

FLT-I.

21

The first part of the flight was uneventful. The engine was running smoothly and the aircraft was flying at a steady altitude. The pilot was in full control of the aircraft and was able to maintain a constant speed and direction. The weather was clear and the visibility was excellent. The flight was a success and the aircraft was able to complete the mission without any problems.

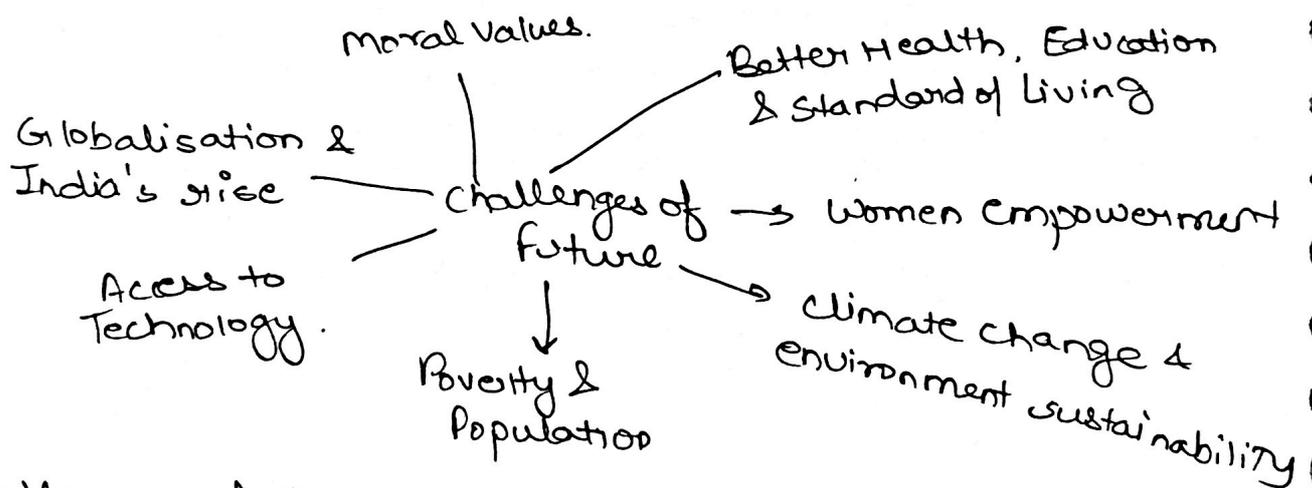


The second part of the flight was more challenging. The engine began to vibrate and the aircraft started to shake. The pilot was forced to reduce the speed and to descend to a lower altitude. The weather was still clear, but the turbulence was intense. The pilot was able to maintain control of the aircraft, but the flight was not as smooth as the first part. The aircraft was able to land safely, but the landing was rough.

Q2 Indian society has been built upon the ethos of Athithi Devo Bhava, Vasudev Kutumbakam, Satyagraha, cleanliness etc. since the ancient ages.

for eg- The planned development of Indus valley civilisation can be used for development of smart cities.

- Chipko Movement is a testimony to environmental sustainability.
- 'Bawolis' are the traditional water conservation systems, being used since ancient times.
- Societal values like truth, honesty, determination, respect for women & elders etc. were depicted in Indian epics like Mahabharata & Ramayana.



Challenges of future based on past strength can be resolved:

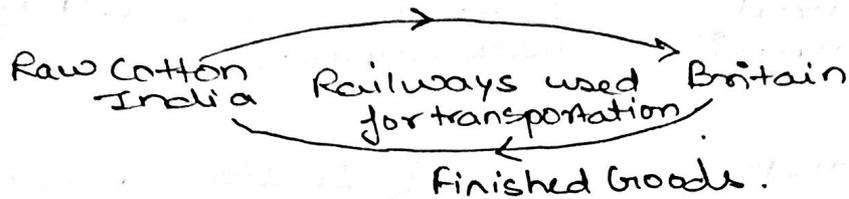
- Yoga can be used for health & well being.
- Moral values should be inculcated from the primary level.
- Importance of environment can be taught at every level.
- Population & poverty can be tackled by efficient administration.

Way forward

Scholars like Dayanand Saraswati revived the strength of Indian culture. They can be adapted to solve the challenges of 'New India'

Q3 During the British era, textile industries ~~was~~ ^{were} limited to few pockets of Maharashtra, Gujarat & other surrounding regions. The commercial exploitation of India made it a net exporter of raw cotton and importer of finished products.

