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GENERAL STUDIES (TEST CODE : 1246)

Name of Candidate	SAURAV PANDEY		
Medium Eng./Hindi	ENGL	Registration Number	11805
Center	KB	Date	26/8/2019

INDEX TABLE

Q. No.	Maximum Marks	Marks Obtained
1	10	
2	10	
3	10	
4	10	
5	10	
6	10	
7	10	
8	10	
9	10	
10	10	
11	15	
12	15	
13	15	
14	15	
15	15	
16	15	
17	15	
18	15	
19	15	
20	15	

Total Marks Obtained:

Remarks:

INSTRUCTIONS

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

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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. Rock-cut structures were closely associated with various religions and religious activities. Discuss the statement giving relevant examples.

(150 words) 10

शैलोत्कीर्ण संरचनाएँ विभिन्न धर्मों और धार्मिक गतिविधियों से घनिष्ठता से संबंधित थीं। प्रासंगिक उदाहरण प्रस्तुत करते हुए इस कथन की विवेचना कीजिए।

Rock cut structures have been artistic expressions since ancient India reflecting socio-religious culture of the time.

Association with Religion

- 1) Post Mauryan sculptures during Kanishka rule reflected Buddhism in different forms in different regions. Mathura school reflected Hinduism, Buddhism, Jainism
- 2) Rock-cut structures in caves
Ajanta and Bagh → Buddhism (Pachyapada)
Ellora → Buddhism, Hinduism and Jainism.
Elephanta → Shaivism, (Trimurti).
- 3) Rashtrakuta and Telvaka empires which succeeded Satavahana

developed rock-cut architecture like Kailashnath Temple representing Shiva rath carried by Surya

4) Pallava rock-cut architecture represented religion in Mahendra-varman, Narsimhavarmam etc.
e.g. Mamallapuram → Ajuna's Penance
Descent of Ganga.

5) Carvings in Hoyasala temples of Belur, Channakeshwar, and Vijayanagar temples represent Shiva lingam, Nandi, Sheshanaga representing religious cultures.

Rock-cut architectures were deeply inspired by and connected with religion.

2. The legislative and administrative record of the Congress Ministries during their twenty-eight months rule under the Act of 1935 was positive, but the period also witnessed the emergence of serious weaknesses in the Congress. Discuss. **(150 words) 10**

1935 के अधिनियम के अंतर्गत अट्ठाईस महीनों के शासनकाल के दौरान कांग्रेस मंत्रालयों का विधायी और प्रशासनिक रिकॉर्ड सकारात्मक रहा था, लेकिन यह अवधि कांग्रेस के भीतर गंभीर कमजोरियों के उभरने का भी साक्षी बनी। चर्चा कीजिए।

Congress Ministries were formed in the light of a nationalist government under the caution given by Gandhi not to become corrupt and forget the goal of Swaraj.

Positive achievements

- 1) Restrictions of civil liberties were removed.
- 2) CID no longer tailed the nationalist politicians.
- 3) Implementation of land reforms were undertaken
- 4) It restored pride in Indian people.

Serious weaknesses also emerged

- 1) Bitterness and factionalism amongst the Congress' ranks.

- 2) Actions were taken against socialist leaders by government such as of K.M. Munshi.
- 3) Failed to address concerns of peasant and workers.
- 4) Corruption had crept in among some Congress ministries.

Congress ministries of twenty eight month-tenure served as a training ground for post-independence parliamentary governance.

3. Kamladevi Chattopadhyay was a multifaceted personality with significant contributions both to pre and post independence India. Elucidate.

(150 words) 10

कमला देवी चट्टोपाध्याय का व्यक्तित्व बहुआयामी था। उनका स्वतंत्रता पूर्व और स्वातंत्र्योत्तर भारत में योगदान महत्वपूर्ण था। स्पष्ट कीजिए।

Kamladevi Chattopadhyay was a freedom fighter, political thinker and crafts woman.

Contributions

- 1) She revived various handicrafts pre and post independence.
- 2) She worked for solidarity among third world countries and provided the basis for south-south cooperation.
- 3) She developed original progressive stream of thought separate from western thought.
- 4) She criticized Left Parties of France in their failure to not recognize the problems in Vietnam War.

She was, therefore, exemplar of original Indian intellectual who contributed to world politics and domestic handicrafts revival.

4. The inherent limitations of Napoleon's policy of Continental Blockade ultimately resulted in its failure. Analyze. **(150 words) 10**

नेपोलियन की महाद्वीपीय नाकेबंदी की नीति की अन्तर्निहित कमियां अंततः इसकी विफलता का कारण बनीं। विश्लेषण कीजिए।

Napoleon implemented Continental Policy to block Britain's economic contact from continental Europe. ~~of~~ in 1805

→ The blockade was implemented once it was realized by Napoleon that defeating British naval power was not possible.

→ Napoleon aimed to cripple economy of Britain and spread dominance over Europe.

Failure

- 1) France could not substitute economic demands of Europe.
- 2) It led to dissatisfaction among European powers themselves.
- 3) Ultimately it led to conflict with Russia and defeat of Napoleon in 1813 by combined forces.

Thus, policy to isolate Napoleon turned out to be overambitious and resulted in uniting Napoleonic adversary causing his defeat.

