



# VISION IAS

www.visionias.in

## GENERAL STUDIES (TEST CODE : 1066)

|                   |                |                     |           |
|-------------------|----------------|---------------------|-----------|
| Name of Candidate | KHUSHBOO GUPTA |                     |           |
| Medium Eng./Hindi | ENGLISH        | Registration Number | 146733    |
| Center            | ONLINE         | Date                | 27-6-2018 |

### INDEX TABLE

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

**Total Marks Obtained:**

**Remarks:**

### INSTRUCTIONS

- Do furnish the appropriate details in the answer sheet (viz. Name, Registration Number and Test Code).  
mki iLrdk a lpuKa Hjuk vO'; d g (Ue) iZU&ik dM fo |KfZ Oed vInA
- There are TWENTY questions printed in ENGLISH & HINDI  
bl a chl iZu g vath vj fgh a Nis gA
- All questions are compulsory.  
lHn iZu vfuclZ gA
- The number of marks carried by a question/part is indicated against it.  
lRsd iZUkx ds ved ml ds lkeu fn, x, gA
- 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.  
lZU ds mki mlh eè; e a fy [s tkus pfg, ft l dk mYs [k vki ds iZk l k a fd; k x; k g vj ml eè; e dk Li'V mYs [k iZU l g mki (Dwh,) iLrdk ds a; i'B ij ved r fufrZV l fku ij fd; k tkk pfg, A mYy f [kr eè; e ds vfrjDr v; fd lh eè; e a fy, x, mki ij dKZ ved uga fey aA
- Word limit in questions, if specified, should be adhered to.  
lZU a 'Kn lhekj tgr fofurZV g dk vuoj.k fd; k tkk pfg, A
- Any page or portion of the page left blank in the Question-Cum-Answer Booklet must be clearly struck off.  
mki iLrdk a [kyh Nk gvk i'B ; kml ds vek ds Li'V : i l dkk tkk pfg, A

16-B, 2<sup>nd</sup> Floor, Above National Trust Building, Bada Bazar Marg, Old Rajinder Nagar, Delhi-110060

M-1/4, Plot No-A-12/13, 1<sup>st</sup> Floor, Ansal Building, Dr. Vidya Sagar Homeopathic Clinic, Mukherjee Nagar, Delhi-110009

## EVALUATION INDICATORS

1. Context Competence
2. Content Competence
3. Language Competence
4. Introduction Competence
5. Structure - Presentation Competence
6. Conclusion Competence

Overall Macro Comments / feedback / suggestions on Answer Booklet:

1.

2.

3.

4.

5.

6.

**All the Best**

1. The cave architecture in India not only enlighten us with information of tradition and customs of ancient times but also illustrate considerable accomplishment with regard to structural engineering and artistry. Discuss.

(150 WORDS) 10

भारत में गुहा स्थापत्य न केवल हमें प्राचीनकालीन परंपराओं और रीति-रिवाजों की जानकारी प्रदान करता है, अपितु यह संरचनात्मक अभियांत्रिकी एवं कलाकृतियों के संबंध में महत्वपूर्ण उपलब्धियों का दृश्य उदाहरण भी प्रस्तुत करता है। चर्चा कीजिए।

Cave architecture of India tells us about the tradition and customs of that times. It also symbolises great architectural skills.

### Information on tradition and customs

- Group hunting scenes of Mesolithic period tell us about group activities.
- Absence of agriculture as no farming scenes depicted in ~~so~~ cave paintings.
- Natural colors usage tell us about their closeness to nature.

### Engineering and artistry

- Rock cut caves, monolithic caves have

been formed as a result of great skills.

- Mauryan age caves like Bhimbetka have been formed naturally.
- Gupta age caves like Ajanta caves, Ellora caves have huge Chaityas, Viharas.
- Tamupati at Elephanta caves is very beautifully carved.
- Bharhut caves at Madhya Pradesh have excellent carvings on the inner side.

Therefore, Cave architecture was a huge accomplishment.

