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GENERAL STUDIES (TEST CODE : 759)

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Medium Hindi/Eng.	English	Registration Number	19039
Center	DL	Date	14/11/16

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	
7	12.5	
8	12.5	
9	12.5	
10	12.5	
11	12.5	
12	12.5	
13	12.5	
14	12.5	
15	12.5	
16	12.5	
17	12.5	
18	12.5	
19	12.5	
20	12.5	

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

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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.

All the Best

Answer all the questions in NOT MORE THAN 200 WORDS each. Content of the answers is more important than its length. All questions carry equal marks.

12.5X20=250

1. India has the lowest tax-to-GDP ratio among countries with a similar per capita income on a purchasing power parity basis. Explain the reasons for the low tax-to-GDP ratio in India. What measures can be taken to correct this situation?

भारत का कर-GDP अनुपात वस्तुतः क्रय-शक्ति समता के आधार पर भारत जैसे प्रति व्यक्ति आय वाले देशों के बीच न्यूनतम है। भारत में न्यून कर-GDP अनुपात के कारणों की व्याख्या कीजिए। इस स्थिति को सही करने के लिए क्या उपाय किए जा सकते हैं?

According to economic survey 2015-16, taxation ensures accountability of state and citizen towards each other. India with very low tax-to-gdp ratio is lacking on this front.

Major reasons for low-tax-to-GDP ratio are as follows-

- In India only about 4% of population comes under tax net.
- Due to political consideration, threshold for direct tax has been continuously increased.
- As per Economic Survey, increase in threshold has been more than increase in incomes

leaving many out of tax net.

- Tax evasion and black money
- Tax expenditure due to various exemptions has been high
- Indirect taxes has not been rationalised
- Property tax has not been effectively utilised.

This has caused very low tax-to-GDP ratio limiting fiscal capacity of government. The following measures can be taken to correct this situation-

- Rationalising taxation threshold to increase tax base
- Transparency in collection procedure, less autonomy to income tax officers
- Exploiting property taxation as it is non-excessive, buoyant tax.

- Reducing tax expenditure by rationalising taxation rate

To continue India as welfare state and to grow above 10%, correct measures needed to be taken to correct tax-to-GDP ratio.

2. In spite of various initiatives, the condition of the power sector still remains one of the core challenges for India. Comment.

विभिन्न पहलों के बावजूद, विद्युत क्षेत्र की स्थिति भारत के लिए अभी भी एक प्रमुख चुनौती बनी हुई है। टिप्पणी कीजिए।

In India, power for all
still remains a dream. Since
independence many efforts have
been taken some of which are-

- Electricity acts
- Electricity tariff policy
- Rajiv Gandhi Gramin Vidhyutikaran Yojana
- Deen Dayal Upadhyay Gramin Vidhyutikaran Yojana
- UDAY scheme - Integrated power development scheme.

Despite these power
sector remains a core challenge
in following ways-

- In India, majority population still do not have access to affordable and continuous power supply.
- Despite introducing open access policy in electricity

act, states have imposed extra tariffs neglecting the effect.

- It has led to increased captive power generation by industries.
- Erratic power supply has been hurting industrial production.
- High ~~costs~~ aggregate technical costs (AT&C) for DISCOMS
- Debt ridden DISCOMS are unable to increase power supply and supply network.
- Rural areas are wrongly marked as electrified
- Integration of renewable energy with existing grid remains a challenge
- Scam in coal block allocation and cancellation of allocation by Supreme Court hurt the power sector.

Hence power sector is facing many challenges. For the success of make in India and ~~skibk~~ digital India, uninterrupted and affordable power supply is key. Recent initiatives of UDAY scheme and GARV app can help overcome these.

3. Examine the reasons for poor performance of public sector banks in India. Give an account of the steps taken by the government and RBI to improve their performance. Also analyse whether the risks arising from the consolidation of the Indian banking sector outweigh the potential longer-term benefits.

