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Name of Candidate	Deepak Kumar Dubey		
Medium Eng./Hindi	ENG	Registration Number	74881
Center	ORN	Date	14/08/18

INDEX TABLE

Q. No.	Maximum Marks	Marks Obtained
1	10	
2	10	
3	10	
4	10	
5	10	
6	10	
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8	10	
9	10	
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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 अनिर्दिष्ट अन्य किसी माध्यम में लिखे गए उत्तर पर कोई अंक नहीं मिलेंगे।
- Word limit in questions, if specified, should be adhered to.
प्रश्नों में शब्द सीमा, जहाँ निर्दिष्ट 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

M-1/4, Plot No-A-12/13, 1st Floor, Ansal Building, Dr. Vidya Sagar Homoeopathic Clinic, Mukherjee Nagar, Delhi-110009

EVALUATION INDICATORS

1. Contextual Competence
2. Content Competence
3. Language Competence
4. Introduction Competence
5. Structure - Presentation Competence
6. Conclusion Competence

Overall Macro Comments / feedback / suggestions on Answer Booklet:

1.

2.

3.

4.

5.

6.

All the Best

1. (Technical solutions) are necessary to augment the (traditional methods) of guarding the border. In this context, while mentioning the different components of Comprehensive Integrated Border Management System (CIBMS), discuss how it can help to address the gaps in the present system of border security. (150 words) 10

सीमा चौकसी की पारंपरिक विधियों का संवर्द्धन करने हेतु तकनीकी समाधान आवश्यक हैं। इस संदर्भ में, व्यापक एकीकृत सीमा प्रबंधन प्रणाली (कॉम्प्रीहेंसिव इंटीग्रेटेड बॉर्डर मैनेजमेंट सिस्टम: CIBMS) के विभिन्न घटकों का उल्लेख करते हुए, चर्चा कीजिए कि सीमा सुरक्षा की वर्तमान व्यवस्था में विद्यमान कमियों को दूर करने में यह कैसे सहायता कर सकता है।

India heavily relies on traditional methods to guard its land frontiers. Traditional methods consist of :-

- ~~Penning~~ Fencing wherever feasible given challenges of topography
- Flood lights along fence
- Frequent Patrolling by Border Security forces like BSF, ITBF, SSF
- Slow adoption of technology like night vision equipment.

However, traditional methods leave a wide number of gaps in border areas leading to incursions and infiltrations by terrorists (eg Pathankot + Uri attacks)

The gaps are:

- Fencing is not feasible in mountains (J&K), Riverine tract (Bangladesh) and dense jungles (Myanmar)
- Free Movement Regime (Myanmar border)

- Limited number of patrols due to manpower shortage
- Human error in detecting movement of hostile elements
- Inclement weather & low visibility
- Gaps during night time.

To address these issues, CIBMS has been planned for India-Pakistan border. Its components are:-

- Laser barriers
- Night vision cameras
- Ground Penetration Radars
- Traditional batterfield radars
- Sensors (ground based)

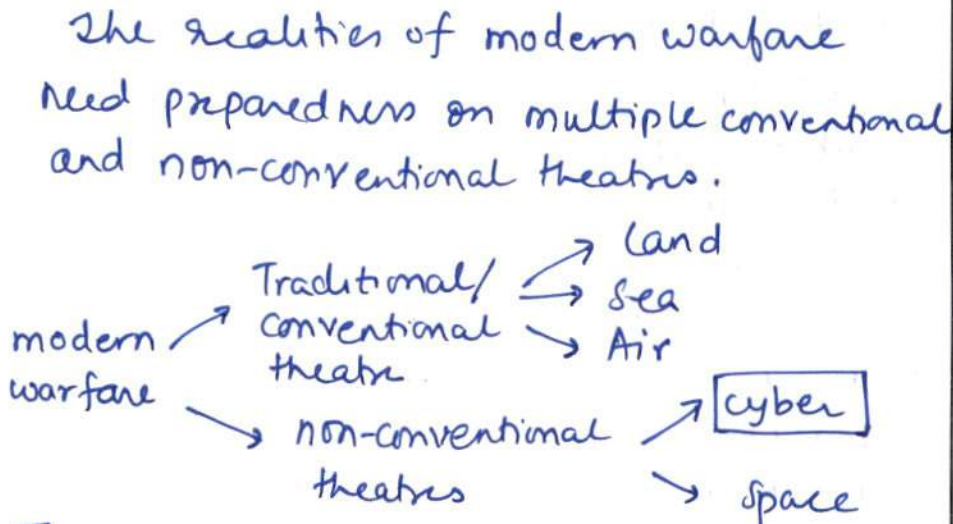
The adoption of these technologies along with better use of satellite imagery (eg Cartosat & RISat) & drones can help fill the gap in traditional methods by

- eliminating human error
- Patrolling limitations
- covering inhospitable terrain.

Thus CIBMS and Border Protection Grid (India - Bangladesh) border should be completed in an expeditious manner to fill the lacunae in traditional methods.

