

RAS - 23 MAINS TEST SERIES

सिद्धि-II - 018/FLT-02

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		30.5
Medium : ENGLISH	Unit - II		25
E-mail :	Unit - III		30
Exam Date : 9- June 2024	Total		85.5
Evaluator's Code SID	Reviewer's Code	Invigilator's Signature	Student's Signature

अनुदेश (Instructions)

- परीक्षा शुरू होने से पहले पुस्तिका को जाँच लें।
Please check the booklet before the commencement of the exam.
- अंक योजना प्रत्येक खंड के प्रारम्भ में दी गई है।
The marking scheme is given at the start of every section.
- 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.
- 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.

	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

- Good use of headings, points, flowcharts and highlighters can be seen.
- Good content knowledge in most of the questions.
- small mistakes are there in Unit-II Improve that with some more dimensions and try to reduce errors.
- ✓ You need to practice over some current issues to include and use them well in the answers. (It is expected from you.)
- ✓ A great effort. Keep going

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. "प्रत्येक व्यक्ति का महत्त्व केवल एक व्यक्ति का महत्त्व है, इससे अधिक नहीं।" उक्त कथन को स्पष्ट कीजिए।
"The importance of each person is only the importance of one person, not more than that." Explain the above statement.

The statement was given by Bentham.
The statement explains that necessity of one person and importance of that has very limited impact - it is not vast as much as the importance to a society.

If the collective importance is emphasized then there will be vast impact and it will be contributed as just society, which will have ^(Write above this line only) "Sarvodaya".

- ↳ fair distribution of Happiness among people
- ↳ Protection of interests of all people equally.

2. मानवीय चिंता का क्या तात्पर्य है?
What is meant by human concern?

The concerns and issues related to humans and their and environment, life that has vast impact on society morally and ethically are called human concerns. Example - Human trafficking, Drug trafficking, Terrorism, Climate change, pollution etc many other concerns.

(Write above this line only)

Scientific, economic, Personal etc.

3. नैतिकता का निर्धारण करने वाले बाहरी/बाह्य कारकों को नामोल्लेखित कीजिए।

Name the external factors that determine morality.

The external factor that determine morality are -

(*) Cultural practices (*) Society (*) Educational institution

(*) Work culture and practices (*) Government policy (*)

(*) Rule and regulations of the land etc.

(*) Judiciary, Legislative framework

(Write above this line only)

4. "सहानुभूति, परानुभूति से किस प्रकार भिन्न है?" स्पष्ट कीजिए।

"How is sympathy different from empathy?" Explain.

Sympathy is a value that is knowing and understanding

Others pain and try to reduce it by condoling the person

whereas empathy is embracing others' pain or issue as

if it were self problem/pain - envolvement of self in that

with full dedication comes in empathy.

empathy has the emotional aspect along with cognitive aspect

(Write above this line only)

5. क्या गीता को कर्म सन्यास अथवा कर्म त्याग की अवस्था माना जा सकता है? स्पष्ट कीजिए।

Can Gita be considered as a state of renunciation of action (Karma)? Explain.

No, Gita can't be considered as a state of renunciation

of karma because in Gita, emphasis on Pravritti and

Nivritti are both extreme events. So one should

do actions while being unattached to worldly desires and

for the sake of duty/Dharma.

renunciation of Results of Actions

(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 शब्द में दें। प्रत्येक प्रश्न के 5 अंक निर्धारित हैं।

1. "डॉ. सर्वपल्ली राधाकृष्ण का दर्शन समन्वयवादी दृष्टिकोण वाला है।" टिप्पणी लिखिए।

① "Dr. Sarvepalli Radhakrishnan's philosophy has a approach of coordination." Comment.
~~Dr. Sarvepalli Radhakrishnan's philosophy expresses a neo-vedantist one which emphasises on amalgamation of traditional and modern practices. By coordination of spiritual and materialism (westernisation / scientific knowledge) society can be more advanced and reformed. Technical and metal revolution is necessary for any living organisation which is provided by both modernity and spiritualism.~~
 new cultural coordination.
 Philosophy known as → religious spiritualism
 a neo-vedantist one which emphasises on amalgamation of traditional and modern practices. By coordination of spiritual and materialism (westernisation / scientific knowledge) society can be more advanced and reformed. Technical and metal revolution is necessary for any living organisation which is provided by both modernity and spiritualism.
 Example - In Indian Education new areas of science, technology should be touched to make it more effective.
(Write above this line only)

2. "जनांकिकी समाज में मूल्यों के निर्धारण में सहायक है।" स्पष्ट कीजिए।
 b/w materialism & spirituality, b/w tradition & modernity

"Demography is helpful in determining values in society." Explain.

② Demography explains the distribution of population and its composition over an area - this shows a sign of a society and its evolution during a time. Demography has key role in determining the values in society. For example if the population is more aged then traditional values can be seen more in society. Whereas if the population has educated and energetic youngs then the social values will be like - dedication, accountability. There will be more emphasis on rights and (Write above this line only) duties towards nation etc.

① sex ratio SAMYAK IAS/RAS - JAIPUR - 9875170111 ② tribal ③ Demography ④ Population (cont.) ⑤ life expectancy

प्रतिबद्धता की अवधारणा को स्पष्ट कीजिए तथा नौकरशाहों को किसके प्रति प्रतिबद्ध होना चाहिए?

Explain the concept of commitment and what should bureaucrats be committed to?

