

Samyak

An Institute For Civil Services

RAS - 23 MAINS TEST SERIES

सिद्धि-II - 008

Time : 3 Hours

(Paper - II)

Maximum Marks : 200

सामान्य ज्ञान व सामान्य अध्ययन-II
General Knowledge & General Studies-II

Name :		MARKS	
Enroll. No.:	Part	Att. Ques.	Marks Obtained
Date of Birth :	Unit - I	13	33 1/2
Medium : ENGLISH	Unit - II	13	24 1/2
E-mail :	Unit - III	14	33 1/2
Exam Date :	Total	40	91 1/2
Evaluator's Code	Reviewer's Code	Invigilator's Signature	Student's Signature

अनुदेश (Instructions)

1. परीक्षा शुरू होने से पहले पुस्तिका को जाँच लें।
Please check the booklet before the commencement of the exam.
2. अंक योजना प्रत्येक खंड के प्रारम्भ में दी गई है।
The marking scheme is given at the start of every section.
3. अभ्यर्थियों को उत्तर निर्धारित शब्द सीमा से अधिक नहीं लिखना चाहिए, इसका उल्लंघन करने पर अंक काटे जा सकते हैं।
Candidates should not write more than the prescribed word limit in answers, violating this may result in deduction of marks.
4. अभ्यर्थियों को निर्देशित किया जाता है कि किसी भी प्रश्न का उत्तर प्रश्नोत्तर पुस्तिका में निर्धारित स्थान पर ही लिखें। बॉर्डर लाईन से बाहर उत्तर नहीं लिखें। बॉर्डर लाईन के बाहर लिखे गये उत्तर को जाँचा नहीं जायेगा।
Candidates are directed to write answers only in the prescribed space of booklet. They should not write answer outside the border line. Answer written outside the border line will not be checked.

SAMYAK, Near Riddhi Siddhi, Gopalpura Bypass, Jaipur, 9875170111

Test Series Helpline & Whatsapp - 9414988860, Email Id - samyakttestseries@gmail.com

	REVIEW PARAMETERS	SCALE			
		Good	Above Average	Average	Below Average
1.	DOES THE ANSWER ADDRESS THE DEMAND OF THE QUESTION?				
a.	Answer Relevancy		✓		
b.	Answer Enrichment points like use of: Key Terms/ Subject Vocabulary. Use of Commission/ report/ government publication/ judgements, etc. Association with the Current Affairs and use of examples to explain the concept and idea			✓	
2.	HOW WELL IS THE ANSWER PRESENTED?				
a.	Structure - Intro, Body, Conclusion			✓	
b.	Presentation - Using Subheadings/ points/ highlighting/ flowcharts/ diagrams/ maps			✓	
c.	Language & Grammar		✓		
d.	Word limit		✓		

Detailed Comments / Feedback / Suggestions for Improvement
विस्तृत टिप्पणियाँ/फीडबैक/सुधार के लिए सुझाव

Presentation

- Neat and clean presentation.
- Good demand has been taken care of.

Content

- Need to focus on factual accuracy.
- Science - focus on writing scientific principles, aspects.
- Draw figures as much as possible.

Unit - I
(यूनिट - I)

(65 Marks)
(65 अंक)

Part - A
भाग - अ

Marks : 10
अंक : 10

Note : Attempt all questions. Answer the following questions in 15 words each. Each Question carries 2 marks.
नोट : सभी प्रश्नों के उत्तर दें। निम्न प्रश्नों के उत्तर 15-15 शब्दों में दें। प्रत्येक प्रश्न के 2 अंक निर्धारित हैं।

1. 'बौद्धिक पाखंड' की धारणा, बौद्धिक सत्यनिष्ठा से किस प्रकार भिन्न है?
How is the concept of intellectual hypocrisy different from intellectual integrity?

Intellectual integrity is being consistent one's values ideal and morals whereas intellectual hypocrisy is about having different set of rules, ideals and values when dealing with a situation as a party himself

Difference in standards, principles
(Write above this line only)

2. 'आधारभूत मानवीय मूल्यों' को सोदाहरण परिभाषित कीजिए।
Define 'fundamental human values' with examples.

Universal
Fundamental Human Values → These are essential for an individual to behave like human. They guide behaviour of two or more individual in a Society. Ex: Love, Compassion, Sympathy etc. Adherence to these is required in a world filled of conflicts, civil wars etc

(Write above this line only)

3. कर्तव्य के सन्दर्भ में 'नैतिक आबद्धता' को समझाइये।
 Explain 'Moral Obligation' in the context of duty.

Wort right

Moral obligation → Duties are obligation on an individual to discharge works expected from post / person. Moral obligation refers to the role of morality and moral values of individual in protecting him to discharge the obligation in better way.

(Write above this line only)

4. 'सत्यनिष्ठा' की अवधारणा को स्पष्ट कीजिए।
 Explain the concept of 'integrity'.

Thought, Action, coord - 2

Integrity → It is a fundamental value in Civil services which encourage an individual to fulfill his duties in accordance with the rules to build an Administration which is citizen friendly and works for the welfare of people.

(Write above this line only)

5. 'उत्कृष्ट स्वार्थमूलक सुखवाद' पर टिप्पणी लिखिए।
 Write comment on 'Refined Egoistic Hedonism'.

Mainly - Epicurus

The concept of Refined Hedonism was given by Mill. As per it, any decision shall be considered as ethical if it is beneficial to everyone than the doer of the action.

(Write above this line only)

Qualitative difference in pleasure

Part - B

(25 Marks)

भाग - ब

(25 अंक)

Note : Attempt all questions. Answer the following questions in 50 words each. Each Question carries 5 marks.