2. In comparison to conventional warfare, the possibility of successful deterrence against cyber warfare is both limited and complicated. Discuss. Also, elaborate upon India's preparedness in this regard. (150 words) 10

पारंपरिक युद्ध की तुलना में, साइबर युद्ध के विरुद्ध सफल भयादोहन (निवारण) की संभावना सीमित और जटिल दोनों है। चर्चा कीजिए। साथ ही, इस संबंध में भारत की तैयारियों का सविस्तर वर्णन कीजिए।



Thus ~~space~~ Cyberspace has emerged as a new front and calls for developing successful deterrence in the Cyberspace. However, the options are limited as well as complicated :→

- Cyber warfare transcends the traditional time and space boundaries. A rogue institution/person/state can launch attack from anywhere
- The locations and perpetrators are hard to pinpoint
- Increasing involvement of non-state actors like hacking groups

- The tools (viruses, malware, ransomware, DDoS, worms) are evolving at a fast rate
 - Nation's capabilities and resources are limited and they often are not able to catch up with the progress in technology in cyber warfare
 - Ethical issues involved
- India has taken multiple steps in its preparedness in this regard
- NTRO is conducting cutting edge research in cyberspace
 - CERT-IN as the nodal agency to monitor emerging threats
 - NCIIIPS to protect threats to the nation's critical information infrastructure (like payment systems, power plants, space networks, ticketing systems for airlines/railways)
 - NCCC as the coordination agency between various cyber agencies.

However, India's offensive capabilities as a credible deterrence are limited. The need is to carefully progress on building not only protective, but also offensive capabilities for an all round response to cyber attacks.

3. Analyse the impact that the instability in the wider South Asian region has on India's internal security. What steps can be taken to minimise such impact? (150 words) 10

विस्तृत दक्षिण एशियाई क्षेत्र में अस्थिरता का भारत की आंतरिक सुरक्षा पर पड़ने वाले प्रभावों का विश्लेषण कीजिए। ऐसे प्रभावों के अल्पीकरण हेतु क्या कदम उठाए जा सकते हैं?

The wider South Asian region is characterized by multiple sources of instability as summarized below:-



The increasing instability in the region has potential to precipitate for India:-

- Increased infiltration from Pakistan, aided by its army & deep state
- Increase migration (from Bangladesh & Myanmar)
- Increased Insurgency in North East from Bangladesh & Myanmar based outfit
- Increased defence expenditure & resource deployment
- Threats to sea lanes of communication & Bay of Bengal & Arabian Sea

Steps needed

- ~~Solve~~ Prod South Asian states to solve international issues ~~or~~ either bilaterally or using regional fora like SAARC, BIMSTEC etc.
- Higher humanitarian aid by India
- Astute diplomacy using all channels
- UN mediated peace if required
- ~~Best~~ Improving surveillance through CIBMS, Border Protection Grid and traditional methods
- Strong vigil at sea to guard India's sea lanes
- Use of Technology on all frontiers for better surveillance

4. Highlighting its mandate, discuss the significance of International Solar Alliance in positioning India to a key global leadership role. (150 words) 10

अंतर्राष्ट्रीय सौर गठबंधन के अधिदेश पर प्रकाश डालते हुए, भारत को एक प्रमुख वैश्विक नेतृत्वकर्ता की भूमिका में स्थान दिलाने में इसके महत्व पर चर्चा कीजिए।

International Solar Alliance (ISA) was launched at the COP21 of UNFCCC at Paris in 2015, with India and France as founding members.

Mandate

- Scale up solar energy deployment
- Mobilize Financing
- Wider technology adoption
- Technology transfer
- Clean energy advocacy
- International Cooperation

Significance in positioning India as a leader in international clean energy arena :-

- 1) It aims to have 120+ countries between tropics of cancer & Capricorn as its members. India can play a key role in bringing them aboard
- 2) It is headquartered in India (Gurgaon) - the 1st international body to have its HQ in India

- 3) India has provided set-up costs and funding for the last 5 years
- 4) Helps demonstrate India's commitment to meeting its Paris INDCs
- 5) Provides a platform for India to :-
 - Promote technology transfer from advanced nations
 - Reiterate common but Differentiated Responsibility principle to urge for more financial commitments by developed nations
 - Emerge as a leader in sustainable and green development advocacy.

The 1st ISA Summit hosted in Delhi and its declaration further affirm India's leadership role in International Solar Energy advancement efforts.

India should use ~~its~~ this opportunity and supplement it with domestic and international efforts to make Paris goals as well as SDG 7 (promoting clean energy) a reality.

5. Despite a strong case for a Broad-based Trade and Investment Agreement (BTIA) between India and the European Union (EU), negotiations have been stuck for long owing to multiple factors. Analyse. (150 words) 10

भारत और यूरोपीय संघ (EU) के बीच व्यापक आधार वाले व्यापार और निवेश समझौते (ब्रॉडबेस्ड ट्रेड एंड इन्वेस्टमेंट अग्रीमेंट: BTIA) हेतु सुदृढ़ परिस्थितियां होने के बावजूद कई कारकों के चलते वार्ता लम्बे समय से अटकी हुयी है। विश्लेषण कीजिए।

India EU is one of the biggest trading partners for India, with combined goods trade of more than \$100 Billion. To further strengthen the trade and economic relationships, a Broad Based Trade & Investment Agreement (BTIA) is needed to:

- Further boost bilateral trade
- Lower tariff barriers
- Lower non-tariff barriers like technical barriers to trade & sanitary & Phytosanitary (SPS) measures
- To promote higher FDI in India
- To boost sectors exporting to EU
 - textiles - Pharma - MSMEs - Automobiles
 - horticulture
- To create jobs
- To blunt the impact of higher vs tariffs as trade war escalates.

