GS SCORE

SCIENCE-TECH & INTERNAL SECURITY

Time Allowed: 3 hrs.   *Max. Marks: 250*

Q.	Marks	Instructions to Candidate
1.		
2.		• There are 20 questions.
3.		
4.		• All questions are compulsory
5.		
6.		• The number of marks carried by a question is indicated
7.		against it.
8.		
9.		• Answer the questions in NOT MORE THAN 200 words each.
10.		Contents of the answer is more important than its length.
11.		
12.		
13.		• Answers must be written within the space provided.
14.		
15.		Any page or portion of the page left blank in the Question-
16.		cum-Answer Booklet must be clearly struck off.
17.		
18.		
19.		
20.		

1. Invigilator Signature

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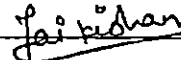
Name JAI KISHAN _____

Roll No. GSMT17041 _____

Mobile No. _____

Date 2-Sep-2017 _____

Signature. Jai kishan _____

REMARKS

Q1. With rising vulnerability to cyber threats and electronic voting machines being proved to be vulnerable there is a demand for defaulting back to offline paper based systems, but Blockchain technology is gaining importance that it would fight electoral fraud. Critically discuss.

(12.5 Marks)

Electronic Voting machines proved to be a game changer in strengthening India's free and fair democracy. It was first introduced at pan-India scale in 2004 general elections.

However, recently there has been some criticism regarding anonymity in EVMs. The raised concerns are :-

a) EVMs can be hacked

b) EVMs are anonymous as the vote casted to parties is not surely known.

c) EVMs can be pre-programmed.

However, Election Commission of India has given following characteristics of EVMs which make in unbreakable

$2\frac{1}{2}+2$

EVMs are not connected to Internet. Hence, no cyber threat

EVMs don't have any radio-receptor device

EVMs are distributed using double randomisation.

EVMs are produced locally by BHEL, micro-controllers are indigenous but micro-chips are imported.

Election Commission through open Hackathon to crack EVMs. So far it has not been cracked.

Remarks

— Refer Link for more understanding of Blockchain tech

Steps taken

1) Introduction of voter verifiable paper audit trials.

2) Open Hackathon.

Block chain technology is often related to cryptocurrency. Here, an open source survey is used to maintain the database. The transactions made by users are auto-filled in various public ledgers. This technology makes the data very secure.

Block chain technology cannot be used in EVM's because this would need linkage of EVM's to the internet. This in turn would increase vulnerability.

write multiple chromosome & challenges

way forward.

Election commission should soon roll out VVPAT augmented to EVM's. This would foster faith on Indian democracy.

Remarks

Q2. In a country, where suicide among young women rivals maternal disorders as the leading cause of death, the importance of neuroscience research cannot be overemphasized. Briefly explain the recent developments of the brain research and role of Indian scientists in it.

(12.5 Marks)

Remarks

Remarks

Q3. What are gravitational waves? What does the discovery of it hold for the world? How is LIGO detecting and what is the contribution of India towards this project?

(12.5 Marks)

Gravitational waves are waves in the dimension of space and time fabric. This was first proposed by Albert Einstien. He says that when two bodies accelerate towards each other, This produces ripples in real time and space fabric. Such waves can be detected only if bodies are very massive like - masses of black Holes.

It was discovered by LIGO [Light Interferometry Gravitational observatory] in the U.S.

Significance.

(1) For the first time, gravitational waves are observed.

(2) Earlier, we used to see the universe in terms of optical waves, UV rays or infrared. Now, for the first time gravity waves can be used to study the universe.
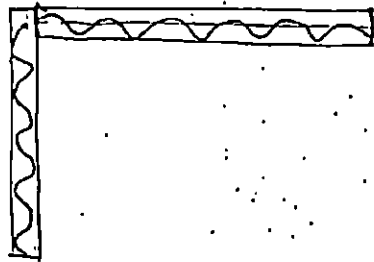
(3) It may help in deciphering the origin of the universe.

2+2+2

Remarks

— underline all key words

Gravity waves were discovered by two observatories at Louisiana and other at Washington.