नोट : सभी प्रश्नों के उत्तर दें। निम्न प्रश्नों के उत्तर 50 शब्द में दें। प्रत्येक प्रश्न के 5 अंक निर्धारित हैं।

1. "धर्म (रिजिजन) एवं नैतिकता में अनिवार्यता का संबंध हो यह आवश्यक नहीं।" उक्त कथन के पक्ष में अपने तर्क प्रस्तुत कीजिए।
"It is not necessary that there be an essential relationship between religion and morality." Present your arguments in favour of the above statement.

Yes! it is true there is ~~not a bond of necessity~~ ^{should use thinkers as well} b/w the religion and morality. This can be seen with following -

- (i) Tradition of Sati → Religiously correct but morally incorrect.
- (ii) Tradition of Tripole Titak → Correct according to Shariat but not morally
- (iii) Custom of Sontham → Religiously correct but not morally
- (iv) Custom of Human Sacrifice in Tribals → Religious correct but not morally
- (v) Restriction on women entering religious spaces in many religion.

Hence the above statement is correct.

(Write above this line only)

2. "चार्वाक दर्शन समाज में सकारात्मक मूल्य/पक्षों के साथ-साथ नकारात्मक मूल्य/पक्षों को भी बढ़ावा देता है।" समझाइये।
"Charvaka philosophy promotes positive values/aspects as well as negative values/aspects in the society." Explain.

- Charvaka Philosophy was proposed by Rishi Brihaspati. It is a materialistic philosophy whose main aim is to get Indriyananda. They believe only in 4 elements (Noting Soul).
(a) Positive values → Promotes rationality, unquestioned adherence to religious laws is criticised, promotes materialistic side of being / seeking pleasure.
(b) Negative values → Question the existence of God (b) All ways to seek pleasure not good,
(c) Morality can not be established without believing in existence of Soul.

(Write above this line only)

3. "गांधीजी का अहिंसा का सिद्धांत अपवादों को स्वीकृति प्रदान करता है।" सोदाहरण स्पष्ट कीजिए।
 "Gandhiji's principle of non-violence allows exceptions." Explain with example.

Gandhiji's principle of Non violence was one of the twin principles of his philosophy. For Gandhiji Non violence was active love which is pole apart from the violence. But this principle allow exceptions: (i) Gandhiji talking about use of force if required to expell British from India (ii) Gandhiji in his 21 points demand asking for arms purchase for self protection (iii) Gandhiji promoting physical suffering on self to gain benefits (iv) Gandhiji punishing himself when he once took to non veg. food. Hence the statement is true

Violence over non violence
Do or Die

(Write above this line only)

4. नेपोलियन बोनापार्ट के जीवन से मिलने वाली/वाले शिक्षा/मूल्यों को लिखिए।
 Write the lessons/values learned from the life of Napoleon Bonaparte.

Period - (1799-1815)
Nepoleon Era

Napoleon → The monarch of France from 1798-1803 (His Kingdom rose in warfield, throug there, and also ended in warfield)

values learnt	Positive <i>detate values with his endeavours</i>	Negative
(i) To have firmness of mind and will	(i) He was an dictator	
(ii) To be determined to achieve ones goal	(ii) He was level and authoritative at times.	
(iii) To have true faith and dedication to one's duty.	(iii) He indirectly promoted slavery	
(iv) To work for welfare of people when in power (Napoleon's reforms)	(iv) He did not value others's opinion → Him attacking	
(v) To be a kind and generous	(v) Russia in extreme winter and facing defeat	

5. "गांधीवादी दर्शन में उल्लेखित 'सत्याग्रह' की अवधारणा, निष्क्रिय प्रतिरोध से भिन्न है।" समझाइये।
"The concept of 'Satyagraha' mentioned in Gandhian philosophy is different from passive resistance." Explain.

Gandhi called his over-allation of Non violent method as Change of heart Satyagraha. It is the exercise of purest soul force against all sort of injustice, exploitation, oppression. It is a method of securing rights by inflicting physical suffering on oneself and not others whereas in passive resistance one ~~defeat~~ ^{distemper} other to an extent that he accepts his defeat. In Harassment passive resistance, one may use violence. It is a narrow concept in broader concept of Satyagraha.

(Write above this line only)

सर्वाधिक विश्वसनीय व परिणामोन्मुखी

Samyak
An Institute For Civil Services

TEST SERIES
for
RAS Mains
2023

प्रारम्भ 07 अप्रैल
(प्रत्येक रविवार)
10 AM or 2 PM

Total **16** Test

12 + 04

TOPIC WISE FULL TEST

विशेषताएं ▶

- प्रत्येक टेस्ट पेपर के साथ आधे घंटे हिंदी/अंग्रेजी का नियमित टेस्ट
- विस्तृत मूल्यांकन और वन-टू-वन पर्सनल इंटरैक्शन
- Detailed Model Answer Key
- ऑनलाइन एवं ऑफलाइन



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Gopalpura Bypass, Jaipur



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Part - C

भाग - स

(30 Marks)

(30 अंक)

Note : Attempt all questions. Answer the following questions in 100 words each. Each Question carries 10 marks.

नोट : सभी प्रश्नों के उत्तर दें। निम्न प्रश्नों के उत्तर 100 शब्दों में दें। प्रत्येक प्रश्न के 10 अंक निर्धारित हैं।

1. वस्तुनिष्ठता की अवधारणा को स्पष्ट करते हुए प्रशासन में वस्तुनिष्ठता का महत्त्व बताइये। क्या किसी व्यक्ति के शत प्रतिशत वस्तुनिष्ठ होने की सम्भावना हो सकती है?