भारत में सार्वजनिक क्षेत्र के बैंकों के दयनीय प्रदर्शन के कारणों का परीक्षण कीजिए। सरकार और RBI द्वारा इनके प्रदर्शन में सुधार करने के लिए उठाए गए कदमों का विवरण दीजिए। साथ ही विश्लेषण कीजिए कि क्या भारतीय बैंकिंग क्षेत्र के समेकन से उत्पन्न जोखिम दीर्घावधि में प्राप्त होने वाले संभावित लाभों पर भारी पड़ेंगे?

In India, public sector banks play a major role. Recently they have been performing poor in terms of profit and values of stocks.

Reasons for poor performance-

- Increasing non-performing assets (NPA)
- Subdued growth in infrastructure sector, stucked projects
- Stressed corporate balance sheets (twin balance sheet problems)
- Global slow down and subdued investment climate
- Monsoon failure, NPAs in agricultural sector
- Loans in welfare measures, priority sector lending (PSL).

Steps taken by RBI and government

- Recapitalisation of Banks - infusion of 75,000 crore - 5:25 scheme
- Bankruptcy Code, Asset Reconstruction Company to tackle NPAs
- Increased public investment to correct investment climate
- Bank Board Bureau to increase professionalisation in Banks.
- Indradhanush plan, giving functional autonomy
- Consolidation of Banks, merger of subsidiary banks with SBI.

Risks and challenges in consolidation

- After merger, SBI has become very large compared to next bank, decreased competition.
- SBI reluctant to merge with other banks
- merging of ill bank will healthy bank can impact its performance
- Geographical concerns, employee concerns, technological synergy

- Fall of big bank can be crisis to economy.

Benefits of merger and consolidation.

- Increased capacity to recover NPAs
- High capacity to lend
- Globally large bank

Hence consolidation comes with own set of risks. Considering geographical continuity, technical synergy; consolidation can definitely over-come risks associated.

4. Tax treaties intended to avoid double taxation have in many cases become instruments for double non-taxation. Elaborate. List the major amendments in the India-Mauritius DTAA and the advantages that are expected to accrue due to it.

दोहरे कराधान से बचाव के प्रयोजन से की गई कर संधियाँ कई मामलों में दोहरे गैर-कराधान का साधन बन गयी हैं। विस्तारपूर्वक बताइए। भारत-मॉरीशस DTAA में हुए प्रमुख संशोधनों और इनके कारण प्राप्त होने वाले अपेक्षित लाभों की सूची प्रस्तुत कीजिए।

India has many times signed Double Taxation Avoidance Treaties to avoid double taxation. Singapore and Mauritius treaties have caused concern for these treaties.

It has led to double non-taxation in following ways -

- Tax haven countries as Mauritius and Singapore do not tax companies managed from their territories.
- Misusing this, Indian black money goes to these countries through Hawala routes and comes back to India in form of FDI. This is called round tripping.

- Treaty shopping.
- These shell companies operating there neither pays tax there nor in India because of treaty.

Hence the agreements have been leading to double non-taxation.

To avoid this, India amended its treaty with Mauritius. As per the amendment, companies managed in Mauritius investing in India will be taxed in India. Some companies based on a criteria have been exempted till 2018.

Advantages of amendment.

- No treaty shopping, no round tripping
- Indian black money will be difficult to routed to India.
- Complying Base Erosion and Profit sharing guidelines
- Reduced money laundering and terror financing.

The treaty conditions will also apply to Singapore. Because of treaty, India can lose on FDI as Singapore and Mauritius accounts for more than 50% FDI in India. But in long term, it is a good move.

5. Emerging ICT and their appropriation by society constitutes a threat that demands new competencies and practices to be developed and integrated in the existing police work. Discuss with examples.

