



इन्दौर कौटिल्य एकेडमी

आपकी सफलता का प्रवेश द्वार



AN ISO 9001 : 2015 CERTIFIED INSTITUTE

प्रतियोगी परीक्षाओं के लिए सर्वश्रेष्ठ संस्थान

सामान्य अध्ययन / GENERAL STUDIES

निर्धारित समय: _____
Time Allowed : _____

अधिकतम अंक _____
Maximum Marks _____

नाम. Name : Anupriya Shrivastava
मोबाईल नं. Mobile No : 8982321570
ई-मेल पता. E-mail Address : anupriyashrivastava46@gmail
रोल नं. Roll No : online दिनांक (Date) 06/09/2021

परीक्षा का माध्यम
(Medium of Exam) English
विद्यार्थी के हस्ताक्षर
(Student's Signature) Ash

प्रश्न – पत्र के लिये विशिष्ट अनुदेश

कृपया प्रश्नों का उत्तर देने से पूर्व निम्नलिखित प्रत्येक अनुदेश को ध्यानपूर्वक पढ़ें :

- इसमें 3 प्रश्न हैं तथा सभी प्रश्न अनिवार्य हैं।
- प्रत्येक प्रश्न/भाग के अंक उसके सामने दिए गए हैं।
- प्रश्नों के उत्तर उसी माध्यम में लिखे जाने चाहिए जिसका उल्लेख आपके प्रवेश-पत्र में किया गया है, और इस माध्यम का स्पष्ट उल्लेख प्रश्न-सह-उत्तर (क्यू.सी.ए.) पुस्तिका के मुख पृष्ठ पर अंकित निर्दिष्ट स्थान पर किया जाना चाहिए। उल्लिखित माध्यम के अतिरिक्त अन्य किसी माध्यम में लिखे गए उत्तर पर कोई अंक नहीं मिलेंगे।
- प्रश्नों में शब्द सामा, जहाँ विनिर्दिष्ट है, का अनुसरण किया जाना चाहिए।
- उत्तर पुस्तिका में खाली छोड़ा हुआ पृष्ठ या उसके अंश को स्पष्ट रूप से काटा जाना चाहिए।

Question Paper Specific Instructions

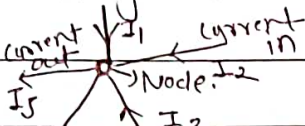
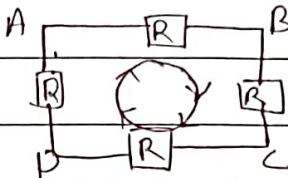
Please read each of the following instructions carefully before attempting questions :

- There are 3 question and all the questions are compulsory.
- The Number of marks carried by a question/part is indicated against it.
- Answer must be written in the medium authorized in the admission certificate which must be started clearly on the cover of this Question-cum-Answer (QCA) booklet in the space provide.
No marks will be given for answer written in a medium other than the authorized one.
- Word limit in questions, wherever specified, should be adhered to.
- Any page or portion of the page left blank in the answer book must be clearly struck off.

कुल प्राप्त अंक (Total Marks Obtained) _____ टिप्पणी (Remarks) _____

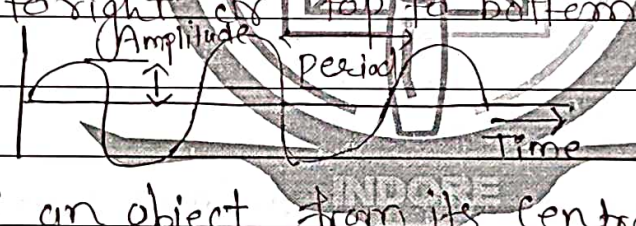
प्रश्न संख्या

मुख्य परीक्षा उत्तर पुस्तिका
(Mains Answer Sheet)

