

# Samyak

An Institute For Civil Services

## RAS - 23 MAINS TEST SERIES

सिद्धि - 07/A6

Time : 3 Hours

Maximum Marks : 200

सामान्य विज्ञान एवं प्रौद्योगिकी  
General Science and Technology

### Paper - II (Unit-II)

Name :		MARKS	
Enroll. No.:	Part	Attempted Questions	Marks Obtained
Date of Birth :	Part - A	19	25½
Medium : English	Part - B	14	26½
E-mail :	Part - C	7	25½
Exam Date : 03/12/23	Total	40	77½
Inviligator's Signature : Rohit			
ECN: _____	RCN: _____	Hindi: 9½	English: 9

### अनुदेश (Instructions)

- परीक्षा शुरू होने से पहले पुस्तिका को जाँच लें।  
Please check the booklet before commencement of the exam.
- दिये गये रिक्त स्थान में निर्देशित शब्द सीमा में उत्तर दें।  
Write the answers according to the prescribed word limit, in the space given.
- अंक योजना प्रत्येक खंड के प्रारम्भ में दी गई है।  
The marking scheme is given at the start of every section.
- परीक्षा के पश्चात् उत्तर पुस्तिका हॉल अधीक्षक को सौंप दें।  
Return the answer booklet to the hall superintendent after completing the paper.

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	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 :-

1. ⊖ Need to be precise knowledge for better marks
2. →
3. → need to work on presentation & writing skill
4. try & it can be improved by using mind-maps
5. and flow charts.
6. ↳ maintain the relevancy of answer with
7. demand of question.
8. & improve ~~top~~ intro & ~~close~~ conclude part.
- 9.
10. ⊕ Good at final question
11. Keep learning & writing.

Note : Answer the following questions in 15 words. Each question carries 2 marks.

नोट : निम्न प्रश्नों के उत्तर 15 शब्दों में दीजिए। प्रत्येक प्रश्न 2 अंक का है।

1. द्रव्य की गुप्त ऊष्मा की परिभाषा दीजिए।

Define latent heat of matter.

When a liquid is being heated on its boiling point, then additional amount of heat is required to transform the liquid into vapour is called latent heat.

(Write above this line only)

2. ऑगमेंटेड रियलिटी (संवर्द्धित वास्तविकता) और आभासी वास्तविकता (वर्चुअल रियलिटी) में मूलभूत अंतर समझाइए।

Explain the fundamental difference between Augmented Reality and Virtual Reality.

Augmented Reality is computer created environment which augment the natural environment & it require a phoneset. While virtual reality is total a virtual environment in which VR Headsets is required. It is not real.

(Write above this line only)

3. किन्हीं दो पादप हॉर्मोन के नाम और उनके कार्य बताइए।

Name any two plant hormones and their functions.

(i) Auxin → It is growth promoted hormone

which helps in strengthening of branches, helps in phototropism and accelerate growth of plant.

(ii) Gibberellin Hormone → It is plant hormone which stimulates growth in plants.

(Write above this line only)

4. 'नैनो-उर्वरक'  
Nano-fertilizer

It is a fertilizer in which nutrients are organized at nano scale. These fertilizers are superior in efficiency

and efficacy vis a vis the traditional fertilizers.

EX. Nano Urea → IFFCO

(Write above this line only)

5. खाद्य पदार्थों के परिरक्षण में प्रतिऑक्सीकारक की क्या भूमिका है?  
What is the role of antioxidants in preservation of foods?

Antioxidants → <sup>Ex - oil</sup> These are chemical substances which inhibits the growth of microorganisms like bacteria, thereby

slowing the ~~rate~~ degradation process & increased shelf lives of food. It has important role in food processing, a minute quantity is enough for a large quantity of food.

(Write above this line only)

6. 'झड़बेरी' का वैज्ञानिक नाम क्या है और इसका क्या औषधि उपयोग है?  
What is the scientific name of 'Wild jujube' (Jhahrberi) and what is its medicinal use?