Explain the concept of objectivity and explain the importance of objectivity in administration. Can there be a possibility for any person to be hundred percent objective?

well started

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Objectivity - It is the power of taking decisions on objective criteria like facts, figures and data and not only on the basis of one's prejudices and belief. It is an important value expected out of a civil servant. Its importance : (i) Helps the administrator to serve the public in efficient way (ii) Removes prejudices, stereotypes etc from the administration (iii)

Rational policy forming and its effective implementation
 (iv) Increases the trust of public on the civil servants.
 (v) Increases credibility and competence of the civil servants. (vi) Ensure efficient use of the available resources for public welfare

A person can not be 100% objective or because as a human he is bound to have some of the prejudices and stereotypes. Hence one must try to be as objective as he can. *Subjectivity emotional aspect*

(Write above this line only)

2. निम्न पर टिप्पणी लिखिए/Write comment on the following.
1. प्रशासकों के समक्ष उत्पन्न होने वाले विभिन्न नैतिक द्वंद्व/Various ethical dilemmas arising before administrators
 2. श्रीमद्भगवद्गीता के स्वधर्म का महत्त्व/Importance of Swadharma of Shrimadbhagvadgita

1. Ethical Dilemma → Ethical dilemmas are the situation where an individual has to choose from two or more options neither of which fully resolve the situation

various (i) Transparency v/s Confidentiality
 (ii) Strict adherence to rules v/s public welfare
 (iii) Whistle blow of unethical deeds v/s Professional relations,
 (iv) Balance b/w the personal value and professional values.
 (v) Political pressure v/s ethical decision making
 (vi) Self interest v/s public interests etc

These dilemmas present a multi-faceted problems resolution of which is essential for efficient functioning of civil servants

2. Swadharma of Gita → As per it, an individual must discharge the duties expected out of him in true spirit. By doing this, an individual achieve "Nityakarma Siddhi"

Importance (i) Increases an individual to fulfill his duties on time (ii) Maintain balance and continuity of the administration / society (iii) Promotes one to safeguards the rights of other (iv) Prevents the conflict which may arise due to non adherence to the duties

Social Harmony order

(Write above this line only)

2. निम्न पर टिप्पणी लिखिए/Write comment on the following.
1. प्रशासकों के समक्ष उत्पन्न होने वाले विभिन्न नैतिक द्वंद्व/Variou ethical dilemmas arising before administrators
 2. श्रीमद्भगवद्गीता के स्वधर्म का महत्त्व/Importance of Swadharm of Shrimadbhagvadgita

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These dilemmas present a multi faceted problems resolution of which is essential for efficient functioning of civil servants

2. Swadharm of Gita → As per it, an individual must discharge the duties expected out of him in true spirit. By doing this, an individual achieve "Nishkama Siddhi"

Importance (i) Increases an individual to fulfill his duties on time (ii) Maintain balance and continuity of the administration / society (iii) Promotes one to safeguards the rights of other (iv) Prevents the conflict which may arise due to non adherence to the duties

(Write above this line only)

