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GENERAL STUDIES (TEST CODE : 874)

Name of Candidate	Saumya Sharma		
Medium Eng./Hindi	English	Registration Number	95371
Center	Online	Date	3 October 21

INDEX TABLE

Q. No.	Maximum Marks	Marks Obtained
1	12.5	
2	12.5	
3	12.5	
4	12.5	
5	12.5	
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Total Marks Obtained:

Remarks:

INSTRUCTIONS

- Do furnish the appropriate details in the answer sheet (viz. Name, Registration Number and Test Code).
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- There are TWENTY questions printed in ENGLISH & HINDI
F,) 1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
- All questions are compulsory.
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- The number of marks carried by a question/part is indicated against it.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
- 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.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
- Word limit in questions, if specified, should be adhered to.
1 2 3 4 5 6 7 8 9 10 11 12 13 14 15 16 17 18 19 20
- Any page or portion of the page left blank in the Question-Cum-Answer Booklet must be clearly struck off.
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75, 3rd Floor, Old Rajinder Nagar Market, Near Axis Bank, New Delhi – 110060

103, 1st Floor, B/1-2, Ansal Building, Behind UCO Bank, Dr. Mukherjee Nagar, Delhi – 110009

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 the following questions in not more than 200 words each:

1. The greatness of the Mughal achievement in the political unification of India was matched by the splendour and beauty of the work of architects, poets, historians, painters and musicians who flourished in the period. Comment.

भारत के राजनीतिक एकीकरण में मुगलकालीन उपलब्धियों की महानता वस्तुतः वास्तुकारों, कवियों, इतिहासकारों, चित्रकारों एवं संगीतकारों के कार्यों की भव्यता एवं सुंदरता से अभिव्यक्त होती है, जो उस काल में फले-फूले टिप्पणी कीजिए।

The defeat of the Lodhi dynasty by Babur at the Battle of Panipat marked a turning point in the history of India. Under successive Mughals, political unification of India occurred as:-

- the Mughals came to settle in Indian society unlike the previous conquerors
- the supreme artillery possessed by the Mughals made it easier for them to bring territory under their occupation.

Apart from the political unification, the Mughal empire contributed greatly to the cultural heritage of India.

Architects: A synthesis of arcuate and trabeate style led to the birth of Indo Islamic architecture. Each

emperor added a new element: Humayun's sister's idea of Humayun's Tomb in red sandstone and white marble with charbagh style; Akbar's Fatehpur Sikri in red sandstone; Shahjahan's Red Fort and Taj Mahal in pure white makrana marble.

Poets: Amir Khusrau led the club of the famed poets of the Mughal Court. He helped create a new language called Urdu; a mix of Persian and Hindi. Sufi & Bhakti devotional poetry too reached great heights during this era.

Historians: Babur's autobiography Tuzuk-i-Baburi throws light on historical aspects. Abu Fazal's Ain-i-akbari throws light on the life & times. Many books were written with nastaliq form of calligraphy. In addition to these, records of Portuguese and English travellers to Court subsist.

Painters: The form of miniature painting received great impetus until the era of Aurangzeb. Jehangir himself

was a gifted painter. Painters were employed in karkhanas to illustrate books. Scenes of nature; court; portraits of emperors with a divine halo were depicted. Elements from western painting such as perspective were also developed.

Musicians: Hindustani form of music with its various ragas developed. Kathak and kathakars were respected & encouraged in Court. Bhakti and sufi devotional music grew. The works of Tansen, Baiju Bawra, Amir Khusrau were all famous.

Hence, the Mughal court, with the exception of Aurangzeb who was a puritan, acted as a great facilitator for the development of fine arts & culture in India.

2. Traditionally, India had developed wide-ranging water harvesting techniques in keeping with the local ecological conditions and their water needs. Substantiate with examples.

पारंपरिक रूप से भारत ने स्थानीय प्रारिस्थितिक दशाओं एवं अपनी स्थानिक जल आवश्यकताओं के अनुसार विविध प्रकार की जल संचयन (वाटर हार्वेस्टिंग) तकनीकों का विकास किया था। उदाहरण सहित पुष्ट कीजिए।

The importance of water in giving sustenance to human civilization was well known by our ancestors. Due to the widespread differences in climatic & ecological conditions, different modes were chosen to fulfil water needs.

Area north of the Narmada Valley:

- The Indus valley civilisation had a network of canals to divert the water of the rivers. Structures such as the Great Bath at Mohenjo Daro helped conserve and store water.
- In the Chalcolithic period, wells were dug.
- Cities in both ancient and medieval period were built around rivers which were perennial. Eg: Magadh; Delhi.

- Tohads were constructed in Rajasthan as underground structures where rainwater was stored.
- Various Baolis and Vavs were constructed in semi-arid areas. Eg: Rani ki Vav (Gujarat); Agraen Baoli (Delhi).
- Temples and mosques too at times had water storage structures within the complex.
- Firozshah Tughlaq built a system of modern canals in Delhi, later expanded by the Mughals but filled up by the British.