5. Despite changes in the institution of marriage in recent times, there have been elements of continuity as well. Discuss in the context of India.

(150 words) 10

हाल के समय में विवाह नामक संस्था में परिवर्तनों के बावजूद, इसमें निरंतरता के तत्व बने हुए हैं। भारत के संदर्भ में चर्चा कीजिए।

Marriage as an institution has evolved rapidly in recent times having elements of both continuity and change.

Changes

- 1) Nuclear families
- 2) More independence in choice of partners for females as well.
- 3) Co-habitation where unmarried couples live together. Especially
- 4) Same sex couples are being accepted more.

Continuity

- 1) Male dominant households are still prevalent
- 2) Many nuclear families still live as

pseudo-joint family owing to cheap transport and communications.

3) Arranged marriages are prevalent in both rural and urban areas.

Elements of changes are prevalent more in urban areas due to high individuality, social capillarity, technology and awareness of rights whereas elements of continuity are prevalent in lower tier towns and villages.

6. There are multiple disabilities that a person experiences in the course of ageing. Elaborate. Also identify key government initiatives taken for addressing them. (150 words) 10

कई अक्षमताएँ हैं जिनका एक व्यक्ति उम्र बढ़ने के दौरान अनुभव करता है। सविस्तार वर्णन कीजिए। साथ ही, इन्हें दूर करने के लिए सरकार द्वारा की गई प्रमुख पहलों की भी पहचान कीजिए।

Ageing creates physical, social and economic issues for old-age population.

Disabilities experienced

- 1) Physical (Health) → weakness, diseases, especially non-communicable, age-related.
→ Mental health issues such as loneliness, depression.
- 2) Social → Domestic violence
→ Families abandoning the old people.
- 3) Economic → lack of income
→ Shortage of money for treatment, medicines.

Key initiatives

- 1) old age pension scheme
- 2) PM Vaya Vandana Yojana → LIC supported
insurances
- 3) Pension for unorganized
workforce announced in Interim
Budget 2019.
- 4) Disability friendly infrastructure
(Suganya Bharat).

With ageing population of India, we will increase our old age from 10% currently to more than 20% by 2040. For second demographic dividend, caring for old age population is a must step.

7. Highlight the reasons behind prevalence of low literacy rate among tribals. Also, mention some initiatives taken by the government in this regard.

(150 words) 10

जनजातियों के मध्य व्याप्त निम्न साक्षरता दर हेतु उत्तरदायी कारणों को रेखांकित कीजिए। साथ ही, इस संबंध में सरकार द्वारा की गई कुछ पहलों का भी उल्लेख कीजिए।

Tribal literacy rates have huge gaps from national literacy levels except NE states like Mizoram and Goa.

Reasons

- 1) Traditional lifestyle and livelihood doesn't require them the prevalent education system.
- 2) Lack of connectivity in hilly and forested regions causes them left out of literacy measures.
- 3) Left Wing Extremism in the red-corridor causes instability and isolation of the willing tribal population.
- 4) Poverty of tribal population.

Government schemes to raise literacy in tribal population-

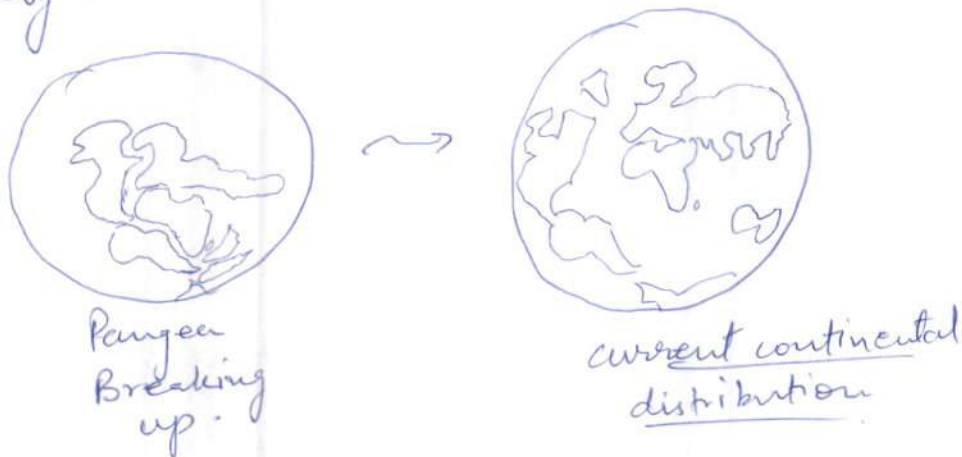
- 1) Development of Ashram schools
- 2) Eklavya Model Residential Schools for teaching and aiding in employment.
- 3) PM Fellowship for pre-matric level.

Following the goal of participatory democracy, tribal population must be included in development story and those who are willing must have support system for development. Literacy is foundation for this.