At the time of independence, the volume and spread of cotton textile industries was quite limited.



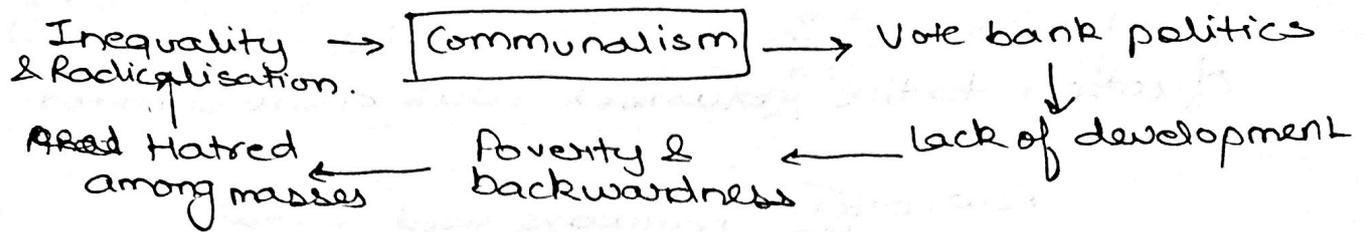
Reasons for growth of Cotton Industry.

- i) Suitable conditions like high humidity, black soil, irrigation etc. are available in states like Maharashtra, Gujarat, Andhra Pradesh etc.
- ii) Development of modes of transport giving logistics support. Gene technology (Gm crops) has also been adopted.
- iii) Textiles sector, being employment centric, got special attention of the Government.
- iv) Trade unions in the mills also led to growth of textile industry, especially cotton textiles.
- v) Availability of cheap labour made India a good destination for spinning, weaving etc.
- vi) The 'charkha' of Gandhiji symbolised economic development through village entrepreneurship. Textiles are made by MSMEs.
- vii) Jute mills went to Bangladesh after partition, therefore, cotton industry grew.

Way forward

Cotton textile industry should be promoted as it is driven by MSMEs, employment centric & symbol of village development.

Q4 Communalism is the ideology and belief that the interests of two religions are mutually exclusive and they can't survive with each other. It also believes that one's religion is superior to other.



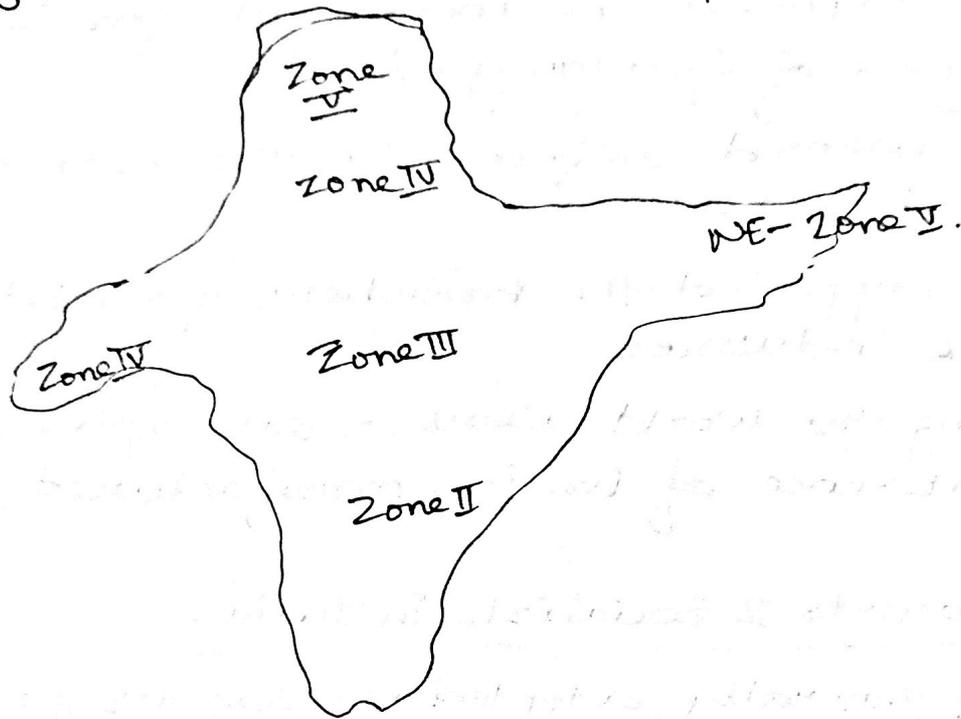
- The British conquest of India was based on policy of 'Divide & Rule'. They adopted this strategy to suppress nationalism in India.
- Political structure promoted hatred among the masses. For eg - Syed Ahmed Khan was supported by Britishers against Indian National Congress
- Ganesh Mahotsav & Shivaji festival were branded as communal by Britishers.
- Socio-economic structure created inequalities among the masses. It gave scope for rise of communalism.
- Muslim League (ML) was founded after Simla Deputation's (1905) meeting with the Britishers.
- Britishers were aware of the consequences of Hindu-Muslim unity, thus, they made all efforts at dividing them.
- Partition was the ~~last~~ biggest communal masterstroke of the Britishers.