Area south of Narmada valley:-

- with seasonal rivers, and hard impermeable rock, groundwater resources were limited.
- large tankas were dug to store water.
- Rivers were dammed. The Grand Anicut dam over Kaveri was constructed by the Cholas.

- Thin, narrow channels to minimize evaporation were dug to allow water to reach a wider area.
- The monsoon season was utilised efficiently to harvest water for the dry season.

Therefore, the genius of our ancestors in creating localised structures of water harvesting ensured continuous survival and prosperity in earlier times.

3. Imperial rivalries of 18th Century Europe were played out in India as well. Comment in the context of the Carnatic Wars.

18वीं सदी के यूरोप की साम्राज्यिक प्रतिद्वंद्विताएं भारत में भी देखी गईं। कर्नाटक युद्धों के संदर्भ में टिप्पणी कीजिए।

18th century Europe was marked by technological advance and heightened competition between the European states.

1. Portugal and Spain were the initial winners of the age of discovery. The world sphere of influence was divided in half between them.
2. Soon, the English, French, Dutch and Danish caught up with their imperial ambitions.
3. Due to the industrial revolution in England, its rising success made other nations wary of it.

In India, we had :-

- The portuguese settled on the West Coast
- English in a large swathe of India

- French in Chandipore, Pondicherry ;
 - The Dutch in southern India;
- and
- The Danes too were laying a claim to the Indian pie.

The East India Company wanted to consolidate its position in India, and make India its full fledged colony.

- The EIC fought a number of wars with the other powers in the Carnatic region.
- The Dutch and the Danes were easily routed by both England and France.
- Portugal's influence was limited to Goa after it was routed.
- It was between the English & France that the most protracted battles were fought.
- The two countries were at war

in Europe as well, and the wars in India were an extension of those wars

→ Battles were fought in Bengal, in Carnatic. Many lives were lost and property damaged.

→ Finally, it was in the Battle of Wandiwash that the British emerged as sole superpower in the Indian sub-continent.

→ Post this, while British control was over the rest of India, the French were restricted to Yanam, Mahe & Pondicherry.

The Carnatic wars helped solidify the image of Britain as an imperial leader in Europe.

4. The Lucknow session of 1916 was a watershed event during the freedom struggle of India due to various reasons. Elucidate.
भारत के स्वतंत्रता संघर्ष के दौरान 1916 का लखनऊ सत्र विभिन्न कारणों से एक ऐतिहासिक घटना थी। स्पष्ट कीजिए।

The Congress, in 1906, split up in two camps - the moderates and the extremists - over divergence in opinion on the methods to be employed in the Swadeshi movement.

At the same time, the Muslim League was formed due to the success of the British policy of divide and rule. The League saw its interests as being different from the Congress.

It was in this background that the Lucknow Session took place. Outcomes:-

1. Reunion of moderates and extremists

→ As the moderates accepted the mass appeal and need for changed methods used by the extremists; the extremists too realised that having the support of moderates provides an outer line

of defence to their actions. The Congress once again became invigorated to collectively act for against the British.

2. The Lucknow Pact

- This pact was signed between the Congress and the Muslim League.

Its main terms were :-

- More self government for India
- Reservation of one-third seats in the legislature for Muslims.

The developments were beneficial as:-

- The renewed synergy provided base for future non-cooperation movement.
- Large numbers participated in the Home Rule League of Annie Besant and Tilak, launched soon after the session.

Yet, there were certain shortcomings:-

- By recognising the factional demands of the Muslim League, the Congress gave legitimacy to the league's existence.
- The Congress seemed to portray that it is not keen to promote Muslim interests on its own initiative.

Despite this, the Lucknow Session paved the way for years of charged activity.

5. Reforms initiated by the Justice Party became a model for social affirmative action in the country. Comment.

जस्टिस पार्टी द्वारा आरंभ किए गए सुधार देश में सकारात्मक सामाजिक कार्यवाही हेतु एक आदर्श बन गए थे। टिप्पणी कीजिए।

The Justice Party, led by Rama swamy Aiyar, was an organisation dedicated towards

- ending the hegemony of Brahmins in social life & governance
- ending discrimination meted out to the lower castes
- seeking better opportunities and a life of dignity.

The reforms initiated by the party:-

- opening of temples for entry by the lower castes
- increasing visibility of lower castes in respectable positions of public life.
- passing of the Caste Disabilities Removal Act, which undid the effect of all personal law restrictions on

account of caste.

The emancipation of the lower castes as initiated by the Justice Party became a model for independent India.

- Our constitution provides for affirmative action under Articles 15 and 16 to further equality.
- A national commission for scheduled castes is provided for in the Constitution.
- Passing of acts such as Protection of Civil Rights Act; SC/ST Atrocities Act.
- Reservation of seats for scheduled castes in the legislature.

