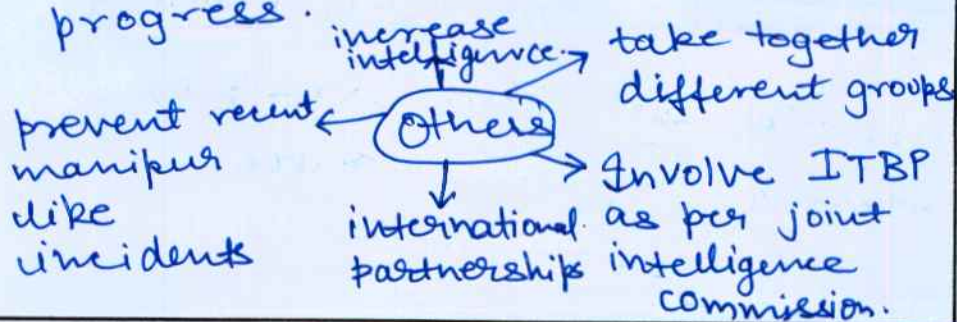


Strategies:-

① Development, building mobile ^{towns} roads, * awareness, technological solutions [5-pronged strategy].

② carefully implementing Hot-pursuit & doctrine of preemption

③ capacity building, socio-economic progress.



Hence there is need of different & holistic solutions.

5. In the context of increasing need for integration of defence forces, there is a growing demand for appointment of a single chief for the three arms of defence services. In light of the above statement examine the desirability of such an appointment as recommended by various committees.

सुरक्षा बलों के समेकन की बढ़ती आवश्यकता के संदर्भ में, रक्षा सेवाओं की तीनों अंगों के लिए एकल प्रमुख की नियुक्ति की मांग बढ़ती जा रही है। उपरोक्त कथन के आलोक में विभिन्न समितियों की अनुशंसाओं के अनुसार इस प्रकार की नियुक्ति की वांछनीयता की जांच करें।

Indian defence forces include army, navy & air force & it is noted by different committees that they lack coordination & integration.

Need of integration :-

- ① Increase R & D.
- ② Joint operations.
- ③ coordination with ministry.
- ④ Needed to be a super power.
- ⑤ To counter new methods of terrorism.
- ⑥ To provide bias less feedbacks.

single - chief :- [desirability]

- ① chief of defence services (CDS) is envisaged.

② Reason :-

- It would increase coordination
- It will bring forces together.
- Solve inter-force conflicts.
- Target mentioned benefits of integration.

Pros :-

- ① It may lead to envisaged aims.
- ② will lead to better defence procurement.
- ③ better inter-force budgetary allocations
- ④ lead to joint - actions.
- ⑤ joint technological developments
- ⑥ Better need-based policy development.

But there are certain implications that lower the desirability of the post as noted

by Naresh chandra committee:-

- ① It may lead to conflict as CoDS would not be aware about challenges of all 3 forces but only 1 in which he served.
- ② Decrease importance of post of chiefs of armed forces.
- ③ Decrease importance of civil bureaucracy.
- ④ Lead to conflict between CoDS & other chiefs.

Need:-

- ① council headed by CoDS.
- ② Better channels for integration.

Hence post of CoDS has pros & cons & implications need to be studied before finalizing the post.

6. With the Golden Crescent and the Golden Triangle in India's neighbourhood, drug trafficking poses a great threat to India's security. Analyse. Examine the role of non-state actors in drug trafficking in India.

गोल्डन क्रीसेंट और गोल्डन ट्रायंगल के भारत के पड़ोस में स्थित होने से नशीले पदार्थों की तस्करी भारत की सुरक्षा के लिए बड़ा खतरा है। विश्लेषण कीजिए। भारत में नशीले पदार्थों की तस्करी में राज्येतर कर्ताओं की भूमिका की जांच करें।

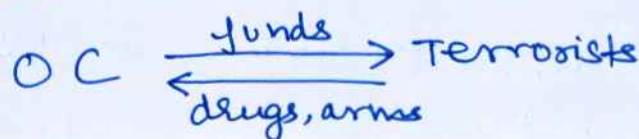
Golden crescent in region in India's north west including Afghanistan & Pakistan & some part of central asia.

Golden triangle is region in India's east including Thailand, Laos, Myanmar & Vietnam.

Drug trafficking & threats:-

① These regions are known to lead drug trafficking in India & other nations.