However BTIA negotiations are stuck because:-

- 1) EU asking for lower tariffs by India on wine & spirits and luxury cars
- 2) India demanding Data Protection status from EU that can boost export in both goods & services
- 3) India asking for liberal movement of professional under mode 4 of GATS
- 4) EU asking India to give assurance on India ~~not~~ adopting TRIPS Plus standards on Pharma (to sidestep evergreening & compulsory licensing issue)
- 5) Emerging issues like protectionism in the EU and Brexit make negotiations complicated.

However, for the benefit of both the parties and to further deepen relations, both sides need to agree on mutual give-and-take to make BTIA a reality.

6. Accession to the Ashgabat agreement is valuable for connecting India to its extended neighbourhood. What is the Ashgabat Agreement? Assess its significance for India. (150 words) 10

अश्गाबात समझौते में शामिल होना वस्तुतः भारत के लिए अपने विस्तारित पड़ोस से जुड़ने की दृष्टि से मूल्यवान है। अश्गाबात समझौता क्या है? भारत के लिए इसके महत्व का मूल्यांकन कीजिए।

Ashgabat agreement is a trade and connectivity pact between Central Asian Nations (Azerbaijan, Iran, Turkmenistan, Kazakhstan, Uzbekistan etc). Its aims include:-

- Building infrastructure like roads, rails, ports to enhance connectivity among members
- Enhanced connectivity with Europe and South Asia
- Faster access to seas, particularly Indian ocean
- Faster movements of goods

India has recently acceded to the Ashgabat agreement. For India it is an opportunity to integrate better with growing central asian economies.

For them, if India's accession gives more ~~left~~ heft to the grouping.

Significance for India

- Higher export to central Asia due to better connectivity
- Commonalities with International North-South Trade Corridor
- Easier energy evacuation from energy-rich central Asia (Oil & Gas)
- Alternate route to central Asia bypassing Pakistan
- Job creation in export sectors
- Better Business-to-Business & People-to-People relations due to increased connectivity.
- Aid to economic growth; diversification of exports and energy basket

Thus opportunities for India are immense from the Ashgabat Agreement. India should work together with Ashgabat partners for a faster operationalization of the ground infrastructure.

7. The Bay of Bengal Initiative for Multi-Sectoral Technical and Economic Cooperation (BIMSTEC) is a natural choice for India to fulfill key foreign policy priorities. In this context, discuss the issues behind hitherto slow progress and the reasons for reinvigorated optimism regarding BIMSTEC.

(150 words) 10

बहु-क्षेत्रीय तकनीकी एवं आर्थिक सहयोग के लिए बंगाल की खाड़ी पहल (BIMSTEC), भारत के लिए अपनी विदेश नीति संबंधी प्रमुख प्राथमिकताओं की पूर्ति हेतु एक स्वाभाविक चयन है। इस संदर्भ में, अब तक हुई धीमी प्रगति के पीछे निहित मुद्दों और BIMSTEC के संबंध में पुनर्जीवित होते आशावाद की चर्चा कीजिए।

BIMSTEC is a regional grouping with India, Bhutan, Nepal, Sri Lanka, Myanmar, Thailand and Bangladesh as its members. A key feature of the grouping is sectoral focus, with multiple sectors assigned to each member country to lead on. It is a natural choice for India to fulfill its key foreign policy priorities because:-

- With Thailand and Myanmar as members, it can be a gateway to South-East Asia & ASEAN for India
- dovetails into India's Act East Policy and opens avenues for economic cooperation with BIMSTEC members as well as ASEAN
- Protection of sea lanes of communication in Indian Ocean littoral areas

- Cultural integration and P2P contacts between BIMSTEC members
- Solving bilateral issues regarding border management
- Security of India's Eastern Frontiers
- Diversifying India's energy sources
- Avenues for investment for Indian firms

Issues behind slow progress

- Prominence of SAARC in regional affairs of South Asia
- Infrequent summits
- Myanmar & Thailand's preoccupation with ASEAN
- Insufficient attention by a member country's leadership
- Lack of financial ~~res~~ & resource Mobilization