Way forward

Communalism has affected the development of India adversely but efforts should be made to promote 'unity in Diversity'.

Q5 The year 2020 has witnessed various low magnitude earthquakes in northern India recently. Delhi-NCR has been affected due to these earthquakes.

India's 59% land is vulnerable to earthquakes. The territory of India has been divided into different zones depending upon the risks.



India has witnessed deadly earthquakes like Bhuj, Kashmir etc.

The threat of impending earthquake has not reduced because of the following reasons:

- Movement of Indo-Australian plate towards European plate.
- Young himalayan range is not stable & constantly changing.
- North East region & upper himalayas are at high risk.
- Infrastructure work going on in himalayas like Chardham project, Railways in North-East etc.

way forward

Better disaster preparedness (mock drills & planning) and better awareness are needed to mitigate the risk.

Q6 Indian capitalists adopted a different strategy from the ~~communists~~ Communists & Socialists in India.

- They did not oppose the British rule by participating in strikes, ~~boycotts~~ ^{lockouts} etc. as industrial production was negatively impacted.
- They supported the movement for 'swadeshi & boycott of foreign goods'.
- They wanted reforms in the economic policies of the Britishers.
- They supported the Britishers for modernisation of the industries.
- During the World Wars, they capitalised on the absence of British manufactured goods.

Communists & Socialists in India.

- They generally adopted pro-labour policies. Formation of AITUC (1926), BMS etc. were possible due to their efforts.
- They wanted to drive Britishers out of India and establish a political structure based on Socialism.
- They used strikes, burning of goods, lockouts etc. as means of protests against the British rule.
- They wanted 'Planned Development' of Indian economy.

Way forward

Capitalists adopted a defensive strategy while socialists & communists were more radical & aggressive in their approach.

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Women in India face discrimination from the time of being in the foetus till their death. Recently, new forms of harassment and abuse have been used through cybercrime.

Domestic violence Act, 2005 has proved to be inadequate to completely wipe out domestic violence from the Indian society.

Reasons:

- a) Patriarchal mindset leading to suppression of women
- b) Only 11% of Parliamentarians being women.
- c) Women being perceived as weak, dependent etc.
- d) Poor state of education of women in India. Only 50% of ^{girls} enrolled in high schools pursue higher education.
- e) Low level of female workforce participation i.e. 20%.
- f) Social customs like dowry, child marriage etc. ~~can~~ inhibit their progress.
- g) Neglect of health of women. IMR (113 per 1,00,000 ^{births}) & JMR (29.48 per 1000 births). 50% women are anaemic.

Solutions:

- i) Improving upon the gender imbalance in offices, parliament, armed forces, research field etc.
- ii) Inculcating strong values like respect for women, equality etc. at the school, family & national level.
- iii) Proper implementation of women centric schemes like Nirbhaya Fund, Beti Bachao, Beti Padhao etc.
- iv) Encouraging women entrepreneurs & financial literacy
- v) Initiatives like SHE-box, online complaints etc.

CONCLUSION

If development is not engendered, it is endangered

The first part of the paper is devoted to a general discussion of the problem. It is shown that the problem is well-posed in the sense of Hadamard. The second part is devoted to the construction of the solution. The third part is devoted to the study of the properties of the solution.