उभरती ICT एवं समाज द्वारा उसके प्रयोग में एक ऐसा खतरा समाहित है जो पुलिस के वर्तमान कार्य में नई क्षमताओं और प्रथाओं के विकास और समेकन की मांग करता है। उदाहरण सहित चर्चा कीजिए।

In the era of globalisation and information, world has been connected with information and communication networks. Rise of social media as facebook, twitter etc. have connected people of world.

But the ICT revolution and social media have come with its own set of challenges especially for policing. Character of crimes have changed. Emergence of cyber crimes, identity theft, stalking and harassing through emails, snooping, fishing, spread of terrorism through social media, radicalisation of youth through social media etc. are some of challenges posed to police work

by ICT and social media.

To tackle with these challenges, competencies of police needs to be improved. Establishing of cyber cells, training in information technology, monitoring of social media, registering complaints through internet etc. are some of measures.

Like in case of increased crimes against women through internet requires police expertise in ICT to investigate matter, to monitor such contents and taking down such things.

Another is radicalisation of youths through social media. In this case also police requires vigil over social media, tracking ~~pick~~ content and victims and handling these contents.

Hence modernisation of

police on lines of new era
crimes is required to be
competent to tackle these.

6. What are P-Notes and how do they impact the financial system in India? In this context, also highlight the recent regulatory measures taken by SEBI to deal with them.

पी-नोट्स क्या हैं और वे भारत में वित्तीय प्रणाली को किस प्रकार प्रभावित करते हैं? इस संदर्भ में, सेबी द्वारा हाल ही में इनसे निपटने के लिए किए गए विनियामक उपायों पर प्रकाश डालिए।

P-Notes (Participatory Notes) are instruments through which foreign citizens can buy stocks in companies investing in India.

Through P-notes, foreign citizens (not associated with companies) can invest in India. So this a way of India getting investment. But due to non-applicability of Know Your Customer (KYC) norms, P-notes have been leading to black money and money laundering.

To curb the menace of black money and money laundering, SEBI recently notified some regulatory measures for P-notes.

which are -

- Stricter know-your-customer (KYC) norms.
- Companies will periodically report to SEBI about all P-note investors
- Investors changing company will also be reported to SEBI.

These measures taken by SEBI will increase regulatory control over P-notes. This was a much required move to curb money-laundering and black money.

7. The rising levels of e-waste generation in India have been a matter of concern in recent years. Examine the underlying causes of this scenario and the challenges associated with it. How can the new E-Waste Management Rules, 2016 help in meeting these concerns?

भारत में ई-अपशिष्ट उत्पादन का बढ़ता स्तर हाल के वर्षों में चिंता का विषय रहा है। इस परिदृश्य के अंतर्निहित कारणों एवं इससे संबद्ध चुनौतियों का परीक्षण कीजिए। ई-अपशिष्ट प्रबंधन नियम, 2016 इन चिंताओं का समाधान करने में किस प्रकार सहायता कर सकता है?

With rise of information technology, India has seen increased generation of e-waste. India is producing major portion of e-waste generated globally.

Causes of increased generation-

- Information and communication technology, increased number of computers and associated hardware
- Semi-conductor use is increasing
- Replacing ~~old~~ conventional bulbs with CFLs
- Very low level of recycling.

Challenges associated-

- nearly 90% of e-waste is handled by informal sector.

- proper technology for recycling is not used
- It is proving to be hazardous.
- Not proper sorting of wastes, MSW landfills are sites of e-waste disposal
- It can prove to be major health and environment hazard.

To deal with e-waste, Govt. notified E-waste Management Rules salient features of which are

- Producer Pay Principle - producer of electronic items is responsible for collection and disposal of e-waste
- Increased collection, sorting at collecting place
- CFLs are declared hazardous under e-waste rules
- Increased recycling, technology advancement for recycling.

Hence these rules will

increased organised sector involve-
ment in handling e-wastes. Recycling
can be economically beneficial as
rare metals are used in electronic
items. Proper implementation
stands the key to success.