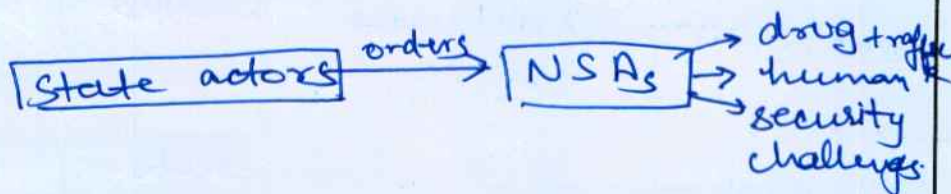
② These have nexus with organized crime dealers & terrorists & lead to fundings.



- ③ Lead to terrorism from LOC & international border in western & N/W India as noted by UNODC. ex in Samba, Kathua of J&K.
- ④ It leads to human trafficking, cattle trafficking, extortions, kidnappings etc in north east as noted by US country-terrorism report.
- ⑤ It leads to subversive activities in north east.
- ⑥ Support by 'state-actors' like China, Bangladesh (cox bazar) etc challenges India's security.
- ⑦ Apart from this non-state actors too play a role & challenge India's security.

Role of non-state actors :-
(NSAs)

- ① They serve as missing links for state actors to inflict crime.
- ② lead to fake currencies, black money, tax-evasion & effect economic & national security via drug trafficking.
- ③ cross border infiltrations by NSAs. ~~leads to~~
- ④ They give vent to phenomenon of 'steeped cells' which themselves are unaware of consequences & follow orders of higher commands.



Hence India faces threat due to state & non-state actors & drug trafficking.

7. A multi-pronged conflict management and resolution strategy is necessary to deal with left wing extremism in India. In this context, examine the effectiveness of the surrender cum rehabilitation scheme for left wing extremists.

भारत में वामपंथी अतिवाद से निपटने के लिए बहुआयामी संघर्ष प्रबंधन और संकल्प रणनीति आवश्यक है। इस संदर्भ में, वामपंथी अतिवादियों हेतु आत्मसमर्पण-सह-पुनर्वास योजना की प्रभावशीलता की जांच करें।

Naxalism or Left wing extremism
has affected 10 states & 108
districts spread across eastern
coast region known as 'red-
corridor'.

Multipronged strategy :-

- ① 5 pronged strategy was recently mooted by GOI. It includes :-
- ② Targetting development [education, health, socio-economic]
- ③ connectivity [2197 mobile towers, roads [RRP-I & RRP-II]]
- ④ Awareness among youth & families

- ⑤ Technological solutions [UAVs]
- ⑥ capacity building of forces
[cisf, itbp, crpf]
- ⑦ bringing democratic institutions
forward.
- ⑧ Focus on 35 districts to
follow area-centric approach.
- ⑨ surrender-com-rehab.

Surrender-rehab scheme :-

- ① Includes Moshini, navjeevan
campaign started in 2013.
- ② Focus on family awareness
& intervention.
- ③ Promise of lighter or no
punishment & provision of
vocational training & jobs.
- ④ This envisages to include
naxals / tribals in mainstream
development & leave path of insurgency.

Effectiveness:-

- ① Naxalism reduced mainly to 35 districts from erstwhile 108 as per MHA.
- ② violence decreased by 35% as per MHA.
- ③ Decrease in Naxal cadres.
- ④ Targetted 'higher commands' so that 'steepers cells' are ineffective.
- ⑤ Led to overall positive effects

Limitations

- ① spent in activities in hinterland of Jharkhand & Chattisgarh.
- ② New cadre recruitment, ambushes.

Hence there is need to follow a multipronged strategy & innovative solutions to counter naxalism.

8. What are the reasons for under-representation of women in science in India? How does it affect the prospect of holistic development of the nation? Suggest some measures which should be taken to tackle the above problem.

भारत में विज्ञान के क्षेत्र में महिलाओं के कम प्रतिनिधित्व के क्या कारण हैं? यह कैसे राष्ट्र के समग्र विकास की संभावना को प्रभावित करता है? उपरोक्त समस्या से निपटने के लिए किये जाने वाले कुछ उपायों का सुझाव दीजिये।

Women in India have largely been reduced to a vulnerable section due to patriarchal, patrilocal & patrilineal society.

Reasons of lower representation in science :-

- ① Poor literacy due to social reasons
- ② ^{Even} lesser literacy in rural areas
- ③ Low enrollment in technical graduation.
- ④ Early marriage.
- ⑤ genderization of work.
- ⑥ Inequalities in R & D force them out.
- ⑦ Internalization of situation

among women.