Commitment is a quality / trait of person in which all energy and efforts are dedicated towards a certain aim.

Bureaucrats are expected to be committed towards their service as they should fulfil duty for public welfare or such purpose - Honesty, integrity and dedication is required. The medium for having full commitment towards public service is code of conduct, laws and values of constitution and individual values. The concept of 'Lok Samgraha'

in Geeta and "Duty for Duty's sake" by Kant also describes this.

(Write above this line only)

4. "गांधी का सर्वोदय का सिद्धांत अद्वैत मूलक अवधारणा का समर्थक है।" स्पष्ट कीजिए।

"Gandhi's principle of Sarvodaya is a supporter of the concept of Advaita." Explain.

The concept of Advaita by Shakaracharya of medieval India states that there is only prakriti which exists and no soul. Hence Nature should be the one which should be focused overall. It rejects the soul and other worldly things. Gandhian Sarvodaya concept also justifies that instead of focussing on other worldly things and old ritual, customs - one should focus on development of all each and every section of society. The advancement of the most backward would only ensure the just society.

(Write above this line only)

no mutual discrimination

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like → High - low, exploiter - exploited, rich - poor (6)

5. अभिवृत्ति, मूल्य से कैसे भिन्न है? बताइये।
How is attitude different from value? Explain.

24 Attitude is the perception of one towards any thing. It includes thinking, liking disliking and action favourable - Unfavourable to any person, idea or thing. Consists - Cognitive, affective and Behavioural elements. Attitude can be acquired and changed by practice, learning and experience. It can be affected by external factors. [On the contrary] the values are innate, mostly adopted by person since childhood from society, home and its educational institutions. These are long lasting beliefs inculcated in human to act properly. (Write above this line only) value has more Emotional Aspect.

॥ आ नो भद्राः क्रतवो यन्तु विश्वतः ॥

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 शब्दों में दें। प्रत्येक प्रश्न के 10 अंक निर्धारित हैं।

1. सार्वजनिक संबंधों में नैतिकता के पतन के कारणों को लिखते हुए नैतिकता के पतन के विभिन्न पक्षों को वर्णित कीजिए। किसी लोक सेवक के निजी हित व व्यक्तिगत हित में टकराव की स्थिति में कौनसे हितों को प्राथमिकता देनी चाहिए कारण सहित स्पष्ट करें।

Describe the various aspects of moral degradation in public relations while writing the reasons for the decline of morality. In case of conflict between private interest and personal interest of a public servant, which interest should be given priority, explain with reasons.

public relation are those relations which are based on legal bindings, authorities of some organisation. The values in public relation are Honesty, Integrity, Dedication, Accountability etc. The reasons of moral declination in public relation

- are
- Increasing materialism and capitalism
 - preference of private interest over public interest.
 - corruption → attitude towards the philosophy,
 - No strict compliance to moral code of conduct. life
 - lack of moral values in civil servants.
 - growing interference of political class.
 - Crony capitalism → Neglect of duty at individual level

Various aspects of moral degradation are

- Economic - corruption to fulfil self interests, family needs.
- Social - lack of social values and embraced culture.
- Political - Gaining political support for favouring transfer or promotion. → Increase in caste based politics
- Administrative - Crony capitalism, influence of Capitalists and political heads to degrades the moral structure.
- emotional → lack of sensitivity among administrative officers.

public relations should be given priority over personal relations

because - It has wide interest - public relations impact wide part of society.

It sets an example of promoting public welfare as whole, SAMYAK IAS | RAS - JAIPUR - 9875170111

2. निम्न बिन्दुओं पर प्रकाश डालिए/टिप्पणी लिखिए/Throw light on the following points/Comment.

1. गांधीजी के कथन 'अपने को पहले सुधारो' का क्या तात्पर्य है?

What is the meaning of Gandhiji's statement 'Reform yourself first'?

2. स्वामी विवेकानन्द के दर्शन के मूल में निहित नैतिकता का वर्णन कीजिए।

Describe the morality that lies at the core of Swami Vivekananda's philosophy.

Q. Gandhiji's statement "Reform yourself first" emphasizes

on the need of individual effort and involvement in the sarvodaya and morality spread in the society. If individual starts with self reformation ~~then~~ ^{↳ Reforming self first then other} each individual will be moral and

will contribute in moral society. Through this he emphasized on "start with self" - Sarvodaya and Ramrajya will be possible only when each person is morally correct. If such happens then there will be no need of external laws, rules, regulations by the state and "A Ramrajya" (Anarchic) state will be

achieved that is moral state of society. This will eliminate discrimination and ^{some constructive efforts for} a society with justice, equality will be developed by eliminating untouchability and Casteism. ^{social self} ^{for justice}

Q. Vivekananda is a neo-vedanti philosopher. Emphasised on spiritual mix with modernisation. According to him morality will be ensured if one is spiritual and enlightened.

Humanity and service of human is the core element in his philosophy. Service to human is the service to God and ^{person for} ~~for being moral~~ and just society ~~humanism~~ should be at core along with scientific ^(Write above this line only) advancement.