8. Terror groups, much like corporate bodies have well and truly embraced and exploited the benefits of globalisation. Discuss the statement with reference to terror financing and propaganda activities.

कॉर्पोरेट निकायों की ही भाँति आतंकवादी समूहों ने भी सही मायने में काफी हद तक वैश्वीकरण के लाभों को आत्मसात और उनका दोहन किया है। आतंकी वित्तपोषण एवं प्रचार गतिविधियों के संदर्भ में इस कथन पर चर्चा कीजिए।

Globalisation is also causing the globalisation of terrorism.

Terrorists have exploited well globalisation and adapted it in their methods. Rise of terror groups as ISIS ~~are~~^{is} example of global terrorism.

In terror financing, like corporates, terror groups have well exploited the global available channels. They are being funded by religious fundamentalists from across the world. Use of donations through money laundering and other channels is proving handy in terror financing. Information technology

is also exploited to channelise funds.

They have been using social media ~~through~~^{for} propaganda activities.

They are radicalising youths using information technology channels and recruiting them through social media. Their planning and communication are taking place through these channels.

The global menace of terror, ISIS is channelising funds from world over and influencing population globally. People from all parts of globe are working with them.

Hence like corporates have adapted and utilised globalisation to spread business world over,

terror groups are doing same
to spread terror world over..

9. What is net-metering? Critically analyse its potential in incentivising distributed generation in India.

नेट-मीटरिंग क्या है? भारत में वितरित उत्पादन को प्रोत्साहित करने में इसकी क्षमता का आलोचनात्मक विश्लेषण कीजिए।

10. Explain the challenges associated with predicting the monsoon accurately. Can shifting to a completely dynamical model from the one used by the IMD presently help in improving the accuracy of predicting the monsoon?

मानसून के सटीक पूर्वानुमान से संबद्ध चुनौतियों की व्याख्या कीजिए। क्या IMD द्वारा वर्तमान में प्रयोग किए जा रहे मॉडल के स्थान पर पूर्णतः गतिशील मॉडल का उपयोग मानसून के पूर्वानुमान की सटीकता को बढ़ा सकता है।

Indian economy is very much dependent on monsoon. Mostly agricultural activities have direct correlation with monsoon.

Prediction of monsoon has been both crucial as well as challenging.

The various challenges faced are-

- Till now IMD has predicted wrong for most of the years.
- Though monsoon is considered seasonal reversal of winds but there are many more factors influencing monsoon phenomena.
- Factors as El-NINO, Southern Oscillations, Indian Ocean Dipole have affected predictions.
- Due to climate change and

global warming, weather prediction has been becoming challenging. Statistical model of IMD fails to account for changing scenarios.

Statistical model, based on historical data has failed most of the times. With changing climatic conditions, dynamic factors need to be considered in prediction. So a completely dynamical model can be useful to improve the prediction accuracy.

But dynamic model has its own challenges including continuous data monitoring. In addition of dynamical component to existing model can be way forward for now.

11. The Compensatory Afforestation Fund Bill would require to work along with the Forest Rights Act in order to achieve the aims of environment protection while also ensuring rights of the tribal people. Comment.

जनजातीय लोगों के अधिकारों को सुनिश्चित करते हुए, पर्यावरण संरक्षण के लक्ष्यों को प्राप्त करने के लिए प्रतिपूरक वनीकरण कोष विधेयक को वन अधिकार अधिनियम के साथ समन्वय की आवश्यकता होगी। टिप्पणी कीजिए।

The Compensatory Afforestation Fund Bill establishes authorities both at centre and state to effectively manage the fund collected for afforestation.

Major challenges with compensatory afforestation has been of low quality of forestation, issues of land acquisition and not proper utilisation of fund.

Process of industrialisation and mining replaces tribal peoples from forests. Forests Rights Act provides them protection from such processes.