8. Explain how Continental Drift Theory describes the changing configuration of the continents. Discuss the prominent evidences given by Alfred Wegener to support his theory. (150 words) 10

स्पष्ट कीजिए कि किस प्रकार महाद्वीपीय विस्थापन का सिद्धांत महाद्वीपों के परिवर्तित होते अभिविन्यास का वर्णन करता है। अपने सिद्धांत का समर्थन करने के लिए अल्फ्रेड वेगनर द्वारा दिए गए प्रमुख साक्ष्यों की विवेचना कीजिए।

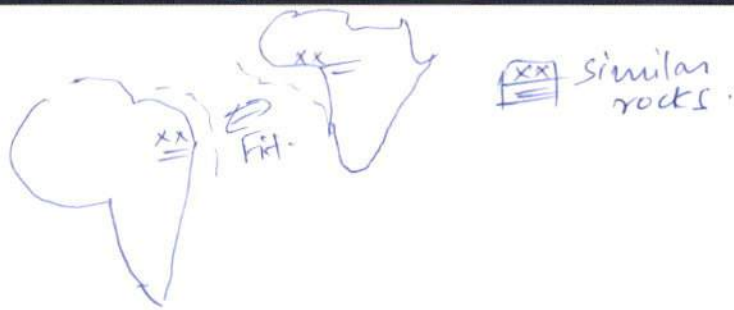
Continental Drift Theory challenged the prevalent idea of permanence of landforms. Alfred Wegener propounded that all continents were a one unit once and drifted into different continents as present today.



Alfred Wegener's Continental Drift Theory

Prominent evidences

- 1) Geological conformities $\Rightarrow$ similar rock structure found on Brazilian coast in South America and Ghana region of Africa.
- 2) Zig-saw fit of continents



- 3) Prevalence of glacial evidence in tropical regions.
- 4) Glossoptoris ferns and mesosaurus fossils found in Antarctica, Africa, India and Australia pointing to their combined existence.

However, in light of lack of explanation of driving mechanism, continental Drift Theory was accepted only after Plate Tectonic Theory developed in mid-20th century.

9. The variety of landforms on the earth's surface is the result of internal and external forces. Discuss. (150 words) 10

पृथ्वी की सतह पर विभिन्न प्रकार की भू-आकृतियाँ आंतरिक और बाह्य बलों का परिणाम हैं। चर्चा कीजिए।

All landforms of earth are result of endogenetic and exogenetic forces.

Endogenetic landforms

- 1) Volcanic such as batholith, lopolith, Phanolith, Shield volcano, conical (Fuji).
(Deccan)
- 2) Fold mountains and Block mountains are formed by folding (due to movement of plates) and faulting (magmatic convection.) (Andes), (Black Forest)
- 3) Strike-slip valleys, tectonic lakes
(Great African Rift valley) (Dead Sea),
continental islands (Sri Lanka).

Exogenetic landforms → Erosional → Depositional

→ valleys cut by rivers, plunge
Plunge pools, truncated spurs, Arêtes,
cirques, glacial lakes.

→ Deltas, plains, moraines (glacial),
Beaches, lagoon, sandbars (bar
island).

Eskers, erratics.

Sand dunes, salt lakes (sambher).

→ Exogenetic forces →

- Fluvial
- Aeolian
- coastal
- Glacial

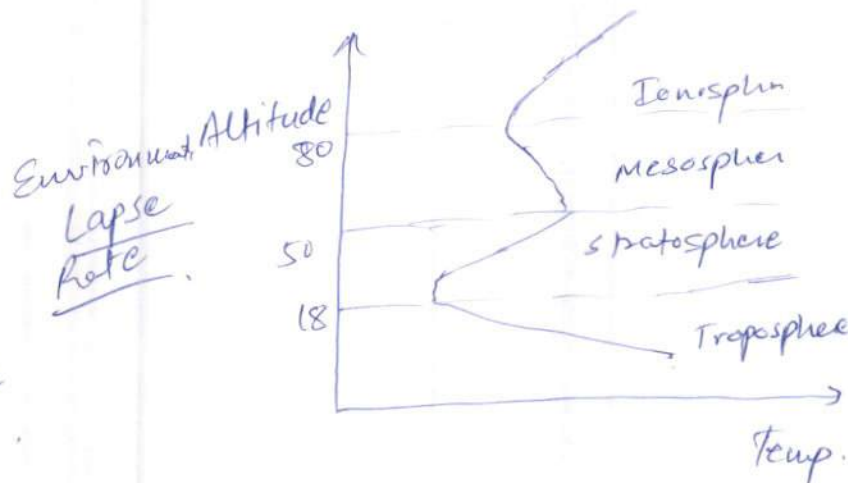
Endogenetic forces usually provide aggradational landforms causing changes to lithosphere and exogenetic cause denudation to level out the changes. Both processes go hand in hand.

10. Explaining the concept of Lapse Rate, examine its relationship with atmospheric stability. (150 words) 10

हास दर की अवधारणा की व्याख्या करते हुए, वायुमंडलीय स्थिरता के साथ इसके संबंधों का परीक्षण कीजिए।

Lapse rate means change in temperature of earth's atmosphere with increasing altitude. It is in the range of $6-10^{\circ}\text{C}/\text{km}$

Dry and moist air have different Lapse Rate



As a given parcel of air rises up, it expands due to lowering of overlying air & atmospheric pressure. Such an adiabatic expansion causes cooling of the air parcel.

Beyond troposphere, presence of few particles, gases, presence of ozone layer, ions and radiation causes different pattern and trend of lapse rate.