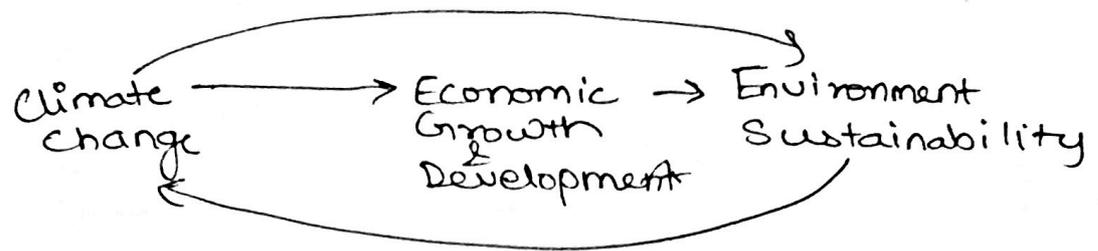
All of the factors in the product are bounded. The first factor is bounded because of the boundedness of the functions $f(x)$ and $g(x)$. The second factor is bounded because of the boundedness of the functions $h(x)$ and $k(x)$. The third factor is bounded because of the boundedness of the functions $l(x)$ and $m(x)$.

The fourth factor is bounded because of the boundedness of the functions $n(x)$ and $o(x)$. The fifth factor is bounded because of the boundedness of the functions $p(x)$ and $q(x)$. The sixth factor is bounded because of the boundedness of the functions $r(x)$ and $s(x)$. The seventh factor is bounded because of the boundedness of the functions $t(x)$ and $u(x)$.

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Q10 Climate Change is the change in weather, environment, mean temperature, rainfall pattern & distribution & other related phenomenon on a long term basis.



All of the factors depicted above are inter-related. SDG 8 sets target for economic growth & decent work but climate change is a threat to India's path of development.

Adverse consequences of Climate Change

- i) India's coastline is 7500 km and vulnerable to changes in sea level water.
- ii) Agriculture, employing 50% population, is hugely dependent upon monsoon which can be adversely affected by climate change.
- iii) Climate change will affect women more adversely. Foreg- struggle for water, nutritious food etc.
- iv) Industries will be negatively impacted as availability of raw materials, labour, capital etc. will be adversely affected.
- v) Floods in Rajasthan, frequent droughts in Maharashtra etc. show the risks attached to climate change.
- vi) Climate change will impact economic & social security.

Way forward

India's commitment to Paris agreement, focus on renewable energy, increasing global cooperation, increasing sustainable agriculture, smart & energy efficient infrastructure etc. will help in maintaining a balance between growth & environment.

Q11 Indian political structure was defined by the existence of kingdoms of Marathas, Mughals, Rajputs, Bahamani, Vijaynagar etc. before the Britishers came to India and established their rule. Thus, medieval India was symbolized by the rule of Princely States in different regions.



During the colonial rule, the sovereignty in the princely states has varied in different times.

i) Subsidiary Alliance - It was followed by Lord Wellesly where the Indian states were forced to accept the Britishers and maintain friendly relations. This is also known as 'Policy of King fern' (1773-1813). Develop friendly relations with states so that their support can be used for battles against unfriendly states. No intention of engaging in battles. Indian states enjoyed supremacy.

ii) Policy of Subordinate Isolation (1813-1857) - No need of defensive policy. Annexation under Dalhousie due to imperialist expansion. No need of maintaining friendly relations with Indian states. The sovereignty of Indian states was subdued during these years.

iii) Policy of Subordinate Union (1857-1935) - Britishers realised the importance of support of states in tackling 1857 revolts. No territorial expansion after Crown assumed direct control. Indian states were given mutual respect. Only disloyal states were punished. Loyal states were given titles like 'Star of India'.

iv) Policy of Equal Federation (1935-1947) - The intention of GOJA Act, 1935 was to create a federation of British India & princely states. This never came into practice. Indian princely states maintained their sovereignty during this phase.

CONCLUSION

British rule survived for such a long time due to support of Indian princely states

Q13 French revolution (FR) (1789) & Russian revolution (RR) (1917) were mainly driven by the people against unjust rule of monarchs.

Similarities between French & Russian revolution.

- Intellectual development & thinking played an important role in awakening the masses. Eg - Rousseau, Voltaire during French revolution.
- Economic inequality became root cause of the revolution. For eg - Louis XVI war expenditure & Russian involvement in World War I.
- Political structure was highly biased in favour of ruling class & clergy.
- Curtailement of liberties, freedom of speech & expression.
- Social structure was unjust. 95% of 3rd estate ^{population i.e.} paid all the taxes but 5% of population had 40% land in France.
- Interference of state in religious matters.