It affects holistic development of nation as: -

- ① Prima-facie 50% of the population (women) is out of development measures.
- ② Effects economic growth & gdp by 35% as per IMF in its recent report of gender inequality.
- ③ Decreases innovation capacity of India & hence it has only 2.7% of global patent share.
- ④ It affects future generations as well.
- ⑤ Hampers scientific, sociological, economic & strategic security of nation.

Measures :-

- ① Implementing SDGs & it's goal of gender equality.
- ② Challenging patriarchal mindset.
- ③ girl & women specific policies for education like sabla, beti-bachao beti padao etc.
- ④ Increasing monetary benefits & scholarships for taking technical graduation courses (currently less than 10%.)
- ⑤ creating more awareness
- ⑥ Family sensitization etc.

Hence various socio-economic reasons are responsible for lower women representation & need to be tackled accordingly.

9. How do Regenerative Medicines work? Discuss the initiatives taken by the Government of India to develop this field. What are the ethical issues that arise in the use of regenerative medicines?

पुनर्योजी दवाएँ कैसे काम करती हैं? इस क्षेत्र को विकसित करने के लिए भारत सरकार द्वारा उठाए गए कदमों पर चर्चा करें। पुनर्योजी दवाओं के प्रयोग में उठने वाले नैतिक मुद्दे कौन से हैं?

Regenerative medicines follow principles of regenerating, engineer, re-engineer tissues, cells & organs.

Working principle
 ↙ self-heal
 ↘ Regeneration

self-heal
It allows ~~to~~ a cell or tissue to self-heal, sometimes with use of an external agent. ex:

Platelets rich plasma technology to regenerate hair cells & tissues.

Regeneration approach focusses on active redevelopment of damaged cells ex: cartilage &

Skin regeneration.CrOI initiatives:-

- ① The field is largely unregulated
- ② only guidelines are doing the rounds.
- ③ Led to sprawl of clinics & clinical trials.
- ④ with it raised the ethical issues & consumer related frauds.
- ⑤ Then government came up with stem cell related guidelines [DBT & ICMR]
- ⑥ Now skin cell therapy & regeneration drugs require DICI approval.
- ⑦ These will be denoted as clinical trials following DICI guidelines.

Ethical issues:-

- ① Regenerating organs by 'selection' of traits.
- ② leads to selection of even 'embryonic' traits.
- ③ Fraudulent practices by clinics during patients to use 'therapies' while their results are still unknown.
- ④ clinical trials without DCGI, ICMR approvals.
- ⑤ can lead to 'biological mutants'
- ⑥ side-effects like cancer growth are rarely told to patients.

Hence field presents unique opportunities & challenges & need to be regulated by GOI.

10. With growing concerns w.r.t. global climate change and energy security, biofuels have been gaining popularity. What are the advantages of using biofuels? Discuss the implications of biofuel expansion on food security, social welfare and environment in the context of India.

वैश्विक जलवायु परिवर्तन और ऊर्जा सुरक्षा के सन्दर्भ में बढ़ती चिंताओं के साथ, जैव ईंधन लोकप्रिय होता जा रहा है। जैव ईंधन के उपयोग के क्या लाभ हैं? भारत के संदर्भ में खाद्य सुरक्षा, सामाजिक कल्याण और पर्यावरण पर जैव ईंधन के विस्तार के निहितार्थ पर चर्चा करें।

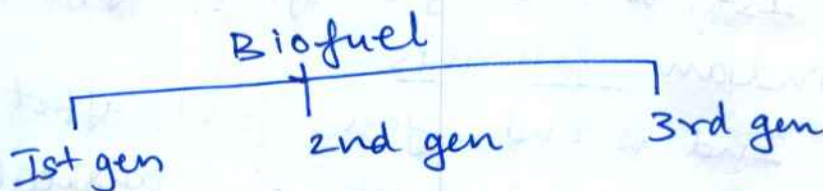
Biofuels are fuels developed from crops & it's by products.

Advantages :-

- ① counter climate change & these are eco-friendly.
- ② energy security & these decrease dependence on conventional fossils.
- ③ provide newer scientific developments.
- ④ Their efficiency can be easily increased.
- ⑤ decrease forex spending & imports for country like India
- ⑥ Increase employment, capacity

building, nation's development
etc.