2. While the Battle of Plassey laid the foundation of British Empire in India, it was the Battle of Buxar that proved to be the turning point of British fortunes in India. Discuss. (150 WORDS) 10

यद्यपि प्लासी के युद्ध ने भारत में ब्रिटिश साम्राज्य की नींव रखी, तथापि यह बक्सर का युद्ध था जो भारत में अंग्रेजों की सफलता के लिए निर्णायक सिद्ध हुआ। चर्चा कीजिए।

Battle of Plassey (1757) and Battle of Buxar (1764) hold great significance in colonial rule of British empire.

Battle of Plassey (1757)

- It established British Empire as the supreme power of Indian subcontinent.
- Bengal was brought under the control of British and foundation was laid.

However, Battle of Plassey was considered a success by chance. It was only after Battle of Buxar (1764) that British truly established themselves.

- Dual government established allowed them to have power without responsibility.
- Diwani rights over Bengal, Bihar, Orissa increased their financial resources to great extent. It helped them in further expansion.
- Awadh was brought at their mercy and it was a step closer to territorial annexations.
- Success of two great wars in a row proved the British empire as the only supreme force in India. No European power could match it afterwards.

Thus, Battle of Buxar was turning point of British fortunes in India.

3. Among many novel methods and themes, the Swadeshi Movement laid great emphasis not only on boycott but also on self-reliance. Discuss.

(150 WORDS) 10

अनेक अनूठे तरीकों और विषय-वस्तु के साथ-साथ, स्वदेशी आंदोलन ने न केवल बहिष्कार, अपितु आत्मनिर्भरता पर भी अत्यधिक बल दिया। चर्चा कीजिए।

Swadeshi and Boycott movement (1907)  
launched against the partition of  
Bengal in 1905.

- Foreign cloth was boycotted.
- Shops were picketed.
- British imports were reduced to half.
- Washermen refused to wash any foreign clothes.
- Schools were boycotted.

However, the movement also focussed on self-reliance.

- PC Ray and Chidambaram Pillai opened indigenous chemical and steam factories to provide indigenous goods.

- Bandhab Samiti by Ashwini Kumar

Quit was formed to provide education in traditional ways.

- Khadi was promoted at a large extent.
  - Women were encouraged to come out and participate in the movement.
  - Art and Culture based on indigenous knowledge was promoted.
- Rabindra nath Tagore came up with 'Amas Smaas Bangla'.

Thus, this movement laid huge emphasis on self-reliance.

4. The idea of linguistic states predated independence, however it took some time even after independence for this idea to be implemented. Discuss.

(150 WORDS) 10

यद्यपि भाषाई राज्यों का विचार स्वतंत्रता-प्राप्ति से पहले का था, तथापि स्वतंत्रता-प्राप्ति के पश्चात् भी इस विचार को कार्यान्वित करने में कुछ समय लगा। चर्चा कीजिए।

Linguistic states is not a post-independence phenomenon. The idea predated independence.

- Formation of Congress Provincial Committees in 1920s ~~to~~ on the basis of language of the region.
  - Nehru Report (1928) demanded establishment of linguistic provinces.
  - Compulsory grouping of Provinces under Cabinet Mission (1946) had language as a major factor.
  - Partition of Bengal (1905) on language basis.
- However, despite its existence before independence, it took some time to

be implemented after independence.

- Partition of India on the basis of <sup>religion</sup> language had huge impact. language was feared to cause the same effect.

- Das Commission and JVP Committee rejected the idea of linguistic states.

It was only after the unrest in Andhra Pradesh and recommendations of Fairlie Ali Commission, that State Reorganisation Act (1956) was enacted. language was considered to be factor for forming new states.