Outcome of French & Russian Revolution

- French Revolution led to establishment of National Assembly. Louis XVI & his wife were tried & executed.
- Jacobians, lead by Robespierre, followed in 'Reign of Terror'.
- Further, unjust rule of the Directory gave rise to Napoleon.
- Napoleon established the rule of monarchy again in France & engaged in expansion through wars.
- Thus, the gains of French Revolution could not be channelised in a stable form of government.

on the other hand, Russian revolution led to its withdrawal from world war I.

- Socialism was adopted as the political goal & structure of economy was based upon it.
- Communist rule of the Bolsheviks, lead by Lenin, was established.
- After the end of civil war in 1923, communist form of government was established in Russia.

Q14 Quit India Movement (QIM) was started in 1942 in the backdrop of failure of Cripps mission & Individual Satyagraha.

Gandhiji & other leaders were arrested & the movement continued without any popular leader. It also turned violent which was a setback to the British rule.

Significance of QIM.

- a) It emerged as a spontaneous movement led by the masses.
- b) Indians were extremely frustrated at their forced engagement in world war II.
- c) Various sections of the society including women, students, hindus, muslims, labourers etc. supported the movement.
- d) Violent clashes created fear of mass movement in the Britishers.
- e) New leaders like Aruna Asaf Ali, Usha Mehta etc. did some pathbreaking work.
- f) Bureaucracy & police also realised the days of British rule were numbered.

g) Parallel governments were set up in Balliyan, Midnapur & Satara. The whole administration was paralysed.

b) The movement was never called off or suspended. It led to mass awakening.

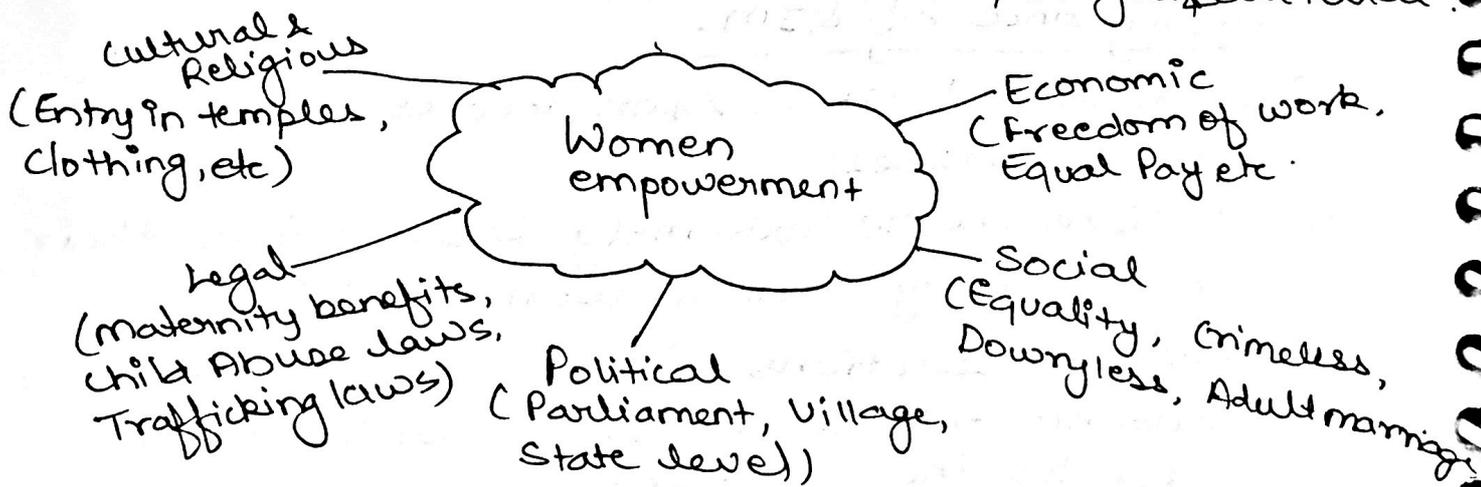
i) It was the first mass movement that spread to Indian states as well.