1 A	The two laws are commonly known as Kirchoff's voltage and current law.
	 
	$I_1 + I_2 + I_3 + (-I_4 + -I_5) = 0$ <p>Kirchoff's current law</p>
	$V_{AB} + V_{BC} + V_{CD} + V_{DA} = 0$ <p>Kirchoff's voltage law</p>
1 B	<p>AYUSH → Ayurveda, yoga, Unani, Naturopathy, Siddha, Homeopathy comes under Ministry of AYUSH formed in 2014 to treat health with traditional manner.</p>
1 C	<p>Geosynchronous satellite launch vehicle (GSLV) is a space launch vehicle designed and developed by ISRO to launch satellite in Geosynchronous Transfer of orbit.</p>
1 D	<p>TRIMS - Trade Related Investment Measures, which apply on WTO members may not accept in which they not discriminates against foreign products.</p>
1 E	<p>Cloning is a technique scientists used to make exact genetic copies of living things. Genes, cells, tissues and even whole animal can be cloned.</p>

प्रश्न संख्या

मुख्य परीक्षा उत्तर पुस्तिका
(Mains Answer Sheet)

1	F	Vikram Sarabhai was an Indian physicist and industrialists who is founding father of the Indian space programme who helped in establishing Indian Space Research Organisation
□	□	
1	G	Tata institute of fundamental Research is situated in Mumbai which work under department of Atomic energy, govt. of India.
□	□	
1	H	The properties which are directly or indirectly related to their electronic configuration and which show a regular variation when we move from left to right or top to bottom is called periodicity
□	□	
1	I	 <p>The maximum displacement that is of an object from its central position is known as Amplitude.</p>
□	□	
□	□	
1	J	Marasmus is a form of severe malnutrition usually occurs in children.
□	□	
1	K	Osmosis is the movement of water across a semipermeable membrane from an area of high water concentration to an area of lower water concentration.
□	□	

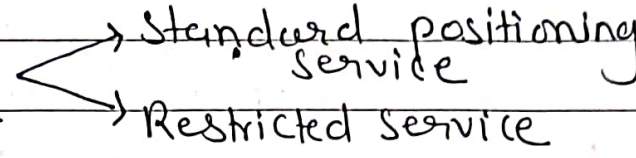
प्रश्न
संख्या

मुख्य परीक्षा उत्तर पुस्तिका
(Mains Answer Sheet)

1	L	COBOL - Common business oriented Language is a computer programming language designed for use in commerce.
<input type="checkbox"/>	<input type="checkbox"/>	
1	M	Bookmark is a holder for a page that will allow you quick access to that page instead of having to browse, hit or search for it.
<input type="checkbox"/>	<input type="checkbox"/>	
1	N	RRCAT - Raja Ramanna Centre for advanced Technology situated in Indore, one of the unit of Department of Atomic Energy of Government of India.
<input type="checkbox"/>	<input type="checkbox"/>	
1	O	NRSC - National Remote Sensing Centre located in Hyderabad founded by Vikram Sarabhai one of the 5 centres of Indian Space Research Organisation.
<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	
2	A	The maritime safety committee of International maritime organisation has recognised the Indian Regional Navigation Satellite System (IRNSS) as a component of the world wide Radio Navigation, which is developed by ISRO
<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	

प्रश्न
संख्या

मुख्य परीक्षा उत्तर पुस्तिका
(Mains Answer Sheet)

□ □	→ IRNSS was named as NavIC (Navigation with Indian constellation)
□ □	NAVIC provide two type of service <div style="display: inline-block; vertical-align: middle; margin-left: 20px;">  </div>
□ □	→ GPS includes 24 satellite but NavIC has 8 satellite and their range is within India and 1500 km from the country's border
□ □	→ NavIC is able to pinpoint location to an estimated accuracy of under 20 metres
□ □	→ It can now replace GPS in the Indian ocean waters upto 1500 km from the Indian boundary
□ □	→ India became the 4 th country to have its independent regional navigation satellite after USA, Russia, China
□ □	→ Now all merchant vessels are authorised to use it, even small fishing vessels
□ □	→ It is being considered as a significant achievement towards the ' <u>Atmanirbhar Bharat</u> ' initiative
□ □	
□ □	

प्रश्न संख्या

मुख्य परीक्षा उत्तर पुस्तिका
(Mains Answer Sheet)

2	C	Nuclear power is our gateway to a prosperous future - A.P.J. Abdul Kalam
		Nuclear energy comes from splitting atoms in a reactor to heat water into steam
		turn a turbine and generate electricity
		→ Emission from Nuclear power generation is zero
		It has no greenhouse gases or air pollution
		→ It requires 300 times less land than a similar capacity wind farm and 75 times less land than solar plant
		→ It supports national security
		<u>Potential Hazard</u>
		→ Fukushima disaster in Japan is an example of how disastrous it could be.
		→ Disastrous for entire world if the technology got transferred to wrong hands like North-Korea
		→ Lack of sustainable nuclear policy and finance network
		→ Risk of nuclear in sufficiency, lead to development of nuclear bomb.