Compensatory Afforestation should work along with forest

Rights act while diverting the forests for industrialisation and ~~reforestation~~ reforestation. Traditional knowledge of tribals can be used for quality afforestation. Tribals can better take care the afforestation program. On the other hand this will protect tribals rights over forests. Tribals can be given rights over afforested forests.

By doing this, on one hand major challenges described above of afforestation are tackled while on other hand violation of FRA is minimised and well being of tribals is ensured.

Hence co-operation between compensatory afforestation and FRA is beneficial both for

environmental protection and
tribal well being.

12. It has been argued that India's strained patent protection and IP administration has failed to keep pace with growing technological advances. In this context, examine the provisions of the new Intellectual Property Rights (IPR) Policy, 2016. Also explain how the new policy can help boost innovation and entrepreneurship in the country.

यह तर्क दिया जाता है कि भारत का विकृत पेटेंट संरक्षण एवं बौद्धिक संपदा अधिकार प्रशासन वस्तुतः विकसित होती तकनीकी प्रगतियों से तालमेल बैठाने में असफल रहा है। इस संदर्भ में, नई बौद्धिक संपदा अधिकार (IPR) नीति, 2016 के प्रावधानों का परीक्षण कीजिए। साथ ही व्याख्या कीजिए कि नई नीति देश में नवोन्मेष और उद्यमिता को बढ़ावा देने में किस प्रकार सहयोग कर सकती है।

India, recently launched new intellectual Property Right Policy to overcome criticism of lax IP administration and patent protection.

Salient Provisions of Policy are

- IP administration - Patent administration has been unified under Department of Industrial Production and Promotion (DIPP).
- Anomalies in patent laws will be corrected to better compliance with TRIPS Agreement.
- Commercialisation of IP
- Easier patent application
- Awareness generation about IP

creation

- Promoting IP creation and innovation.
- Compulsory licencing and ever-greening clauses are kept intact despite global pressure.

Hence IPR policy is welcome step to overcome strained patent protection and lax IP regulation. Unification of administration and streamlined patent application will go long way in IP regime of country.

But mere generation of IP is not enough. Ensuring quality of IP generation is much important. Clause of Compulsory licencing and ever-greening are still causing resent in world IP-regime.

Policy will help innovation and entrepreneurship in following ways-

- Easy patent application, less bureaucratic red tap.

- Awareness generation and commercialisation of IP will promote innovations.
- start-up have special provision in new IPR policy.

effective implementation of policy assisted with legislative backing will promote innovation. ==

13. Though the frequency of both droughts and floods has increased in many states of the country, the preparedness level for mitigating their impacts still has significant gaps. Discuss in the context of India.

यद्यपि सूखे और बाढ़, दोनों की आवृत्ति देश के कई राज्यों में बढ़ी है किंतु उनके प्रभावों को कम करने हेतु तैयारियों के स्तर में अभी भी एक बड़ा अंतराल विद्यमान है। भारत के संदर्भ में चर्चा कीजिए।

Due to global warming and climate change, frequency of droughts and floods in India have been increasing. Failure of monsoon for continuous two years and unpredictability of monsoon has caused frequent flooding in Gangetic region and droughts in southern states.

Despite increasing frequency, preparedness in mitigation is lacking in following ways-

- Ineffective implementation of employment generation programs in drought affected areas.
- No change in cropping patterns for efficient water use, rainfed

and water - efficient agriculture have not seen much progress.

- availability of drinking water is not properly ensured.
- public distribution system needs better implementation in drought affected areas.
- water harvesting and watershed management needs effective implementation.

Similarly in case of flood also preparedness is lacked in following ways -

- continuous encroachment of flood plains
- large scale loss of economy and livestock in floods
- quick response measures are lacking
- artificial levees on river banks are seldom maintained.

Due to lacking in true measures, despite being a regular

phenomena, impact has not been decreasing. Lack of drinking water in drought areas and response measures in flood areas are still far from satisfactory.