5. Dr. B. R. Ambedkar understood that persistent inequalities pose fundamental challenges to the economic and social well-being of the nation and people. In this context, discuss the key contributions of Dr. Ambedkar in the history of modern India. (150 WORDS) 10

डॉ. बी. आर. अम्बेडकर का मानना था कि दीर्घस्थायी असमानताएं राष्ट्र और लोगों के आर्थिक एवं सामाजिक कल्याण के समक्ष बुनियादी चुनौतियां प्रस्तुत करती हैं। इस संदर्भ में, आधुनिक भारत के इतिहास में डॉ. अम्बेडकर के प्रमुख योगदानों की चर्चा कीजिए।

Dr. B.R. Ambedkar was against the exploitation of any minority community in India on the basis of race, religion, caste or gender.

Contributions :

- He formed All India Scheduled Castes Federation to provide them representation in political sphere.
- His consistent demand of separate electorate and reservation for depressed classes forced British empire to provide the same.
- He stood against the caste system

and untouchability and prevailing inequalities towards depressed classes.

- He advocated the idea of higher education among depressed classes to raise their economic well-being.

- He ensured that Constitution of free India has enough restrictions to prevent inequalities in the society. Right against discrimination and right against untouchability were made fundamental rights.

- There were enough provisions for establishment of welfare state and enable states to take steps for socio-economic well-being of all.

6. It has been pointed out that in recent times, while the proportional share of nuclear households has dipped in urban areas it has risen in rural areas. Analyse the reasons behind this trend. (150 WORDS) 10

यह इंगित किया गया है कि हाल के समय में, जहां शहरी क्षेत्रों में एकल परिवारों की आनुपातिक हिस्सेदारी में कमी आई है, वहीं ग्रामीण क्षेत्रों में यह बढ़ी है। इस प्रवृत्ति के पीछे उत्तरदायी कारणों का विश्लेषण कीजिए।

For Nuclearisation of families is the result of many factors like westernisation, migration, urbanisation, declining family values etc.

Reasons for dip in urban areas and rise in rural areas :-

- Fragmentation of land holdings also had impact on rural family life.
- Ruralisation of elderly. Nearly 70% elderly stay in rural area. Lack of younger population has resulted in smaller families.
- Migration to urban areas for

better job opportunities has reduced  
family sizes.

7. Separation, and not divorce, is the dominant form of marriage dissolution for most women in India. What could be the possible reasons behind this? Also, discuss why there are striking differences in divorce rates between the different regions in India. (150 WORDS) 10

असाहचर्य, न कि तलाक, भारत में अधिकांश महिलाओं के लिए विवाह विच्छेद का एक प्रमुख रूप है। इसके पीछे संभावित कारण क्या हो सकते हैं? साथ ही, चर्चा कीजिए कि भारत में विभिन्न क्षेत्रों के बीच तलाक की दर में सुस्पष्ट अंतर क्यों हैं।

Generally in India, marriage dissolution results in separation but not divorce.

### REASONS

- Stigma attached with the word 'divorcee'.
- Long and complex legal battle for alimony and custody of children.
- Remarriage is generally not considered and thus, divorce not considered as essential.
- Difficulties in admissions of children to schools, colleges for a single parent.

## DIFFERENT DIVORCE RATES IN DIFFERENT REGIONS, REASONS :

- It depends hugely on the penetration of education in the region.
- Availability of economic opportunities. Cities offer a wide range of opportunities and thus, have higher divorce rates.
- Fabric of family life is generally stronger in rural areas and divorce is thus a greater stigma there.
- States like Kerala have huge contact with outside and western world. Thus, western ideas have huge impact on them.

Therefore, divorce rate has huge spatial variability in India.

8. Giving an account of their impact, mention the reasons for increased frequency of dust storms as observed in the last few years. (150 WORDS) 10
- धूल भरी आंध्रियों के प्रभाव का विवरण प्रस्तुत करते हुए, पिछले कुछ वर्षों में अवलोकित धूल भरी आंध्रियों की वर्धित आवृत्ति के कारणों का उल्लेख कीजिए।

Recent dust storm in the North India

is one of the huge environment problems world is facing today.