प्रश्न
संख्या

मुख्य परीक्षा उत्तर पुस्तिका
(Mains Answer Sheet)

2	D	<p>RLV-TD (Reusable Launch Technology Demonstrator) developed by ISRO. It is winged body aerospace vehicle that operated in hypersonic flight regime. It is capable of launching satellite into orbit around earth and then re-enters the atmosphere.</p> <p>→ Reusability of RLV will eliminate the cost to create a new launch vehicle everytime.</p> <p>→ Due to cost effectiveness and reduced operation cost, India will attract more foreign business to launch their satellite.</p> <p>→ As it can be reused again, it decreases the growing space debris. That's why RLV is seen as preferred clean space technology at the international level.</p> <p>→ India can use RLV to launch the satellite of smaller neighbours with cheap cost. Thus India would get a geo-strategic advantage with RLV.</p> <p>But it cost higher when it getting back to earth safely, it require more propellant and hardware. Due to low cost these will be frequent launches which exhaust and harm to the atmosphere.</p>
<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	
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प्रश्न संख्या

मुख्य परीक्षा उत्तर पुस्तिका
(Mains Answer Sheet)

२ F	<p>Quantum Computing is the area of study focused on creating computer technology based on the principles of quantum theory which describes the nature and behaviour of matters on the quantum level.</p>
□ □	
□ □	
□ □	
□ □	
□ □	
□ □	<p>As the processing in these computers is done very deeply so it needs a temperature of negative 460 degrees F. This is the lowest temperature of the universe and it is very difficult to maintain that temperature and its consistent electron is damaged as soon as it is affected by its environment and that electron is very much essential for the functioning of quantum computers.</p>
□ □	
□ □	
□ □	
□ □	
□ □	

प्रश्न संख्या

मुख्य परीक्षा उत्तर पुस्तिका
(Mains Answer Sheet)

2	61	Environmental degradation can be defined as the deterioration of the environmental system due to human intervention.		
		Cause	Effects	Solution
		• Overpopulation	• Acid rain	• Stop deforestation
		• Deforestation	• Biodiversity loss	• High fines for illegal dumping
		• Landfills	• Flood	• Strict government regulations
		• Consumption behaviour	• Pesticides	• Nature reserve and biotopes
		• Lack of education	• Soil erosion	• Reduce consumption level
		• Waste production	• Endangerment of species	• Reduce waste production
		• Illegal dumping	• Natural disasters	• Education
		• Agricultural pollution	• Global warming	• Refrain from plastic packaging and disposable cups.
		• Mining	• Public health problem	
		• Plastic pollution	• Famine	
		• Resource depletion	• Diseases	
			• Spread of diseases	
			• Loss in tourism	
			• Economic effects	

प्रश्न संख्या

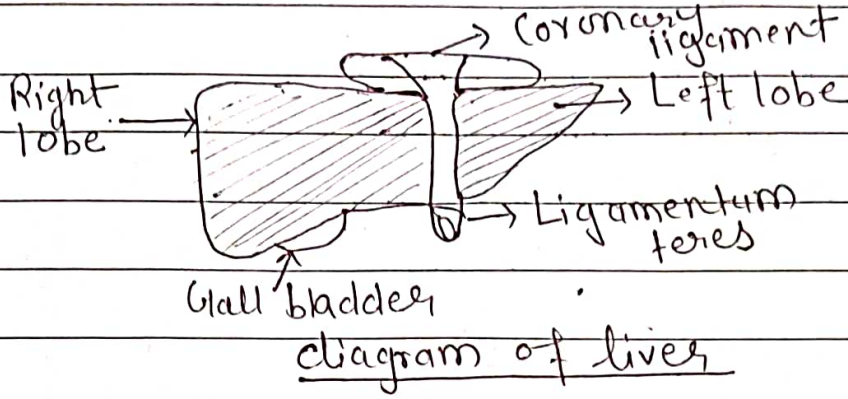
मुख्य परीक्षा उत्तर पुस्तिका
(Mains Answer Sheet)