Implication on food security:-



- ① 1st generation fuel developed from maize, sugarcane & affected food security.
- ② white ~~2nd & 3rd~~ 2nd gen fuel made from oilseeds (Jatropha) affect food & nutrition security only if the parent material is used for human consumption.
- ③ 3rd generation fuel made from algae do not affect food security of India.

Implication on social welfare :-

- ① It creates more jobs.
- ② Increase R & D in India.
- ③ 1st & 2nd gen fuel affected indian farmers
- ④ 1st & 2nd gen fuel affect traditional subsistence agriculture
- ⑤ But these increase energy security in India.
- ⑥ Help in rural development
- ⑦ decrease dependence on other nations etc.

Environmental :-

- ① It helps in reducing CO₂
- ② It helps in reaching INDC
target of reducing CO₂ 32-35%
by 2030.
- ③ Though increase sugarcane
growth has its own challenges
to other crops & water.

Hence Biofuels have benefits & implications to different sectors.

11. With reference to telecommunication, what are White Spaces? How can they be utilised to improve internet coverage? Also differentiate between White-Fi and Wi-Fi.

दूरसंचार के संदर्भ में, 'व्हाइट स्पेस' क्या हैं? कैसे उन्हें इंटरनेट कवरेज में सुधार करने के लिए उपयोग में लाया जा सकता है? इसके अलावा व्हाइट-फाई और वाई-फाई के बीच अंतर बताइए।

White spaces are unutilized spectrum in broadband.

The TV broadcasting involves empty spaces for buffering.

These are called white-spaces.

Properties:-

- ① 470 - 790 MHz range
- ② Used in ~~VHF~~ VHF, UHF communication.
- ③ Used in wifi (white-fi)
- ④ Have longer range & endurance.
- ⑤ can be harnessed easily.

Internet coverage:-

- ① White space internet is more advanced than wifi.

A hence project white-fi made by microsoft to increase net connectivity in rural areas.

② Indian lab, saankhya (Bangalore) was in news recently as it is developing this technology.

③ Isro is collaborating with different companies to harness it for internet coverage.

white-fi * wifi differences :-

- ① whitefi is more advanced than wifi
- ② whitefi has longer range (> 10km)
- ③ white-fi can pass through more walls than wifi

- ④ white fi will be more efficient & economical in long run.
- ⑤ white fi can be developed using solar powered stations as well.

Hence white-fi is a novel development & should be regulated in India as well like done in US, UK etc.

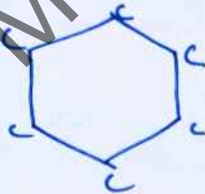
12. Graphene has been touted as the "miracle material" of the 21st century. Describe the structure and properties of graphene. Also list its potential applications. Discuss the challenges that are arising in the commercial use of graphene.

ग्राफीन को 21वीं सदी की 'चमत्कार सामग्री' के रूप में पेश किया गया है। ग्राफीन की संरचना और गुणों का वर्णन कीजिए। इसके अलावा इसके संभावित अनुप्रयोग बताइए। ग्राफीन के वाणिज्यिक उपयोग में आ रही चुनौतियों पर चर्चा करें।

Graphene is a form of carbon having properties & potentials that make it a "miracle material."

Structure :-

- ① Hexagon structure
- ② 6 carbon atom lattice



Properties

- ① nearly transparent
- ② 6 times powerful than steel
- ③ Better conductor than copper.

Potential applications:-

- ① use in defence to create robust structures.
- ② use in space technologies.
- ③ use in powerful batteries for conduction.
- ④ Development of nano-tubes & its use in medical sciences.
- ⑤ Robotics & artificial intelligence

Challenges in commercial use are:-

- ① Lack of R & D at global scale.
- ② Initial high end costs.
- ③ Lack of skill & capacity in countries like India to harness technology.

④ Nascent stage as far as potentials are concerned. Hence commercial use not exploited.

⑤ Space, defence, electronics have different challenges that are better solved currently using other technologies.

⑥ Lack of financial support & awareness.

Hence graphene is a miracle material having different properties that can be harnessed to make use in different fields.