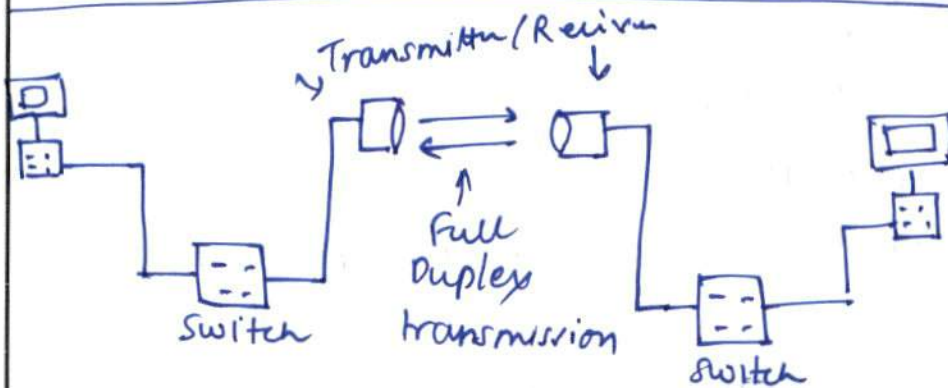
Reasons for Reinvigorated optimism

- Deadlock in SAARC
- The group (BIMSTEC) can work outside the disruptive attitude of Pakistan
- Renewed focus on ^{South} East Asia through Act East Policy
- China's growing assertiveness

8. What do you understand by Free Space Optical Communication (FSOC) Technology? Critically explain its potential in connecting rural and remote areas in India. (150 words) 10

फ्री स्पेस ऑप्टिकल कम्युनिकेशन (FSOC) प्रौद्योगिकी से आप क्या समझते हैं? भारत में ग्रामीण और दूरस्थ क्षेत्रों को जोड़ने में इसकी क्षमताओं की आलोचनात्मक व्याख्या कीजिए।

FSOC is a line-of-sight communication technology using light beams or laser. Just like light beams flow in fibre in fibre-optic communication, they flow in space in FSOC.



Key Features

- Faster than fiber optic transmission
- low error rate in clear weather
- ~~low~~ No security/interception issue
- low deployment cost
- Full Duplex transmission (transmitting & receiving at the same time)
- Line-of-sight technology; there should be no barriers in between

It has immense potential in connecting rural areas because:-

- National Open Fibre Network (NOFN)
Can not penetrate far flung areas due to topographical difficulties
- Low cost deployment
- High channel bandwidth further reduces per person cost
- Technology readily available (e.g. Google deploying 2000 FSO devices in Andhra Pradesh)

⇒ However some practical difficulties exist

- Bad weather, birds, insects etc. in the transmission medium affect the transmission
- High error rate in hazy, cloudy atmosphere
- Error correction equipment needed
- Wireless mobile towers of high power (4G) are a credible alternative
- India needs to rely on imports

9. What are Orphan Drugs? Examine the significance of putting in place a policy framework for such drugs in a developing country such as India.

(150 words) 10

ऑर्फन ड्रग्स क्या हैं? भारत जैसे एक विकासशील देश में ऐसी दवाओं हेतु एक नीतिगत ढांचा स्थापित करने के महत्व का परीक्षण कीजिए।

Orphan drugs are those drugs that promise cures for rare diseases.

Since these diseases are rare,

- Wide market does not exist
- Pharma firms do not want to fund the R&D
- The disease-afflicted persons may not have high purchasing power (eg sickle cell anaemia in tribals of Central India)
- The researchers have little incentive to undertake intensive research in such diseases and in ~~find~~ discovering 'orphan drugs'

Therefore multilateral development agencies (like WHO, UNDP), rich foundations and Governments grant 'orphan drug' status to such drugs and provide funding support.

Ex US govt. recently granted orphan drug status to 'Yescarta Gene Therapy' to cure B-cell lymphoma.

Significance of putting such a policy in place in India

- Will promote research in rare diseases
- Commercialization of drugs through govt. support
- Economic return on investment for pharma companies
- A blessing for people suffering for such diseases
- Affirmation of the state's role to protect the health of all citizens (Article 47 of constitution)
- Leadership role in rare diseases research for India.

India should therefore develop a Policy framework on supporting orphan drugs.

10. Discuss the obstacles in women's access to science education in India and also suggest remedial measures to overcome these obstacles.

(150 words) 10

भारत में विज्ञान की शिक्षा तक महिलाओं की पहुँच के मार्ग में आने वाली बाधाओं पर चर्चा कीजिए और इन बाधाओं को दूर करने के लिए उपचारात्मक उपाय भी सुझाइए।

While India is making rapid strides in bridging gender gap in education (as indicated by higher Gross Enrolment ratios), the gender gap in science remains immense.

Obstacles in women's access to science education in India

- Prejudices, biases and gender stereotypes perpetuate the notion of gender-appropriate careers for men and women
- Science and Technology not considered gender appropriate for women by a wide section of society
- Lack of role models
- Absence of encouragement
- Lack of focused schemes
- Long gestation period in science-based research careers
- Lack of jobs in pure-science field

- Familial responsibilities like marriage, childbirth, & caregiving to children leading to career breaks

Remedial Measures

- Breaking stereotypes by promoting successful women in science (e.g. Kalpana Chawla)
- Science promotion schemes (e.g. KIRAN, CURIE, UDAAN)
- Liberal research grants and sabbatical for women scientists
- Flexible working environment
- Increasing enrolment through extra-numerary seats in higher education institutes
- Awareness and communication directed at parents to promote women taking science

Thus a multi-pronged strategy is needed involving women, parents, government & societal opinion leaders.