Social Harmony order

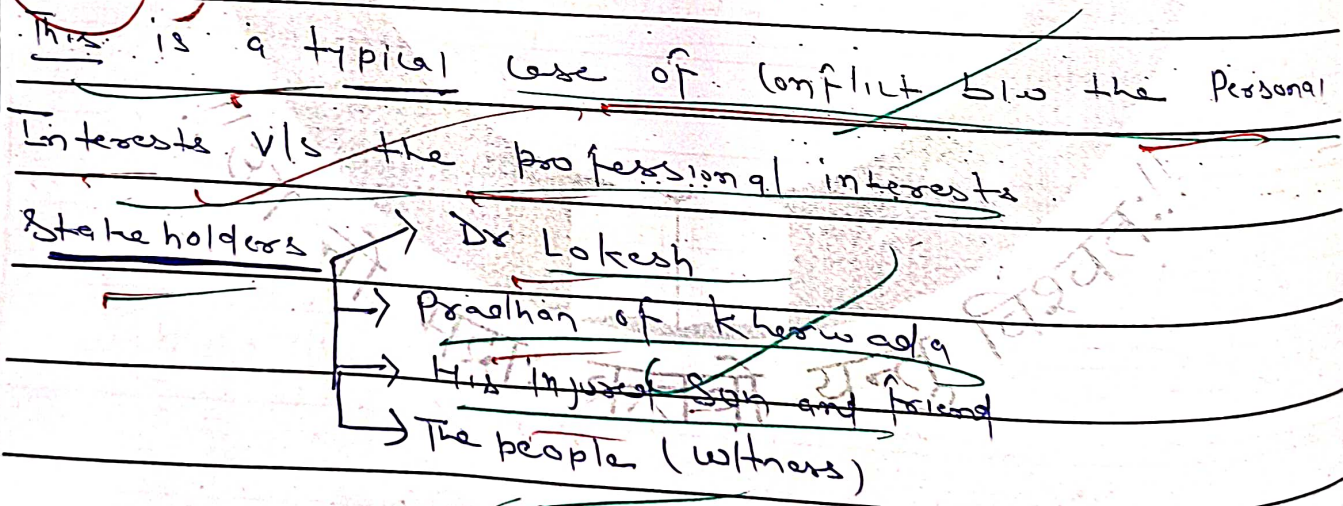
Specialisation

3. प्रश्न में उल्लेखित केस स्टडी का अध्ययन करते हुए विकल्प तथा विकल्प चयन या खारिज करने के आधारों को समझें। खेरवाड़ा एक जनजातीय जिले का ब्लॉक है। खेरवाड़ा प्राइमरी स्वास्थ्य केंद्र में अनेक पद खाली हैं और केवल एक डॉक्टर का नाम लोकेश है, एमबीबीएस हैं। एमबीबीएस थोड़े से कोर कर्मचारियों के साथ प्राइमरी स्वास्थ्य केंद्र का कामकाज संभालते हैं। एक साल पहले खेरवाड़ा के प्रधान ने डाक्टर लोकेश से एक व्यक्ति के लिए चिकित्सा प्रमाण पत्र जारी करने के लिए कहा था, जिसके डॉ. लोकेश जानते थे कि वह जरा भी बीमार नहीं था। इसलिए उन्होंने इंकार कर दिया। इसी समय डॉ. लोकेश ने खेरवाड़ा में अपने आवासीय मकान बनवाने की योजना बनाई। जब डॉ. लोकेश के मकान बनाने की योजना भवन निर्माण की अनुमति हेतु पंचायत के सामने आई तो पंचायत ने टालमटोल की नीति अपनाई और न तो उन्हें अनुमति दी और न ही उनके प्लान को अस्वीकृत किया। डॉ. लोकेश ने उनसे निर्णय लेने का अनुरोध करते हुए दो बार मुलाकात की लेकिन कोई कार्यवाही नहीं हुई। कुछ दिनों बाद सुबह के समय जब प्राइमरी स्वास्थ्य केंद्र में केवल क्लीनर, स्टाफ नर्स तथा डॉक्टर ही उपस्थित थे। नर्स के फोन आया कि प्रधान के पुत्र और उसके एक मित्र की कार से दुर्घटना हो गई है और उन्हें प्रधान एवं अन्य लोग प्राइमरी स्वास्थ्य केंद्र में ला रहे हैं। नर्स ने यह बात डॉक्टर को बताई। अब डॉ. लोकेश को गाँव के प्रधान का रवैया याद आता है। इस सन्दर्भ में डॉ. लोकेश के पास क्या विकल्प हो सकते हैं तथा विकल्प चयन या खारिज करने के आधारों को स्पष्ट कीजिये।

Studying the case study mentioned in the question, explain the options and the basis for selecting or rejecting the option.

Kherwara is a block of a tribal district. There are many posts vacant in Kherwara Primary Health Center and there is only one Doctor named Lokesh (MBBS). He manages the functioning of the primary health center with a small core staff. A year ago the village head of Kherwara had asked Dr. Lokesh to issue a medical certificate for a person whom Dr. Lokesh knew was not at all ill. So he refused. At this time, Dr. Lokesh planned to build his residential house in Kherwara. When Dr. Lokesh's plan to build a house came before the Panchayat for permission to construct the house, the Panchayat adopted a policy of avoidance and neither gave him permission nor rejected his plan. Dr. Lokesh met them twice requesting them to take decision but no action was taken. A few days later, early in the morning, when only the cleaner, the staff nurse and the doctor were present in the Primary Health Centre, the nurse got a call that the son of village head and one of his friends had met with an accident in their car and the village head and others are bringing them to the primary health centre. The nurse told this to the doctor. Now Dr. Lokesh remembers the attitude of the village head. In this context, what options can Dr. Lokesh have and explain the grounds for selecting or rejecting the option.

6



Options Available

1. He would reject admittance to the injured. This is a clear negligence of both the human values and the

Professional values as a doctor. Any mishappening faced by the Pradhan's Son may result in a strict disciplinary action against the Doctor and even expulsion from the job.

2. Give admittance only on condition if Pradhan learns his housing plan ⇒ This is violation of the professional values as a Doctor and also mockery of human values like care, compassion and sympathy for other human. We as human sometimes even help our injured enemies.

3. Giving admittance to the Injured and providing him best possible treatment ⇒ This is the best option available before the Doctor under the judgement of his moral, human and professional values. He must treat the injured in his full capacity and must not accept any rewards in return. (Not in approval of his residential plan without due inquiry).

○ option I would choose is option 3 ⇒ Best as per the above explanation

(Write above this line only)

Unit - II
(यूनिट - II)

Part - A
भाग - अ

(65 Marks)
(65 अंक)

Marks : 10
अंक : 10

Note : Attempt all questions. Answer the following questions in 15 words each. Each Question carries 2 marks.
नोट : सभी प्रश्नों के उत्तर दें। निम्न प्रश्नों के उत्तर 15-15 शब्दों में दें। प्रत्येक प्रश्न के 2 अंक निर्धारित हैं।

1. हाल ही में सुर्खियों में रहे 'बैलेचले पार्क घोषणा पत्र' पर टिप्पणी लिखिए।

* Write comment on the 'Bletchley Park Declaration' that was recently seen in the news.

(Write above this line only)

2. अनिषेकफलन को सोदाहरण परिभाषित कीजिए।

Define isotropy with example.

Metals and Glass

It is the property of existence of a mineral in different structures with different physical properties but same chemical properties. Ex: Hydrogen
 H^1 (Protium) H^2 (Deuterium) H^3 (Tritium)

(Write above this line only)

1

3. 'निद्युत ऋणता' पर टिप्पणी लिखिए।

Write note on 'Electronegativity'.

Electro Negativity → When an ~~electron~~ atom loses electron and acquires negative charges for the completion of the octet or to gain stability is called electronegativity
Tendency to attract shared electrons in covalent bond compounds

(Write above this line only)

4. चिकित्सा के क्षेत्र में रेडियोएक्टिव/रेडियोधर्मी समस्थानिकों के उपयोग लिखिए।

Write the uses of radioactive isotopes in the field of medicine.

1. Gamma Rays ^{isotope} are used in killing of the cancerous cells.
2. Cobalt - 60 is used in treatment of cancer
3. Iodine ^{isotope} for the treatment of goitre medical - 2
4. Argon ^{isotope} used to determine the half life of an element by measuring the content Argon in the said things

(Write above this line only)

5. 'जीन डोपिंग' पर टिप्पणी लिखिए।

Write note on 'Gene Doping'.