(Write above this line only)

7. पदार्थ की 'कोलॉइडी अवस्था'  
'Colloidal state' of matter

size of particle

pure  
& impure

It is a state in which particles of a matter  
remains in constant moving state owing to the  
kinetic energy. EX. Smog = Fog + smoke.

(Write above this line only)

8. ग्रेफाइट के किन्हीं चार उपयोगों को लिखिए।  
Write any four uses of Graphite.

(i) as a lubricant

dry lubricant

(ii) as a semiconductor materials.

electrodes

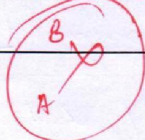
(iii) Pencil Making

(iv) Laboratory and Research usage

(Write above this line only)

9. 'द्रव्यमान संख्या' की अवधारणा  
Concept of 'Mass number'

Mass Number → It is the addition of number of  
proton and number of neutrons in a given nucleus  
of an atom. For an allotope, the same atom has  
different range of mass numbers because of different  
neutrons.



mass = p + n

(Write above this line only)

10. आर्गेनोफास्फेट्स क्या हैं? किन्हीं दो आर्गेनोफोस्फेट्स के नाम लिखिए।  
What are organophosphates? Write the names of any two organophosphates.

(Write above this line only)

11. मानव नेत्र का 'प्रेसबायोपिया' दोष क्या है?  
What is 'Presbyopia' defect of human eye?

Presbyopia → When one of the six muscles which hold eye in its orbit gets damaged, this problem does occur.

Difficult to focus due to weakening of ciliary muscle

lense ♀

(Write above this line only)

12. 'विद्युत विभव'  
'Electric potential'

Electric potential → ~~the~~ The electricity required to bring an unit charge ( $e$ ) from infinite to a particular location, is called electric potential of that particular location.

voltage

(Write above this line only)

13. टॉप-डाउन नैनो-तकनीक की व्याख्या कीजिए।  
Explain top-down nano-technology.

It is comparatively easy methods of producing nano materials in which larger molecules are break down to achieve smaller nano scale size molecules. It is less energy consuming and less expensive.

(Write above this line only)

14. 'वन वेब इंडिया-2 मिशन'  
'One Web India-2 Mission'

(Write above this line only)

15. पेलोड 'SHAPE'  
Payload 'SHAPE'

name : use ?  
1 2 payload SHAPE → It was the payload on Chandrayan-3 Mission.

(Write above this line only)

16. 'आदित्य L-1 मिशन'  
'Aditya L-1 Mission'

by PSLV-C-57

1  
2  
4  
It is a mission, in which a solar observatory (satellite) is being placed at Lagrange point L1 with an aim to analyze corona & Chromosphere and study coronal mass Ejection & solar flares. It is ISRO's Mission.

(Write above this line only)

17. R-CAT क्या है? इसकी स्थापना का उद्देश्य स्पष्ट कीजिए।  
What is R-CAT? Explain the purpose of its establishment.

2  
R-CAT → Rajasthan Centre of Advance Technology  
→ It is a centre which would be a centre of excellence for advance technologies viz. AI, IOT, Blockchain Technology etc. It is located at Jaipur.

(Write above this line only)

18. 'बिग डेटा' की अवधारणा  
Concept of 'Big Data'

2  
Big Data → It refers to large sized data which is difficult to store, analyze & process by the traditional softwares/operating system in Real time Manner. It is characterized by 6Vs → Volume, Variety, Velocity, Volume, Variegatedness and

(Write above this line only)



19. 'OLED डिस्प्ले'

'OLED Display'

6/4

organic

Diode

OLED → optical Light Emitting Display → It is  
Advance display technique which is used in Computer,  
T.V etc.

add  
more  
points

(Write above this line only)

20. 'बाह्य परासरण' और 'अंतः परासरण' का अंतर उदाहरण से समझाइए।

Explain the difference between 'Exosmosis' and 'Endosmosis' with an example.

(Write above this line only)

21. जैव-उर्वरक के रूप में उपयोगी किन्हीं दो सूक्ष्मजीवों का नाम लिखिए।

Name any two microorganisms useful as bio-fertilizers.