The observatory was L-shaped. The waves were passed through 2 separate vacuum tubes and were reflected back. On merging, there were some deflections of "Bird like chirp".

India's contribution

\# Indian scientists contributed in mathematical solution to the gravity waves.

\# The data analysis and confirmations were done.

\# Currently, India proposes to establish Indian observatory. This would boost India's image in global science and astronomy.

Gravity waves is at nascent stage, yet fully unexplored and provides Remarks immense opportunity to open new vistas of universe.

Q4. How antibiotic resistance became one of the burdens of Indian healthcare system? What are the steps taken by India recently to combat this menace? What is the significance of the list of antibiotic resistant "priority pathogens" prepared by WHO.   (12.5 Marks)

Antibiotic Resistance refers to the ineffectiveness of the drugs to cure infectious diseases caused by bacteria, fungi or virus. Antibiotic Resistance occurs due to -

(a) Over the Counter drug consumption

(b) Incomplete dosages to cure

(c) Anti-biotic feeds given to the poultry etc

It has become one of the burdens of Indian healthcare system because :-

(a) Many children are dying of pneumonia. Drug Resistance, has been one of the Reason.

(b) Tuberculosis in India is very much widespread. Drug Resistance in TB leading to MDR [Multiple Drug Resistance) etc.

(c) India is developing country; If the effectiveness of antibiotics reduces. It would be a concern for public Health.

(d) India spends too little on Research and Development of anti-biotics. Hence, new anti-biotics

Remarks discovery would need more public expenditure.

⑤

Steps taken by government

(1) <u>Schedule H1 drugs</u> :- They are anti-biotics which can be sold on a valid prescription.

(2) <u>Red Line on anti-biotics</u> :- This would ensure public awareness.

(3) <u>National Action Plan on AMR</u> :- Recently, Ministry of Health launched National Action Plan on AMR which has following component

(a) Creating awareness

(b) personal Hygiene

(c) <u>Hygiene of the hospitals</u> as hospitals are responsible for spread of mutated pathogens.

WHO came up with a list of "priority pathogens". The significance is -

(a) Use of such anti-biotics should be regulated

(b) Its overuse would create public Health Emergency due to AMR.

AMR has become a global <s>threat</s>. Many patients are found who are immune to even <u>carpenem</u> and collistin. Hence, International

Remarks cooperation under leadership of WHO is needed.

Q5. Why is there is lack of communication between the scientific community and the public when it comes to acceptance of science projects like INO? Give your opinion. By writing a short note on India based neutrino observatory, mention it's significance and why is it not gaining public support?   (12.5 Marks)

Recently, the cabinet gave approval to establish Indian Neutrino observatory at theni district, TN. However, there has been protest against the project by local public. The reasons can be :-

(a) Role of N.G.Os :- General NGOs often mobilise people ? fear of people against such project.

(b) Unawareness about neutrino :- Many people donot know about neutrino particles. They believe that it is analogous to radioactive decay.

(c) Issue of land alienation :- often such project require vast track of land. Land alienation and poor compensation and Resettlement policy makes the matter worse.

India has been pioneer in the neutrino observatory. It was first started in the gold mines of karnataka. However, when the mines were closed the observatory was closed. INO would showcase India's science

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Remarks   conclude Ans with solution not problem

community's talent to the world. Significance
of INO are :-

(a) Neutrinos can be used in mineral exploration
as they can penetrate the solid mass.

(b) Neutrinos can also be used to find the
enrichment of Uranium in any Nuclear reactor.

(c) Neutrinos are not fully explored. There are
many potential applications which can be
harnessed from Neutrinos like :- can be used
in data communication.

It is not gaining public support because of

(a) Unawareness among people.

(b) Mass mobilisation against the project
by NGOs

(c) Poor Resettlement policies.