CONCLUSION

ATM, although termed as a failure, provide a fertile ground for Royal Indian Navy mutiny in 1946 & negotiations with the Britishers.

Q15 Economic upliftment means that women are able to earn themselves, take financial decisions & work for their development.

Women empowerment has to be multidimensional i.e. social, political, economic, legal & cultural.



Empowerment of women in India.

a) Political - only 11% of parliamentarians are women. 1/3rd reservation in Panchayats & municipalities are symbolic. for eg - 'Pradhan Pati' culture has emerged. Bill for women reservation in Parliament & state assemblies has become a dead rubber.

b) Socially - Crimes like rape, sexual harassment, domestic violence, dowry, child marriage etc. are on the rise. Women in India are abused by close relatives. Stigma is attached to menstruation, clothing, night life etc. Patriarchal mindset in form of Khas Panchayats, honour killings etc. has continued.

c) Economic - There has been 'feminisation of Poverty'. Unpaid work of women is not accounted in surveys. They receive ^{34%} less wages for same amount of work. Only 11% companies have women at senior levels.

d) Legal - Some positives like increasing maternity leave to 26 weeks, Ban on triple talaq, judgement on entry of women in temples etc. can be observed. While laws like Domestic Violence Act, POSCO Act, Dowry Act etc. have remained inadequate.

CONCLUSION

Women in India have evolved socially, legally, economically & politically but the road to real women empowerment is quite long.

Q17 Mental health and well being has come to limelight due to increasing suicides across the world. Indian youth have been adversely impacted by it. The increased use of social media and digital technology has made them isolated inspite of people being around them. Real emotions have been replaced by artificial connections and relationships.

Reasons for increase in suicides in India.

- i) Social - Emergence of nuclear families, disregard of old population, reduction in societal checks & balances etc.
- ii) Economic - Burden of loans, materialism, farmers distress, bankruptcy, corporate scandals leading to fall of stock markets etc.
- iii) Technological - Increasing use of phones, laptops, playing devices, social media platforms etc.
- iv) Spiritual - It increases positivity as there is faith in God. People tend to handle stress better but spiritualism is decreasing in Indian society.
- v) Cultural - Increasing focus on materialistic targets rather than mental serenity.
- vi) Educational - Lack of values in education system. Emphasis is not placed on importance of values by parents, teachers & society.

Measures needed to resolve the problem.

- i) Healthcare workers should be trained to deal adequately with cases of depression, stress, anxiety etc.
- ii) Helpline centres, e-telepathy, e-telemedicine etc. can help in resolving manageable cases.
- iii) Social stigma should be overcome through awareness & education.
- iv) Mental Healthcare Act, 2017 should be implemented in letter & spirit.

- v) Measures like yoga, meditation, sports etc. should be promoted for 'Fit India'
- vi) Awareness regarding balanced use of technology in daily life should be spread.

CONCLUSION

Suicides can be reduced if there is active participation from citizens as parents, relatives, teachers etc. It is a socio-economic problem that needs efforts of the state as well as the citizens.

Q18 Indian judiciary has played a pivotal role in recognition of transgenders (LGBT community), restoring dignity of women and maintaining a gender balance. Eg - Naz Foundation judgement, Decriminalisation of Adultery, Triple Talaq ban etc.

Indian Government ^{has} also taken steps to ensure certain rights are guaranteed to transgenders, women & other marginalised communities. Eg - Transgender Persons (Protection of Rights) Act was passed in 2019.

Measures needed:

- i) There has been recognition of transgenders without substantial rights being provided ~~legislated~~ legally. For eg - Transgenders have not been provided reservation in jobs, educational institutions etc.
- ii) Social stigma is still attached to the community. Measures like Transgenders' metro station on Aqua Line are needed to spread awareness.

- iii) Jobs - There is a need to focus upon the employability of transgenders. They are currently employed in menial jobs like trafficking, begging etc.
- iv) Health - Special dispensaries & hospital should be opened for them so that they can address their mental & physical challenges adequately.
- v) Education - There is a need to concentrate on literacy levels of transgenders. Vocational skills need to be imparted to them.
- vi) Administration - Special help should be provided to them in order to get the required Certificates.

Way forward

A long road needs to be travelled before transgenders & women can be guaranteed an equal status in the society. Government shall provide them rights, protect them & ensure opportunities for holistic development. Civil society needs to contribute as well.