(Write above this line only)

22. डॉ. जगदीश चंद्र बसु के द्वारा कौन-कौनसे आविष्कार किए गए?  
Which inventions were made by Dr. Jagdish Chandra Basu?

- (i) <sup>+ Microwave</sup> Radio Communication → 1st demonstration
- (ii) Crescograph → Measure height of plants  
tissue

(Write above this line only)

23. हार्डी-रामानुजन नंबर  
Hardy-Ramanujan number

(Write above this line only)

24. राजस्थान में विज्ञान पार्क किन-किन शहरों में बनाए गए हैं?  
In which cities have science parks been built in Rajasthan?

- 5
- Koti, Jodhpur, Udaipur
- Jhalrapatan
- Revision Notes

(Write above this line only)

25. राजीव गाँधी नॉलेज सर्विस एंड इनोवेशन हब  
Rajiv Gandhi Knowledge Service and Innovation Hub

*in*  
Jaipur  
Jodhpur  
Kota

It is an institution which would focus in meeting  
the demands of banking, insurance & financial  
market by training Manpower through 4 of its  
institutions.

(Write above this line only)

Note : Answer the following questions in 50 words. Each question carries 5 marks.

नोट : निम्न प्रश्नों के उत्तर 50 शब्दों में दीजिए। प्रत्येक प्रश्न 5 अंक का है।

1. स्टेम सेल तकनीक क्या है? इस तकनीक की क्षमताओं पर प्रकाश डालिए।

*umbilical cord*  
*regenerative*  
*self-renewal*

What is stem cell technology? Throw light on the capabilities of this technology.

Stem cell technique → Stem cells are undifferentiated  
human cells having capability of transforming itselfs into the cells  
of other organs. In this technique, stem cells are experimented  
for developing the cells of other organs or whole organ.

Capabilities → (i) New medicines can be tried on  
the organs made using this technique. (ii) Understanding  
of human physiological processes can be scaled up.

(iii) Injured organs can be transplanted with new one.

(iv) treated to disease  
in immune system.

(Write above this line only)

2. पराश्रव्य/पराध्वनि तरंगों के कोई पाँच अनुप्रयोग बताइए।

Mention any five applications of ultrasonic waves.

Ultrasonic Waves <sup>Sound</sup> → Waves having frequency greater than 20,000 Hz.

①

Applications (i) Communication takes place in bats.

(ii) Submarine's Technology. → Sonar

(iii)

(Write above this line only)

3. राजीव गाँधी फिनटेक डिजिटल इंस्टीट्यूट  
Rajiv Gandhi Fintech Digital Institute

→ emerging tech like AI, ML, Robotics  
→ future need for banking

It will cater to the Manpower requirements of Banking, Financial and Insurance Sectors by trained

manpower. It is headquartered at Jaipur. Under it,

4 institutions are envisaged. The Institute will

devise a common training module based on the

② requirement and the skill sets of youth of state,

and it will provide training in timebound

manner by providing diverse courses.

(Write above this line only)

4. ABO रूधिर वर्ग के लिए उत्तरदायी जीन प्रारूप को बताते हुए इस रूधिर वर्ग का महत्व समझाओ।  
 Explain the importance of ABO blood group by describing the gene pattern responsible for this blood group.

ABO Blood group → It is rarest of rare blood group, in which antigen A, B, and O are present but no antibody is found in it. So blood transfusion can only take place when the same blood group <sup>person</sup> gives blood to the person.

Do not write incorrect

(Write above this line only)

5. चुंबकीय क्षेत्र रेखाएँ क्या होती हैं? इनके प्रमुख गुणों की व्याख्या कीजिए।  
 What are magnetic field lines? Explain their main properties.

Magnetic Field lines → ~~It is~~ These are the lines of force which is experienced by other magnetic materials, when it come under its ambit.

Main properties (i) Direction outside magnet is north to south and inside magnet is south to north.