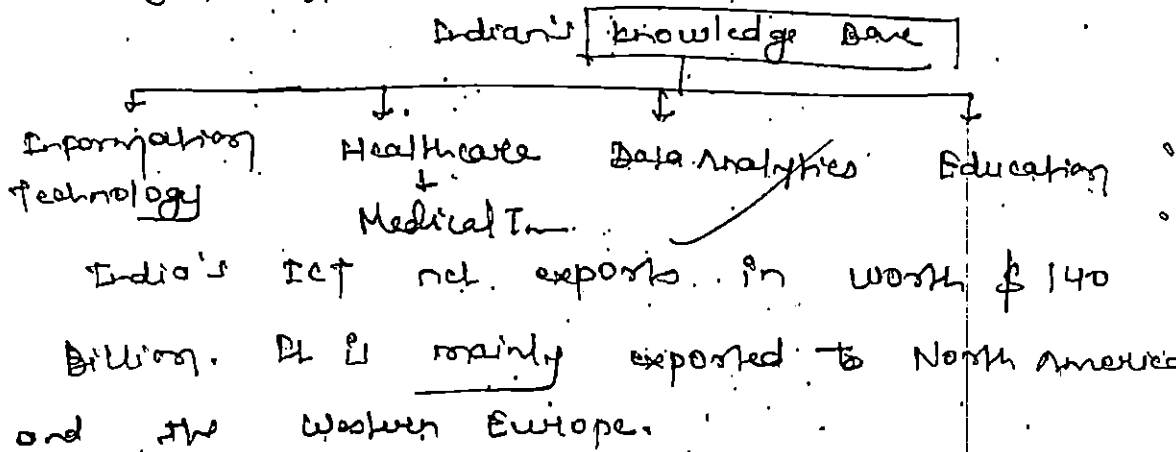(d) Poor communication between science fraternity
and common citizens.

Q6. To what extent is India a Knowledge based economy? What are the measures taken to make it so? What alternate suggestions are needed to make it a knowledge based economy? (12.5 Marks)

India can be termed as knowledge based Economy as the role of services sector specially - Information Technology, Healthcare and Data Analytics in rising over the years.

knowledge based Economy are those economies where skilled manpower based upon its service oriented skill contribute more in the gdp of the nation.

(margin note: substantiate with fact)

Indian's | knowledge Base |

Information Technology   Healthcare   Data Analytics   Education
                                Medical T—

India's ICT net exports in worth $140 Billion. It is mainly exported to North America and the Western Europe.

the measures taken to make it so are :-

(a) StartUp India Scheme :- This is ensures that Indian startups get due care in the initial stage It provides - incubation, Ease of Doing Business, cheap credit etc.

(b) Venture Capitalist :- India has started India Aspiration fund to fund any such startups,

(margin: circled 4)

Remarks

(c) gender empowerment :- Stand up India scheme, Zero-effect - Zero defect.

D). International collaboration :- India has initiated a concept paper on Trade facilitation in services so that Indian skilled workforce get market access in other countries.

E). Skill India :- The schemes like National Apprenticeship schemes, skill banks etc.

F) Bilateral Dialogues :- India and other countries have signed MoUs for easy flow of people eg :- India and Japan for healthcare and education.

<u>Other suggestions</u>

\# Too much focus is given on ICT, there are other sectors like - Biotechnology or Nanotechnology which can be taken care of.

\# The government must ensure that the rise of protectionism in the US or Australia donot hamper India's IT industry.

\# At International forum, India should push for Trade facilitation in services.

Remarks

Q7. Do you think opposition to GM crops is driven by irrational fears of harm to human health? Critically examine by analyzing the GM mustard issue. (12.5 Marks)

Genetically modified crops are such crops which are derived by taking the help of biotechnology. GM crops are not only more productive in nature but they are also having other characters like →

(a) Resistant to pest attack eg - Bt cotton

(b) Resistant to salty water eg - Soltol

(c) Resistant to drought like conditions.

But In India, GM crops have been banned. GEAC (Genetic Experts Appraisal Committee) is the apex body which decides on the clearances to GM crops. So far, GEAC has given green go to two crops - Bt Brinjal and DMH mustard. Yet there has been massive protests against GM crops.

<u>concerns to GM crops</u>

(1) Threat to Biodiversity

(2) The issue of terminator seeds make GM crops more expensive

(3) Concern on Health :- The genetic strains of bacteria are believed to cause harmful effects

Remarks

on our health.

However, all the above reasons are mostly speculative.

GM Mustard :- It uses the two gene traits - Barnase and Barstar. The DMH mustard has following advantage.