13. What do you understand by Big Data Analytics? Discuss the benefits and dangers posed by it with examples.

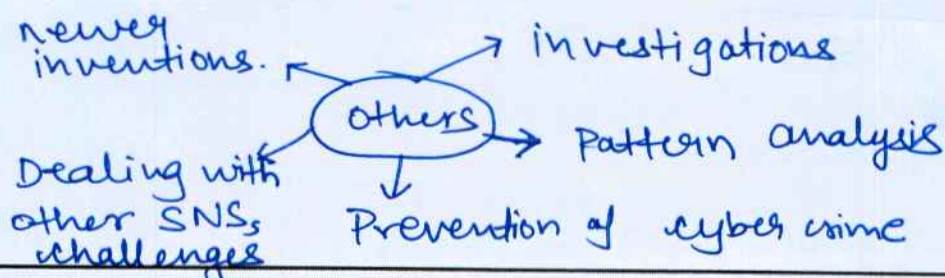
बिग डेटा (Big Data) विकिपिडिया से आप क्या समझते हैं? उदाहरण के साथ, इसके द्वारा उत्पन्न लाभ और खतरों पर चर्चा करें।

Big data is large production of structured & unstructured data like user name & user feedback respectively.

Big data analytics is using the big data by corporations for analysis of consumer behaviour, trends, product performance etc. This involves analyzing the unstructured data & structured data by forming tables, filters, sortings etc.

Benefits :-

- ① used in consumer analysis
- ② companies can give consumer specific solutions
- ③ Increase consumer satisfaction
- ④ Increase economy for companies-
- ⑤ can be used to counter online terrorism & crimes.
- ⑥ used to analyze satellite data for
 - Disaster management
 - crop analysis
 - early warning systems
 - Mineral & oil sites
 - Hydrology & hydrography et



Challenges & Dangers :-

- ① Hamper consumer privacy.
- ② can be used for surveillance [NSA snooping]
- ③ can be used to create 'exploits' as recently in news, to know consumer related data.
- ④ Focus would shift to use humans as dots on maps or graphical bars rather than making holistic & humanistic solutions.

Hence Big data analytics is though a novel technological development, should be used carefully.

14. What are Unmanned Aerial Vehicles (UAVs)? Discuss the opportunities and challenges that have arisen with the private use of UAVs on the rise.

मानवरहित यान (UAV) क्या हैं? UAV के निजी उपयोग से उत्पन्न हुए अवसरों और चुनौतियों पर चर्चा करें।

UAVs or unmanned aerial vehicles are artificially intelligent machines ~~that~~ fly by their own using technology & controlled by a nodal centre.

ex: ① Heron used by Indian army [Bortse incident]

② Lakshya

③ searcher [disaster management] etc.

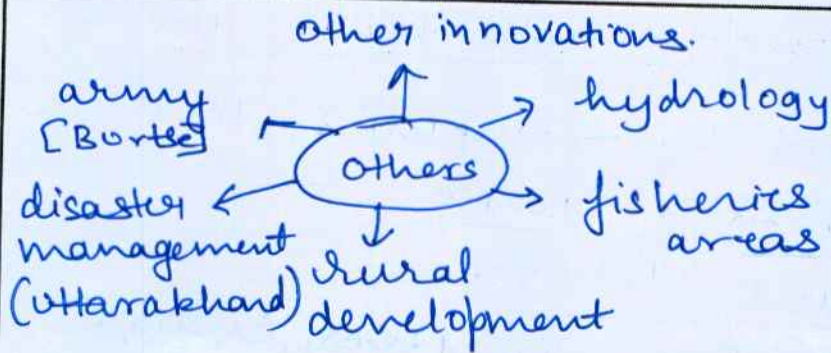
technologies:-

- ① camera aided
- ② High resolutions
- ③ 12-24 hr battery
- ④ Fly at high altitudes & low as well.
- ⑤ High endurance.

Opportunities with private use:-

- ① used by companies like Amazon & google for product delivery.
- ② recently used in india for medicine delivery.
- ③ used or intended to be used to make internet available to unconnected areas.
- ④ used to map images of roads by map sites like google.
- ⑤ use in navigation.
- ⑥ scattered use in organ delivery in western nations in emergency situations.
- ⑦ can be use for:-

✱



Challenges:-

- ① Recently a foreigner was seen flying a drone above India parliament. This is a huge security challenge.
 - ② Hamper citizenary privacy.
 - ③ Image of high resolutions can be taken & hence can be used against women security.
 - ④ can be used by terrorists for surveillance.
 - ⑤ can change the way internet has run so far.
 - ⑥ over exploit in medical field can raise concerns.
- Hence UAVs ~~sh~~ shall be regulated.

15. "China's rising influence on India's periphery underlines the requirement for India to craft an independent and robust regional role in South Asia." Discuss the statement in the context of China's Maritime Silk Route initiative. Do you think India should participate in this initiative?