2	H	<p>Sustainable development goals agenda was accepted by all members of the United Nations in 2012 at the <u>Rio De Janeiro Council meet</u> with the aim to promote 'a healthy and development future of the people and planet.</p>
<input type="checkbox"/>	<input type="checkbox"/>	<p>with the aim to promote 'a healthy and development future of the people and planet.</p>
<input type="checkbox"/>	<input type="checkbox"/>	<p>• 3 core element of SDG are</p> <div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> <p>↙</p> <p>↘</p> </div> <div> <p>Economic growth</p> <p>Social inclusion</p> <p>Environmental protection</p> </div> </div>
<input type="checkbox"/>	<input type="checkbox"/>	<p>• Global issue related to SDG</p> <div style="display: flex; align-items: center;"> <div style="margin-right: 10px;"> <p>↙</p> <p>↘</p> </div> <div> <p>Desertification</p> <p>Flood and soil erosion</p> <p>The rise in sea level</p> <p>Deforestation</p> </div> </div>
<input type="checkbox"/>	<input type="checkbox"/>	<p>• Aspects such as environmental conservation investment in renewable energy, saving water, supporting sustainable mobility and innovation in sustainable construction and architecture</p>
<input type="checkbox"/>	<input type="checkbox"/>	<p>Contribute to achieving environmental sustainability on several fronts.</p>
<input type="checkbox"/>	<input type="checkbox"/>	<p>• To make the process of sustainable development feasible and operational, it is important to establish a common focus that can integrate the outlook and efforts of various participants in development, worldwide, realising the diversity in term of geography, society, economic, level of science and technology capabilities and capacities.</p>
<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	

प्रश्न संख्या

मुख्य परीक्षा उत्तर पुस्तिका
(Mains Answer Sheet)

2 I



Liver is the largest gland in human beings, and its main functions are

→ It secretes bile juice which makes the medium of the food alkaline and also emulsifies fat

→ It stores the excess of glucose in the form of glycogen

→ It regulates the volume of blood to some extent

→ It produces fibrinogen and helps in blood clotting

→ It stores vitamin, iron and copper

→ Old worn-out RBCs are broken down in liver cells.

प्रश्न संख्या

मुख्य परीक्षा उत्तर पुस्तिका
(Mains Answer Sheet)

2 J	Metals	Non metals.
<input type="checkbox"/>	• Metals can lose electron easily	• Non-metals cannot lose electron easily
<input type="checkbox"/>	• Metals generally form ionic compounds	• Non-metal generally form covalent compounds
<input type="checkbox"/>	• Metal oxide are basic in nature	• Non-metallic oxide are acidic in nature
<input type="checkbox"/>	• They are good conductor of electricity	• They are bad conductor of electricity
<input type="checkbox"/>	• They are malleable that is they can be beaten into sheets.	• They are not malleable
<input type="checkbox"/>	• They are ductile that is they can be drawn into wires	• They are non-ductile
<input type="checkbox"/>	• They can have high density	• They have low density
<input type="checkbox"/>	• They have high melting and boiling point	• They have low melting and boiling point.
<input type="checkbox"/>	• Metals combine with oxygen and form basic oxides	• Non-metals combine with oxygen and form acidic oxide
<input type="checkbox"/>	eg- Gold, Copper, Silver, Sodium	eg- Nitrogen, Oxygen, Sulfur, Chlorine.

प्रश्न संख्या

मुख्य परीक्षा उत्तर पुस्तिका
(Mains Answer Sheet).

2 L

Cost price of Table = x Rs.