(a) It would increase the crop yield, which in turn would ensure <u>food security</u>.

(b) India imports oil seeds. Hence, increased productivity means reduced import.

(c) It also donot have any terminator traits. Hence, farmers need not purchase new seeds each time.

(D) It would suppress the weed growth against GM mustard.

(a) Health concern

(b) It is also threat to biodiversity.

<u>way forward</u> :-

The government must release all the data of field trials in public domain (except IPR data). The farmers, voluntary organisations and the government must come forward to renegotiate and roll out GM mustard. It would be a

next step in <u>gene revolution</u>.

Q8. Why is cryogenic technology very important for space crafts? Why is GSLV-MK III termed as the India's most powerful rocket? Mention it's significance as well. (12.5 Marks)

Cryogenic Technology in space craft refers to reaction between hydrogen and oxygen at very low temperature. Here,

H_2 — acts as fuel.

O_2 — acts as oxidizer

Significance of cryogenic engine

(1) cryogenic engine has maximum thrust.

(2) It has the best fuel efficiency.

(3) It doesnot pollute the atmosphere.

(4) It increases the payload capacity of the launch vehicles.

(5) Often, Geosynchronous satellites are sent to Geosynchronous Transfer Orbit via such launch vehicles which have CUS (Cryogenic Upper stage Engine).

to pay, India used CUS-MK II engines which was capable of transporting payload of the capacity 1.5-2 tonnes. Now, GSLV MK III can be considered as India's most powerful rocket because

(a) It could carry a payload of 4000 kg to GTO

—diagram
to add more
effective...

5½

Remarks

(b) It could carry payload of 22,000 kg to polar orbit.

(c) It could make possible Isdro's moon mission to the space a possibility.

(d) It would reduce the dependence on other space station for launch of many INSATs

(e) GSLV would get commercialised. So far ISRO has been doing well on its PSLV. With coming of MK-III we are heading towards self sufficiency in space technology.

The hard work of ISRO is commendable. Initially India was denied our engine technology by world leaders in space. With consistent efforts, ISRO has proved that poorer ISRO is going to be the pioneer in space research.

Q9. What do you understand by Smart city Grids? What benefits do they provide over the traditional grids? Also discuss potential challenges in development of these grids?

(12.5 Marks)

Smart city grids are such grids which would be controlled by micro-chips. They would be connected in such a way That consumer would come to know about

(a) Real time consumption of the electricity

(b) Two way communication between the electric meter and grid centre.

The benefits which smart city grid would provide over traditional grids are →

(a) It would increase energy efficiency.

(b) It would reduce the electricity theft.

(c) Consumers would be able to monitor the real time consumption of energy.

(d) It can bring pre-paid mode of electricity payment

(e) Since, it is micro-chip based and ~~dual~~ two way communication is a possibility any electricity theft attempt could be blocked.

Refer link for more understanding

4½

Remarks

— underline key words —

potential : challenges

(a) Finance :- a smart city grid would require a new infrastructure- new cabling, new transformers, new electricity meters at HouseHolds.

This would require huge investment.

(b) It would also require investment from the private sectors and Electricity distribution companies. As the distribution companies are not in healthy condition, more investment from their side seems infeasible.

way ahead.

Looking at the potential benefits of the smart grid, one time investment should be made. The government should look for public-private partnership in this respect.

Remarks

Q10. While cybersecurity is a pressing concern for India, vulnerability of technology is also evident in terms of financial frauds involving the ATM cards. Discuss the importance of adopting smart credit cards in this context? (12.5 Marks)

Assocham Report on Cyber threat in India finds that there has been increase of 800% in the incidence of cyber crimes in India compared between 2011 and 2014, this clearly reflects that India's cyber security is vulnerable. There can be different types of threat like -

Cyber crime :- Involving individual
Cyber war :- when massive attack on a nation's critical infrastructure is carried out by the hostile neighbour.

Financial institutions are also vulnerable to cyber threat. There are many ways by which fraudulent financial transactions can be done like-

(a) phising
(b) Hacking into the servers of the Banks and breaching the credentials.
(c) Hacking into individual customer's firewall.