↳ self reliance ↳ self control ↳ self sacrifice
↳ self confidence ↳ self knowledge

3. केस स्टडी-

आप एक कम्पनी में एक साल से कार्यरत हैं। आपके अधीनस्थ सुरेश कुमार काफी कार्यकुशल तथा मेहनती व्यक्ति है। वे उत्तरदायित्व लेते हैं तथा काम को पूरा करके दिखाते हैं। हालाँकि आपने सुना है सुरेश कुमार महिलाओं के प्रति नकारात्मक टिप्पणियाँ करते हैं। आपके अधीनस्थ सुरेश कुमार के अधिन मोनिका नामक महिला कार्य करती हैं। मोनिका एक दिन आपके पास आती हैं। उन्हें देखने से प्रतीत होता है कि वे परेशान हैं, वे कहती हैं कि सुरेश कुमार लगातार उनकी ओर अनुचित ढंग से आगे बढ़ने का प्रयास कर रहे हैं। यहाँ तक कि उन्होंने उनसे अपने साथ रात के भोजन के लिये कहीं बाहर चलने को कहा है। वह सुरेश कुमार के विरुद्ध कार्रवाई की मांग करते हुए लिखित शिकायत दर्ज कराना चाहती हैं, आप क्या करेंगे तथा क्यों?

Case Study-

You have been working in a company for one year. Your subordinate Suresh Kumar is a very efficient and hardworking person. He takes responsibility and gets the work done. However, you have heard that Suresh Kumar makes negative comments about women. A woman named Monika works under your subordinate Suresh Kumar. Monika comes to you one day. Her tone seems to be upset, she says that Suresh Kumar is constantly trying to make inappropriate advances towards her. He has even asked her to go out for dinner with him. She wants to file a written complaint demanding action against Suresh Kumar, what will you do and why?

As an employee of the company and senior to Suresh

my first step would be to listen to the matter carefully and collect the evidence from both

the sides. I will listen to both the sides - from

Suresh and Monika. If the evidences and

statements seem like there is a issue of

true incidence then I will ~~not~~ inform ~~the~~

Monika to ~~complain~~ in the internal complaint

committee of company - which is especially made

for women related issues. ~~Then this will be~~

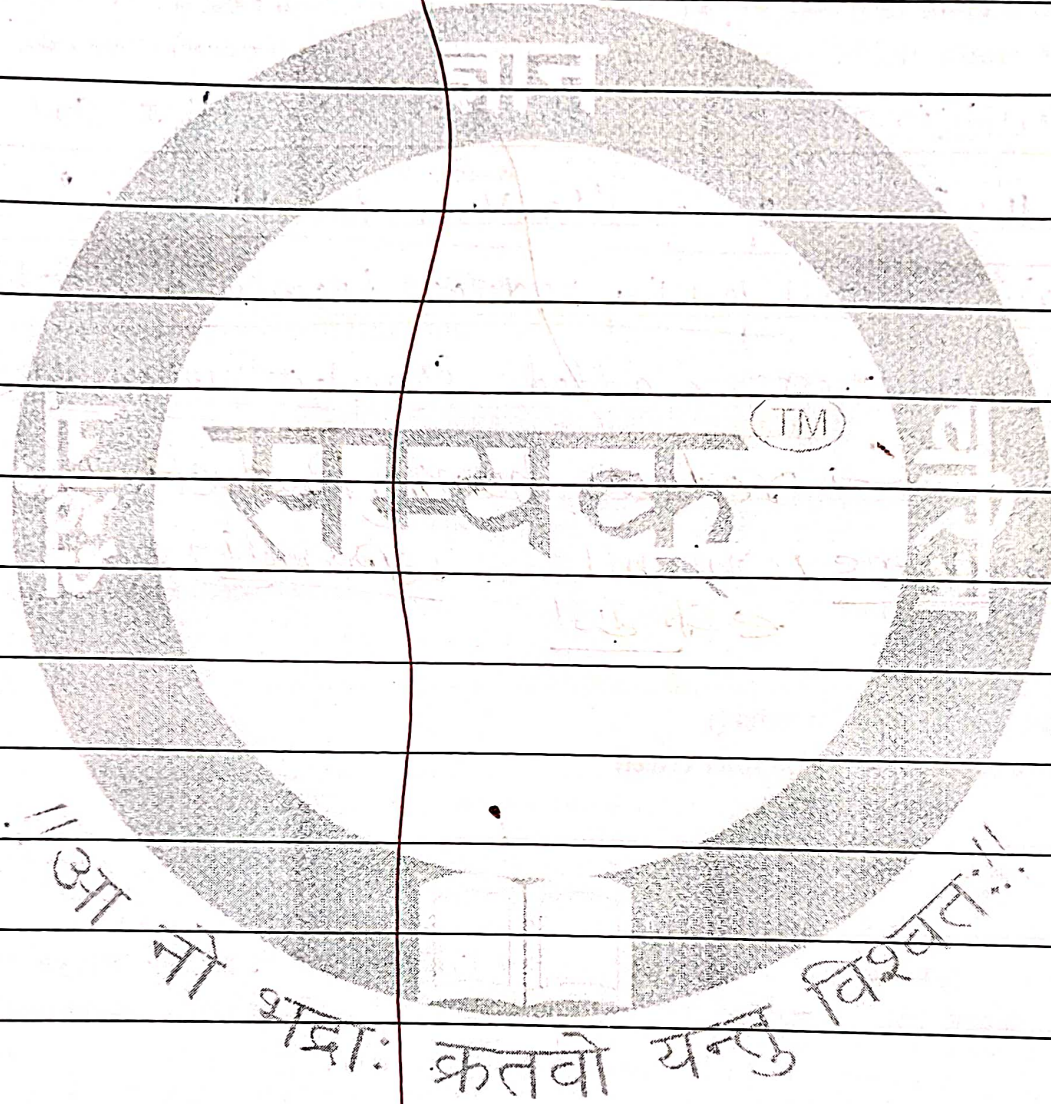
~~the~~ further ~~an~~ issue will be handled by

committee. I will ~~be~~ give further assistance as required

for the purpose.