These reforms have ensured increased participation of Dalits in the public arena. The fact that the head of State is a Dalit speaks volumes about

how far we have come.

Yet, certain hurdles remain:-

1. casteism is still rife, especially in matters of marriage
2. discreet forms of untouchability are still practiced, as shown by a recent survey conducted by SARI [social action research institute].

Way forward:

To truly realise the vision of the Justice Party, a bottoms up approach is needed. Attitude change should be a priority of all policy interventions.

6. War in the Korean Peninsula proved to be disastrous for Korea, a missed opportunity for the United States and a defining moment for China. Examine.

कोरियाई प्रायद्वीप में हुआ युद्ध कोरिया के लिए विनाशकारी, संयुक्त राज्य अमेरिका के लिए एक खोया हुआ अवसर तथा चीन के लिए एक निर्णायक क्षण सिद्ध हुआ। परीक्षण कीजिए।

The Korean war (1950-53) can be said to be an indirect reason for the present day belligerency of North Korea.

North Korea adopted a Communist form of government. The USA under its policy of containment became worried as a communist Korean peninsula threatened its investments made in the region.

Soon, North Korea invaded the South. The USA intervened and in the ensuing war the border across the two Koreas was restored.

Disastrous for Korea:

- It took decades for North Korea to recover the losses it sustained during the war.

- The South Korean peninsula quickly recovered due to the US aid it received.
- The ensuing inequality & isolation pushed North Korea to illegally develop nuclear weapons in 2009.

A missed opportunity for USA :-

- USA tried to reunite the two Koreas to contain the spread of communism. Yet, it failed.
- The UN General Assembly for the first time overruled the UN Security Council to allow US intervention. Yet, the US employed questionable means and failed to reach a long term solution and peace.

A defining moment for China :-

- The newly Communist China's success in pushing back

USA from its efforts at uniting Korea established the presence of the Chinese as a superpower.

- It gave traction to the view that Communist China is more legitimate than Republic of China in Taiwan.

Therefore, due to its wide reaching effects, the Korean war was a defining moment in history.

7. The Munich Pact brought neither peace nor stability in relations between European countries, rather it turned out to be an act of appeasement that made war inevitable. Comment.

म्यूनिख समझौते ने यूरोपीय देशों के बीच संबंधों में न तो शांति उत्पन्न की और न ही स्थिरता, अपितु यह तुष्टीकरण की एक ऐसी कार्यवाही सिद्ध हुआ जिसने युद्ध को अपरिहार्य बना दिया। टिप्पणी कीजिए।

The Munich Pact was an agreement signed in the late 1930s between France, Britain and Italy with Germany. Its main feature was

→ permitted annexation of a region of Czechoslovakia by Hitler.

→ the reason given was to unite the German population of Czechoslovakia with the larger German state.

→ Czechoslovakia was not a party to the Pact.

The region to be annexed by Hitler was one of the most industrially productive and strategically located regions of Czechoslovakia.

It was regarded as an Act of appeasement as:-

→ The signatories believed it would appease Hitler and his aggression may lessen.

→ They saw communism in USSR as a bigger threat than Hitler, and a German buffer state worked in their advantage as protection from Communism.

Yet, it made war inevitable as:

→ It only emboldened Hitler who saw this act of appeasement as a mark of his power.

→ Since his annexation of Czechoslovakia was without issue, it made him confident that no one would have an issue when he attacks Poland, which was strategically less important.

However, the attack on Poland was responded to by Britain, which led to the second world war. It happened due to:

- mis calculation of extant conditions by Hitler
- the late realisation by Allied powers that Hitler posed a threat to regional stability.

The Munich Pact was an important factor for the occurrence of the 2nd World War.

8. Explain how Gandhi's non-violent philosophy influenced Martin Luther King Jr.'s methods. Also discuss the contributions and accomplishments of King to ensure civil rights for all people regardless of race in America.
- व्याख्या कीजिए कि किस प्रकार से गांधीजी के अहिंसावादी दर्शन ने मार्टिन लूथर किंग जूनियर के तरीकों को प्रभावित किया। साथ ही अमेरिका में नस्लीय भेदभाव के बिना सभी लोगों के लिए नागरिक अधिकार सुनिश्चित करने में मार्टिन लूथर किंग के योगदानों एवं उपलब्धियों की भी चर्चा कीजिए।

Martin Luther King Jr. was great American reformer who relentlessly campaigned against discrimination against Blacks in America.

→ He campaigned against the 'separate but equal' segregation of Blacks and Whites prevalent in America.

→ His philosophy and methods were inspired by the non-violent struggle of satyagraha propounded by Mahata Gandhi.

→ He led various protests, marches to give direction and social currency to the troubles of

African-Americans in America.

→ Like Gandhi, he organised various strikes to show non-cooperation with the regime.