Recently, National payment Corporation of India

Remarks

found that the ATM cards of 32 lakh individuals were compromised; this occurred because of _malware attack into the servers of Mitsubishi_. Such incidents expose the myth of cybersecurity.

Smart credit cards have dual advantage over traditional ATM cards. They are —

(a) can communicate with the server of the financial organisation on a real time and hence, consumer can track his account on a real time basis.

(b) possession of smart credit cards is essential for making transactions. In traditional ATM cards, we can make online payments even without having physical presence of the card.

The government has taken few steps to minimise cyber threats like —

(a) Launch of 2 factor authentication
(b) Launch of UPI
(c) Cyber swachhta kendras and Botnet cleaning.

Remarks

Q11. What is reusable launch vehicle? Why is it considered an important milestone for Indian space program? **(12.5 Marks)**
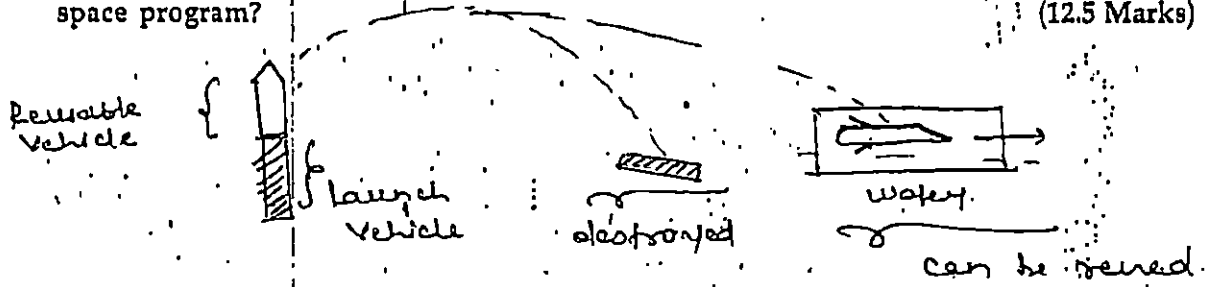
Reusable
Vehicle

Reusable launch vehicle incorporates two modules:-

(a) Reusable Vehicle mounted on an Expendable Launch Vehicle

(b) Expendable launch vehicle like - PSLV, GSLV

Recently, ISRO conducted its first RLV-TD (~~Reusable~~ Reusable launch vehicle) Technological Demonstrator which was considered to be a game changer.

This is because:-

(a) Reusable launch vehicle can be used to launch the payloads in their specific orbits and later on they can be obtained back by making the RLV land on ocean surface. "Falcon" launch vehicle by Tesla Motors has already been operational.
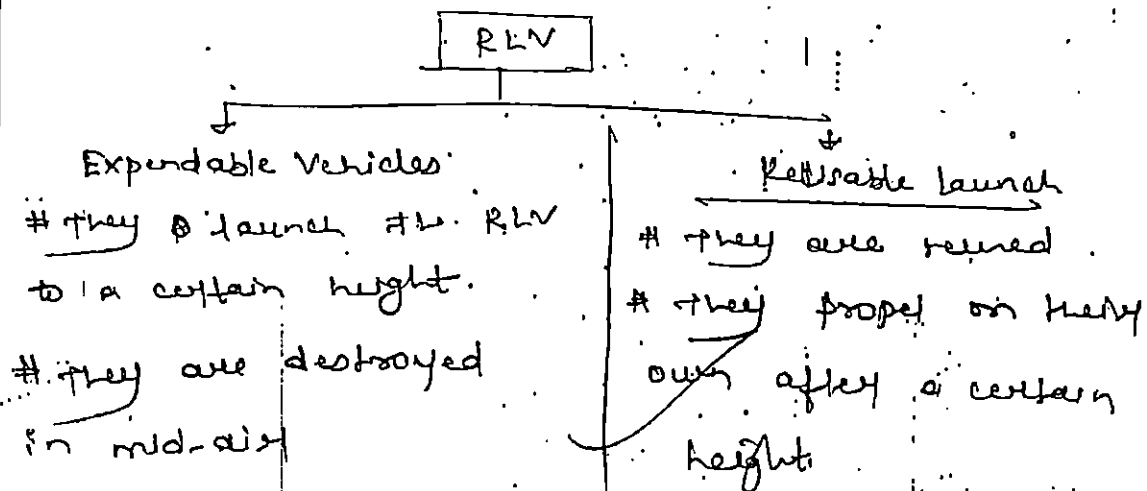
(b) This would reduce the operational cost

Remarks

and make the launching of satellites more economical

c) Commercialisation:-

RLV will reduce the operational cost. It would make Antrix Corporation more competitive in the international community.