11. Giving examples, elaborate how India's approach to becoming a net security provider in the Indian Ocean Region is taking shape. What are the challenges and opportunities associated with this approach? (250 words) 15

उदाहरण देते हुए, संविस्तार वर्णन कीजिए कि किस प्रकार हिंद महासागर क्षेत्र में वास्तविक सुरक्षा प्रदाता (नेट सिक्यूरिटी प्रोवाइडर) बनने का भारत का दृष्टिकोण आकार ले रहा है। इस दृष्टिकोण से संबद्ध चुनौतियां एवं अवसर क्या हैं?

India's geographic position lies at the very heart and centre of the Indian Ocean region. Indian Ocean Region is vital for India because :-

- 90% of India's foreign trade flows through it
- India has a 7,517 km long coastline
- Indian Ocean Region (IOR) faces many security challenges.
 - Presence of Piracy (eg off the coast of Africa)
 - Unstable regions (Somalia, Maldives)
 - China's assertive stance due to its Maritime Silk Road initiative and building military bases under the garb of infrastructure

~~How~~ These qualities along with India's ~~might~~ Naval might place it as a strong player ~~as~~ as a

net security provider in the IOR.

Following examples substantiate it

- Gulf countries like Saudi Arabia and UAE have urged India to take up the role of net security provider
- Indian warships have thwarted multiple piracy attempts in northern Arabian Sea
- India has secured multiple port access in IOR
 - Dugm in Oman
 - Changi in Singapore
 - Logistics exchange with France and USA (LEMOA)
- India is also building naval infrastructure in Mauritius (Agalya) and Seychelles (Assumption)
- India is playing an active role in guarding sea lanes of communication and in advocating freedom of navigation in high seas.

Challenges

- China's securing multiple naval bases (Gwadar, Djibouti, Hambantota, Coco Islands) and playing a destabilizing role in IOR
- Recent roadblocks in infrastructure development plans in Mauritius & Seychelles
- Straining relations with Maldives
- IOR is vast and Indian Navy has multiple other priorities like infiltration control
- Lack of submarines and aircraft carriers in large numbers
- Lack of surveillance facilities & listening posts

Opportunities

- Many countries suspicious of China's motives
- Oil trade important for the Gulf that lies in India's close vicinity and India can play ~~and~~ an important role in guarding the lanes in the Gulf area
- Geostrategic choke points (Malacca, Hormuz straits etc.) are close to India
- India seen as a neutral & dependable partner.

Thus opportunities are immense for India if it can overcome immediate challenges through

12. The UNODC (United Nations Office on Drugs and Crime) has pitched for the need of an integrated approach in order to address the difficulties in preventing, detecting, investigating and prosecuting Transnational Organised Crimes (TOC). Elaborating on these difficulties, discuss how an integrated approach can help in tackling TOCs. (250 words) 15

पार-राष्ट्रीय संगठित अपराधों (ट्रान्सनेशनल ऑर्गनाइज्ड क्राइम्स: TOCs) को रोकने, पता लगाने, जाँच करने और अभियोजित करने में आने वाली कठिनाइयों से निपटने के लिए UNODC (यूनाइटेड नेशंस ऑफिस ऑन ड्रग एंड क्राइम्स) ने एक एकीकृत दृष्टिकोण की आवश्यकता पर बल दिया है। इन कठिनाइयों का सविस्तार वर्णन करते हुए, चर्चा कीजिए कि किस तरह एक एकीकृत दृष्टिकोण से TOCs से निपटने में सहायता मिल सकती है।

Organized crimes are those that are committed by groups with a corporate-like structure, with profit as the key motive. Transnational organized crimes (TOC) are those organized crimes (OCs) which span multiple countries. For example

- Transnational traffic in
 - drugs - arms & ammunition
 - human beings for sex trade or organ trade - wildlife trade
- Circulating counterfeit currency
- International extortion rings
- Trade in ~~contraband~~ counterfeit goods.

~~For~~ For controlling TOC, an integrated approach is needed because:-

- Actors are present in multiple jurisdictions
- National laws are often different

The integrated approach must include

- Cooperation between nations
- Harmonization of national laws
- Utmost attention by all member countries
- Regional agreements to control TOC
- Similar definition of TOC across the regional grouping
- An umbrella act to ~~prosecute~~ prosecute all TOCs

However practical difficulties arise because

- Not all countries are signatories to UN's TOC convention
- National laws are different
- Extradition treaties are often not in place

- Effective border control requires cooperation of both countries
 - Porous boundaries in South & South East Asia often aid the free movement of perpetrators of TOC
 - Investigative apparatus is not equally strong in all countries
 - Prosecution often requires full cooperation on evidence for other countries.
- Thus an integrated approach can help:-

- To bring perpetrators to quick justice
- Stop flow of illegally trafficked goods, animals & human beings across borders
- Protect ~~an~~ human & animal rights
- Check ~~cross~~ trans boundary movement of criminals
- Create an atmosphere of peace, free of violence

13. Highlighting the need for SMART policing in India, suggest some administrative, legislative and technological reforms in order to realize this vision. (250 words) 15

भारत में SMART पुलिसिंग की आवश्यकता पर प्रकाश डालते हुए, इस दृष्टि को साकार करने के लिए कुछ प्रशासनिक, विधायी और तकनीकी सुधारों का सुझाव दीजिए।

It is said that Indian Police relies on outdated laws, has feudalistic setup, is tardy in law enforcement and status-quoist in nature. To bring a paradigm shift in India's policing, PM Shri Modi has suggested the police be SMART, i.e.