Relation with atmospheric ~~is~~ stability

a If a parcel of air cools faster than the surrounding air, it will get heavier and sink down causing stability. However, if an air parcel cools slower, it remains hotter than surrounding air and rises further and if it contains moisture, it cools and causes rain. Instability is characterized by low pressure such as in Thunderstorms.

Stability of atmosphere is affected by other intervening factors such as orographic barrier nature of surface (hot, cold) and micro climate (urban heat island),

11. The colonial period brought the influence of Western architectural forms to India. In this context, giving examples, highlight the contribution of Europeans to Indian architecture. **(250 words) 15**

औपनिवेशिक काल में भारत पर पश्चिमी स्थापत्य शैलियों का प्रभाव पड़ा। इस संदर्भ में, उदाहरण देते हुए, भारतीय स्थापत्य कला में यूरोप वासियों के योगदान पर प्रकाश डालिए।

When European powers came to India they built factories and houses at first. With better foothold, they began to build fortresses, churches and public buildings.

There are predominantly three kinds of western architectural forms that came in colonial period.



Portuguese/Iberian Style

They are comprised of bricks, wooden stairs, etc. and are reflected in Basilica of Bom Jesus in Goa.

Indo-Gothic/Victorian

style such as in Chhatrapati Shivaji Terminus, Mumbai, reflect advanced engineering standards of the

British. Use of iron, steel and paired concrete provided strength and allowed for thinner walls.

Victorian style evolved at a time of national awakening and in order to perpetuate Queen's memory as well as to address Indian sentiments, Indo-Sarcenic revival occurred in architectural monuments such as Victoria Memorial, Kolkata

Neo-Roman style developed after the British shifted capital to Delhi in 1911 and Edward Lutyens designed the capital. These structures were massive and but congested and had low utility, e.g. Connaught Place, President estate (Bulbous/union dome representing

President estate → Bulbous dome is similar to Buddhist Stupa.

other Victorian / Neo-Roman architecture

also employed Indigenous ornamentation
Mughal symmetry, etc

Western Architecture, though were
representative of colonial powers, have
been assimilated in our heritage
and culture over the years.

12. The nineteenth century witnessed a struggle against the backward elements of traditional culture. Discuss in the context of socio-religious reform movements. (250 words) 15

उन्नीसवीं सदी वस्तुतः पारंपरिक संस्कृति के पश्चगामी तत्वों के विरुद्ध संघर्ष की साक्षी बनी। सामाजिक-धार्मिक सुधार आंदोलनों के संदर्भ में चर्चा कीजिए।

Nineteenth century India was struggling with a stagnant social structure with backward elements, while Europe was marching with scientific outlook based on Renaissance and Industrial Revolution. Realization of this difference led many enlightened Indians to wage a struggle against orthodoxy.

Backward elements

- 1) Caste → Prevalence of untouchability based on Jati system existed in India. Reformers such as Jyotiba Phule fought such caste discrimination.
- 2) Status of women
 - women were subject to evil practice of Sati, child marriage which were removed by successful efforts of Raja Ram Mohan Roy (Bengal Regulation Act 1829 removed Sati). and Age of (due to efforts of B. Malabari)

Consent Act (1870) that raised age of girl child for marriage to 12 years.

→ ~~women~~ Widow remarriage was not allowed until efforts of Ishwar Chandra Vidyasagar and others led to enactment of Widow Remarriage Act (1856).

→ women education was also at a dismal level. These issues were taken by Female Juvenile Society, JED Bethune and Savitribai Phule

3) Socio-religious reforms took two different streams – one of reformist nature as mentioned above and the other revivalist nature such as Deoband and Arya samaj's Shuddhi movement which inclined towards revival of some parochial and ~~or~~ backward elements too.

Socio-religious reforms, therefore, began a progressive struggle against backwardness alongwith some unintended and unwanted consequences.

13. Explaining the reasons behind partition of Bengal, discuss the successes and limitations of the Swadeshi movement launched in its wake.

(250 words) 15

बंगाल विभाजन के लिए उत्तरदायी कारणों की व्याख्या करते हुए, इसके आलोक में आरंभ किए गए स्वदेशी आंदोलन की सफलताओं और कमियों की विवेचना कीजिए।

Partition of Bengal was a key event to kickstart aggressive nationalism in India and serves as a background for Gandhian movement.

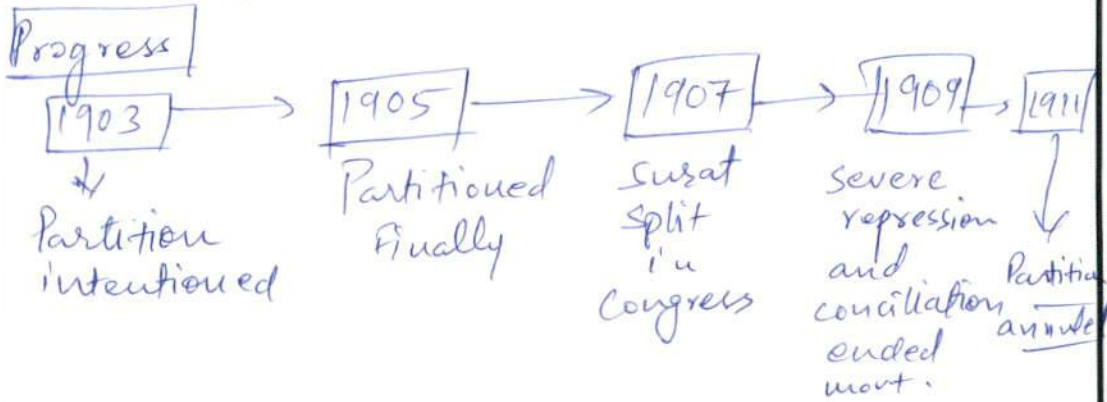
Reasons.