"भारतकी सीमा पर चीन का बढ़ता प्रभाव भारत के लिए दक्षिण एशिया में एक स्वतंत्र तथा सशक्त क्षेत्रीय भूमिका के निर्माण की आवश्यकता को रेखांकित करता है।" चीन की "समुद्री रेशम मार्ग" संबंधी पहल के सन्दर्भ में इस कथन पर चर्चा करें। आपकी राय में क्या भारत को इस पहल का भागीदार बनना चाहिए?

China & India's relations can be summarised under 3Cs. Conflict, cooperation & competition. While increased China's influence leads to competition & conflicts it can smoothen cooperation too.

Need:-

- ① Independent & robust regional role of India.
- ② Harness Saarc's initiatives like safta, sapta, Saarc satellite, Saarc motor pact etc.
- ③ Bilateral cooperation with Bangladesh, Pakistan, Bhutan, Nepal & others.

④ Focus on it's own connectivity [BBIN, RCEP, etc].

⑤ Emerge as strong superpower economically, in defence, development etc in S. Asia.

These are important in line with China's influential MSR initiative which envisages :-

① Linking ports & port cities of China (Yunan), Myanmar (Sittwe), Bangladesh (Dhaka), India (Chennai), Africa & Mozambique etc.

② This is a economic-strategic initiative among many others like OBOR, AIIB, NDB, BMIC etc.

Hence an independent strategy would allow India to grow and also be a part of MSR without

much deliberations.



MSR.

India should participate in this Initiative as:-

- ① It is left out of TPP, TTIP
- ② can not afford to be left out in S. Asia.
- ③ would lead to maritime development
- ④ Increase regional integration
- ⑤ Lead to maritime security.
- ⑥ cooperation with china might have way for other issues/ settlements.
- ⑦ would forge other bilateral cooperations among scarce nations.

At the same time stronger china is not in India's interest hence independent role should not be forgotten too.

16. The delimitation of Indo-Bangladesh maritime boundary by Hague-based Permanent Court of Arbitration (PCA) has wide economic and strategic implications, not only for India and Bangladesh but for the entire Bay of Bengal region. Discuss.

हेग स्थित स्थायी मध्यस्थता न्यायालय (पी.सी.ए.) द्वारा भारत-बांग्लादेश समुद्री सीमा के परिसीमन के व्यापक आर्थिक तथा रणनीतिक निहितार्थ हैं, न केवल भारत तथा बांग्लादेश के लिए बल्कि सम्पूर्ण बंगाल की खाड़ी क्षेत्र के लिए। चर्चा करें।

Indo-Bangladesh maritime boundary dispute was a 40 yr old dispute over earsowhite new moore island. It went to PCA [UN-court] in 2009 a decision came in 2014 largely in Bangladesh's favour but welcomed by both nations.

Decision :-

- ① 80% of 25000 km² disputed ~~area~~ area given to Bangladesh.
- ② India given 6000 km²
- ③ UNCLOS clearly demarcated maritime boundaries.

Economic implications :-

- ① India can now develop 6000 km² area for fisheries, oil, gas.
- ② Similarly Bangladesh can over its area.
- ③ Bangladesh also got right over continental shelf resources.
- ④ Paves way for International Partnerships * Bilateral India-Bangladesh Partnership to harness resources.
- ⑤ Other nations of BoB can partner too.
- ⑥ Fishermen of 3 regions will be benefitted.
- ⑦ Joint conservation efforts can be taken out in 3 regions.

Strategic Relations & Implications :-

- ① Increase maritime security in Indian waters & Bangladesh & BoB region.
 - ② pave way for BBIN, teesta, Feni, motor-vehicle pact and other bilateral regional issues leading to strategic implication in all S. Asia.
 - ③ Kaladan project, MSR, recent India-Bangladesh coastal & inland shipping agreement are other beneficiaries for strategic relations in BoB region.
 - ④ Other BoB countries like Sri Lanka & Myanmar can also take heart from developments & forge deeper relations.
- Hence it has effect on India, Bangladesh, BoB region & all S. Asia.

17. Initiatives such as NDB and AIIB represent not only an assertion of rising powers vis. a vis. the existing institutions dominated by the West, but also underline the requirement of diversifying investment sources for the developing world in arenas such as infrastructure. Discuss.