Gene Doping → It is the name given to the process of altering the natural genetic makeup of an individual and replacing the natural gene (defective/weak) with a superior genes by artificial methods
Ex: The Designer Babies

(Write above this line only)

Part - B

(25 Marks)

भाग - ब

(25 अंक)

Note : Attempt all questions. Answer the following questions in 50 words each. Each Question carries 5 marks.

नोट : सभी प्रश्नों के उत्तर दें। निम्न प्रश्नों के उत्तर 50 शब्दों में दें। प्रत्येक प्रश्न के 5 अंक निर्धारित हैं।

1. सुपर कंप्यूटर के अनुप्रयोगों को लिखते हुए इंटरनेशनल सुपर कंप्यूटर कॉन्फ्रेंस-2023 के अनुसार भारत के शीर्ष चार सुपर कंप्यूटरों के नाम बताइए।

While writing the applications of supercomputers, name the top four supercomputers of India according to the International Supercomputer Conference-2023.

Supercomputers → These are the computers that solve complex computing problems in minimum time and with minimum energy consumption which a normal computer can not solve in its lifetime.

Applications (i) Processing of large volumes of data (ii) Weather forecasting (iii) Air Traffic Control (iv) Simulation works

(v) Running large codes which are responsible for the maintenance of servers farms

4 Top supercomputers - PARAM Copy in order = 2

(Write above this line only)

2. मानव शरीर में पाई जाने वाली 'पाचक ग्रंथियों' पर संक्षिप्त टिप्पणी लिखिए।
Write short note on the 'digestive glands' found in the human body.

Digestive Glands → These gland assist human body in easy digestion of the food intake by give energy.

Digestive Glands (i) Gastric gland Stomach Most of the digestion work happens here. (ii) Small Intestines → The food from stomach goes to there where the selected nutrients are absorbed.

(iii) Large Intestines → Here the food residue is again taken up for selective absorption and absorption of all the nutrients if left happens.

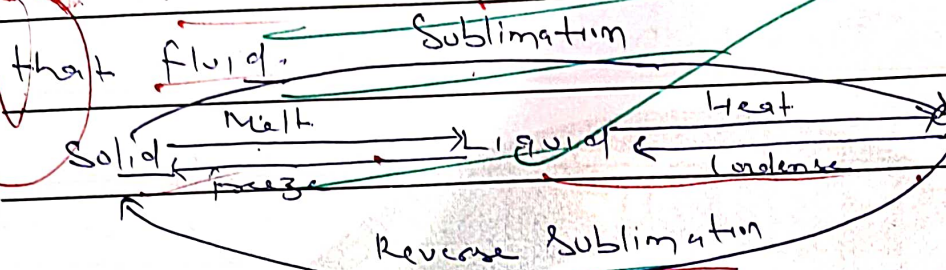
(iv) Mouth - Digestion begins from here.

(Write above this line only)

Liver
Pancreas
Digestion
(14)

3. मिश्रणों को पृथक करने की उर्ध्वपातन व वर्णलेखन विधियों का वर्णन कीजिए।
Describe the sublimation and chromatographic methods of separating mixtures.

Sublimation → It is defined as the direct conversion of solid state of a fluid to the gaseous state of that fluid.



How to use it?

Chromatographic Method of Separation mixture

(Write above this line only)

4. डीएनए फिंगर प्रिंटिंग की अवधारणा को स्पष्ट करते हुए इसके अनुप्रयोगों का उल्लेख कीजिए।
Explain the concept of DNA finger printing and mention its applications.

DNA Finger Printing → It is the name given to the process to modify and interpret the genetic information available in genes for a better understanding of human body. ~~it is not here editing rather identification~~

- Applications:
- (1) To solve the hereditary disease issues
 - (2) To identify the real hier and its Father and Mother.
 - (3) Help in easy detection and identification of the criminals.
 - (4) To keep a gene pool of all the citizens.
 - (5) To solve the problem of human extinction by preserving the genes.

(Write above this line only)

5. पादप हार्मोन 'ऑक्सिन' के कार्याकीय प्रभावों को उल्लेखित कीजिए।
Mention the physiological effects of the plant hormone 'Auxin'.

What is Auxin - 1

Plant Hormone Auxin is used as Plant Growth Promoter.

It provides all the required nutrients and conditions for the enhanced growth of plants. *blocks*

① It facilitates flowering in plants

② It protects flowers and fruits from falling at

early age ③ It breaks the bud and leaf dormancy

④ It promotes growth of lateral bud

⑤ It enhances the maturing and opening of flowers

(Write above this line only)

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T&C APPLY

Part - C

(30 Marks)

भाग - स

(30 अंक)

Note : Attempt all questions. Answer the following questions in 100 words each. Each Question carries 10 marks.

नोट : सभी प्रश्नों के उत्तर दें। निम्न प्रश्नों के उत्तर 100-100 शब्दों में दें। प्रत्येक प्रश्न के 10 अंक निर्धारित हैं।

1. जीन चिकित्सा की अवधारणा को स्पष्ट करते हुए इसके लाभ/अनुप्रयोग बताते हुए इसकी सीमाएँ उल्लेखित कीजिए।

Explaining the concept of gene therapy, explain its benefits/applications and mention its limitations.

Gene Therapy → It is the name given to the process of ~~removing~~ a defective gene from the human body and replacing it with a nondefective gene from same person's body or grown in controlled environment. This is one of the most important application of Bio Technology. CRISPR Cas9 is used as gene scissors.

<u>Benefits</u>	<u>Limitations</u>
1. Genetic Hereditary diseases can be eradicated. 2. A defective gene of any factor can be replaced.	1. Unethical sometimes. Not accessible to all.
(iii) Diseases endemic to any location can be eradicated. (iv) Environmental impacts on body can be controlled.	2. Editing with genes may result into mutations behind human control.
(v) Designer Babies can be developed.	3. Terrorists/Criminal may use for cloning. 4. May be used for creation of Bio weapons.