According to question

$$\frac{113x}{100} + 25 = \frac{118x}{100}$$

Selling price at R% profit = $\frac{(100+R)}{100} \times C.P.$

$$\Rightarrow \frac{118x}{100} - \frac{113x}{100} = 25$$

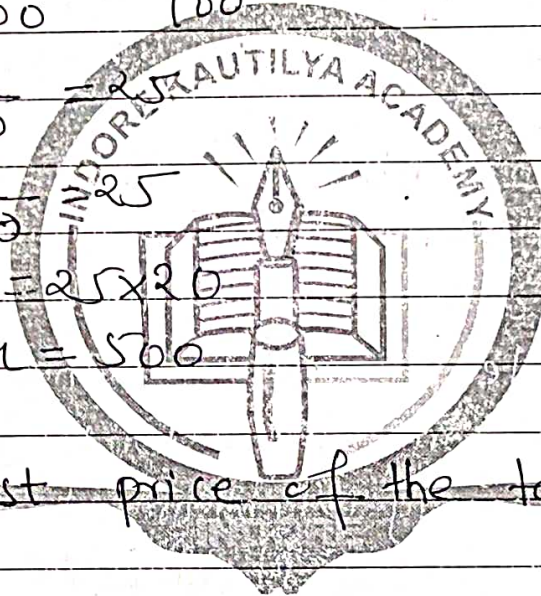
$$\Rightarrow \frac{5x}{100} = 25$$

$$\Rightarrow \frac{x}{20} = 25$$

$$\Rightarrow x = 25 \times 20$$

$$\Rightarrow x = 500$$

The cost price of the table is Rs. 500



प्रश्न
संख्या

मुख्य परीक्षा उत्तर पुस्तिका
(Mains Answer Sheet)

3	A	<p>waste is defined as unwanted and unusable materials and is regarded as a substance which is of no use. waste that we see in our surrounding is also known as <u>Garbage</u>. Garbage is mainly considered as a solid waste that includes wastes from our houses, from school, shop, office, industries and factories.</p>
		<p style="text-align: center;">Sources of waste</p> <div style="display: flex; justify-content: space-around; align-items: center;"> <div style="text-align: center;">↓ Industrial</div> <div style="text-align: center;">↓ Commercial</div> <div style="text-align: center;">↓ Domestic</div> <div style="text-align: center;">↓ Agriculture</div> </div>
		<ul style="list-style-type: none"> • <u>Industrial waste</u> → It created in factories and industries. Most industries dump their wastes in rivers and seas which cause pollution. example - Plastic, glass etc.
		<ul style="list-style-type: none"> • <u>Domestic waste</u> → The different household wastes which are collected during household activities like cooking, cleaning etc. are known as domestic waste. example - leave, peels
		<ul style="list-style-type: none"> • <u>Commercial waste</u> → It produce in schools colleges, shops and offices. eg. - plastic, paper etc.
		<ul style="list-style-type: none"> • <u>Agricultural waste</u> → waste produced in the agricultural field are known as agricultural wastes. example - cattle, weed, etc.

प्रश्न संख्या

मुख्य परीक्षा उत्तर पुस्तिका
(Mains Answer Sheet)

<input type="checkbox"/>	<input type="checkbox"/>	<u>Type of waste.</u>
<input type="checkbox"/>	<input type="checkbox"/>	• <u>Biodegradable waste</u> - These can be degraded through microbial activity. eg. - food residue, human, excreta
<input type="checkbox"/>	<input type="checkbox"/>	• <u>Non-Biodegradable waste</u> - eg. - petroleum, plastic, glasses etc.
<input type="checkbox"/>	<input type="checkbox"/>	• <u>Bio medical</u> - Needle, syringe, body part
<input type="checkbox"/>	<input type="checkbox"/>	• <u>E-waste</u> - Computer parts, batteries CFL bulbs etc.
<input type="checkbox"/>	<input type="checkbox"/>	The 3R principle is a method of waste management that stands for <u>Reduce, Reuse, Recycle</u>
<input type="checkbox"/>	<input type="checkbox"/>	• <u>Reduce</u> - Reducing is the best way about managing solid waste. It is very simple step the less you use, the less waste you produce → Buying products with less packaging and durable goods. By buying something that will last you help to make sure wastes will stay out of landfills for longer → less use of disposable goods. like paper, plates, cups and plastic utensils.
<input type="checkbox"/>	<input type="checkbox"/>	• <u>Reuse</u> - This one is becoming more and more popular with the surge of upcycling