### IMPACT

- Health: It leads to air-borne diseases like dust allergies, asthma etc.
- Reduced visibility impacts economic life of people as mobility is reduced.
- Reduced nutrition to crops as dust gets accumulated on the surface.
- Cause air pollution.
- Reduces beauty of monuments like Taj Mahal and impacts Tourism.
- loss of lives due to increased road accidents.

## REASONS FOR INCREASED FREQUENCY.

- Deforestation. Dust storms in North India are result of huge deforestation in the Aravalli ranges and thus, failure to act as breakwaters for desert sand.
- Climate change resulting into augmentation of low pressure on continental land.
- Loosening of soil due to adverse agricultural practices like excessive fertiliser usage.

Dust storms need to be handled immediately. Tree cover should be increased to great extent.

9. Elaborate on the factors responsible for the evolution of the current drainage system in Indian sub-continent, with special emphasis on the characteristic features of Himalayan and Peninsular rivers. (150 WORDS) 10
- हिमालयी और प्रायद्वीपीय नदियों की अभिजातविक विशेषताओं पर विशेष बल देते हुए, भारतीय उपमहाद्वीप में वर्तमान अपवाह प्रणाली के विकास के लिए उत्तरदायी कारकों का सविस्तार वर्णन कीजिए।

Evolution of current drainage system in India is the result of many factors :-

- Peninsular India slope towards South-East due to collision between Indian and Eurasian plate. Therefore, rivers like Krishna, Godavari, Kaveri flow into Bay of Bengal.
- Continuous rise of Himalayas has resulted into increased flow of rivers like Indus, Ganga etc.
- ~~Antecedent~~ Antecedent nature of Himalayan rivers is also a result of formation of Himalayas.

- Bhima fault near Gujarat has resulted into slope of Central India towards North-East. Thus, rivers like Chambal, Son finally join into Ganga, rather than flowing into Bay of Bengal.
- Submerging western coast has resulted into small drainage of rivers like Narmada, Tapi.
- Presence of peaks like Namcha Barwa has resulted into go' turn of Brahmaputra river and thus, largest drainage in North-East India.

10. Enumerate the features of Plantation Agriculture and the problems faced by them. Given the fact that area under cultivation of palm oil has been increasing, discuss the benefits and challenges associated with it.

(150 WORDS) 10

वागानी कृषि की विशेषताओं और इसके समक्ष आने वाली समस्याओं को सूचीबद्ध कीजिए। इस तथ्य को देखते हुए कि पाम ऑयल की खेती के अंतर्गत क्षेत्र में वृद्धि हो रही है, इससे संबद्ध लाभों और चुनौतियों की चर्चा कीजिए।

### FEATURES OF PLANTATION AGRICULTURE

- Monocropping.
- Large scale labour involved.
- Exports is the major purpose.
- Large usage of fertilisers, pesticides.
- Mechanised agriculture.

### PROBLEMS FACED BY PLANTATIONS

- Very vulnerable to international price fluctuations.
- Reduced soil fertility.
- Exploitative labour laws.
- Difficult to shift to another crop.

In India, due to dependency on Palm oil as large as 60%, its

area under cultivation is increasing.

### BENEFITS

- Reduce the import bill as more than 70% of its needs is met by countries like Indonesia.
- Can be grown on waste lands and thus, more area under cultivation.
- Increased returns from agriculture.

### CHALLENGES

- Mono cropping and thus, reduced cultivation of mustard, groundnut.
- Large scale usage of fertilisers, pesticides that impact soil fertility.
- Competition from countries like China, Indonesia.

11. Bring out the distinctive features of Gandhara, Mathura and Amravati schools of art that flourished towards the first century CE. (250 WORDS) 15

प्रथम शताब्दी ईस्वी के आसपास विकसित होने वाली गंधार, मथुरा और अमरावती कला शैलियों की सुस्पष्ट विशेषताओं को प्रस्तुत कीजिए।

Gandhara, Mathura, Amravati schools of art were on the rise during the first century CE.