- 1) official reason given by the British government was the ease of administration as the province was large and densely populated.
- 2) The real reason, however, was to curb the growing nationalism in its nerve center - on two lines.

↳ Religious: The western Bengal became a predominantly Hindu province and eastern part became muslim-majority, assuaging some orthodox elements then in power.

↳ Linguistic, western Bengal with Bihar and Orissa has fewer Bengalis

than eastern, creating disruption in cohesive effort of intelligentsia against British government.



Successes

- 1) It involved hitherto uninvolved sections into the nationalist fray e.g. students, government employees, lower middle class.
- 2) Involved use of domestic culture and Swaraj (meaning self-rule) for the first time which became the basis for Home Rule movement and later Irish movement.
- 3) Revived arts and literature with a nationalist flavour with contributions from Rabindranath Tagore

Tilak, Abanindranath Tagore (who challenged imperial style paintings) Nandal Bose.

Limitations -

- 1) It lacked cohesiveness and leadership.
- 2) Elements of Shivaratri, Ganga dipping etc alienated muslims.
- 3) It could not spread significantly out of Bengal.
- 4) Government could easily drive a wedge between extremist and moderate factions of Congress who ultimately split in 1907.
- 5) Workers and peasants were not yet involved.

Swaraj became the unceasing goal for young nationalists ever since Swadeshi movement. Thus, despite its failure, it was a launch pad for the active national movement later.

14. The reorganisation of states in India post-independence has been an ongoing process with distinct contributing factors. Analyse. (250 words) 15
स्वातंत्र्योत्तर भारत में राज्यों का पुनर्गठन अलग-अलग सहायक कारकों के साथ एक सतत प्रक्रिया रही है। विश्लेषण कीजिए।

Reorganization of states in India has occurred in every decade post-independence reflecting changing needs of different regions.

<u>1947-1960</u>	<u>1960-1990</u>	<u>1990-2019</u>
<u>Linguistic Basis</u> e.g. Andhra Pradesh Gujarat Punjab	<u>Ethnicities</u> <u>Strategic needs</u> NE States Delhi	<u>Socio-economic development and aspirations</u> e.g. Uttarakhand Jharkhand Telangana

Contributing factors

- 1) Quasi-federal union formed at independence led to an uncertain union held by central government with an aim of national building.

- 2) Linguistic consciousness among different regions such as Marathi - Gujarati in Bombay Presidency, Telugu - Tamil in Madras Presidency.
- 3) Ethnic diversity in NE states was not conducive to stable union and thus they were made a Union Territory first and advanced state-status gradually.
- 4) Regional disparity causing few regions especially hilly and tribal regions such as Uttarakhand, Chhattisgarh to demand for special status.
- 5) Recent demands come from areas like Darjeeling (Gorkhaland), Nagaland (Nagaland), Marathwada, Vidarbha, due to variety of reasons such as economic backwardness, resource distress and ethnicities (Bodo, Nagas).

Reorganization of states must be based on criteria of viability, aspirations, national integrity and security. A Second Reorganization committee may be required to address the ongoing concerns.

15. The Treaty of Versailles was not a peace agreement based on reconciliation but was 'dictated peace' forced on Germany, which eventually triggered the Second World War. Examine. (250 words) 15

वर्साय की संधि सुलह पर आधारित शांति समझौता नहीं थी, बल्कि जर्मनी पर थोपी गई 'आदेशित शांति' थी, जिसने अंततः द्वितीय विश्व युद्ध का मार्ग प्रशस्त किया। परीक्षण कीजिए।

Treaty of Versailles was signed in the aftermath of German surrender at the end of World War I in 1919. However, ~~more~~ inspite of being a reconciliation effort to prevent future war, it sowed the seeds of World War 2.

A "dictated peace"

1) Though Germany was part of Paris Peace Conference, it was not allowed to voice its terms.

2) Victors also disagreed on future course of action :-

USA → wanted a lasting peace and to be soft on Germany and rebuild its economy.

Britain → Though wanted Germany to take the whole blame, wanted to rebuild it as a market.

France → With revengeful terms, wanted to weaken Germany to an extent it can never attack France again.

3) Dismemberment of Germany

- Non-German areas were taken away.
- colonies were distributed as "mandates"
- Alsace-Lorraine went to France

Rhineland was demilitarized

Ruhr was taken by France for 15 years in lieu of failure in reparations payment.

4) Severe reparation

6 bn USD was demanded from Germany.

5) Humiliation → German representatives were invited to participate without voicing their opinion in Hall of mirrors where German unification concluded in 1870.

Therefore, this treaty gave a chance for Hitler and his Nazi party to capitalize on a humiliated populace and build on the frenzy that caused the second world war.