D) RLV is needed for man-Mission in space. RLV-TD was used to analyse the re-entry technology, the aerodynamics of the vehicle at hypersonic speed. These all are needed if India wants to send any manned mission to space.

```
              +--------+
              |  RLV   |
              +--------+
        |                    |
        v                    v
Expendable Vehicles    Reusable launch
# they launch the RLV  # they are reused
to a certain height.   # they propel on their
# they are destroyed   own after a certain
in mid-air             height.
```

Q12. What do you understand by Rubella? Discuss the steps taken by India to control the Rubella outbreak?   (12.5 Marks)

Rubella is an infectious disease caused by virus. It mainly affects the children. Its symptoms are - fever, rashes in the body, chill, & sore throat.

These are viral infections. Hence, we do not have any cure to it. The medicines are only symptomatic in nature i.e. medicines are prescribed to reduce the symptoms like - reducing the fever, controlling the rashes etc.

The government has taken an initiative :-

(a) Prevention :-

MR (Measles - Rubella) vaccines are included in the Mission Indradhanush. It is to ensure that the children are immunized to the specific diseases.

(b) Cure

Primary Health centres in the Rubella endemic area are empowered to deal with the outbreak of Rubella.

Challenges.

There are challenges associated with the

vaccination program :-

(a) In kerala, few villages are apprehensive of Government's vaccination programme.

(b) Infrastructure :- cold storage or facilities for the storage of vaccines is inadequate.

(c) The supply of drugs in Primary Health care centres are inadequate.

way forward.

The voluntary organisations should come forward to assist the government in its Mission Indradhanush scheme. The apprehension among several families specially Muslim family that such vaccination program is aimed at sterilisation must be diffused as soon as possible.

Q13. What is the role of science and technology in improving the disaster management?

(12.5 Marks)

Science and Technology can find its role in all phases of disaster + management :-

(a) Pre Disaster phase

(1) warning and forecast :- the space-Technology specially GSAT can be used to monitor cloud cover and issue specific warnings about

\# cyclone
\# cloudBurst . \# Excessive Rain \# Floods

the study of seismology would give warning against Earthquake.

(2) Awareness :- social media can be used to broadcast the guidelines and warnings.

(3) LIDAR :- LIDAR technology can be used to map topography, issue warnings about flood, etc.

(b) During disaster

(1) SARSAT :- Search and Rescue satellite technology is used to monitor the vessels which are trapped in ocean.

(6)

(2) Robot can be used to find the vulnerabilities in a hazardous area.. eg - During Fukushima

Remarks :

Disaster, Robot was used to find the radioactivity vulnerability inside the reactor.

③ ~~Unmanned~~ Unmanned Aerial vehicles can be used to make aerial surveillance in a disaster hit area.

post disaster phase

1) Space Technology can be used to prepare cartography for reconstruction.

2) It can be also used for facilitating quicker Rehabilitation.

In 1999, ~~Bhadra~~ cyclone created havoc in Orissa ~~but to~~ when Phylin struck Odisha coast a decade and half later, the casualities were limited. This happened because of advanced space Technology, better administrative response.

Hence, science and Technology plays a significant role in Disaster Management.

Q14. In a multi-ethnic and multi-religious country like India with a dualistic society and economy, most of the violence arises due to conflict of interest. Comment.

(12.5 Marks)

India is known for its diversity. In terms of religion, people of almost all faith reside in India. Similarly, in terms of ethnicity. It is as vivid as an ocean. For example:- North-Eastern states of India constitute 7.5% of India's land, but there are more than 200 tribes each with distinct culture and distinct identity.