Possibilities

- (i) accepting the complain of monitor
- (ii) giving chances both to be heard
- (iii) taking action as per guidelines



(Write above this line only)

Unit - II
(यूनिट - II)

(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. प्रतिनिषेचक औषधि किसे कहते हैं? किन्हीं चार प्रतिनिषेचक रसायनों के नाम लिखिए।
What is called antifertilizer drug? Write the names of any four antifertilizer chemicals.

Anti-fertilizer drug are those chemicals that are to reduce the impact of fertilizers. Due to excessive use of fertilizers, the soil fertility reduces because of leaching. Hence anti-fertilizers are added. Example - Gypsum, Alkaline solutions.

↳ reduces human productivity
(Write above this line only)
↳ Protezome ionomil reproduction
↳ estradiol


2. डॉप्लर प्रभाव के दो अनुप्रयोग लिखिए।
Write two applications of Doppler effect.

!! आगे से शक्ति: कलवो यन्तु विश्वतः !!

(Write above this line only)

3. डी-ऑक्सी राइबोन्यूक्लिओटाइड अणु के घटक अणुओं के नाम लिखिए।
Write the names of the constituent molecules of deoxyribonucleotide molecule.

Deoxyribonucleic acid is a molecule that has double helical structure. It has peptide bonds, ribose sugar, Nucleic acids etc. The bonds are - Adenine, Guanine, Thiamin, cytosine, Nitrogenous bases, Phosphoric Acid.



(Write above this line only)

4. औद्योगिक इंटरनेट की अवधारणा को स्पष्ट कीजिए।
Explain the concept of Industrial Internet.

Industrial internet :- the concept emphasizes on use of internet in industries so that production and data analysis related to production and supply can be done easily through internet. (helps in achieving industrial goals)

(Write above this line only)

5. मानव तंत्रिका तंत्र को प्रभावित करने वाले किन्हीं चार रासायनिक हथियारों के नाम लिखिए।
Write the names of any four chemical weapons that affect the human nervous system.

Chemical weapons those affect the human nervous system are - Sarin, Soren, Hydrogen cyanide (HCN) and (FCN). These are those chemical weapons in which harmful chemicals are used to attack a vast population so that loss of life can be ensured.

(Write above this line only)

Part - B

भाग - ब

(25 Marks)

(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. काइमेरिक एंटीजन रिसेप्टर T-सेल थेरेपी (CART Therapy) पर संक्षिप्त टिप्पणी लिखिए।
Write a short note on Chimeric Antigen Receptor T-Cell Therapy (CART Therapy).

Antigen are the external pathogens which when attack the body / organ then T cells (lymphatic cells) are activated in body which stimulates the plasma cells and related antibodies are made in the body. In CART therapy this T-cell are provided with receptors that tackle the pathogen (Antigen) - then these are immunized by antibodies produced in body. T cell + CAR

Chimeric Antigen receptor Cell Therapy

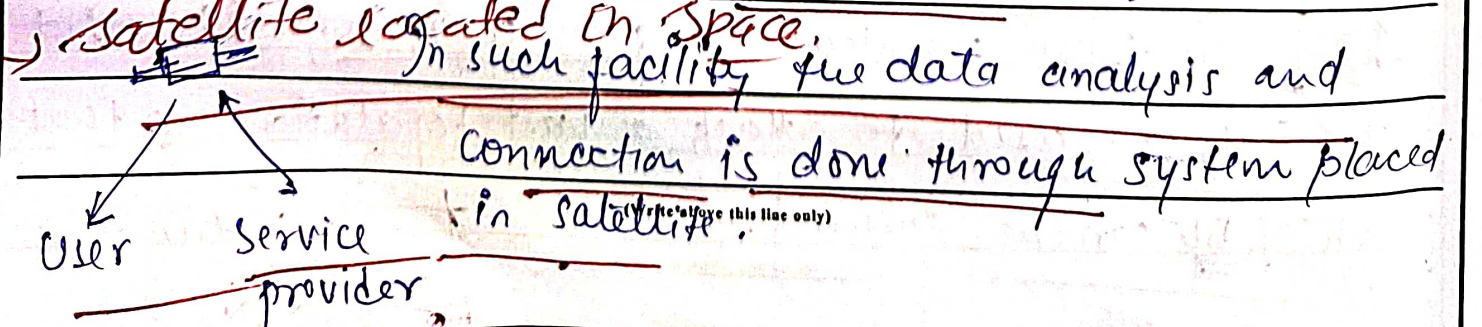
(Write above this line only)

2. उपग्रह आधारित इंटरनेट क्या होता है? उपग्रह आधारित इंटरनेट के लाभों के उल्लेखित कीजिए।
What is satellite based internet? Mention the advantages of satellite based internet.

Satellite Based internet is the one in which communication is established through satellite. It has 3 Bases -

User base - satellite and service provider base. Satellite are placed in geosynchronous orbits of earth which are at

35786 km above. Internet facility through waves propagation is supplied to the user base on the land.



(Write above this line only)

3. आयुष सेवा/पद्धति में सम्मिलित चिकित्सा पद्धतियों के नाम लिखिए तथा पारम्परिक चिकित्सा पद्धतियों के समक्ष उत्पन्न चुनौतियाँ बताइये।

Write the names of the medical systems included in AYUSH service/system and tell the challenges faced by traditional medical systems.