(ii) These are closed loop lines. (iii) Some materials which have magnetic properties are affected by these lines. Their magnetic field of atoms is aligned in the direction of the magnetic field line.

never intersect

6. पर्यावरणीय समस्याओं के प्रबंधन में 'कार्बन डॉट्स' की भूमिका पर प्रकाश डालिए।  
Highlight the role of 'Carbon Dots' in the management of environmental problems.

Carbon Dots → When allotrope of Carbon i.e. Graphene is narrowed down to nanoscale into a singular dot, it is called Carbon dots. At nano scale, this material exhibit some peculiar phenomenon (optical, Mechanical etc.)

• pollution sensor

• Receptor

• Water treatment

(Write above this line only)

7. 'जैव ईंधन पर राष्ट्रीय नीति- 2018'  
'National Policy on Biofuels- 2018'

(i) It defines biofuels under 3 categories: (1) Traditional biofuels eg. Biodiesel (2) Advanced Biofuels → Ethanol, Solid waste Material (3) 3G Fuels being basic bio fuel

(ii) Second generation fuels (2G) are stressed for greater

production and suitable incentives are provided for investment

in Infrastructure. (iii) In excess of food stock production, farmers

can sell it for ethanol production and get remuneration.

(iv) National Biofuels Coordination Committee is established

(v) Waste food viz. ~~rotten~~ wheat, tomato are allowed for 2G biofuels production.

8. केन्द्रक की संरचना का वर्णन करते हुए इसके कार्यों को लिखिए।

Cytoplasm

Describe the structure of the nucleus graphically and write its functions.

Nucleus → It is Main part of cell which is equal to the brain in humans. It is double membrane cell organelle which is critical to cell functioning. It has chromosomes which encodes genetic materials (it passes generation to generation). DNA is the hereditary material, prominently lies in the nucleus. It establishes coordination among different cell organelles viz Mitochondria (cell's power house), Lysosomes, E.R. etc. → controlled cell division  
DNA Replication → process of cell  
(Write above this line only)

9. AI क्षेत्र में भारत को ग्लोबल लीडर बनाने का मेगा प्लान 'इंडिया AI' क्या है? स्पष्ट कीजिए।  
What is 'India AI', the mega plan to make India a global leader in the AI? Explain.

India AI

(Write above this line only)

10. 'लूना-25' और 'चन्द्रयान-3' मिशन का अंतर स्पष्ट कीजिए।

Highlight the difference between Luna-25 and 'Chandrayaan-3' mission.

LUNA - 25	Chandrayaan - 3
→ Russian space Agency by <del>NASA (USA)</del>	→ ISRO (India)
→ <del>Manned Mission</del> Not a Manned Mission	→ Not a Manned Mission
→ Landing of Space Shuttle <del>and also working over moon surface</del> on south pole	→ Landing of Rover and landed and demonstrating simple technology. Soft landing on south pole of moon
→ Quite Advanced faster <del>no rover</del>	→ Less advance lander + rover
→ Unsuccessful	→ Successful

(Write above this line only)

11. S-400 ट्रायम्फ़ मिसाइल सिस्टम क्या है? भारत के लिए इसकी खरीद का महत्व स्पष्ट कीजिए।  
What is S-400 Triumph Missile System? Explain the importance of its purchase for India.

S-400 Triumph Missile System → It is surface to Air anti missile system which can neutralise multiple onslaughts simultaneously over a range of 400 km. This has been purchased by India from Russia. Significance → (i) It is advance system which can outperform other's similar system (ii) Strengthen India's security from aerial attacks (iii) power of India is increased (iv) provide protection on N-W and N-E fronts which have un hospitable terrain.

*Balance of power in asia as determinant*

(Write above this line only)



12. OTT प्लेटफॉर्म के भारत में मजबूत विकास के क्या कारण रहे हैं? वर्णन कीजिए।

What have been the reasons for the strong growth of the OTT platform in India? Describe.