Hence from the above it is quite clear that the technology can be both boon and curse for humans and requires a Governmental check.

(Write above this line only)

2. निम्न बिन्दुओं पर टिप्पणी लिखिए/Write comments on the following points.

1. सोडियम हाइड्रॉक्साइड के गुण व उपयोग/Properties and uses of sodium hydroxide

2. चुंबकीय अनुनाद इमेजिंग तकनीक व अनुप्रयोग/Magnetic Resonance Imaging Techniques and Applications

1 Sodium Hydroxide → Properties

Uses

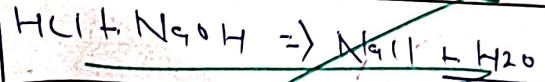
(i) It is an base (weak base)

(i) Used for production of

2. It has the ability to accept

salts in Neutralization reaction

Hydrogen ion from an Acid



3. Used as Natural substitute

(ii) Used in Chemical Industries.

of the washing detergents

(iii) Use in bleaching industries

soap
Laboratory reagent

2 Magnetic Resonance Imaging → It is a diagnostic

technique used in radiology for providing a much clearer

picture of the human body than the X-Ray. It

can be used to create pictures of human physiology and anatomy

in both illness and normal condition. It is medical

use of NMR (Nuclear Magnetic Resonance)

Applications (i) It provides a cross-sectional image

of internal organs of human body (ii) It can be

used to study the ratio of grey matter and white

matter in body (iii) It can be used to study the

development of Tumors in Primary Stage (iv) Human

physiology can be studied in better way (v) A safe

technique as it does not use radiation.

(Write above this line only)

3. निम्न पर टिप्पणी लिखिए/Write comment on the following.

1. थाइराइड व पैराथाइराइड द्वारा स्रावित हार्मोन व उनकी उपयोगिता

Hormones secreted by thyroid and parathyroid and their usefulness

2. क्रायो बायोलॉजी की अवधारणा व अनुप्रयोग/Concept and applications of cryobiology

1	Thyroid	Parathyroid

Cryobiology → It is the technology of storing the genetic materials, genetic cells, embryonic cells, organs, etc at a temperature below than freezing temperatures. It can allow the preservation of the above for long time period.

Application

- (i) Helps in long duration storage of human body organs etc
- (ii) Helps in preserving blood and its products for long time
- (iii) Helps in preserving embryonic cells for long time period and provide it when needed by individuals in future
- (iv) Provide a conducive environment and prevents from infection etc.
- (v) Negative - Maintenance of below zero temp is hard all the times

(Write above this line only)

(Unit - III)
(यूनिट - III)

(70 Marks)
(70 अंक)

Part - A
भाग - अ

(10 Marks)
(10 अंक)

Note : Attempt all questions. Answer the following questions in 15 words each. Each Question carries 2 marks.
नोट : सभी प्रश्नों के उत्तर दें। निम्न प्रश्नों के उत्तर 15-15 शब्दों में दें। प्रत्येक प्रश्न के 2 अंक निर्धारित हैं।

1. शीत ऋतु में दक्षिण भारत की तुलना में उत्तरी भारत में अधिक ठंड पड़ने के कारणों को लिखिए।
Write the reasons why North India is colder in winter than South India.

1. The presence of Himalayas which sees snowfalls in winter. 2. The cold winds blowing from the Central Asia and entering India to reduce temp to freezing points. The continental effect → Away from the sea → The vast plains of North India → open lands tends to cool faster

(Write above this line only)

2. राजस्थान में बेरिलियम उत्पादक क्षेत्रों के नाम लिखिए।
Write the names of beryllium producing areas in Rajasthan.

Beryllium Producing Areas in Rajasthan

1. Jaipur → Gogjar wada

2. Ajmer → Bandras, Sindhar, other Areas 2:

3. Jaipur - Shikarbaoli, कतवा

other scattered production in → Bhilwara, Bundi, Dunsarprate

(Write above this line only)

3. भारतीय भूवैज्ञानिक सर्वेक्षण (जियोलॉजिकल सर्वे ऑफ इंडिया) के द्वारा घोषित राजस्थान के प्रमुख भू-विरासत स्थलों के नाम लिखिए।
Write the names of the major geo-heritage sites of Rajasthan declared by Geological Survey of India.

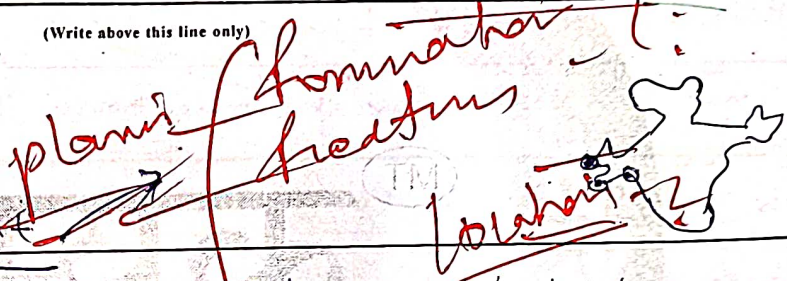
In 2001, GST declared 20 Geo Heritage site in State -

1. Nepheline Syenite (Kishangarh)
2. Sandera Granite (Pali)
3. Barmer Limestone (Pali)
4. Welded Tuff (Jodhpur)
5. Jodhpur Super Group (Jodhpur)
6. Akal Wood Fossil Park (Jaipur)
7. Great Boundary Fault (Bundi)
8. Gosan → Rajapur Dasiba
9. Stromatolite Park - Udaipur
10. " = Chittorgarh

(Write above this line only)

4. गुजरात का तटीय मैदान
Coastal plain of Gujarat.