→ Coincidentally, like Gandhi, he too was assassinated by a single gun shot.

Accomplishments of Martin Luther King Jr. :-

• While slavery was banned by law, discriminatory attitudes persisted. King helped bridge the divide between law and social change by awakening the masses.

• His efforts culminated in the US Supreme Court striking down the separate but equal policy, by banning of segregation of black & white

facilities in States.

- Increased participation of African Americans in US Public life → culminated with Barack Obama being elected as President.
- Apart from African Americans, he sought better realisation of civil rights for all → the disabled, the immigrants, and the poor.
- This was based on Gandhi's philosophy of antydarya → i.e. betterment of even the least advantaged.

9. Apart from the linguistic reorganisation of states, the three language formula was an important part of government policy to address the language question in India. Discuss.

राज्यों के भाषाई पुनर्गठन के अतिरिक्त, त्रि-भाषा सूत्र भारत में भाषा की समस्या का समाधान करने की सरकार की नीति का एक महत्वपूर्ण भाग था। चर्चा कीजिए।

India's great expanse encompasses a large number of languages & even more dialects. During the Constituent Assembly debates, the majority decided that

- Hindi is to act as the official language for cultural unification
- English to be used for a 10 year transition period even as many protested against Hindi.

Soon enough, the demand for States based on language erupted.

• Post Potti Srimulu's death due to fast, a States Reorganisation Committee was appointed.

• States such as Gujarat, Andhra, Kerala were carved on

- linguistic lines.
- This sought to promote federalism in the country by giving more powers on the basis of linguistic identity.
 - The next question that arose was the language in which education is to be imparted.
 - In colonial era, English was the language of choice.
 - For independent India, the Kothari Commission was appointed. It recommended the 3 language family formula :-
 - Primary education in Regional language
 - Secondary education in English or Hindi
 - Hindi to be compulsorily taught till class 8.

This policy aimed at consolidating the role of the mother tongue in

the early years of life, while providing for simultaneous knowledge of Hindi and English.

Issues:

- Yet, Hindi did not get entrenched and the period of usage for of English for official purposes was extended by an Act of Parliament.
- The 8th schedule recognises only 22 languages of the 100+ languages in the country.
- Agitations against the 'imposition' of Hindi still continue in Southern States.

Way ahead:

- The forum of inter state council must be utilised to discuss the language issue afresh.

10. Enumerate the measures for the welfare of Unorganised Workers in India. In the context of problems being faced by 'domestic helps', discuss the need for additional measures to safeguard their interests.
- भारत में असंगठित कामगारों के कल्याण हेतु किए गए उपायों को सूचीबद्ध कीजिए। 'घरेलू सहायकों' द्वारा सामना की जा रही समस्याओं के संदर्भ में, उनके हितों की रक्षा करने हेतु अतिरिक्त उपायों की आवश्यकता की चर्चा कीजिए।

As per the Arjun Singh Committee, the unorganised sector comprises 90% of India's workforce.

Such a vast sector comprising the self-employed, casual labours has variations in the incomes earned.

The problems are faced by the poorer section, including:-

- lack of comprehensive social security
- poor job security
- lack of insurance against price shocks
- lack of health insurance
- dangerous working conditions
- poor regulation

Problems of domestic workers specifically:

- Ferudal tones in the kind of work performed
- Extreme informalisation as their workplace is someone's home
- Risk of sexual harassment
- Discrimination in the form of being asked to eat from separate utensils; use separate toilets

Certain measures have been taken for the welfare of unorganised workers:-

1. Passage of unorganised workers Social Security Act, 2008
2. Extension of Atal Pension Yojana; Atal Bima Yojana to those in the unorganised sector
3. Skill India; MODRA loans; Stand up India to allow for social & professional upgradation

Yet, these measures are not enough.

1. There is urgent need to extend the Minimum Wages Act to employed unorganised workers.

2. The Bill introduced on domestic workers with rights for the worker and duties on the employer must be passed.
3. Efforts must be made to organise unorganised workers in Unions to put pressure on the government to address their demands.
4. A comprehensive social security apparatus should be introduced as the 2008 Act has limited benefits.
5. The Maternity Amendment Act should be introduced to domestic workers so that their family life is not affected.
6. Girls who are trafficked from tribal states to be sold to maid agencies must be rescued.

These steps will act as a stepping stone to improve conditions of the informal workforce.

11. The manner in which the mentally ill have been treated in India suggests that policy measures alone may not be sufficient to address the challenges faced by them. Discuss.