*cheap internet, huge population, covid push, easily available*

Reasons (i) OTT platforms broadcast their contents through Internet, without cable operator/satellite based systems. Wide net availability has made its adoption easier. (ii) No regulation by a central authority makes content developers free from worries of censorship. (iii) Large customer base is possible by placing contents of diverse domain before them. (iv) Non-portability of traditional means of entertainment is also a deterrent.

(v) Most of the content over these platforms seems realistic. (Write above this line only)

13. सुब्रह्मण्यम चंद्रशेखर और सी.वी. रमन के वैज्ञानिक योगदान को स्पष्ट करें।

Explain the scientific contributions of Subramaniam Chandrasekhar and C.V. Raman.

Subramaniam Chandrasekhar → He conceptualised the Chandrasekhar limit which tells us about future of a star whether it is going to become Neutron star or Supernova.

It is significant discovery in astrophysics for which he was awarded Nobel prize in 1983. *physicist*

C.V. RAMAN → He discovered the scattering phenomenon of light when it enters <sup>from</sup> one medium to another medium. It is called Raman effect which has wide spread applications. He was awarded Nobel prize for this in 1930.

(Write above this line only)

14. 'राष्ट्रीय डिजिटल साक्षरता मिशन' पर एक लेख लिखिए।  
Write an article on 'National Digital Literacy Mission'.

National Digital Literacy Mission → (i) aims to make 2  
digital literate in a family (one woman) (ii) Network  
Connectivity to be strengthened. (iii) Digital Financial  
literacy is being envisaged. (iv) Teradensity is to be  
Scaled up. (v)

①

→ 14-60 years digital literacy  
→ IT training  
→ Digital Security

(Write above this line only)

15. राजस्थान सरकार की 'घर-घर औषधि-योजना' पर एक लेख लिखिए।  
Write an article on 'Ghar Ghar Aushadhi Yojana' of Rajasthan Government.

Ghar-Ghar Aushadhi Yojana → <sup>Plants sapplings of</sup> Mustard, Ashwagandha, Neem,

Kalmefh giloy are being provided to every family in  
the state. (2 each). All the provided plants have  
medicinal properties. The scheme aims to raise  
awareness about these plants while highlighting their  
benefits in boosting our immunity.

②  
1/2

→ Immunity plant  
→ 3 times in 5 years

(Write above this line only)

*3 Strange of alignme*

16. पादपों में 'स्वपरागण' और 'पर-परागण' का अंतर बिंदुवार समझाइए।

Explain point wise the difference between 'self-pollination' and 'cross-pollination' in plants.

Self pollination → When a flower itself pollinates

① Without involvement of male progenitor, it is called self pollination. Ex. Mustard plant

Cross-pollination → When a plant / flower pollinates with its opposite counterpart to produce an offspring, it is called cross-pollination.

Use Table Format

(Write above this line only)

Note : Answer the following questions in 100 words. Each question carries 10 marks.

नोट : निम्न प्रश्नों के उत्तर 100 शब्दों में दीजिए। प्रत्येक प्रश्न 10 अंक का है।

1. सूचना-प्रौद्योगिकी के क्षेत्र में राजस्थान में हाल के वर्षों में हुई प्रगति और सरकार की नवीन पहलों का वर्णन कीजिए।

Describe the progress made in recent years in Rajasthan in the field of information technology and the new initiatives of the government.

Rajasthan has taken significant leap w.r.t. IT. From e-governance (DBT, e-Mitra +; Swamitva, Rajkaj etc) to initiatives embedding IT advancement in pvt sector, following can be touted as progress (i) E-governance → Rajkaj Online Direct benefit transfer of social sector schemes, Roll out of Jan Aadhar as Identification & ration card.