Q. 3] AYUSH service includes - Ayurveda, Yoga, Unani, Homeopathy

Siddha and Yoga - These are traditional, medical services different from current diagnosis services. These

facing challenges like - lack of evolvement, technical knowhow

↳ lack of proper knowledge and expertise due to no educational courses.

Competition from modern Health system steady diagnosis required rest and strict compliances.

lack of infrastructure and competition with fast present medical services - Allopathy.

(Write above this line only)

4. विद्युत प्रतिरोध को परिभाषित करते हुए प्रतिरोध को प्रभावित करने वाले कारकों पर टिप्पणी लिखिए।
Define electrical resistance and write a note on the factors affecting resistance.

Q. 4] Electrical Resistance is the quality of substance which impedes the flow of electrons in any conductor. Conductors

have low resistance whereas insulators have high resistance.

↳ It is opposite to conductivity of a substance.

$$R = \frac{\rho l}{A}$$

↳ influence factors affecting resistance

are ρ = resistivity of the material

$R \neq \rho$ Unit = Ω (material quality of being conductor/insulator)

l = length of wire (passage) Ω hm

A = cross sectional area of the wire.

Nature of conductor (Write above this line only)

5. परिरक्षक क्या होते हैं? परिरक्षकों के आवश्यक गुणों को लिखते हुए किन्हीं चार परिरक्षकों के नाम लिखिए।
What are preservatives? Write the names of any four preservatives while describing the essential properties of preservatives.

Preservatives - substances those are used for long lasting maintenance of quality and taste of food products.

properties of preservatives. → Added in small quantity on food

They are also mainly food/eatable. lack of decomposable property in temperature variations. Survive in high/low temperature, Unaffected by micro-organisms. (not affecting the quality of food items)

Can be Natural or synthetic. (Example) - Vinegar, Salt, Sugar, Sorbic acid, Sorbates, Benzoates etc.

(Write above this line only)

6. पादप कोशिका व जन्तु कोशिका में मूलभूत अन्तर लिखिए।
Write the basic differences between plant cells and animal cells.

<u>Plant cells</u>	<u>Animal cells.</u>
• They have cell wall as outer layer thick cell wall	• have outer layer as cell membrane thinner than wall. (absent)
• Nucleus at side, not normally at centre	• Generally nucleus at centre.
• They have plastids but lack centrosome and lysosomes.	• No plastids but centrosome and lysosomes are present.
• Big vacuoles and large sized cells.	• Small vacuoles and small sized cells.
• Have chlorophyll.	• lack of chlorophyll, but have

Plastid is present

(Write above this line only)

Genetic material. Plastid is absent

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. निम्न बिन्दुओं पर प्रकाश डालिए/टिप्पणी लिखिए/Throw light on the following points/Comment.

1. हाइड्रोजन आबंधन/Hydrogen bonding

2. अम्ल-क्षारक के सन्दर्भ में ब्रन्स्टेद-लोरी की संकल्पना/Brunsted-Lowry concept in context of acid-base

3. भँवर धाराएँ व इनके अनुप्रयोग/Eddy currents and their applications

① Hydrogen bond - A weak bond made by hydrogen by giving its one electron to ~~any other atom~~ ^{other electronegative atom (F, O, N)}.

H-H, H₂O. Weakest among covalent, ionic and ~~hydrogen bonds~~.
 ↳ Intermolecular H bond
 ↳ Intramolecular H bond

② Brunsted-Lowry concept of Acid Base - According to

them Acids are those substances which have the property of ~~accepting electrons~~ ^{donating}. Whereas bases are those which have property of giving/donating electrons to other atoms and ~~substance molecules~~ ^{molecules}.

③ Eddy currents :- In lower part of water source the eddy currents are formed due to differential speed of two lamina of water - these are circular currents formed due to this turbulence.

Uses → changing of magnetiz field
 ↳ In electromagnetic brakes
 ↳ In speedometer

(Write above this line only)

2. निम्न बिन्दुओं पर टिप्पणी लिखिए/प्रकाश डालिए/Write a note/throw light on the following points.

1. लाइकेन/Lichen

2. पाचन तंत्र के विभिन्न भाग/अंगों में अवशोषित होने वाले भोज्य/खाद्य घटक/Food components absorbed in different parts/organs of the digestive system

①. Lichen → Symbiotic relation with fungi → Algae with Fungus — a type of plant not having chlorophyll — colourless — no green colour

↳ Indicators of Pollution → as these do not grow up in Polluted areas

②. The digestive system of Human Body contains an Elementary Canal consists — Buccal cavity starts from mouth — where saliva — has amylase enzyme which reduces complex food to simpler food. Carbohydrate is reduced to Glycogen (Glucose). Food (simpler form) reaches stomach — where HCl is secreted by stomach — protein is digested and amino acids; Fats in fatty acids and complex sugar in simple sugar (Glucose, sucrose). In Liver Bile juice and pancreatic juice by Gall bladder — further digest the carbohydrate, fats and oils, proteins etc.