एन.डी.बी. तथा ए.आई.आई.बी. जैसी पहल न केवल पश्चिम के प्रभाव वाली वर्तमान संस्थाओं की तुलना में उभरती हुई शक्तियों के प्रभाव को प्रस्तुत करती हैं बल्कि विकासशील जगत हेतु अवसंरचना जैसे कार्यक्षेत्र में विविधतापूर्ण निवेश स्रोतों की आवश्यकता को भी रेखांकित करती हैं। चर्चा करें।

NDB is new development bank
or Brics bank. Features :-

- ① Bank of BRICS.
- ② \$100 Bn capital.
- ③ Fund to Brics, emerging & developing nations.
- ④ HQ at Shanghai.
- ⑤ contingency fund formed.
- ⑥ Lead to swap agreement, better BoP management, decrease dependence on \$ etc.

AIIB : Asian infrastructure
investment bank :

- ① \$100 Bn
- ② Infrastructure funding.
- ③ 57 nations joined.
- ④ India : 6.5% vote share [2nd largest]
- ⑤ Led by China

NDB / AIIB VS Existing institutions

- ① IMF & World bank or Bretton wood institutions lacked democratic representations.
- ② Reforms were long called for & delayed.
- ③ Hence NDB & AIIB formed for newer structures.
- ④ But as said in GFA Summit, NDB / AIIB are looking forward to be only complementary structures to IMF / WB.
- ⑤ Hence these are structures of rising powers NDB [BRICS] & AIIB [57 nations India, China, Australia, UK etc].

Diversifying income sources :-

- ① Required for infrastructure.

- ② Decrease dependence on western nations. (dollar, euro).
- ③ would lead to better management of BoP, unexpected risks, swap agreements etc.
- ④ AIIB is looked as complementary to China's One-belt-one-road & MSR initiatives.
- ⑤ These will finance & build infrastructure in S. Asian nations & Africa & lead to increased regional & economic integration.
- ⑥ Required as WB, IMF, ADB & other institutions are not regional but west dominated.
- ⑦ Delink region somewhat from western economic vagaries.
- Hence AIIB & NDB are novel institutions & have important role in S. Asia.

18. India has decided to go ahead with the proposed Bangladesh-Bhutan-India-Nepal transport corridor. Discuss its implications for the South Asian region.

भारत ने प्रस्तावित बांग्लादेश-भूटान-भारत-नेपाल परिवहन गलियारे पर आगे बढ़ने का निश्चय किया है। दक्षिण एशियाई क्षेत्र के लिए इसके निहितार्थों पर चर्चा करें।

BBIN transport corridor envisage
to like Bangladesh - Bhutan -
India & Nepal.

Main component is the Motor
vehicle part signed by BBIN
group recently.

Implications for South Asian Region

Economic

- ① Increase infrastructure development in region.
- ② Forge new bilateral partnerships on pending issues
- ③ Lead to better use of BRICS bank & AIIB.
- ④ Joint collaboration for other areas like power, hydro, maritime security etc

Strategic

- ① Force other S. Asian nations like Pakistan & Sri Lanka to be part of the process.
- ② It leads to more regional connectivity
- ③ Tackle insurgency in north east India.
- ④ Leads to socio-economic development in north east & hence decrease tensions
- ⑤ Better military coordination between BBIN & S. Asia overall.
- ⑥ ~~It~~ Towards linkages with OBOR & MSR initiatives.
- ⑦ Strengthen saarc, Bimstec, BCIM corridor etc.

Sociological

- ① Create jobs
- ② Bring people to mainstream development
- ③ Increase people to people contacts in BBIN & S. Asia.
- ④ Lead to more ease exchange of knowledge & skilled labour.
- ⑤ Harness historical & civilisation links

Regional & Indian specific

- ① Increase India's goodwill in region.
- ② counter-balance China's influence etc.

Hence BBIN has different positive implications & negative like lack of funds, insurgency, domination, recent India-nepal crisis etc

19. Discuss the strategic, political and economic implications of India's membership to the SCO.

भारत की शंघाई सहयोग संगठन (SCO) में सदस्यता के रणनीतिक, राजनीतिक और आर्थिक निहितार्थों की चर्चा करें।

SCO is a 6 nation group including china, Russia & four C. Asian nations ~~apart~~ except turkmenistan.

India, an OFA, got approval to be SCO's permanent member by 2016.

Strategic implications :-

- ① security in region.
- ② Be collaborative with china & maintain independent relation in region.
- ③ counter-terrorism in Afghanistan
- ④ Greater C. Asia connect
- ⑤ ~~Effect on~~ Use forum for India - Pak issues.

- ⑥ force greater connectivity
with Saarc-SCO.