(ii) Startup incubation (iii) Digifast → promoting awareness in IT sector (iv) Transparency increased by initiatives Jan-Soochna Portal. (v) SSO Id - Multiple government schemes on single platform (vi) Data centre - Jhalana

New-Initiatives (i) CM-Digital Mobile phone scheme (ii) Inception of R-CAT, Rajiv Gandhi Knowledge Service & Innovation hub. (iii)

new initiatives  
lib

connected

↓  
fintech inst  
R

2. निम्नलिखित पर टिप्पणी कीजिए:-

- 6
- A. क्वांटम कंप्यूटिंग    B. क्लाउड कंप्यूटिंग    C. वर्चुअल प्राइवेट नेटवर्क    D. VoLTE  
A. Quantum Computing    B. Cloud Computing    C. Virtual Private Network    D. VoLTE

Quantum Computing → It is <sup>advanced</sup> branch of Computer Science

in which information is being stored, analyzed and processing by using the Method of Quantum Physics (using qubits).

Under it, Superposition and Quantum entanglement are shown.

Cloud Computing → It is a technique in which information is being processed, stored through a <sup>central</sup> mechanism. Resources i.e. operating systems, softwares etc. are being shared. In it one need not possess ~~the~~ these resources as he can avail through it.

Virtual Private N/W → It is type of network in which a node is connected to a server in an encrypted manner.

Under it, one can avail network services by hiding its ID address. It is of 3 types (i) Server to server VPN (ii) Site to site VPN (iii) Client server VPN.

VoLTE → Voice over Long term evolution is an Upgradation over LTE. It is type of communication technique in which streaming of LTE are worked upon.

One can communicate through a voice call while its data services are on. It is used in 4G &

5G.

3. रेडियो-सक्रिय किरणों कौन-कौन सी हैं? इन कणों/किरणों का तुलनात्मक अंतर स्पष्ट कीजिए।  
What are the radio-active rays? Explain the comparative difference between these particles/rays.

Radio-Active Rays - There are 3 such type of rays.

(i) Alpha-rays → These are positively charged rays which have charge equivalent to  ${}^2\text{He}^{+2}$ . These are heavy and less penetrating. These are less harmful. He<sup>+</sup> ion ← speed ↓

(ii) β-rays → These are negatively charged, ~~equivalent~~ equal to an electron ( $e^-$ ). It has more penetrating power and more harmful. speed ↑

3½ (iii) γ-rays → These are neutral rays which have no charge. However, these have high penetration power compare to other two.

All these 3 rays are emitted on Nuclear fission with large amount of energy. Under Nuclear fission, a radio active material is bombarded with neutron which in result emits these rays. This is called Radio active radiation which is very harmful for life.

4. चुंबकीय अनुनाद प्रतिबिंबन क्या है? इसके प्रमुख गुणों की चर्चा करते हुए इसकी कमियों को भी दर्शाइए।  
 What is magnetic resonance imaging? While discussing its main qualities, also show its shortcomings.

MRI → It is medical application of nuclear resonance imaging, in which some particles when placed in magnetic field and being impacted by radio waves, emit radio frequency waves of distinct frequency. By using MRI, imaging of <sup>human</sup> body is done which is helpful in diagnosis of various diseases, malfunctioning. In MRI, some particles would align themselves in direction of magnetic field, it is called  $\alpha$ -spin stage (stable) but these particles take  $180^\circ$  turn when radio waves are impacted on these, it is called  $\beta$ -spin stage (unstable). Particles try to come back their earlier stage by emitting energy in form of RF of distinct frequency.

<u>Main Qualities</u>	<u>Shortcomings</u>
→ Different rates of radio waves give details about physiological processes of our body.	→ Expensive
→ Deep imaging can be done	→ People/patients with metallic implant get difficulty in the process
→ Unlike others, radio waves are not too harmful.	→ Harder tissues like bones, teeth are not mapped.
→ <u>Imaging</u>	

(Write above this line only)

→ not useful for pregnant women

5. टिप्पणी कीजिए:-

- A. धातुओं के निष्कर्मण की 'निस्तापन' और 'भर्जन' विधि में अंतर  
(Difference between 'Calcination' and 'Roasting' method of refining metals)
- B. दैनिक जीवन में pH मान का महत्त्व (Importance of pH value in daily life)
- C. विद्युत धारा के प्रकार (Types of Electric Current)
- D. उपार्जित प्रतिरक्षा (Acquired Immunity)

(B) Importance of pH → In human body, the blood has specific value of pH (7.4). In our daily life, we consume foods of different pH values.