Small Intestine → The end products of digestion

(Write above this line only)

3. निम्न पर टिप्पणी लिखिए/Write a note on the following.
1. राजस्थान सरकार की बौद्धिक सम्पदा नीति के लक्ष्य/Goals of the intellectual property policy of the Rajasthan government
 2. आदित्य L-1 पर लगे पेलोडस के नाम व आदित्य L-1 के प्रेक्षण के उद्देश्य/Names of payloads on Aditya L-1 and objectives of Aditya L-1 launch.
 3. भारत में रोबोटिक्स के विकास के समक्ष आने वाली चुनौतियाँ/Challenges faced in the development of robotics in India

①. Goals of Intellectual property policy of Rajasthan :-

① Improve the patent and safeguard the rights of innovator

② Raise level of innovation and provide technical-financial support to them. Partnership b/w industry & education

③ Single-window registration easier and simpler process.

④ International cooperation - strengthening patent ecosystem of the state. - more advanced technology.

②. Aditya L-1 mission - first Indian mission of sun

Aditya L-1 will be placed in solar orbit in Lagrange point 1 where impact of gravity of any body will be zero.

Objectives: - to study coronal atmosphere. Coronal ejections and flares are to be studied. more research on solar flares.

Payloads: Steady mass ejection - Atmosphere of coronal sun and - study the impacts of such.

③ Challenges in Development of Robotics.

Apprehension of loss of human jobs.

Technological knowhow and lack of skilled resources.

(Ethical issues) related to security and privacy,

lack of incubation, startup finances, infrastructure

Balance between robotic development and (Demographic increase) in population (19)

(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।

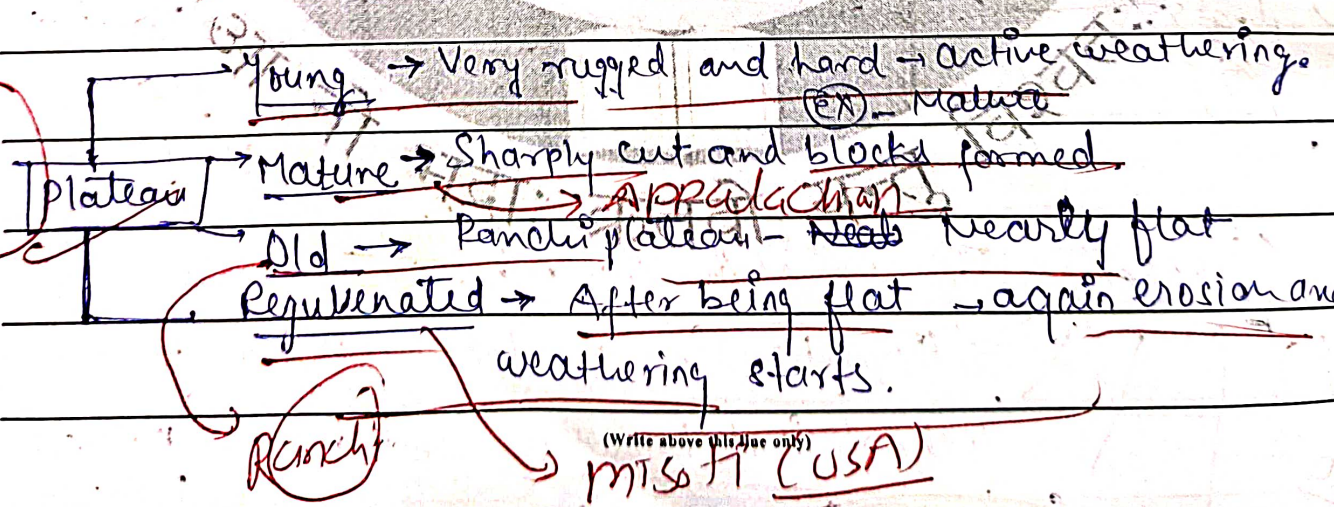
1. कोपेन के जलवायु वर्गीकरण के अनुसार 'लघु ग्रीष्म तथा ठण्डी शीत ऋतु जलवायु' वाले प्रदेशों/राज्यों के नाम लिखिए।
According to Koppen's climate classification, write the names of regions/states with 'short summer and cold winter climate'.

According to Koppen [Dfc] → the region in North-Eastern

India - Assam, Meghalaya, Arunachal Pradesh, Manipur, Nagaland come under Dfc → Cool Humid with short summer.

Some eastern part of Himalayas
Sikkim, Arunachal, Assam -
(Write above this line only)

2. विकास की प्रक्रिया/अवस्था के आधार पर पठारों का सोदाहरण वर्गीकरण कीजिए।
Classify plateaus on the basis of process/stage of development with examples.



3. भारत की पश्चिमी तटीय सीमा पर स्थित तटों का क्रमागत सविस्तर नाम लिखिए।
Write the names of the coasts situated on the western coastal border of India in sequence.

West coastal plains → ① plain of Kutch -

② plain of Kathiawar - ^{Near} Saurashtra

③ Gujarat plains - Gujrat South below Kambhat.

④ Konkan plain - Maharashtra Goa

⑤ Kannada plain - Karnataka

⑥ Malabar plain - Kerala

(Write above this line only)

4. जनगणना वर्ष 2011 के अनुसार राज्य के न्यूनतम साक्षरता वाले चार जिलों के (साक्षरता प्रतिशत) नाम लिखिए।
According to Census 2011, write the names of four districts of the state with minimum literacy (literacy percentage).