भारत में मानसिक रूप से रोग ग्रस्त व्यक्तियों के साथ जिस प्रकार का व्यवहार किया जाता रहा है उससे यह सिद्ध होता है कि मात्र नीतिगत उपाय ही उनके द्वारा सामना की जाने वाली चुनौतियों का समाधान करने के लिए पर्याप्त नहीं हैं। चर्चा कीजिए।

The mentally ill constitute around 2% of the Indian population. The mental disorders range from depression to extreme schizophrenia. Their treatment is deplorable:-

1. Shunned by society who sees them as a threat
2. Refusal of families to talk about their mentally ill family member to protect their honour
3. Administered forced treatment including electric shocks
4. Sent to hostile environments of mental health homes where they are subject to risk of sexual harassment.
5. Easy targets of criminals.
6. Inability to find accommodative work.

Various Policy measures have been taken:

1. A 1988 Act on Mental Retardation and Cerebral Palsy that sets up a National Trust for their welfare
2. Inclusion of cerebral palsy as a disability under the Disability Act, 2016.
3. The Mental Health Act, 2017 which has a rights based approach
 - bans forced treatment
 - allows the mentally ill person to give the action preferred by him or her in case of an attack beforehand

However; real change in society can only occur in a bottoms-up manner.

→ The law in this case is ahead of the society. Society still harbours negative beliefs about mental illness.

→ The implementation of the Mental Health Act, 2017 depends on the social will.

To truly bring a change, the way ahead is to:-

1. Organise workshops, natak natak to sensitise the masses.
2. Rope in celebrities who have successfully battled mental illness to support the cause.
3. Incentivise organisations to provide meaningful ways of livelihood for the mentally ill.
4. The most important would be to ensure that the Mental Health Act, 2017 is conveyed to the mentally ill and they know about it, Awareness is key.

12. Highlight the characteristics of Particularly Vulnerable Tribal Groups (PVTGs) and discuss the challenges faced by them. Also enumerate the measures taken by the government to address these challenges.

विशेष रूप से सुभेद्य जनजातीय समूहों (Particularly Vulnerable Tribal Groups: PVTGs) की विशेषताओं पर प्रकाश डालिए एवं उनके द्वारा सामना की जाने वाली चुनौतियों की चर्चा कीजिए। साथ ही सरकार द्वारा इन चुनौतियों का समाधान करने हेतु किए गए उपायों को सूचीबद्ध कीजिए।

The Particularly vulnerable Tribal Groups (PVTGs) are groups who:-

- are isolated in a pervasive manner from the rest of the society.
- have an unwritten language of their own
- have very small numbers

Examples are the Sentinelese in Andaman who number less than 10, to the Todas in the Nilgiri hills.

Challenges faced:

- lack of amenities as most of them continue their centuries old way of life
- susceptibility to being wiped out due to disease by reason of endogamy. (threat of extinction)

→ Most of them do not and are not in a position to take the benefits of reservation for Scheduled Tribes.

→ Extreme poverty; a hand to mouth existence. with malnutrition

Measures taken by the Government:

- There exists a Scheme for the Development of PVTGs
- Tribal Advisory Councils have been set up.
- Forest Rights Act, 2006 provides them with ownership rights over community lands
- The Panchayats Extension to Scheduled Areas Act brings democratic processes to the tribes
- Committees such as the Xaxa Committee have been set up to look into issues faced by the tribes

Way ahead:

→ The National Food Security Act should be extended to the PVTGs as they are at risk of being wiped out.

→ Their minor forest produce should be collected by officials of the TRIFED of Ministry of Tribal Affairs rather than middlemen.

→ Any intervention must be made with due caution as some PVTGs like the Sentinelese prefer complete isolation over assimilation.

13. While suburbanisation is a common phenomenon in most urbanising countries, it is occurring at a relatively early stage of India's urban development. Enumerating the reasons behind this development, highlight the challenges it is creating for Indian cities.

यद्यपि उपशहरीकरण अधिकांश शहरीकृत हो रहे देशों में एक सामान्य परिघटना है, किन्तु भारत के शहरी विकास के संदर्भ में यह अपेक्षाकृत प्रारंभिक चरण पर में हो रही है। इस विकास के अंतर्निहित कारणों को सूचीबद्ध करते हुए भारतीय शहरों के लिए इसके द्वारा उत्पन्न की जा रही चुनौतियों पर प्रकाश डालिए।

Suburbanisation refers to the expansion of the urban area to its outer limit enclaves called suburbs.

Characteristics of suburbs:

- less congested than cities
- green leafy environs with better planning.
- Examples: Gurgaon is a Delhi suburb; Chembur is a suburb of Mumbai.

Reasons for development of suburbs:-

- Cities are growing in a haphazard manner, with many city pockets turning unlivable
- Breach of the carrying capacity of cities to accommodate an ever growing population.
- People move in search of better &

efficient health & education delivery

- occurring earlier in India as :-
 - most cities were unplanned to begin with
 - the growing Indian population at 1.2 Billion
 - increased migration to cities
 - higher costs of living in city than suburbs.

Challenges being created:

- offices are in cities, while people live in suburbs. Most cities lack efficient public transport leading to overcrowded threewheelers ferrying people, and large traffic jams of private cars.
- Jurisdiction tussles over suburban areas result in low growth ~~for~~ and poor service delivery.
- No effective curbs can be put

on the expansion of a city, which puts additional strain on financial resources.