- S → Strict & yet sensitive
- M → Modern and Mobile
- A → Alert and Accountable
- R → Responsible and Responsive
- T → Techno savvy and Trained.

However, SMART policing will need multiple reforms to realize the PM's vision.

Administrative Reforms

- Providing security of tenure to all operational posts
- separation of law enforcement and investigative functions

- Expedious filling of vacant posts
(22% sanctioned posts vacant)
- Rationalizing working hours and
workloads of policemen
- Better infrastructural facilities like
houses, conveyance
- ~~lower~~ NO political interference in
functioning

Legislative Reforms

- Comprehensive ~~the~~ review and
amendment in British era Police
Act, 1861
- Changes in Indian Evidence Act
to make it fine-tuned to modern
realities of a digital society
- Reforms in IPC and CrPc as
suggested by the Malimath
committee
 - Social and correctional codes
for small offences (0-3 years
punishment) with sentences on
Community ~~social~~ Service
 - Increasing the number of Bailable

and non-cognizable offences

Technological Reforms

- Quick operationalization of CCTNS
- ~~Q~~ More forensic labs
- Training in forensics, cyber crimes and modern ballistics
- Use of technology ~~for~~ in line with Digital India vision (in filing FIRs, theft reports, in obtaining character certificates, antecedent verification)
- Training on evidence gathering and analysis using modern means
- Training on effective use of social media for citizen outreach.

Thus a comprehensive reform package is needed to make the police a SMART FORCE

14. Discuss the reasons behind private sector playing a merely peripheral role in defence manufacturing in India. Also, explain how the Draft Defence Production Policy, 2018 seeks to augment private sector participation in defence manufacturing in India. (250 words) 15

भारत में रक्षा विनिर्माण के क्षेत्र में निजी क्षेत्रक द्वारा अत्यंत गौण भूमिका निभाने के पीछे उत्तरदायी कारणों की चर्चा कीजिए। साथ ही, व्याख्या कीजिए कि किस प्रकार ड्राफ्ट डिफेंस प्रोडक्शन पॉलिसी, 2018 (रक्षा उत्पादन नीति मसौदा, 2018) भारत में रक्षा विनिर्माण के क्षेत्र में निजी क्षेत्रक की भागीदारी बढ़ाना चाहती है।

India's defence manufacturing is characterized by the dominance of Ordnance Factory Boards (OFB), Defence PSUs and Central Research Laboratories in defence research & manufacturing. So far the role of private sector has been at best peripheral because -

- Reserving of certain sectors for public sector
- strict and bureaucratic licensing regime
- Bureaucrats on OFB & PSU boards, tilting balance in their favour on winning contracts
- a mistrust of private sectors capability & readiness to play this critical role

- Lack of Private sector R&D
- Reliance on 'turnkey purchases' from foreign nations for large systems like aircraft carriers
- Long drawn out contract process
- Lack of PPP templates in Defence Production, with clear demarcation of roles for public and private parties
- Lack of Lab-to-Plant linkages for commercialization of ~~some~~ high-potential private sector ideas

Draft Defence Production Policy 2018

Aims to :-

- Provide more licenses for private sectors, opening multiple new fields
- Promote MSMEs as well as other private sector firms through offset policies
- Reserve certain projects only for MSMEs and start-ups
- Further liberalize MAKE-II procedure under Defence Procurement Policy 2016

→ Build credible private sector partners in multiple platforms

The policy will

- By setting clear export and manufacturing targets, ~~and then boost~~ boost both public and private sector defence manufacturing
- Boost IP protection regime in India, and it will also act as an assurance for private sector and their foreign partners
- The efforts will promote defence industry participation by MSMEs and startups and will help build supply chains
- Keep Indian armed forces achieve reasonable self-sufficiency in defence production.

15. While India and Russia have enjoyed good relations since the Soviet era, relying on the past may not be enough to deal with shift in the relationship in light of the rapidly evolving geopolitical realities. Comment.

(250 words) 15

यद्यपि सोवियत युग से ही भारत और रूस के संबंध मधुर रहे हैं, तथापि अतीत पर निर्भरता तेज़ी से विकसित होती भू-राजनीतिक वास्तविकताओं के प्रकाश में, संबंधों में आये बदलाव से निपटने हेतु पर्याप्त नहीं भी हो सकती हैं। टिप्पणी कीजिए।

Russia has been India's all weather partner right since the soviet era.

In particular its contribution is seen in

- Helping set up steel plants
- ~~DEPs~~ In setting some older IITs
- In building nuclear power plants (y Koodankulam)
- In supplying critical defence equipment (y Mig 29, Su 30MKI, ~~RIET~~ submarines, aircraft carriers like admiral Gorskoy)
- Training Indian scientists in Russia in critical fields like defence, technology.