Coastal Plains of Gujarat



1. Kutch Plain → formed by Indus, R. N. Irrigation
2. Kathiawar Plain → formed by Rivers originating from Marwar Hills
3. Little Irrigation
3. Main Gujarat Plains → formed by Narmada, Tapi, Sabarmati, etc. ⇒ wide plains ⇒ used for Agriculture

(Write above this line only)

5. कॉन्फ्रेंस ऑफ पार्टीज 28
Conference of Parties 28

Conference of Parties - 28 → Held in UAE (Abu Dhabi)

President ⇒ Sheik Al Nahayan Sultan Ahmed Al Jaber

It talked about the inability of the world to meet the Paris Climate Agreement targets if dedicate efforts are not made

(Write above this line only)

Key developments / Jodhpur?

Part - B

भाग - ब

(30 Marks)
(30 अंक)

Note : Attempt all questions. Answer the following questions in 50 words each. Each Question carries 5 marks.
नोट : सभी प्रश्नों के उत्तर दें। निम्न प्रश्नों के उत्तर 50 शब्दों में दें। प्रत्येक प्रश्न के 5 अंक निर्धारित हैं।

1. सर्दियों के मौसम में दिल्ली की वायु गुणवत्ता के निम्न होने अथवा वायु प्रदूषण के बढ़ने के कारणों लिखिए।
Write the reasons for the low air quality of Delhi or increase in air pollution during the winter season.

The UT of Delhi faces severe Air pollution in the winter season due to following reasons (i) The problem of stubble burning by the farmers of Punjab, Haryana and Eastern UP. (ii) Increased used of fossil fuels like coal and fuel wood for warming houses (iii) Very less winter rains in Delhi which could clear the environment. (iv) High pressure conditions due to which the smoke remains stationary

(Write above this line only)

2. निक्षेपणात्मक निर्माण प्रक्रिया के आधार पर निर्मित मैदानों पर संक्षिप्त लेख लिखिए।
Write short article on the plains formed on the basis of depositional formation process.

Plains are the relief feature of 2nd order found on Earth's surface. Ex: The Great Northern Plains of India
Depositional Plains (i) Riverine Plains → The plains formed by the deposition of sediments in depression created in foothills of mountains by the rivers. Ex: The plains of North India
Glacial Depositional Plain → Formed when the sediments are deposited after melting of the glaciers. Ex: Kareem Plains of J&K
(iii) Wind Depositional Plains → Formed by deposition of sediments by wind. Ex: Loess plains of India

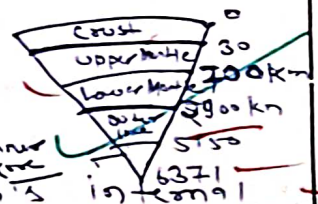
Other types - ?

(Write above this line only)

53

पृथ्वी की आन्तरिक संरचना के संदर्भ में 'स्वैस' के मत को स्पष्ट कीजिए।

Explain the opinion of 'Suess' regarding the internal structure of the Earth.



E. Suess was the first to classify Earth's internal structure on the basis of chemical composition. The upper

crust is formed by sedimentary rock **Density**

1. Crust → Also called as SiAl layer as dominance of Silica and Aluminium

2. Mantle → Also called as SiMg Layer → Dominance of Silica & Magnesium

3. Core → Also called as NiFe layer → Dominance of Nickel & Iron → Highest

Density

(Write above this line only)

23

राजस्थान में अरावली पर्वतमाला के विस्तार को उल्लेखित कीजिए।
Mention the extent of Aravalli mountain range in Rajasthan.



Aravalli in Rajasthan extends from Khetri Braham in Birshi to Khetdi in Jhunjhunu for a distance of ~~550 km~~ 692 km

from ~~South~~ to North East Direction. The Aravalli divides Rajasthan into two equal parts → (i) the West dominated

by the Great Thar and (ii) the East dominated by ~~Sub Humid~~ Sub Humid and Humid climate. Regional Division (i) Northern Aravalli → North of

Sambhar lake to Khetdi (ii) Middle Aravalli → Sulof Jaipur to

Devasah Rajasthan (iii) South Aravalli → from Devesah to Abu

Peates Disturbed

(Write above this line only)

Nutrient 2

5. लेटेराइट मृदा की विशेषताएँ लिखते हुए भारत में इसके विस्तार क्षेत्र को बताइये।
Write the characteristics of laterite soil and tell its area of distribution in India.

Laterite Soil → It is a soil that is found in regions of High Rainfall and High Temperature. Due to high rainfall, the soluble minerals percolate down and a sheet of soil appears on top. It is an unfertile soil. This soil becomes hard on drying so used for plantation Agriculture.

Distribution → In the peninsular states like Kerala, Karnataka, N-E states and E. slopes of Western Ghats

High rainfall areas
(Write above this line only)

6. भारत में नाभिकीय या परमाणु ऊर्जा उत्पादन में सहायक प्रमुख खनिज पदार्थों के वितरण पर संक्षिप्त टिप्पणी लिखिए।
Write short note on the distribution of major minerals helpful in nuclear or atomic energy production in India.

Nuclear reactors uses the Nuclear minerals for the production of electric energy in the controlled manner.