- In some cases, suburbs too face the same issues as cities due to uncontrolled growth & over-crowding.

Way ahead:

- Master plans must be created and implemented for cities.
- Green Building Norms of Bureau of Electricity Efficiency should be made mandatory.
- An efficient network of public transport such as hyperloop, metrolino to connect suburbs with cities.

The future of India lies in its cities, and utmost importance should therefore be given.

14. Various geographical and anthropogenic factors have rendered Brahmaputra Valley susceptible to recurrent floods. Discuss the causes and suggest suitable measures of mitigation.

विविध भौगोलिक एवं मानव जनित कारकों ने ब्रह्मपुत्र घाटी को बारम्बार बाढ़ों हेतु अति संवेदनशील बना दिया है। इसके कारणों की चर्चा कीजिए तथा शमन के उचित उपाय सुझाइए।

The Brahmaputra valley is one of the most flood prone regions in the world. Geographical factors :-

- high sediment load decreases its water carrying capacity
- its braided channel topography makes flooding common
- its flood plain is raised above the area of surrounding plains due to excessive sediment deposit.
- the snow melt from Tibet and the high amount of precipitation in the North East ensure its water volume remains large.

Anthropogenic factors :-

- Encroachments along the flood plain have further reduced its ability to follow its natural drainage

basin

→ Release of water from dams higher up in Arunachal brings floods to Assam

→ Deforestation reduces the scope for water retention by strong trees

→ Climate change leading to violent precipitation

The present methods of mitigation used consist of :-

- Embankments, which are often breached

There is a need to move away from this approach. Suitable mitigation measures would be :-

1. Integrated river basin management with afforestation, watershed development

2. Allowing the river enough space to chart its course freely.

3. Seeing rivers as living ecosystems

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and not as a flow of water that can be tamed.

4. Better coordination between dam authorities of upstream & downstream riparian states
5. Better forecasting of floods, having a resilient disaster risk reduction plan in place
6. Development should follow the natural drainage pattern of land.

Such an approach will go a long way in preventing floods from causing widespread damage.

15. Give a brief account of Earth's heat budget. Also discuss how increasing concentration of carbon dioxide in Earth's atmosphere effects it.

पृथ्वी के ऊष्मा बजट का एक संक्षिप्त विवरण दीजिए। साथ ही चर्चा कीजिए कि पृथ्वी के वायुमंडल में कार्बन डाइऑक्साइड की निरंतर बढ़ रही सांद्रता इसे किस प्रकार प्रभावित करती है।

The earth's heat budget refers to the incoming heat being equivalent to the outgoing heat



Out of the total incoming radiation, which is in the form of shortwave (UV) radiation :-

- Around ~~20~~⁴ % is reflected back by the albedo of land & water
- Around 20 % is reflected by clouds
- Around 6 % is scattered back by air molecules
- Another 19 % is absorbed by the atmosphere.
- 51 % of the total energy

reaches the Earth's surface
This 51% is reflected back by
the surface as long wave infrareds.
Some of the heat is lost through
convection and conduction as well

Relevance of the Heat Budget:

→ It ensures that the Earth
maintains optimum climate to
sustain life.

→ The incoming and outgoing
radiation powers the water cycle,
production of food; generation
of winds and ocean currents.

The carbon dioxide present in the
Earth's atmosphere traps some of
the heat to maintain a stable
environment.

↳ It operates as a natural
greenhouse, by allowing heat to
enter but not escape.

→ Excess presence of carbon dioxide intensifies the natural greenhouse effect, causing the Earth's atmosphere to blanket more heat than it would at natural carbon dioxide levels.

→ This causes heating of the Earth, a phenomenon known as global warming or climate change.

→ The increased carbon dioxide is anthropogenically induced.

Way ahead:

- Honouring the commitments of Paris Agreement; using more sustainable sources of energy should be a priority to ensure continued survival of life on Earth.

16. Give an outline of the major geological events that have shaped the present drainage system of Peninsular India. Also, explain why peninsular rivers are unsuitable for navigation but facilitate hydroelectric power generation.

प्रायद्वीपीय भारत के वर्तमान अपवाह तंत्र को आकार प्रदान करने वाली प्रमुख भू-गर्भीय घटनाओं की एक रूपरेखा प्रस्तुत कीजिये। साथ ही स्पष्ट कीजिए कि ऐसा क्यों है कि प्रायद्वीपीय नदियां नौवहन के लिए अनुपयुक्त हैं लेकिन जलविद्युत उत्पादन को सुविधाजनक बनाती हैं।

The peninsula of India was initially a part of Gondwanaland. It detached from there to crash into Laureasia, leading to formation of India as we know it today.