However, Geopolitical Realities in the recent years have changed →

- Cold war is over, and countries no longer see value in allying ~~it~~ and aligning with one power
- The current world is multipolar, with south asia emerging as a separate pole
- Economic factors like foreign trade and FDI are becoming increasingly important in bilateral relations
- One country cannot provide best military equipment in all areas of defence
- Countries are aiming for self reliance in technology rather than buying them from foreign powers.

In Russia's case particularly, India's leaning of relations is also due to

- Russia's growing relations with China
- Its engagement with Pakistan, including military exercises

- India's need to search for more partners in countering China
(eg Quad → US, Japan, Australia)
- looking for best deals in defence arena, rather ~~that~~ than what Russia has to offer
(eg Rafael)
- Building multiple sources of supply (eg Israel, USA, France)

Moreover, in future India ~~too~~ wants to be credible global power, a net security provider and an exporter of key defence systems and technologies to friendly nations.

Thus hard ~~go~~ geopolitical realities are behind India's perceived move away from Russia.

16. In what ways has the engagement between India and its diaspora evolved over the years? What role can the Indian diaspora play in furthering and shaping India's foreign policy goals? (250 words) 15

भारत और इसके डायस्पोरा के बीच सहभागिता बीते वर्षों के दौरान किस तरह विकसित हुई है? भारत की विदेशी नीति के लक्ष्यों को आगे बढ़ाने और आकार देने में भारतीय डायस्पोरा क्या भूमिका निभा सकते हैं?

India's diaspora has played a relatively passive role in India's foreign policy ~~over~~ ⁱⁿ after the first few decades after independence. ~~on the contrary~~ It was characterised by

- Focus on remittances as a means of boosting foreign exchange reserves
- Source of Tourism earnings
- Limited outreach
- Low involvement of consulates in engaging with diaspora
- Untapped potential as India's unofficial ambassadors.

The Pravasi Bharatiya Divas, started 2 decades back was a

turning point in the evolution of engagement with diaspora.

The new engagement is characterized by

- Periodic conferences providing people-to-people and govt-to-diaspora contact (eg annual Pravasi Bharatiya Divas)
- Diaspora as a key element of India's soft power and ambassadors of India's culture
- Encouraging diaspora to invest in India (Make in India)
- Schemes for greater involvement of diaspora in research in science and technology (GIAN, Ramanujan Fellowship)
- Indian embassies & consulates engaging with local diaspora
- Active assistance to NRIs/PIOs

In difficult circumstances, if those
~~the stuck~~ ^{stuck} ~~locally~~ in war

Diaspora can play the following
role in shaping India's foreign
policy goals

- In economic engagement with their countries through FDI policy change advocacy
- In technical collaboration
- In promoting & extending India's soft power
- Building awareness about India's emerging role as a responsible emerging power
- Highlighting India's role in promoting regional peace & in countering terror
- Explaining the essence of India's cultural values to foreigners
- In promoting tourism

17. Sluggish progress of the Doha round signals that the WTO is proving to be ineffective in promoting free trade. Identifying the factors behind this, comment on the relevance of WTO in present context. (250 words) 15

दोहा दौर की धीमी प्रगति संकेत करती है कि WTO, मुक्त व्यापार को प्रोत्साहित करने में अप्रभावी सिद्ध हो रहा है। इसके पीछे उत्तरदायी कारकों की पहचान करते हुए, वर्तमान संदर्भ में WTO की प्रासंगिकता पर टिप्पणी कीजिए।

Doha Round of talks was launched by the WTO in 2001 with a set agenda, the 'Doha Development Agenda' (DDA) to further promote ~~trade~~ world trade. The aims were:

- Reducing tariff & non-tariff barriers
- Granting greater access to least developing countries at low or no duties
- Further increasing market access to of developing countries
- Review of trade-distorting subsidies.

However, the ~~Bali~~ Nairobi stalemate shows that WTO is

proving ineffective in promoting free trade.

Reasons behind this :-

- Consensus model of WTO, due to which even one vociferous country (e.g. USA) can block progress
- Lack of voice of developing nations
- Bureaucratic and long-drawn dispute resolution mechanism
- Focus has remained on Goods trade, while TRIPS reforms that would have favoured service exporting countries like India have not taken place
- Lack of enforcement power to make sure its decisions are implemented
- Perception that WTO works for developed countries only

Relevance of WTO in present contextPro-WTO

- It can act as a global watchdog of world trade
- Forum to promote cooperation in trade issues
- Can help blunt protectionist demands
- Critical for LDCs to benefit from trade

Anti-WTO

- The current world is multipolar
- Regional agreements like (TPP11, RCEP)
- 17-year long Doha Round in itself is an example of its irrelevance.