1. Uranium → Most potent Nuclear fuel. Found in Karnataka, Chhattisgarh, Assam, Jharkhand, Shillong Plateau.

2. Thorium → Found in large quantity in Monazite sands of Kerala.

3. Beryllium - Rajasthan, Bihar, Maharashtra, AP, Telangana

4. Lithium → Rajasthan and JKK

(Write above this line only)

Other minerals - 2

(Unit - III) (यूनिट - III)

Part - C (भाग - स)

(30 Marks)

(30 अंक)

Note : Attempt all questions. Answer the following questions in 100 words each. Each Question carries 10 marks.
 नोट : सभी प्रश्नों के उत्तर दें। निम्न प्रश्नों के उत्तर 100-100 शब्दों में दें। प्रत्येक प्रश्न के 10 अंक निर्धारित हैं।

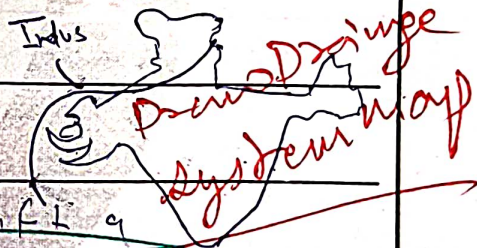
1. While writing article on the drainage system of Indus River, throw light on the provisions of 'Indus River Water Treaty'.

Indus River → The drainage of Indus is formed by the Indus River and its tributaries (a) Left (Jhelum, Chenab, Ravi, Beas, Sutlej) (b) Right (Shyok, Hunza, Gomol, Swat, Kabul).

The Indus River flows through the Ladakh and Zaskar ranges of Great Himalayas and then flows into Pakistan, acting as its major source of water and then eventually drains in Arabian Sea. The Drainage Basin of Indus in India is mainly in J&K, Ladakh and Punjab.

Indus Water Treaty → Signed in 1960

by the mediation of the World Bank to draft an agreement on sharing of water of the Indus and its tributaries b/w India and Pakistan. Provisions 1. As per it, the whole water of Indus, Jhelum, Chenab is reserved for Pakistan where as water of Ravi, Beas, Sutlej is reserved for India (ii) India can also use water of IJC for non use purposes like Hydro power production (iii) Both countries will jointly sit and resolve any conflict if arising on this treaty



Creator Shrivastava (Write above this line only)

2. निम्न बिन्दुओं पर टिप्पणी लिखिए/Write comments on the following points.

1. राजस्थान के जैव विविधता क्षेत्र/Biodiversity Parks of Rajasthan
2. अल्पाइन पर्वत/Alpine Mountains

1 Biodiversity Parks of Rajasthan

→ These are the dedicated areas where special efforts and environments are created for the conservation of both flora and fauna which are endemic to the said area. These flora and

fauna are facing threats of extinction, biodiversity loss, habitat loss, human-wildlife conflicts etc. Sites chosen for Biodiversity parks in state are

- ① Sanwanta
- ② Ramdevra (Jaipur)
- ③ Onwad
- ④ Mungar (Barnar)
- ⑤ Lohargarji (JN)

2. Alpine Mountains

These are the mountains which were built during different periods of the Cenozoic era. The mountain building began in Paleocene period and continued upto the

Pliocene period. These mountains were built in between 70 million years from present to 10 million years from present.

Examples of Alpine Mountains → The Himalayas, the Rockies, the Andes etc. They are called young fold mountains. They represent the most complex and longest mountain chains of the world. Their heights increasing gradually

(Write above this line only)

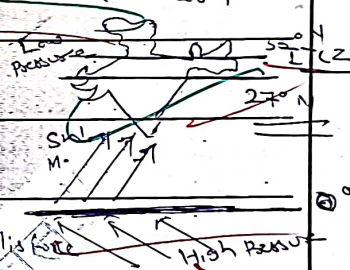
निम्न बिन्दुओं पर टिप्पणी लिखिए / Write comments on the following points.

3. 1. इंडियन ग्रीन बिल्डिंग काउंसिल/Indian Green Building Council
2. भारतीय मानसूनी पवनें व अंतः उष्ण कटिबंधीय अभिसरण क्षेत्र/Indian monsoon winds and intertropical convergence zone

1. Indian Green Building Council → It is a Certification body constituted by the Government of India to promote the use of various Green / Renewable Energy apparatus in the newly constructed buildings. It also aims to work for the promotion of plantation of trees and plants in the premises of the buildings. It seeks to promote the use of Solar Panels in the buildings to reduce the dependence on natural fossil fuels etc.

2. Indian Monsoon Wind And ITCZ → In summer, (June), a extreme low pressure condition prevails over the Northern

India. This low pressure condition attracts wind from the southern Indian ocean which after crossing the equator changes its direction due to Coriolis force and enters India as SW Monsoon winds.



After striking Kerala, the wind divides into two parts (a) The Bay of Bengal Branch (b) The Arabian Sea Branch.

The ITCZ is a Zone of convergence of trade winds. During summer, it shifts northward and establishing it at 27-35°N latitude and intensify the low pressure condition over North India and increases the intensity of Indian Monsoon.

(Write above this line only)

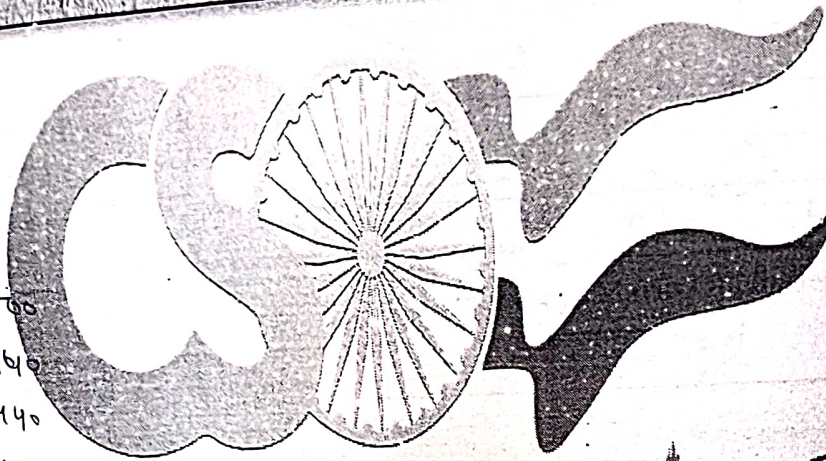
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