प्रश्न
संख्या

मुख्य परीक्षा उत्तर पुस्तिका
(Mains Answer Sheet)

<input type="checkbox"/> <input type="checkbox"/>	and Craft projects all over the web. If we reuse something it away you keep waste out of land filling and create something new
<input type="checkbox"/> <input type="checkbox"/>	and create something new
<input type="checkbox"/> <input type="checkbox"/>	• <u>Recycle</u> - It is a process of remanufacturing a product to be sold as new. Along with the
<input type="checkbox"/> <input type="checkbox"/>	basic of paper, plastic, glass and cardboard these are some of the items which can be
<input type="checkbox"/> <input type="checkbox"/>	recycled that we may not even realized. Recycling only work if we complete the
<input type="checkbox"/> <input type="checkbox"/>	process by buying recycled material.
<input type="checkbox"/> <input type="checkbox"/>	"The mantra of 3R - Reduce, Reuse and Recycle is #1 at the heart of my vision
<input type="checkbox"/> <input type="checkbox"/>	towards the sustainable development of mankind"
<input type="checkbox"/> <input type="checkbox"/>	(Empty row)
<input type="checkbox"/> <input type="checkbox"/>	(Empty row)
<input checked="" type="checkbox"/> <input checked="" type="checkbox"/>	3 B Maintaining good health and preventing diseases are important factors for a person's
<input type="checkbox"/> <input type="checkbox"/>	quality life. In low and middle income countries alike health concern is serious economic and
<input type="checkbox"/> <input type="checkbox"/>	social challenges. Diseases prevention depends on medical care and supplies, infrastructure etc.

प्रश्न संख्या

मुख्य परीक्षा उत्तर पुस्तिका
(Mains Answer Sheet)

<input type="checkbox"/>	<input type="checkbox"/>	<p>• <u>Communicable disease</u> - It is an infectious diseases which is transmissible by contact with infected individuals or their bodily discharged or fluids (such as respiratory, blood, or semen) by contact with contaminated surface or objects by ingestion of contaminated food or water or by contaminated surface or objects by ingestion of contaminated food or water or by direct or indirect contact with disease vectors by mosquitoes, fleas or mice</p>
<input type="checkbox"/>	<input type="checkbox"/>	<p>• <u>Non-Communicable diseases</u> - It is medical condition or diseases that are not caused by infectious agents. These are chronic diseases of long duration and generally slow progress and are the result of a combination of genetic physiological, environmental and behavioural factor. This is also known as <u>Lifestyle diseases</u></p>
<input type="checkbox"/>	<input type="checkbox"/>	List of Communicable and non-Communicable diseases. List.
<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	

प्रश्न
संख्या

मुख्य परीक्षा उत्तर पुस्तिका
(Mains Answer Sheet)

		<u>Communicable</u>	<u>Non-Communicable</u>
<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> ◦ Cardiovascular 	
<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> ◦ Cholera 	<ul style="list-style-type: none"> ◦ Cardiovascular
<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> ◦ Covid-19 	<ul style="list-style-type: none"> ◦ heart attack
<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> ◦ Plague 	<ul style="list-style-type: none"> ◦ Stroke
<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> ◦ Pneumonia 	<ul style="list-style-type: none"> ◦ Cancer
<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> ◦ Tuberculosis 	<ul style="list-style-type: none"> ◦ chronic respiratory diseases
<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> ◦ Typhoid 	<ul style="list-style-type: none"> ◦ Diabetes
<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> ◦ AIDS 	<ul style="list-style-type: none"> ◦ Bipolar disorder
<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> ◦ Chicken Pox 	<ul style="list-style-type: none"> ◦ Alzheimer diseases
<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> ◦ Chikungunya 	<ul style="list-style-type: none"> ◦ cerebral palsy
<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> ◦ Dengu fever 	<ul style="list-style-type: none"> ◦ Down Syndrome
<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> ◦ Ebola 	<ul style="list-style-type: none"> ◦ Insomnia
<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> ◦ Hepatitis A 	<ul style="list-style-type: none"> ◦ Kidney diseases
<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> ◦ Measles 	<ul style="list-style-type: none"> ◦ Sickle cell (anemia)
<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> ◦ Rabies 	<ul style="list-style-type: none"> ◦ Vision impairment
<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> ◦ Mumps 	<ul style="list-style-type: none"> ◦ Traumatic brain injury
<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> ◦ Malaria 	<ul style="list-style-type: none"> ◦ Stress
<input type="checkbox"/>	<input type="checkbox"/>	<ul style="list-style-type: none"> ◦ Kala Azar 	<ul style="list-style-type: none"> ◦ Sleep disorder
<input type="checkbox"/>	<input type="checkbox"/>		<ul style="list-style-type: none"> ◦ Birth defects
<input type="checkbox"/>	<input type="checkbox"/>		<ul style="list-style-type: none"> ◦ Epilepsy