14. In view of the high levels of inequality in India, it is imperative to not only broaden access to education and health but also financial services. Discuss. Also highlight the efforts made by the government in recent times to address inequality by promoting financial inclusion.

भारत में असमानता के उच्च स्तरों को देखते हुए न केवल शिक्षा और स्वास्थ्य बल्कि वित्तीय सेवाओं तक पहुँच को भी विस्तृत करने की आवश्यकता है। चर्चा कीजिए। साथ ही सरकार द्वारा हाल ही में वित्तीय समावेशन को बढ़ावा देकर असमानता को कम करने के लिए किए गए प्रयासों पर भी प्रकाश डालिए।

India has been seeing inequality in social, economic and political spheres. Government has been taking measures to ensure education and health facilities but efforts are also needed for financial inclusion.

Need for financial inclusion-

- High economic inequality
- Lack of formal credit to farmers, medium and small industries
- Farmers are debt ridden due to vicious nexus of landlords and moneylenders.
- For empowerment of particularly vulnerable sections as women, SC/ST, credit opportunities needed

to be promoted.

Hence financial inclusion should be an important component to reduce inequality.

Government Measures for financial inclusion in recent times -

- Pradhan mantri Jan Dhan Yojana
- Pradhan mantri Mudra Yojana
- Promotion of self-help groups
- Direct benefit Transfers
- Priority sector lending norms, NABARD, SIDBI
- Banking Correspondents
- Providing financial services through post offices.

All these government measures focus on financial inclusion through ~~providing~~ ^{providing} financial channels and formal credit to dress out inequality.

15. Examine the need for indigenization of the defence industry in India. While highlighting its challenges, analyse how the new Defence Procurement Policy (DPP) and relaxations in FDI norms can address these challenges.
- भारत में रक्षा उद्योगों के स्वदेशीकरण की आवश्यकता का परीक्षण कीजिए। इसकी चुनौतियों पर प्रकाश डालते हुए विश्लेषण कीजिए कि नई रक्षा खरीद नीति (डिफेंस प्रोक्योरमेंट पॉलिसी-DPP) एवं FDI मानदंडों में दी गयी छूटें इन चुनौतियों को किस प्रकार संबोधित कर सकती हैं।

Need for indigenization of defence industry-

- India is largest arms exporter in world, huge drain on economy
- Arm supplies can be cut during emergency by supplier country
- Strategic disadvantages, bugs are introduced deliberately sometimes
- Dependency for repairs and spare parts
- High corruption and scams in arms purchase
- Loss of secrecy, recent leaking of Russian submarine data.

Challenges in indigenisation-

- Lacking technology

- In foreign collaboration, transfer of technology seldom happens.
- High investment requirement
- Not effective policy measures till now.
- Incompetent domestic heavy industry.
- Not enough spending on research and development.

New Defence Procurement Policy promotes indigenization of defence industry. It gives importance to MSME in defence sector. Indigenisation

clause with 40% domestic content and design is preferring domestically designed tools. Easing bureaucratic hurdles, collaboration with foreign companies for joint development are main focus of policy.

Relaxation in FDI norms to allow till 49% investment in defence under automatic route will promote foreign investment.

Hence FDI norms and DPP will prove important in indigenisation of defence industry.

16. Digital technologies have the potential to dramatically transform higher education. Giving a special emphasis to MOOCs, analyse the statement in the context of India.

डिजिटल प्रौद्योगिकियों में उच्च शिक्षा को नाटकीय ढंग से रूपांतरित करने की क्षमता है। MOOCs पर विशेष बल देते हुए, भारत के संदर्भ में इस कथन का विश्लेषण कीजिए।

MOOCs (Massive^{open} Online Courses) by Indian government provides opportunity to students to learn without visiting colleges from world class teachers.

MOOCs provides an example how digital technology can transform higher education in India. In India, quality higher education availability is a major concern. Lack of infrastructure facilities, quality teachers is hampering progress in higher education.