16. Legal measures alone are not sufficient for addressing the issue of domestic violence against women, rather it requires intervention at societal level. Discuss. (250 words) 15

महिलाओं के विरुद्ध घरेलू हिंसा की समस्या को दूर करने हेतु केवल कानूनी उपाय ही पर्याप्त नहीं हैं, बल्कि इसके लिए सामाजिक स्तर पर भी हस्तक्षेप की आवश्यकता है। चर्चा कीजिए।

Every third woman faces physical or sexual violence at home as per The Lancet Report 2014. Despite the enactment of Domestic Violence Act 2005, such social evils are prevalent in India.

Failures in legal measures

- 1) Underlying causes such as dowry harassment are difficult to define as there are complex ways to practice them.
- 2) Enforcement is weak due to family pressure and low level of sensitisation of police officials to the issue.

- 3) Under-reporting and fear of social ostracization of women keeps them suffering under domestic violence.
- 4) Misuse of dowry acts have caused vast number of real cases to suffer as well.

Beyond legal measures

- 1) Societal attitudes needs to change towards domestic violence.
- 2) women need to be encouraged to speak up.
- 3) Economic and financial independence of women is important for them to not unduly rely on husbands.
- 4) Civil society, government steps such as Swadhar Greh, One Stop Centre, etc need to reach all areas especially rural,

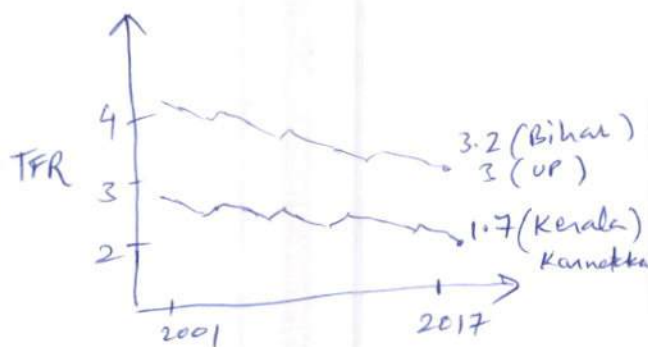
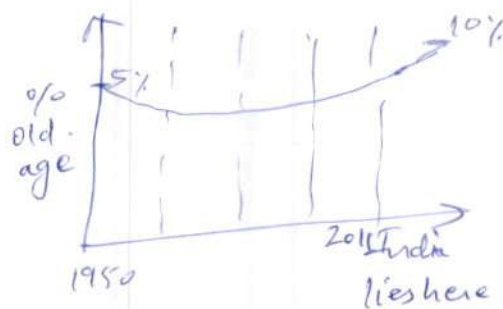
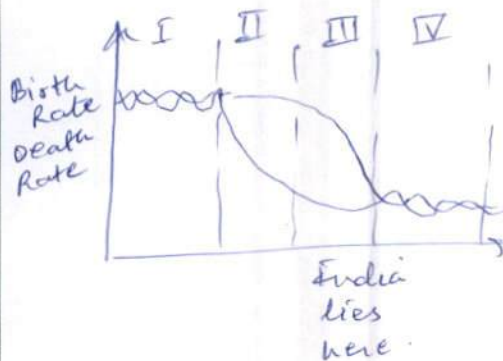
5) Leveraging technology to report such crimes by staying anonymous need to be implemented.

Domestic violence has caused women to suffer at the hands of their own families. For their empowerment and participation in national growth, collective effort needs to be taken to eradicate this menace.

17. India is undergoing a demographic transition the implications of which are multipronged. Analyze. (250 words) 15

भारत जनसांख्यिकीय संक्रमण से गुजर रहा है जिसके निहितार्थ बहुआयामी हैं। विश्लेषण कीजिए।

India is reaching late phase of demographic transition, which is characterized by slowing fertility rate and ageing of population. This has several implications on how policies need to change.



Demographic Divide between Northern and Southern States.

Policy implications

- 1) Workforce : Demographic window has closed for southern states whereas it is going to be available for 3-4 decades for states like UP, MP and Bihar. Skilling, education and policies for migrant workforce is crucial.
- 2) Ageing : For Longevity dividend, it is important to prepare for social security of older population as they will form 20% of population by 2040. Also, feminization of oldage will also require policy changes towards care.
- 3) Geoeconomic significance for out-migration of skilled workforce to Japan, Scandinavia, western Europe.

India needs to capitalize on its demographic bulge and prepare for its ageing population in long term.

18. Highlight the significance of watershed development in India. Give reasons for the limited success of initiatives directed towards watershed management in India. Also, suggest some measures to improve the design of watershed programs. **(250 words) 15**

भारत में जल संभर (वाटरशेड) विकास के महत्व पर प्रकाश डालिए। भारत में जल संभर प्रबंधन की दिशा में की गई पहलों की सीमित सफलता के पीछे निहित कारण प्रस्तुत कीजिए। साथ ही, जल संभर कार्यक्रमों की अभिकल्पना में सुधार लाने हेतु कुछ उपायों का भी सुझाव दीजिए।

Watershed development implies taking an integrated approach within a watershed, i.e., small basin where all streams combine together.

Significance

- 1) It provides reinforced focused on resources available and needed in the watershed.
- 2) Decentralized approach works well on local issues such as recharging wells and aquifers.
- 3) Environmental friendly as compared to big dams and canals.