According to census 2011, minimum literacy in

① Jhunjhunu, Barmer, Sirohi, Jaisalmer

Rajasthan literacy = 66.1%

② Jalore - 54.9%

③ Pratapgarh → 56%

④ Sirohi → 55.3%

⑤ Banswara → 56.3%

(Write above this line only)

5. राजस्थान के अग्रणी/शीर्ष मक्का उत्पादक जिलों के नाम लिखिए।
Write the names of leading/top maize producing districts of Rajasthan.

① Major Maize producing districts of Rajasthan are -

→ Udaipur, Chittorgarh, Bhilwara, Rayasamand

→ Mali kanchan and Mali Dhawal are varieties that are grown here

(Write above this line only)

Part - B

(30 Marks)

भाग - ब

(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. राजस्थान की प्रमुख जल-विद्युत परियोजनाओं पर संक्षिप्त टिप्पणी लिखिए।

Write a short note on the major hydroelectric projects of Rajasthan.

8% of electricity by Hydroelectric

Major Hydroelectric projects :- ① Pong dam - on Beas river

Hydroelectric project - Beneficial to Rajasthan (15% part of Rajasthan) ② Rana Pratap sagar dam - Chittorgarh

③ Mahi-Bayal sagar Dam - Hydroelectric project on Mahi river - Dungarpur.

Raj - MP

④ Chambal Project (Gandhi Sagar, Rana Pratap Sagar, Kota Dam

⑤ Bhakra Nangal Dam ⑥ Vis Sagar

⑦ Mahi Project

(Write above this line only)

⑧ Indra Gandhi Canal Project

2. भारत में घीया पत्थर के उत्पादन में राजस्थान का स्थान चिह्नित करते हुए राज्य के प्रमुख घीया पत्थर उत्पादक क्षेत्रों के नाम लिखिए।

Identifying the position of Rajasthan in the production of Ghiya stone in India, write the names of the major Ghiya stone producing areas of the state.

Ghiya pattrar - Soapstone is majorly produced in the districts of Banswara, Durgapur, Chittorgarh, Rajsamand, Pratapgarh and Udaipur. Majorly Southern part of Rajasthan.

In India -> Soapstone producing states are Rajasthan, Madhya Pradesh, Gujarat and Maharashtra, etc.

② Alwar -> Nagalakeri Rajsamand -> Udaipur

Amer -> Hatundi, Sendra

Udaipur -> Salumber, Chadol, Nathara Ki Patal

3. वैश्विक पर्यावरण सुविधा पर चर्चा करते हुए इसके द्वारा वित्तीय सहायता प्राप्त अंतर्राष्ट्रीय अभिसमयों के नाम लिखिए।
While discussing the Global Environment Facility, write the names of the international conventions that receive financial assistance from it.

Global environment facility is a facility to fund environment project of world under UN. It is to strengthen the conservation of Biodiversity, Pollution free land global move with help of UNEP, UNESCO, IUCN - private, Government and other players to fund the Environmental related projects. Conventions receive financial assistance are - UNFCCC, UNCBD, UNCCD and Convention on Climate change by UNEP, along with sustainable development goals related projects. *Minamata & Stockholm Convention*

→ A fund was established before Rio summit 1992

(Write above this line only)

4. विश्व के प्रमुख शीतोष्ण कटिबंधीय घास के मैदानों पर संक्षिप्त टिप्पणी लिखिए।
Write a short note on the major temperate grasslands of the world.

Temperate grasslands of world → ① North America - prairies - Maize belt of world. Extends from Mackinzie river mouth to Mexico. *Chinook* Wheat cultivation, Animal husbandry and Agriculture (specially maize) is done. *used for wood*

② South America :- *Pampas* and Pampas are temperate grasslands → *Brazil* Argentina, Bolivia and Brazilian land. *Aspen*

③ Europe :- Steppes extends from Czech republic, Bulgaria, Ukraine, Slovenia upto Russia - Major food grain production - presence of chernozem soil - fertile. *used for wood*

④ Asia. Alpine grassland over 3000 mt *(Write above this line only)* Himalaya and >2000 mt height at western ghats ⑤ Africa - Velds in south Africa ⑥ Australia Downs in Eastern Australia.

Murray - Owing over Basra
Wheat cultivation (North Island)

5. "भारत की भौगोलिक अवस्थिति भारत के लिए लाभदायक है।" सतर्क बताइये।
The geographical location of India is beneficial for India. Explain.

3 Geographical position of India is beneficial in following sense-

- ⊕ Half part in Tropical - half in sub tropical - cause diversity of relief and geographical features - ^{Both the crops in both seasons} Economical, political and social benefits of diverse culture
- ⊕ Surrounded by Indian Ocean on 3 sides - Sea route for trade, presence of Indian Navy - Strategic benefit, Marine resources reach, Trade with nearly all continents through sea route bypassing land routes, Island tourism and Biodiversity benefits.
- ⊕ land-sea thermal difference - cause of monsoon winds carry moisture from ocean - main reason of summer monsoonal season.

Himalayas → Protects India from Siberian cold winds
Bay of Bengal → South western monsoon winds

ॐ नमो भद्राः कर्तव्यं यन्तु विश्वतः!!

(Write above this line only)

(Unit - III) (यूनिट - III)

(30 Marks)

Part - C (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. राजस्थान की जलवायु को प्रभावित करने वाले कारकों को उल्लेखित करते हुए राजस्थान की जलवायु के लिए थॉर्नवेट द्वारा प्रतिपादित वर्गीकरण लिखिए।

Write the classification proposed by Thornthwaite for the climate of Rajasthan, mentioning the factors affecting the climate of Rajasthan.