### GANDHARA SCHOOL

- It was a mixture of indigenous and Greek schools of Art. Hence, came to be known as Indo-Greek art.
- It enjoyed the patronage of Kushanas, Shakas.
- These were generally made of Blue-green sandstone.
- These were mainly Buddhist in nature
- Buddha here had feature of Greek God. It was shown wearing

Toga, had curly hair with large  
ears.

### MATHURA SCHOOL

- It was a purely indigenous school of art.
- It flourished in the areas of UP, Bihar.
- It enjoyed the patronage of Kushan rulers.
- These were generally made up of Red sandstone.
- It was associated with Buddhism, Jainism, Hinduism.
- Buddha was shown here in muscular form and sitting in Padmasana.

AMRAVATI SCHOOL

- This was also a purely indigenous school of art.
- It was more prevalent in the areas of Southern India.
- It enjoyed the patronage of Satavahana Rulers.
- White marble came to be used during this school of art.
- It belonged to Buddhism only.
- Here, idols weren't made. Buddha was worshipped in symbolic form like tree branch.

These schools thus had their own distinctive features.

12. The British in India wanted not only territorial conquest and control over revenues; they also felt that they had a cultural mission: to 'civilise the natives', change their customs and values. Critically discuss.

(250 WORDS) 15

भारत में अंग्रेज न केवल क्षेत्रीय विजय और राजस्व पर नियंत्रण चाहते थे; अपितु वे यह भी मानते थे कि उनका 'मूल निवासियों को सभ्य बनाने', उनके रीति-रिवाजों और मूल्यों को परिवर्तित करने का एक सांस्कृतिक मिशन भी था। आलोचनात्मक चर्चा कीजिए।

British rule in India is not just territorial or economic aggression, it also had huge impact on customs and traditions of India.

- Enactment of Lex-Loci Act to facilitate ~~the~~ land transfers on change of religion. This was done to encourage christianity and impose their own western values, traditions

- Rise of rationalism, humanism were cited as reason to reform the "backward" Indian society.

It came from their belief of "white superiority".

- Anglicists like Lord Macaulay considered Indian literature to be "garbage". Therefore, English language and literature was encouraged in schools.
- Indian soldier in their armies was not allowed to use any religious symbol.
- Christian missionaries were allowed through 1813 Charter Act to promote Christianity. They thought that western values, ideas will 'civilise' them and thus help them in stronger British administration.
- Till early 20<sup>th</sup> century, Indian Civil Service Examination were

held in Greece, Latin. Vernacular  
languages of Indian subcontinent  
were considered to be inferior.

Therefore, it was not just a territorial  
conquest but an intentional conquest  
on India's traditions and customs.

13. Despite Jawaharlal Nehru and Mahatma Gandhi being close associates, there were significant differences between the two regarding the role of state and the control that it exercised. Comment. (250 WORDS) 15

जवाहरलाल नेहरू और महात्मा गांधी के निकट सहयोगी होने के बावजूद, दोनों के बीच राज्य की भूमिका और इसके नियंत्रण की सीमा के संबंध में अर्थपूर्ण मतभेद थे। टिप्पणी कीजिए।

Jawahar Lal Nehru and Mahatma

Gandhi both played an important role in India's freedom struggle.

- Both wanted to free India from colonial shackles.

- wanted to establish self-rule.

- end the oppression of British and provide civil liberties to people.

However, their ideologies on role of state and its control had significant differences :-

- Jawahar Lal Nehru wanted to establish a socialist state

## JAWAHAR LAL NEHRU

(i) He wanted to establish a socialist state with strong centre.

(ii) He wanted the state to be the sole provider of rights, welfare schemes etc.

(iii) He believed that banks, industries should be nationalised and state should control the production and distribution.

## MAHATMA GANDHI

(i) He wanted a decentralised system with more power in the hands of people rather than state.

He wanted the state to only act as facilitator.

He believed in privatisation and greater control of people.

(iv) He believed that state should redistribute the income, resources between rich and poor and bridge the divide.

He believed in trusteeship principle and did not doubt the intentions of rich people.