Soil Health

(C) Types of Electricity → It is of two type (i) Direct Current (ii) Indirect current. Direct current is represented through discrete values as its value is constant while indirect current is represented through sine wave i.e. changing.

(D) Acquired Immunity → The immunity which is not natural/innate and it is acquired in the development cycle of life. White blood cells i.e. T-Lymphocyte & B-Lymphocyte are two which is mainly responsible for this immunity.

Active passive



6. स्वदेशी रूप से विकसित मोबाइल ऑपरेटिंग सिस्टम Bharat OS क्या है? Bharat OS के महत्त्व पर प्रकाश डालिए।

What is Bharat OS, an indigenously developed mobile operating system? Highlight the importance of Bharat OS.

~~10~~ 0

Bharat OS → It is India's 1<sup>st</sup> indigenously developed  
operating system. *Answer.*

Revise  
Notes

7. जनरेटिव AI को परिभाषित करते हुए इसके लाभों और संभावित चुनौतियों का वर्णन करें।  
Define generative AI and describe its benefits and potential challenges.

Generative AI → The algorithms which create audio, video, text, simulations on its own, is called generative AI. This is achieved by Machine Learning and Artificial neural networks by traversing large amount of data. EX. Open AI's ChatGPT & Google's BARD. *Data augmentation*

Benefits → (i) Big data analytics becomes easier. (ii) It performs complex task, cognitive tasks more efficiently. (iii) It outperforms human intelligence. (iv) AI becomes more closed to human intelligence. (v) IT companies, various govt. would find it a very helpful tool. *content creation*

Potential Challenges (i) Big tech giants have monopolies over these. These can encroach upon nation's sovereignty. (ii) Data localisation issues. (iii) employment loss. (iv) Developing & least developing countries would find themselves not comfortable in regulating these. (v) It can spread misinformation. (v) Unethical to replace humans. *Deep fake*  
*privacy issue*

(A) Change the following sentences from Active form to Passive form: (Q. No. 1-7)

Marks 7

1. The old beggar stole my dog yesterday.

~~My dog was stolen by the old beggar the previous day.~~

2. They promised us higher wages at the factory.

~~We were promised higher wages at the factory.~~

3. They took down the notice.

~~The notice was taken down by them.~~

4. People felt that the social workers were doing valuable work.

~~It was felt that valuable work was being done by the social workers.~~

5. The architect decided to have his assistant to design the building.

~~It was decided by the architect to have his assistant to design the building.~~

6. Don't let your failure depress you.

7. Do they make bulbs in this factory?

~~Are bulbs made by them in this factory?~~

(B) Change the following direct sentences into indirect sentences: : (Q. No. 8-14)

Marks 7

8. He said, "I have already read this book."

~~He said that he had already read that book.~~

9. The employer said to the workers, "I cannot pay you higher wages."

~~The employer told the workers that he could not pay them higher wages.~~

10. "When shall I know the result of the test?" asked the candidate.

~~The candidate asked when he would know the result of the test.~~

11. "Let the nations forget their differences and work together for peace," said the preacher.

The ~~preacher~~ preacher said that the nations ~~should~~ <sup>might</sup> forget their differences and work together for peace.

12. "Has your book been published?" I asked the writer.

① I asked the writer whether his book had been published.

13. You must work hard if you want to complete your course in time," said the teacher.

~~The teacher~~ The teacher suggested that I must work hard if I want to complete my course in time.

14. He said, "I know that hard work is not suitable for me. So I should think out a plan for my future days of laziness."

He said that he knew that hard work was not suitable for me. So he should think out a plan for my future days of laziness.

(C) Identify the error and rewrite the correct form of the following sentences: (Q. No. 15-20) Marks 6

15. The crowd was waiting for the Chief Minister on the airport.

The crowd was waiting for the Chief Minister in the airport.

16. The crowd pressed over the fence.

The crowd pressed on the fence.

17. The house could not be finished of lack of funds.

② The house could not be finished due to lack of funds.