Thornwaite has classified the climate of Rajasthan as per Temperature, Rainfall, vegetation, Humidity and Relief. As per him 4 climatic regions in Rajasthan ~~EA'd, DB'w, DA'w, CA'w~~

EA'd, DB'w, DA'w, CA'w



① EA'd → Tropical Dry / arid climate - rainfall less than 25 cm. ~~hot dry mode~~ Xerophytes like Cactus, Acacia, Nagfani, Shrub are found. Representative district is Jaisalmer.

② DB'w - Semi-arid Region → Ganganagar, Hanumangarh, Bikaner, Churu → Representative distt. Bikaner. Rainfall 35-50 cm. Canal irrigation. prevalence of sand dunes.

③ DA'w ~~20-40 cm~~ Humid climate rainfall 50-80 cm. ~~tropical~~ ~~thorny bushes / semi arid~~ Neem, khejri, Acacia, Rohida, Sal, Dhok etc are found. Basin of Luni, Banas, plateau of Nagaur, Shekhawati (Torawati) and North-eastern plain come in it.

④ CA'w humid climate with rainfall > 80 cm. Represented by Dungarpur. ~~savanna vegetation~~

factors affecting climate of Rajasthan → ① presence of Desert in west of Aravali ② Aravali ~~is~~ parallel to S-W monsoon winds. and have low height.

③ Subtropical extent of Rajasthan (Write above this line only) ⑤ Distance from sea (25) Topography, monsoon winds etc

2. निम्न बिन्दुओं पर टिप्पणी लिखिए/प्रकाश डालिए/Write a note/ throw light on the following points.
1. भारत में धरातलीय जल संसाधन की स्थिति व उपयोग/Status and use of surface water resources in India
 2. भारत में लौह अयस्क खनन की पेटियाँ/Belts of iron ore mining in India

①. Surface water Resources in India are :- (A) Surface drainage

Surface drainage can be divided into - Arabian sea falling Rivers (18%)
Bay of Bengal falling (77%)
Inland drainage (5%)

Total obtained water \Rightarrow 1869 cubic km

②. Lakes - fresh water lakes like Wular lake, Dam on

Bisalpur (Banas river), Govind. vallabh pant reservoir, Gandhi sagar

Himalaya river \Rightarrow 60%

Bhakra-Nangal Dam Reservoir etc.

South India river 24%

central water harvesting \Rightarrow 16%

③. In desert areas traditional

reservoirs like Talis, ponds etc.

(Uses) of surface water \rightarrow ① Drinking purpose

\rightarrow Agricultural work \Rightarrow 89%

\rightarrow Domestic work \Rightarrow 9%

\rightarrow Industrial purpose (uses) 2%

② Irrigation purpose for arid and semiarid
(EX) - Indira Gandhi canal in Rajasthan
N. W area
Chamal river water etc. - printing,

②. Siron Belts found in India

production % \rightarrow ① Odisha, ② Chhatisgarh, ③ Karnataka

(1) Odisha - Jharkhand Belt - Keonjhar, Sundergarh, Mayurbhanj

Hemadite Maximum production from hills Odisha (51%)

Durg - Bastar - Chandrapur Belt - Chhattisgarh and MP,

Maharashtra \rightarrow Chitradurga, Bastar plateau, Chandrapur
Baitadita hills, Kammgundi etc.

(3) Bellary - Chikmagalur - Kudremukh, Bababudani
hills, Hospet, Bellary etc. Considered largest deposit

(4) Maharashtra - Goa - Ratnagiri - Goa - lowest iron quality

extracted from manganese

3. हिन्द महासागर क्षेत्र का भारत के लिए महत्व उल्लेखित करते हुए वर्तमान में इस क्षेत्र में भारत के समक्ष उत्पन्न चुनौतियाँ बताइये।
Mentioning the importance of the Indian Ocean region for India, tell the challenges currently faced by India in this region.

Significance of Indian Ocean Region:- Indian peninsula is surrounded by Arabian sea on west and Bay of Bengal in the East

that are parts of Indian ocean. Significance for India - (1) Economic Trades from ports on western & eastern coasts from India. Mineral, petroleum resources - off shore (Bombay high, Alia-Bet etc.)

• fish and marine resources etc. (2) Political - Strategic -

Major sea route for international trade and strategic presence.

importance: (3) Military Various military exercises in ^{to tackle China}

Naval Bases of Indian Ocean - Indo-pacific strategic group

like QUAD, Indian Ocean rim association, (4) Tourism -

Lakshadweep and Andaman Nicobar islands add the tourism

sector a new variety of places. Corals and Coral-marine

ecosystem raise significance of Indian Ocean. (5) Alternate

Connectivity from other continents. (Ex) ASEAN, Africa, Europe.

Challenges - (1) Chinese presence - Risk to ^{India} strategic

and security related problems. With land issues, ocean

presence raises concerns. (2) Island issues - Conflict over

various islands Ex. Katchatheevu (Sri Lanka - India) (3) fisherman

issue -> arrest of fishermen of India by Sri Lanka (4) violation of

UNCLOS frequently (5) Illegal marine resources exploitation

Intrusion by terrorists through sea routes etc.

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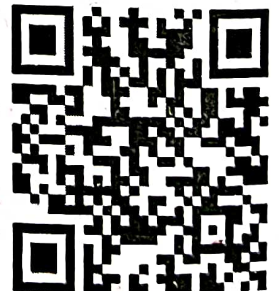
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