(v) He didn't believe in self-sufficiency of villages. It can reduce the role of state at centre

~~He~~ He believed in self-sufficiency of villages and local panchayati raj institutions.

Constitution of India is a blend of both socialist and Gandhian principles. It has worked well for the needs of Indian society.

14. Enumerating the reasons behind Sino-Soviet split in the second half of the 20th century, analyse its impact on the Cold War. (250 WORDS) 15

20वीं शताब्दी के उत्तरार्ध में चीन-सोवियत दरार के पीछे उत्तरदायी कारणों को सूचीबद्ध करते हुए, शीत युद्ध पर इसके प्रभाव का विश्लेषण कीजिए।

Sino-Soviet split had huge impact on Cold War.

- It reduced the rise of communism in Asia as two communist forces had splitted.

- Capitalist countries like US, Britain supported it as China at that time acted as Buffer to control USSR.

15. History has disproved the prediction that democracy would not succeed in India. In this context, critically assess the achievements and challenges of democracy in India since Independence. (250 WORDS) 15

इतिहास ने इस भविष्यवाणी को नकार दिया है कि भारत में लोकतंत्र सफल नहीं होगा। इस संदर्भ में, स्वतंत्रता-प्राप्ति के उपरांत भारत में लोकतंत्र की उपलब्धियों और चुनौतियों का आलोचनात्मक आकलन कीजिए।

Breaking the shackles of 200 years of colonial rule, India emerged as a largest democracy of the world. It not only survived, but thrived.

### ACHIEVEMENTS

- Literacy rate has been increased from 17% in 1960s to 74% today.
- Life expectancy has been improved from 41 to 68 years today.
- It has become the largest growing economy with GDP growth of 17%.
- It has ensured free and fair elections for 70 years of independence.

- From empty coffers, foreign exchange reserves today stand at  $> \$ 400$  billion.
- Poverty has been reduced manifold.
- From famines, epidemics, today it has agricultural surplus.
- It has become one of the major contributors to service sector of the world.

However, there are certain challenges:

- Women of India still are unsafe. Crimes against women like domestic violence, marital rape, child abuse, female foeticide, are on the rise.
- It has witnessed jobless growth and thus huge unemployment levels in the country.

- Rise in Air pollution, river pollution, plastic pollution. Delhi has registered itself as one of the most polluted cities.
- High out of pocket expenditure in health sector impacts poor people.
- Geopolitical challenges like rising China, unsafe borders with Pakistan, Safety of Indian Ocean region.
- Farmer suicides are on the rise. 7 farmers on an average suicide daily.

India has fought against severe challenges after independence and it need to fought today's with greater political will and involvement of all stakeholders.

16. Enumerate the key issues faced by working women in contemporary Indian society and the steps taken by the government to address them. Also, critically examine the key features of Maternity Benefit (Amendment) Act 2017. (250 WORDS) 15

समकालीन भारतीय समाज में कामकाजी महिलाओं द्वारा सामना की जाने वाली प्रमुख मुद्दों और उनसे निपटने के लिए सरकार द्वारा उठाए गए कदमों को सूचीबद्ध कीजिए। साथ ही, मातृत्व लाभ (संशोधन) अधिनियम, 2017 की प्रमुख विशेषताओं का आलोचनात्मक परीक्षण कीजिए।

### Female Labour force Participation Rate

of India stands at mere 33% as compared to world average of 50%. This is due to large number of issues faced by working women.

#### ISSUES:

- Absence of glass ceiling at higher posts.
- Continuous dilemma on family responsibilities v/s professional responsibilities.
- Harassment at workplace.
- Inertia on working outside after

Pregnancies and marriage.

- Absence of child crutch/schools nearby and thus, increased worries on their child's care.

### STEPS TAKEN BY THE GOVERNMENT

- SHE-BOX to facilitate online complaints on sexual harassment at work places.
- Prevention of Sexual Harassment Act to provide for Internal Complaints and District Committees.
- Mandatory crutches under Maternity Benefit Act.
- Increased maternity leave for both pregnant and commissioning mothers.