18. She was deprived from her appointment.

She was deprived of her appointment.

19. The child is very clever for mimicking others.

The child is very clever in mimicking others.

20. The thief was bound by a chain.

The thief was bound with a chain.

check the proper female k use of standard words

1. जिला कलेक्टर, सर्वाईमाधोपुर की ओर से मुख्य चिकित्सा एवं स्वास्थ्य अधिकारी सर्वाईमाधोपुर को जिले की कोविड-19 टीकाकरण अभियान की प्रगति रिपोर्ट भिजवाने हेतु अनुस्मारक लिखिए।

राजस्थान सरकार  
कार्यालय जिला कलेक्टर, सर्वाईमाधोपुर

अनुस्मारक

~~मुख्य चिकित्सा एवं स्वास्थ्य अधिकारी~~  
प.र(18)/जि.क./सा.181

दिनांक 03.12.2023

मुख्य चिकित्सा एवं स्वास्थ्य अधिकारी  
सर्वाईमाधोपुर।

विषय :- कोविड-19 टीकाकरण अभियान की प्रगति रिपोर्ट कापन।  
संदर्भ :- इस कार्यालय का पत्रांक 181 दिनांक 10.11.2023।

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उपर्युक्त संदर्भित पत्र के क्रम में लेख है कि जिले की वर्तमान में राज्य सरकार द्वारा चलाये जा रहे कोविड-19 टीकाकरण अभियान के संदर्भ में प्रगति रिपोर्ट आदिनांक अपेक्षित है। अतः लेख है कि उपर्युक्त रिपोर्ट की दिनांक 10.12.2023 तक इस कार्यालय को भिजवाने का क्रम करें।

4लॉक

(क रव ग)  
क ग र

प्रतिनिधि: सूचना एवं आवश्यक कार्यवाही हेतु जिला कलेक्टर

1. प्रमुख शासन सचिव, ~~सर्वाईमाधोपुर~~ चिकित्सा एवं स्वास्थ्य विभाग।
2. कार्यालय प्रति।

(क रव ग)

क रव ग

जिला कलेक्टर

2. दिए हुए अंग्रेजी अनुच्छेद का हिन्दी में अनुवाद कीजिए।

We want that the whole should know that we are the worshippers of peace and that we have our own history and that we believe in the co-existence of the people of the world. In fact, the organisation of the competitions or the Olympic games is only a means. We do regard these games as only a festival of the youth of the world where they may develop the qualities of friendship, brotherhood and mutual good will by mingling with one another and playing together in a healthy competitive spirit.

In ancient time when the olympic games or the youth festivals were held then debates on philosophical topics were organised. The learned used to exchange knowledge, the poets used to describe history in poetry and artist and musicians used to develop new art and let them understand the civilization for the preservation of which the world peace is essential.

हम चाहते हैं कि समस्त संसार जाने कि हम शांति के पुजारी हैं और हमारा स्वयं का इतिहास है तथा हम संसार के लोगों के सहअस्तित्व में विश्वास करते हैं। वास्तव में ओलम्पिक खेलों का अथवा प्रतिस्पर्धीओं का आयोजन तो केवल एक साधन है। हम इन खेलों को विश्व के युवाओं का एक उत्सव मात्र मानते हैं, जहां वे मित्रता, बंधुत्व तथा पारस्परिक भ्रते के गुणों का विकास, आपस में घुल मिलकर तथा स्वस्थ प्रतिस्पर्धित्मिक भावना में एक साथ खेलकर करते हैं।

प्राचीन समय में जब ओलम्पिक खेलों या युवा उत्सवों का आयोजन होता था, तब आध्यात्मिक विषयों पर गोष्ठियों का आयोजन होता था। विद्वान ज्ञान का आदान-प्रदान किया करते थे, कवि इतिहास का बरतान कविताओं के माध्यम से किया करते थे और कलाकार एवं संगीतकार नई कला विकसित किया करते थे और संरक्षण की मह्यता को उन्हे समझने दे जितने लिए शांति अनिवार्य है।