Q19 COVID-19 has devastated the economic structure & cycle of the Indian economy. It resulted in completed lockdown of the country from March end till June. Even after various relaxations, the economic activity has not regained its usual pace.

Impact of the Manufacturing Sector.

- i) Shortage of Raw materials - In sectors like mobiles, electronics, machinery etc, import reduction led to shortage of raw materials.
- ii) Global supply chains - India, being part of Global supply chains, was affected adversely as other parts of the world were also locked down.

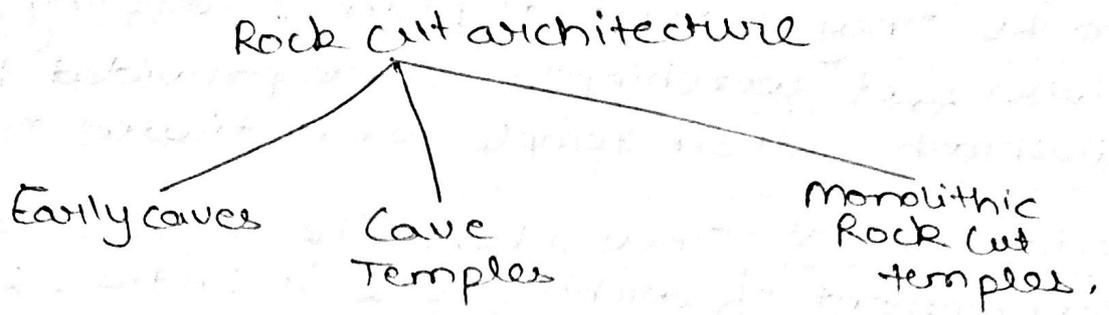
- iii) Increase in Cost of Labour - Migration of labourers from urban to rural areas resulted in shortage of labour when relaxations were provided.
- iv) MSMEs - This sector faced survival challenges due to shortage of surplus funds, working capital, reduction in exports etc.
- v) Uncertain Climate of Investment - Major companies ~~also~~ halted their future investment plans due to uncertain environment.
- vi) Real Estate Industry Slowdown led to reduction in demand of related industries like steel, cement, tiles, marbles etc.
- vii) Job losses - There was focus on reducing ^{costs} through employees & workers' retrenchment.

CONCLUSION

Manufacturing sector was severely impacted by COVID-19. Government has tried to develop 'Atmanirbhar' manufacturing sector by schemes like Production Linked Incentives, 15% corporate tax for new companies, bearing provident fund expenses for new recruitments etc.

Indian economy will take time to regain its lost strength as per the estimate of RBI.

Q20 Rock cut architecture is the practice of creating a structure by carving it out of solid natural rock. It can be divided into 3 major phases:



a) Early caves

It came into prominence when men started carving natural caves. Mauryan period saw caves in Barabar & Nagarjuni hills (Karnchoppar, Sudama & Gopika Gufa). The walls were nicely polished.

b) Cave Temples

Gupta period saw the emergence of Ajanta & Ellora ^{caves} _{were built} by Rashtrakuta rulers. Various, Buddhist, Jain, Hindu rock cut temples were built in Ellora caves.

Ajanta caves include painting of dying princess, mother & child, leaving of home by Buddha etc.

Udaigiri caves, near Orissa, have Vishnu Temple inside it.

c) monolithic rock cut temples.

Pallava rulers started building monolithic rock cut temple. Panch Rathas of Mamallapuram, Kailash Temple, Shore temple, Vishnumandap, Ekambarnath Temple etc. are flourishing examples of different styles of temple architecture.

(Mamall style, Mahendravarman style, Aparjit style, Nandivarman style).

Socio-cultural & religious importance.

- i) Religious - They depict various religious values. Ashoka & Dashrath donated various caves to Buddhist monks. They served as place of resting & worship. Ajivika sect worshippers were provided Barabar caves. Kailashnath & Shore Temple are dedicated to Hindus.
- ii) Socio-cultural - They show the intense phase of development of architecture in India. Konheri caves were used as education centres as well as sites for water conservation. Many structures like Bhimbetka, Ajanta, Ellora etc. having been designated as World Heritage Sites by UNESCO.

CONCLUSION

Rock cut architecture provides a lot of information about society, rulers, economic & political structure, religious values of different times. It shows the development of mankind - from using ^{caves as} natural shelters to intense architecture development.