## Features of Maternity Benefit (Amendment)

Act, 2017 :

- Increased leave of 26/12 weeks for pregnant and commissioning mothers BUT, then many organisations will have inertia to hire women and provide long paid leave.

- It is applicable only to organised sector. Many women who work in unorganised sector will still face issues.

- Maternity leave establishes their gendered role in the society and family life as there is no provision of paternity leave.

Thus, Maternity Benefit Act should realise the role of both mother and father. Also, Govt should contribute in paid leave to reduce burden on the employees.

17. State the factors which have led to India being categorized as a water-stressed nation. Also, identify sustainable solutions for averting the crisis at hand. (250 WORDS) 15

उन कारकों का विवरण प्रस्तुत कीजिए जिन्होंने भारत को एक जल-दबावग्रस्त राष्ट्र के रूप में वर्गीकृत होने की ओर अग्रसर किया है। साथ ही, इस संकट को टालने के लिए संधारणीय समाधानों की पहचान कीजिए।

Recent, Composite Water Management Index Report of NITI Aayog has mentioned that India is facing the worst water-crisis today.

### REASONS

- Poor water quality. It is ranked at 100/120 in water quality index. Therefore, less water available for daily purposes.
- Rain-water harvesting not used to maximum extent.
- Natural aquifers of groundwater like wetlands are highly encroached.
- Skewed irrigation techniques like

growing rice in rain deficient areas of Punjab, Haryana.

- irrational water, electricity subsidies

has led to irrational groundwater usage.

- Water-sharing disputes on rivers

like Cauvery, Mahanadi has been a hindrance on fair water distribution.

- Water pollution by industries, municipalities by releasing untreated sewage, chemical water into rivers.

- Microplastics in water

### SUSTAINABLE SOLUTIONS

- Partnership with countries like Israel for technology transfer on recycling, desalination of water.

- Aquifer mapping to frame adequate policies on rational ground water use.
- Identification of Agro-climatic zones and changing MSPs according to that.
- Replicating Tamil Nadu's rainwater harvesting structures in other states.
- Cleaning of rivers like Ganga, Yamuna for better recharge of groundwater.
- Wetland management rules, 2016 to be implemented with full potential.
- Subsidies to be rationalised.

These steps must be taken urgently by the Government to prevent any slay zero crisis of Cape Town:

18. Arresting the deterioration of soil health is key to achieve food security. Discussing the regional variations in soil quality, mention some measures taken by the government for its improvement. (250 WORDS) 15

मृदा स्वास्थ्य के ह्रास की रोकथाम खाद्य सुरक्षा की प्राप्ति के लिए अत्यावश्यक है। मृदा की गुणवत्ता में क्षेत्रीय भिन्नताओं पर चर्चा करते हुए, सरकार द्वारा इसके सुधार के लिए उठाए गए कुछ कदमों का उल्लेख कीजिए।

Soil health is necessary to ensure the food security.

- Due to limited land resources, high productivity is the only way out for food security. And this needs good soil health.

- Lack of nutrients in soil can lead to lack of micro-nutrients in the food crops and hence impact food security.

To ensure this, govt. has taken various measures.

- Soil health card scheme to tell farmers information on the nutrients of their soil and adequate crops

that can be grown.

- Nutrient based subsidy to different regions. Alluvial soils lack nitrogen.

If provided, these are one of the high productive soils.

- Soil of arid regions has all the adequate nutrients but lacks humidity. Formation of Satlej-Yamuna canal in Rajasthan is step taken to address it.

- Similarly, Bundelkhand region of UP has excellent soil for growth of sugarcane, Cotton. Inter linking of Ken-Betwa to provide water to these regions.