Major geological events shaping peninsular drainage: -

1. Development of the Narmada Trough Valley which runs deep leading to west draining Narmada and Tapi rivers
2. Orientation of the peninsular block sloping towards the east slightly, leading to majority of peninsular rivers draining to east coast.

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Don't write anything this margin (इस भाग में कुछ ना लिखें)

3. The east coast due to its slope is conducive to formation of deltas. Eg: Mahanadi; Godavari. These deltas are rich in minerals.
4. The west coast rises against the sea, leading to poor delta formation.
5. Development of Aravallis as a drainage divide.
6. The formation of western Ghats, which are steeper than Eastern Ghats and receive more rainfall lead to development of a number of localised hill originating rivers in the western coast. Eg: Bharatpuzha in Kerala; Uklas in Maharashtra.

Reasons for poor navigation:-

- The peninsular rivers are not fed by snowmelt like the

- Himalayan rivers. Instead, they depend on rainfall which is seasonal.
- Their water flow remains low.
 - Further, the drainage is concordant to the topography and valleys are not deep and lack enough verticals erosion.

Due to low flow & not very deep channels they are poor for navigation.

Hydroelectric potential :-

- The peninsular rivers are fast flowing due to less traction load acting as friction.
 - As they flow through hardened rocky plateau, their flow is unhindered by excess sediment.
 - They also fall at heights on the plateau and surrounding hills.
- ~ This increases their hydroelectric potential.

17. Elaborate with examples as to how government policies influence the location of industries. Also, mention the steps taken by the Government of India to stimulate industrial activity in backward regions.

उदाहरण सहित व्याख्या कीजिए कि किस प्रकार से सरकारी नीतियां औद्योगिक अवस्थिति को प्रभावित करती हैं। साथ ही, भारत सरकार द्वारा पिछड़े क्षेत्रों में औद्योगिक गतिविधियों को बढ़ावा देने हेतु उठाए गए कदमों का भी उल्लेख कीजिए।

Government policies are an important factor determining the location of industries, especially for industries which are:

→ footloose (can be set up any where)

→ weight gaining (finished product is more bulky than raw material)

For weight losing industries, government policies at source help develop the naturally endowed regions.

Examples:

1. The development of Gujarat as a diamond polishing and cutting hub despite having no diamond mines is due to the ease of doing business.

2. The large number of car

manufacturing units in Tamil Nadu is due to its developed coastal shipping and presence of Special Economic Zones.

3. Development of Jamshedpur after discovery of coal and iron in the region brought development with government support.
4. Development of pharmaceutical industry in Solan & Baddi districts of Himachal and not in other hilly regions is a result of the policies.

Steps taken by the government to stimulate backward region development.

1. Grant of special development assistance packages.
2. Promoting Skill India for

utilising the demographic dividend

3. Focus on cottage, small & medium industries

4. Providing easy credit through MUDRA; Rural Regional Banks

5. State governments providing attractive packages for investors.

Way ahead:

- Best practice models from successful regions must be replicated.

- Public private partnerships will go a long way in development of backward regions.

18. Explain, in brief, the process of cloud formation. Also, elucidate how clouds can help in weather forecasting.

संक्षेप में बादल बनने की प्रक्रिया की व्याख्या कीजिए। साथ ही स्पष्ट कीजिए कि मौसम के पूर्वानुमान में बादल किस प्रकार सहायता कर सकते हैं।

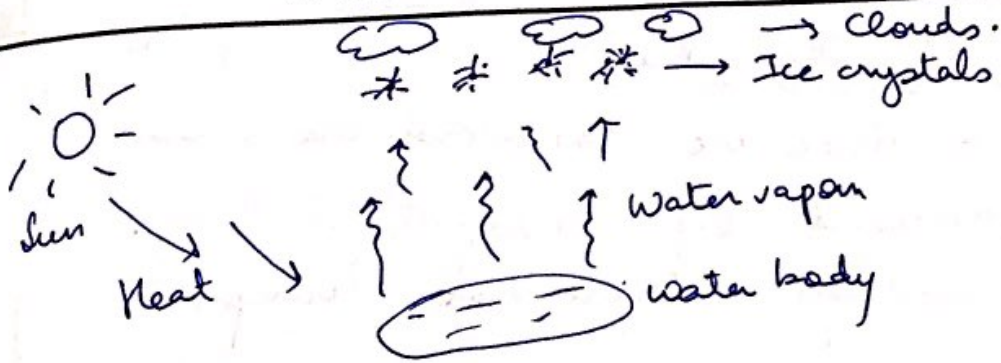
Cloud formation occurs due to the water cycle.

↳ Water is evaporated from the surface of earth as water vapour.

→ The moisture gets cooler as it rises up in the atmosphere.

→ Higher up, the vapour cools to form crystals of ice. This condensation releases latent heat of condensation which drives various weather processes.

→ The ice crystals accumulate to form clouds. The type of clouds formed depend on amount of water vapour & the height of clouds. Eg: Cirrus, Altostratus; Nimbus.