However, there is need to bring systemic reforms in WTO and reform its working and decision making process rather than dismantling it

18. India's engagement with its extended neighbourhood in West Asia has evolved into a 'Look West' approach in recent times. However, multiple faultlines in this volatile region require a balancing act on the part of India. Discuss. (250 words) 15

पश्चिम एशिया में अपने विस्तारित पड़ोस के साथ भारत की सहभागिता हाल के दिनों में 'लुक वेस्ट' दृष्टिकोण के रूप में विकसित हुई है। हालांकि, इस अस्थिर क्षेत्र में उपस्थित कई फॉल्टलाइन्स भारत की ओर से एक संतुलनकारी कार्यवाही की मांग करते हैं। चर्चा कीजिए।

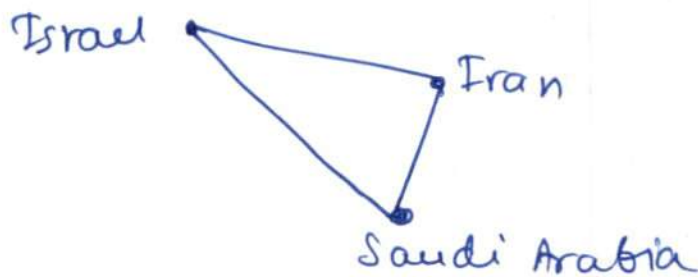
India has adopted a look west approach to West Asia due to its growing significance for India.

- As a supplier of a large part of its energy needs (2/3rd)
- as a source of remittances sent back of NRIs in West Asia (\$40BN)
- Close historical and cultural linkages
- Security of Indian Trade passing through Red Sea and Persian Gulf
- As a means to access Europe and Central Asia for India (INSTC & Ashgabat Agreements)

However, multiple faultlines in the region are present :-

- Ethnic conflict between Shi'a and Sunni
- Geopolitical Rivalry between Iran and Saudi Arabia
- Civil war in Yemen
- Israel-Pale Arab Relations over ~~Arab~~ Palestine issue
- Foreign Involvement (e.g. USA in Iraq)
- Iran's nuclear programme & suspicion of Saudi Arabia and Israel about the same.

Thus India needs to particularly balance its relations with the 3 axes of ~~middle~~ West Asia geopolitics :-



Thus a liberated, nuanced approach based upon India's security and economic needs is needed. All countries of the region are important for India, and India needs to separately pursue involvement with each country, without hurting its geo-political, religious or ethnic sensibilities.

19. The rapid diffusion of Artificial Intelligence begets unique opportunities and challenges for India. Discuss. What can be done to address these challenges? (250 words) 15

आर्टिफिशियल इंटेलिजेंस (कृत्रिम बुद्धिमत्ता) का तीव्र प्रसार, भारत के लिए विशिष्ट अवसर और चुनौतियां उत्पन्न करता है। चर्चा कीजिए। इन चुनौतियों का समाधान करने के लिए क्या किया जा सकता है?

Artificial Intelligence is the display of human-like cognitive abilities by computer (eg decision making, learning, perceiving, memory). AI has emerged as a key technology enabler and its emergence begets unique opportunities for India

- Leadership in AI research
- Building an AI startup ecosystem
- Using AI in
 - education
 - Healthcare
 - Autonomous vehicles
 - Smart cities
- Using AI for better delivery of public services

However, challenges abound

- low number of researchers & low patent base
- Lack of government schemes and grants
- AI hinges on the presence of a data storage infrastructure on a large scale, that lacks in India
- Lack of laboratory to firm linkage for commercialization of IP
- Weak IP protection regime
- Lack of training / skilling facilities in AI

To address these challenges :-

- Open AI centres of excellence in universities like China is doing (NFTI suggestion)
- Grants to scientists doing AI research

- Promoting some grand AI challenges with attractive rewards (NITI suggestion)
- Evolving data privacy ~~law~~ legal & administrative structure
- Collaboration with leading countries in AI (US, Japan, Israel)
- Exchange Programmes for researchers.

These steps can ensure a faster adoption of AI in India.

20. Water shortage in India has been sought to be addressed through various policy and technological interventions. Explain. Also, examine the benefits of desalination technology and the costs associated with it. (250 words) 15
- भारत में विभिन्न नीतिगत और तकनीकी उपायों के माध्यम से जल की कमी की समस्या का समाधान करने के प्रयास किए जाते रहे हैं। व्याख्या कीजिए। साथ ही, विलवणीकरण प्रौद्योगिकी के लाभों एवं इससे संबद्ध लागतों का परीक्षण कीजिए।

Policy Interventions

- Model Groundwater Bill
- Draft Framework Water Bill
- Pradhan Mantri Krishi Sinchayee Yojana
 - Expediting accelerated irrigation benefits projects
 - Increasing on-field water use efficiency
- Mandatory groundwater recharge wells in some cities
- Pricing of water as a commodity with escalating user charges (depending upon usage)
- National Water Mission

Technological Interventions

- Cloud seeding on an experimental basis
- Inter-basin water transfer (eg Polavaram dam)
- Watershed development
- Neeranchal Programme
- National water informatics Centre (for water use availability information on real time)
- Aquifer mapping
- Bunds, Checkdams etc.

Benefits of Desalination tech

- Clean, pollution free water
- Can solve drinking water shortage
- Especially useful for island nations

- 24x7 operation
- Unlimited raw material
in coastal areas (saline water)

Costs

- Prohibitive costs
- Costs to obtain technology
- High maintenance costs
in reverse-osmosis based
plants