19. Give a brief account of the following phenomenon and their influence on Indian Monsoon:

15

निम्नलिखित परिघटनाओं और भारतीय मानसून पर उनके प्रभाव का एक संक्षिप्त विवरण प्रस्तुत कीजिए:

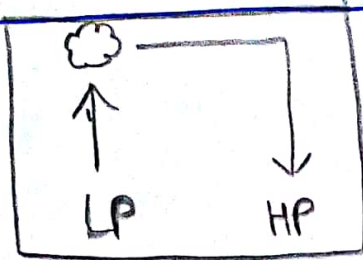
- ENSO (एन्सो)
- Madden-Julian Oscillation (मेडेन-जूलियन दोलन)
- Indian Ocean Dipole (हिंद महासागर द्विध्रुव)

### ENSO

El-Nino Southern Oscillation refers to the difference of surface temperature of Eastern Pacific Ocean and Western Pacific Ocean. It is situation of low pressure at the Peru coast.

This results into lower pressure at Mascarin high and thus, lesser South-Western trade winds. The reduced intensity of these winds bring lower monsoon to the Indian sub-continent. It is generally an year of droughts for India.

## Madden-Julian Oscillation

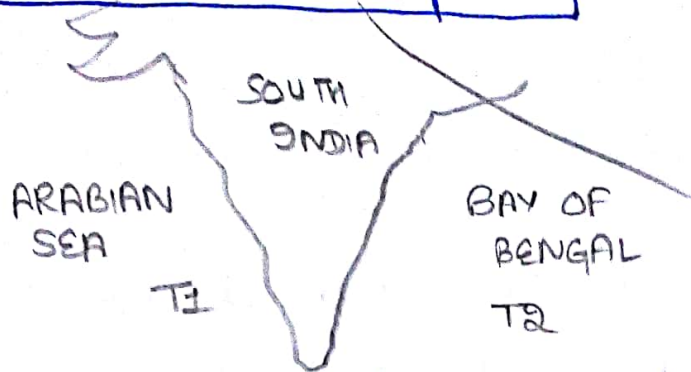


This system of low and high pressure moving blocks is known as madden-Julian oscillation. It covers the entire earth in 30 days.

When this system passes over the Indian sub-continent, it brings rainfall on the areas under the left limb of low-pressure.

It thus augments the Indian monsoon and in 1990, which was El-Nino year, it reduced the impact of droughts. India witnessed surplus rain in that year.

## Indian Ocean dipole



Difference in the temperatures of Arabian Sea ( $T_1$ ) and Bay of Bengal

( $T_2$ ) is referred as Indian Ocean dipole. It is a local phenomenon.

If  $T_1 > T_2$ , India witnesses heavy rainfall and monsoon is augmented.

Countries like Indonesia face droughts.

If  $T_2 > T_1$ , India witnesses drought and monsoon is poor in that year. Indonesian region however faces huge floods then.

20. Despite tropical areas being the major emitters of CFCs, the phenomenon of ozone hole formation is largely confined to polar areas and that too over the Antarctic and in early spring. Elaborate. (250 WORDS) 15

उष्णकटिबंधीय क्षेत्रों के CFCs के प्रमुख उत्सर्जक होने के बावजूद, ओजोन छिद्र निर्माण की परिघटना मुख्य रूप से ध्रुवीय क्षेत्रों तक ही सीमित है और वह भी वसंत ऋतु के प्रारंभ में अंटार्कटिक के ऊपर। सविस्तार वर्णन कीजिए।

Ozone hole is largely confined to polar areas and Antarctic ocean due to following factors:

⇒ Ozone is destroyed when single molecules of Cl<sup>-</sup>, Br<sup>-</sup>, NO<sub>2</sub><sup>-</sup> attacks its.

⇒ during summers, nitrogen dioxide and methane act as chlorine sinks and thus prevents ozone depletion.

⇒ during winters, due to presence of polar stratospheric clouds, surface is provided on which chlorine nitrate formed in summer

is hydrolysed and  $Cl_2$  is formed.

During Spring, due to energy of sun,  $Cl_2$  formed is broken up and Chlorine radical is set free. Due to this, Chlorine radical attacks the Ozone and thus depletes it.

Since, the Polar stratospheric clouds are mostly present over Antarctica due to low temperatures, ozone is largely depleted over there.