Clouds can help a lot in weather forecasting. Depending on the type of clouds in the atmosphere, the weather can be predicted:-

1. Cirrus clouds

- Formed at great heights; they are wisp like. They indicate clear and fair weather

2. Stratus and alto stratus

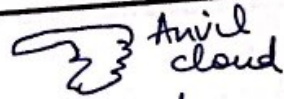
- Indicate cloudy conditions. These clouds are horizontally expanded

3. Cumulus

- These are clouds with height. They indicate possibility of rain.

4. Cumulonimbus

- These are thunderstorm clouds, caused by convection. They bring sudden torrential downpours.

5. Nimbostratus

- These are dark grey clouds associated with rain, thunder.

Therefore, clouds can help in weather prediction using the naked eye.

19. The socio-economic and ecological consequences of soil degradation are far-reaching. Discuss. Suggest measures that can be taken to restore soil fertility and arrest soil degradation.

मृदा निम्नीकरण के सामाजिक-आर्थिक एवं पारिस्थितिक परिणाम दूरगामी प्रभाव डालने वाले होते हैं। चर्चा कीजिए। मृदा उर्वरता को पुनर्स्थापित करने एवं मृदा निम्नीकरण को रोकने हेतु किए जा सकने वाले उपाय सुझाइए।

Soil degradation refers to a long drawn process by which the soil loses its nutrients and original properties. Causes of soil-degradation are :-

1. Natural causes as once fertile lands undergo ecological succession
2. Overuse of pesticides, fertilisers
3. Leaching of soil nutrients by action of water, rain, rivers

Socio-economic consequences are many:-

1. Affects the productivity of land as land loses its fertility.
2. Induces migration as people seek to settle in fertile regions.
3. The accompanied soil erosion causes dust storms leading to decreased visibility, health disorders

4. Puts stress on a country's exchequer as foodgrain has to be exported.

Ecological consequences:

1. Wildlife distribution is affected as mesophytes give way to xerophytes
2. Due to soil run off the carrying capacity of rivers is reduced, increasing chances of floods.
3. The weather pattern changes as soil's capacity to retain moisture decreases.
4. Wetlands and woodlands give way to deserts.

Measures to arrest soil degradation:-

1. ~~Arrest~~ Afforestation along river banks to prevent badlands like the ones in Chambal valley from developing

2. Keeping the soil irrigated at ~~all times~~ to prevent erosion
3. Using neutralising chemical agents to counter excess acids / bases in soil.

Restoration of soil fertility:-

1. By planting crops suited to the agro climatic region.
2. By using natural fertilisers instead of heavy duty industrial ones.
3. Watershed development for all round conservation.

Way forward:

The provisions of the UN Convention Against Desertification must be heeded in letter & spirit.

20. Development of island territories requires a careful balancing of environmental and tribal concerns with exploitation of economic potential. Elaborating on the threats faced by island territories of India, comment on the recent measures proposed by the government regarding their development.

द्वीपीय क्षेत्रों के विकास हेतु संभावित आर्थिक क्षमताओं के दोहन के साथ ही पर्यावरणीय एवं जनजातीय चिंताओं के मध्य विवेकपूर्ण संतुलन की आवश्यकता है। भारत के द्वीपीय क्षेत्रों द्वारा सामना किए जाने वाले खतरों को विस्तार से बताते हुए, उनके विकास के संबंध में सरकार द्वारा हाल ही में प्रस्तावित उपायों पर टिप्पणी कीजिए।

Island territories are usually cut-off from the main land. India's islands of Lakshadweep have a 98% Scheduled Tribe population. Andaman and Nicobar too has high density of tribals and particularly vulnerable tribals.

The importance of islands:-

1. Geostrategic:- islands provide an outer line of defence from marine attacks.
2. Economic: rich fishing zones; heavy agro resources such as rubber, plantain. Sites for tourism, adventure sports, snorkelling etc.

- 3. Cultural - Islands house many tribals with their own distinct cultural heritage.

The development of island territories is important. However, certain threats exist:

1. Climate change - with rising sea levels, our islands will be the first to get submerged.
2. Coral bleaching - set to affect tourism.
3. Risk of tsunamis, cyclones
4. Reluctance of certain tribes to cooperate with the state. Eg: Sentinelese are famed for shooting down helicopters with bows & arrows.

The government has taken steps for regional development:-

1. Development of islands in line with the Sagarmala project
2. Developing naval bases in

Andaman & Lakshadweep.

3. Promoting Tourism
4. Service Delivery for tribals
5. Better transport linkage with the main land.

However any such steps pose a threat to the pristine character of the islands and may be too much of state interference with the Tribal way of life.

Way forward:

- Any development must not impinge on the rights of indigenous people.
- The UN Declaration on Rights of Indigenous People, The provisions of our constitution must be kept in sight while developing the islands.