Through digital technologies as is the case with MOOCs, major study materials, video

lectures of prominent institutions and quality teachers can be made available online free of cost. This ensures both affordability and quality of education.

National Portal for Technological Education (NPTEL) is initiative by premier institutes of India including IITs and IISc to provide study material online.

Hence digital initiatives like MOOCs and NPTEL can take higher education near students. It will be helpful in ripening demographic dividend of country.

17. The Civil Aviation Policy 2016 would help in building a more modern, safe, secure and sustainable aviation industry while also boosting regional connectivity and tourism. Discuss.

नागरिक उड्डयन नीति, 2016 अधिक आधुनिक, सुरक्षित, सुदृढ़ और संधारणीय विमानन उद्योग को विकसित करने में सहयोग करेगी और साथ ही क्षेत्रीय कनेक्टिविटी और पर्यटन को भी बढ़ावा देगी। चर्चा कीजिए।

18. What is the significance of start-ups for Indian economy? Critically analyse the provisions of "Start-up India" program and the challenges that lie ahead in its effective implementation.

भारतीय अर्थव्यवस्था के लिए स्टार्ट-अप्स का महत्व क्या है? 'स्टार्ट-अप इंडिया' कार्यक्रम के उपबंधों एवं इसके प्रभावी कार्यान्वयन में आने वाली चुनौतियों का आलोचनात्मक विश्लेषण कीजिए।

Significance of start-ups for Indian economy-

- creating employment
- Knowledge economy, innovation
- Job creators rather than job seekers
- To achieve potential growth
- Research and development
- Utilising demographic dividend

Provisions of Start-Up India-

- Less bureaucratic red tap,
no labour inspection for 3 years
- Easy clearance procedure, eased
procurement norms in terms
of experience
- Tax exemption for profit
- Facilitated closing

- Registration through app
- Start Up Hub to communicate
- Start Up Indian fund to promote research and development
- Easy patent applications.

The Start-up India scheme has eased procedure for start-up to promote innovation. But policy lacks on some fronts

- Seed funding taxation is not dealt with. This is major concern for startups
- Labour law exemption may cause exploitation.
- So many IT based startups. Special focus should be on rural application based start-ups.

Challenges in implementation

- Proper utilisation of funds
- Collaboration with research

institutes

- *Legislative backing for tax related norms.*

19. What do you understand by methanol economy? Discuss its environmental and economic advantages. How does methanol compare with other new generational fuels such as ethanol and hydrogen?

मेथनॉल अर्थव्यवस्था से आप क्या समझते हैं? इसके पर्यावरणीय और आर्थिक लाभों की चर्चा कीजिए। नई पीढ़ी के अन्य ईंधनों यथा इथेनॉल और हाइड्रोजन से मेथनॉल की तुलना कीजिए।

20. Differentiating between Augmented Reality and Virtual Reality, explain why it is argued by many that these technologies are not just about gaming but can change our lives.

आगमेन्टड रियलिटी और वर्चुअल रियलिटी (संवर्धित वास्तविकता और आभासी वास्तविकता) के बीच अन्तर स्पष्ट कीजिए। व्याख्या कीजिए कि अनेक व्यक्तियों द्वारा यह तर्क क्यों दिया जाता है कि ये प्रौद्योगिकियाँ केवल गेमिंग के लिए ही नहीं हैं बल्कि हमारे जीवन को परिवर्तित कर सकती हैं।

Augmented Reality	Virtual reality
- It is superimposition of virtual objects over real environment - In this there is constant interaction with real and virtual world - eg. like calculator appearing on palm and doing calculations	- It is creation of virtual environment - Here no interaction with real world - video games etc. where virtual environment is created.

These technologies are highly used in gaming. But these are not only associated with gaming. These have many

other real world applications

- Using augmented reality, maps can be ~~puta~~ projected on real object and then analysed.
- Teaching is the field where these can be used for demonstration with kind of real life experience.
- Learning driving, sports