Limited success

- 1) Watersheds may be severely deprived of resources in drought prone regions such as Telangana, Rajasthna, Vidarbha.
- 2) Faulty practices such as 4% of crop land in Maharashtra uses 80% of irrigation water.
- 3) Social disparity causes benefits to be used / taken up by only a limited number of farmers.
- 4) Institutional support is skewed towards irrigated crops, MSP distortions.

Measures to improve

- 1) Watershed development fund to incentivize integrated practices.
- 2) Use of technology such as drip-irrigation, greenhouse chambers.

- 3) Diversification in terms of farm and non-farm activities. Shifting to agro-ecological basis and increase millets, as well as livestock - cattle, fisheries, apiculture, sericulture.
- 4) People Participation at massive scale with the help of civil society, e.g. Prani Foundation.

Watershed development holds potential to reduce farm distress, enhance income and achieve swaraj for village communities.

19. Explain the relationship between raw materials and location of industries. How are globalisation and technological advancements changing this relationship? (250 words) 15

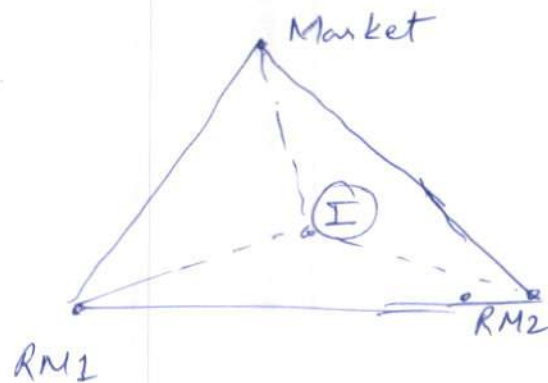
कच्चे माल और उद्योगों की अवस्थिति के मध्य संबंध स्पष्ट कीजिए। वैश्वीकरण और तकनीकी प्रगति इस संबंध को कैसे परिवर्तित कर रहे हैं?

Location of industries as determined by raw materials is based on purity level of raw material. A weight losing raw material causes industry to be located closer to raw material site to save transport costs.

Single Raw Material

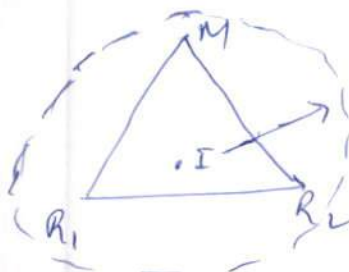


Two Raw Materials

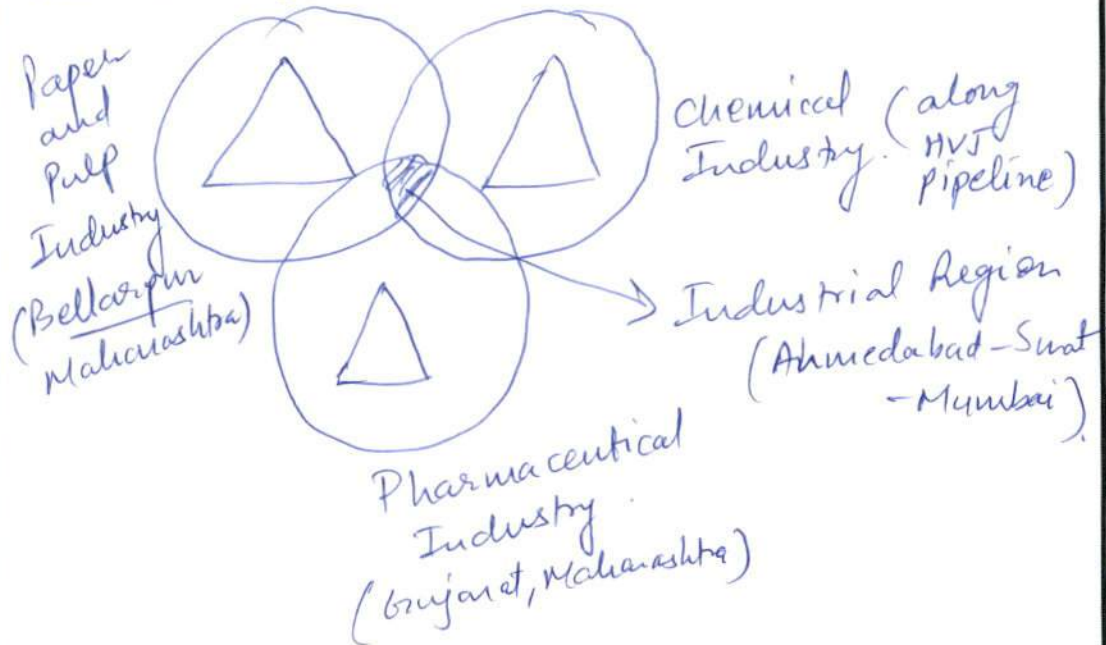
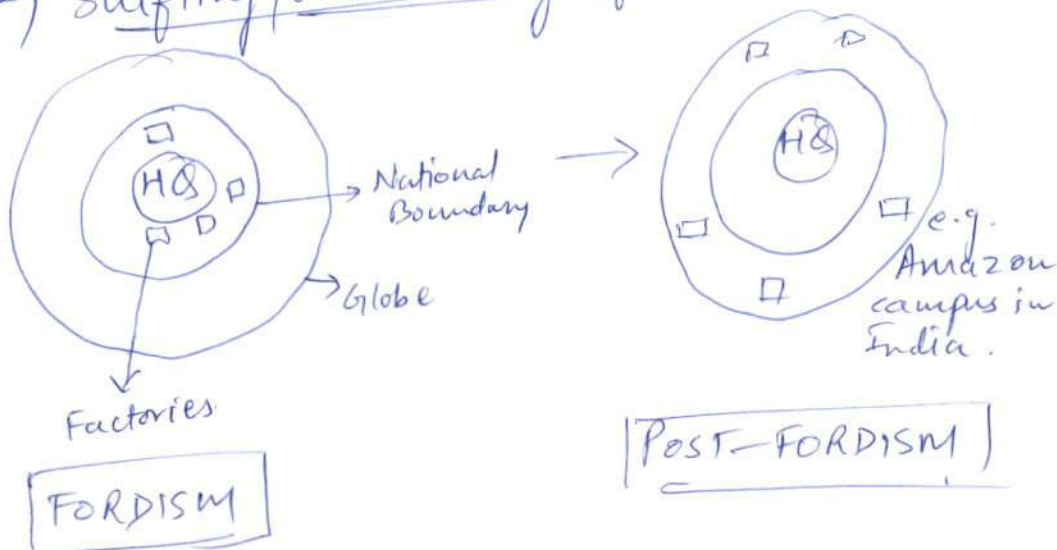