Political

- ① Lead to pressure on Pakistan
to sort out issues
- ② Lead to more bilateral
exercises in region
ex Khanjar with Kyrgyzstan
- ③ Lead to special strategic-
political relations.
- ④ Negatives are :-
- India want complete in region
with china
 - can lead to pressure on
India to joint anti-Is
coalition
 - can lead to negative effect
on US-India relations
due to closeness with china.

Economic ties:-

① energy security
[oil in Kazakhstan, uranium
for Uzbek & Kazak]

② Infra structure

development of International
north-south transport corridor
(INSTC).

③ Regional & multilateral
partnerships

④ Increase ministerial level
collaborations ex foreign ministry,
culture, tourism MOUs signed
with C. Asia recently having
economic positives.

-ves: ① competition with china

② already high presence of Russia

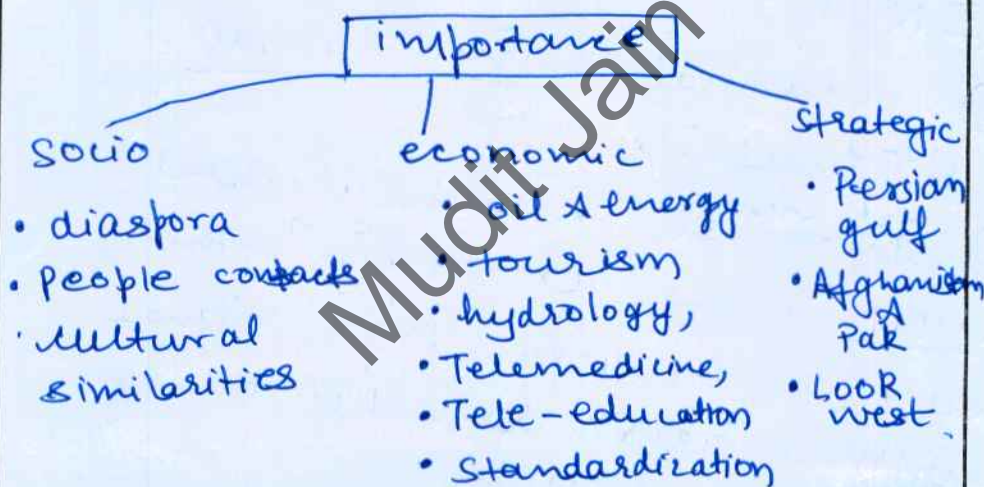
③ can lead to Patent issues,
issues of standardization [MOU]

Hence SCO membership has effects
of various dimensions.

20. West Asia is a key region for India on multiple counts. Has the region being accorded the importance that it deserves in recent times? Have bilateral engagements such as ones with Israel and Iran come at the cost of waning influence of India in the larger West Asian region?

कई प्रकरणों में पश्चिम एशिया भारत के लिए एक महत्वपूर्ण क्षेत्र है। क्या वर्तमान समय में इस क्षेत्र को वह महत्व प्रदान किया जा रहा है जिसका यह अधिकारी है? क्या इजरायल तथा ईरान के साथ द्विपक्षीय सम्बन्ध बड़े पश्चिम एशियाई क्षेत्र में भारत के घटते हुए प्रभाव की कीमत पर बनाये गए हैं ?

West asia region is important
on counts like :-



Region has been given due importance under India's 2005, look west policy.

India has relations with different regions & various visits by external affair minister, PM &

Prez to Egypt, Uae,
palestine, jordan, israel etc
prove the worth India gives
to the region.

Agreements like :-

- cultural integration
- Jordanian phosphate
- Uae strategic relation.
- Saudi diplomat issue solution
- New framework for
Palestine
- Defence export from Israel
etc were
- Refugee issues
signed & talked about.

Israel Relation

- ① Alleged that relation with
Palestine have hampered
due to ~~that~~ Israel.
- ② But India has balanced
Both well.

③ Stand on Palestine formation on 1967 borders, remains same even though India rejected UN resolution against israel on "technical grounds"

④ New strategic framework with Palestine based on 5 pillars formed [socio, eco, culture, PTP contacts]

Relation with Iran: - ① Relations with

Iran & Saudi Arab have been balanced by India.

② Agreement with iran on \$10bn railways, Farzad B gas, Chabahar, INSTC etc are very important for Indian Economy & strategic interests.

③ At same time cooperation with other W. Asian countries & India's influence has not decreased as West Asia's Look east policy is the proof.