Diversity in terms of ethnicity and religion is sometimes threat to National security as several incidents of violence are reported based on communalism and ethnicity. Examples:-

Communal:- The riots like Muzaffar nagar, Godhra are also communal in nature.

Many experts mainly Marxist believe that such violence are rooted in economic disparity.

Economic disparity
↓
It leads to mutual competition
↓
Finally, it culminates into violence

Remarks·

For example :-

Bodoland :- In Bodoland, the conflict is between the Bodo people and Muslim migrants. Influx of Muslims outside the Bodo region has created a lot of tension. This @ occured because a lot of pressure on local resources like - land, water and fishes. This has all created an environment of mutual distrust and violence.

Way forward.

The governments (state and centre) must ensure that :-

(a) constitutional rights of everyone is maintained.

(b) special rights given under fifth schedule and sixth schedule are available.

(c) the public service delivery mechanism must be enhanced.

(d) voluntary organisations should come forward to enhance people to people contact, diffuse mutual distrust.

Remarks

Q15. Communal violence has been a major concern for the internal security of India. Give reasons for the same and suggest effective measures to check it. (12.5 Marks)

Communalism is a colonial construct. Communal violence like - Godhra Riot, Muzaffarnagar riot, sikh riot in 1984 etc. are stark reminder about India's vulnerability to communalism.

The reasons for communal violence are →

(a) Bipan Chandra, a historian says that religion can never be a reason for communalism. There are many other reasons which one should consider while talking about communalism.

(b) Historical Reasons :-

The Britishers chopped the seeds of mutual distrust among several religious groups of India. Formation of Indian Muslim League, Seperate Electorates for religions and partition of India corroborate this fact.

(c) Social Reasons :-
Few religions are always prejudiced. In such case, it leads to mutual distrust.

(d) Political Reasons :- Political parties often

$5\frac{1}{2}$

Remarks

try to win vote banks by igniting the fuel of communalism. The issue of "Gau Raksha", and mob-lynching are always fanned by the local political leaders...

(e) Economic :-

@ Over the last seven decades, the development of people of each religion has not been at equal pace. The Sikhs have developed the most while Muslims have lagged behind. The poverty coupled with social prejudice, make the youngsters vulnerable to fanatic ideologies.

Measures to be taken :-

(a) The constitutional rights of Minorities under Article 25, Article 26, Article 29 and Article 30 must be protected.

(b) Proper administrative response is needed during communal violence. Protection of the settlement of minorities must be ensured.

(c) Fast track courts and special courts to adjudicate any atrocities committed.

(d) Economic empowerment by skill training, promoting entrepreneurship, gender empowerment, cheap credit etc.

Remarks

Q16. Multitude of authorities and confusion in mandate of agencies involved in intelligence and enforcement is described as a major gap in maintaining internalsecurity. What measures have been undertaken by the government in recent times to overcome this problem? (12.5 Marks)

In India, the intelligence and it's enforcement is carried out by many agencies, like - RAW, IB, National Technical Research Organisation, CBI. etc this creates a lot of confusion and ambiguity.

In order to tackle such problem steps taken by government are;

① Establishment of NATGRID → It refers to National Intelligence grid. It seeks to collate data from several Intelligence agencies in one server. This data would reduce Redundancy and accessible to 14 central intelligence agencies.

② The Establishment of National Intelligence Agency :- this body is created to look into the incident which involve the threat to National Security.

③ CCTNS → Cyber crime Tracking Network System :- It is the use of ICT platform to track the criminals, the

Remarks

status of their court proceedings. The data is available to all police stations.

(4) For reducing the ambiguity on coastal border, the Ministry of Home Affairs seeks to raise Central Marine police which will have mandate of securing Indian coast upto 12 nautical miles from the shore areas.

Reducing the ambiguity and having a clear mandate would enhance the intelligence seeking of India. This would promote peace and reduce vulnerability.

Q17. It is important to keep armed forces busy and well- mobilized to maintain them battle-ready, thus, their peace-time functions also have a strategic dimension. Elaborate.