Weber's Industrial Location Theory

Factor of Labour Cost



shift to critical Isodapane

Factor of Agglomeration.Impact of Globalization and Technology1) Shifting/outourcing of location.

2) Cheaper Transport

causing spread of industrial location

e.g. Cotton textile → Kanpur;
Varanasi

(away from cotton
growing regions)

3) Emergence of footloose industry

Software services

App-based services. e.g. Uber, ola,
Zomato

4) Gig-economies

With faster transport and
communication, industrial locations
have broken the limitations of
raw material availability.

20. Explain how natural greenhouse effect helps in maintaining Earth's heat budget. What are the possible implications of rising concentration of greenhouse gases (GHGs) in atmosphere on Earth's heat budget?

(250 words) 15

स्पष्ट कीजिए कि किस प्रकार प्राकृतिक ग्रीनहाउस प्रभाव पृथ्वी का उष्मा बजट बनाए रखने में सहायता करता है। पृथ्वी के उष्मा बजट पर वायुमंडल में ग्रीनहाउस गैसों (GHGs) की बढ़ती सांद्रता के संभावित निहितार्थ क्या हैं?

Earth atmosphere is transparent to incoming short wave radiation and is warmed only through reflected long wave radiation absorbed by natural greenhouse effect. Without this Earth would ~~either~~ progressively cool down.

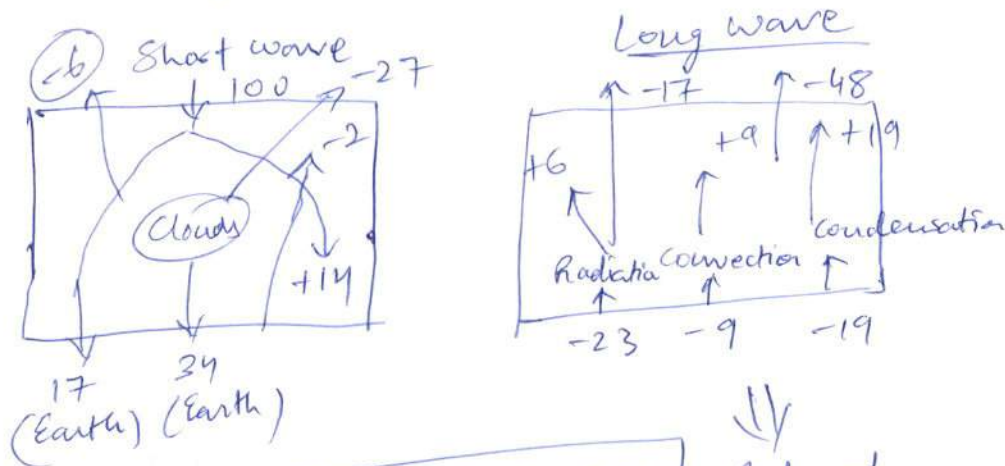
Role of Greenhouse

- 1) Maintains heat budget by balancing incoming and outgoing heat.
- 2) Absorbs long-wave radiation from earth's surface.
- 3) Allows heat-exchanges between surplus heat and deficit heat regions through atmospheric circulation.

Rising concentration of GHGs

- 1) Increase residence time of heat by absorbing more long-wave terrestrial radiation.
- 2) Create disturbance in primary atmospheric heat exchange and lead to more secondary atmospheric circulations such as cyclones, polar vortex extending southwards, tornadoes, etc.
- 3) Shift heat budget equilibrium to a higher level causing a new normal in temperature level and atmospheric activities.
- 4) Accelerate glacial melting which will induce more absorption (lower albedo) and setting up a positive feedback for accelerated warming.

Greenhouse gases are constantly being added through emissions, agricultural practices, permafrost melt, deforestation. This needs to be arrested before change in heat budget becomes irreversible.



HEAT BUDGET

Role of
GHG lies
here.