(12.5 Marks)

Armed forces are one of the most agile and skilled forces. They are trained not only for battle but also for disaster response, counter insurgency operations etc. In order to increase their effectiveness, they need to be battle-trained and their mock drills need to be carried out.

There are several ways to do so :-

(a) Bilateral Exercises :-
The countries often engage their forces in friendly exercises to learn from each other for example :-
India- China conducts Hand-on-Hand exercises annually.

(b) Counter Insurgency :- Army is trained to deal with the counter insurgency operations in the simulating environment.

(c) Disaster :- Mock-drills are often conducted in this respect.
Sometimes, such drills have strategic

⑥

Remarks

dimension too. For example:-

Malabar Naval Exercise which involves the Navies of India, Japan and the US. shows international cooperation to safeguard maritime security. Malabar Exercise act as a "counter" to china's assertiveness.

Need for such Exercises

India is between 2 hostile neighbours. 1962 way is a stark reminder when unexpected incursions from chinese troops was not dealt severely by Indian forces.

In this context, Indian forces must be battle ready 24×7 for any incursion on its border.

Recent, Doklan standoff and cross border firing on the western border have increased the threat of Indian borders.

Q18. 'While giving connectivity to North-East of India should be priority and is necessary for well-being, there are some challenges too emerging from the new projects which connects the region to multinational highways. Critically analyze.   (12.5 Marks)

Remarks

Remarks

Q19. Elaborate on the components of Border Infrastructure? Examine what is the state of border infrastructure in India? (12.5 Marks)

Border Infrastructure plays an important role in Border Management. It includes the connectivity of Border areas with the hinterland. It includes the bridges, the roadways, airstrips near the border areas.

Component of Border Infrastructure.

(a) Connectivity :— Roads, Bridges, Railways, Airstrips

(b) Medical Assistance :— The hospitals near border areas.

(c) Technology :— It includes laser fencing, the thermal Infrared cameras, CCTV cameras etc for better surveillance.

(d) The development of villages nearby the border areas — including communication like penetration of mobile networks etc.

In India, the road construction along the border areas is done by Border Road Organisation.

The Western borders of India have well developed border Infrastructure. But the

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Remarks Weak
~~for~~ specific points related to Infra with particular work

borders along china and Myanmar are not well connected. This is because of the issue of _difficult geographical terrain_, reduced finances for the improvement of border infrastructure.

Recent steps taken by the government.

\# Setu Bharatham project to construct bridges

\# Underwater surveillance system for the Indian Navy bases of kochi, Vizag and Mumbai.

\# Construction of bridge on Brahmaputra linking Assam and Arunachal Pradesh.

\# Integrated Border Management Plan to introduce 5 layered security system on the western border.

\# Integrated checkpost along India-Nepal and India-Bangladesh border.

Q20. What is media's role in ensuring internal security? Why it has come in negative light of late, due to irresponsible reporting? **(12.5 Marks)**

Media plays a significant role in ensuring internal security. Its broadcast are keenly watched by the people and it acts as information broadcaster. It can play, dual role

positive role

\# In case of gun threat, Media, can broadcast warnings, this would in turn reduce the vulnerability.

\# It can also be used to create awareness, It can be used as a tool in deradicalisation.
— *write multiple points for this part ho*

negative

\# However, if media propogates some false news. It can have negative bearing on public order.

\# At times, media often broadcast ambush and military operations in real time. This can have an adverse effect on the combing operations.

Today, social media has taken a lead in information dissemination. For example, In Boston, when terror attack was made in 2014, local police used the social media to calm down people. However, the radicalisation and

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Remarks

— both parts need equal weightage

recruitment of fighters for the ISIS are reported across the world.

Media, ~~can be~~ sometimes has come in negative light because of irresponsible reporting as:-

During Pathankot incident, the exact locations of the bases were disclosed. This could be threat to the bases of India's defence.

what to do?

Print media is regulated by Print Council of India which is a statutory body. So far, print media has maintained a good decorum. Similar bodies are needed for Electronic media.

On the pretext of freedom of speech and expression, media cannot broadcast live combat operations. Electronic media must regulate itself. Before broadcasting anything, it must consider the issue of

   (a) National security

   (b) and public order

Remarks