प्रश्न
संख्या

मुख्य परीक्षा उत्तर पुस्तिका
(Mains Answer Sheet)

<input type="checkbox"/>	<input type="checkbox"/>	Diseases can be avoided.
<input type="checkbox"/>	<input type="checkbox"/>	for Communicable diseases -
<input type="checkbox"/>	<input type="checkbox"/>	• Social distancing
<input type="checkbox"/>	<input type="checkbox"/>	• wear mask whenever needed
<input type="checkbox"/>	<input type="checkbox"/>	• Wash hands frequently
<input type="checkbox"/>	<input type="checkbox"/>	• Avoid sharing one's belonging
<input type="checkbox"/>	<input type="checkbox"/>	for non-communicable diseases -
<input type="checkbox"/>	<input type="checkbox"/>	• Maintain the proper diet
<input type="checkbox"/>	<input type="checkbox"/>	• Exercise
<input type="checkbox"/>	<input type="checkbox"/>	• Take proper sleep and
<input type="checkbox"/>	<input type="checkbox"/>	• Regular body checkup
<input type="checkbox"/>	<input type="checkbox"/>	• Surgically depending on the kind of diseases
<input type="checkbox"/>	<input type="checkbox"/>	To control these diseases in a
<input type="checkbox"/>	<input type="checkbox"/>	more sustainable manner, the health of
<input type="checkbox"/>	<input type="checkbox"/>	inhabitants has to become key factor of
<input type="checkbox"/>	<input type="checkbox"/>	urban development. This involves reforming the
<input type="checkbox"/>	<input type="checkbox"/>	management of diseases, and developing
<input type="checkbox"/>	<input type="checkbox"/>	more equitable urban infrastructure.
<input type="checkbox"/>	<input type="checkbox"/>	Investment are required, new approaches
<input type="checkbox"/>	<input type="checkbox"/>	and new programmes for eg. Smart
<input type="checkbox"/>	<input type="checkbox"/>	cities or sustainable towns maybe a
<input type="checkbox"/>	<input type="checkbox"/>	means of better containing these epidemics.
<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	

प्रश्न संख्या

मुख्य परीक्षा उत्तर पुस्तिका
(Mains Answer Sheet)

3	D	<p>Biotechnology is the field that deals with living organisms to make technological advances in various technological sustainable development of mankind. It has its application in the medical as well as agricultural sectors.</p> <p>The biological process of living organism have been used for more than thousands years ago to make essential products such as bread, cheese, alcohol etc.</p> <p><u>Type of Biotechnology</u></p> <ul style="list-style-type: none"> • <u>Medical Biotechnology</u> - It involve the use of living cells to develop technologies for the improvement of human health. It involves the use of this tools to find more efficient way of maintaining human health. It also helps in the study of DNA to identify the cause of genetic disorder and methods to cure them. <p>vaccines and antibiotics have been developed with the help of medical biotechnology that is essential for human health. Several plants are genetically engineered to produce antibodies with the help of biotechnology.</p>
<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	
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<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	

प्रश्न संख्या

मुख्य परीक्षा उत्तर पुस्तिका
(Mains Answer Sheet)

<input type="checkbox"/>	<input type="checkbox"/>	<p>• <u>Agricultural Biotechnology</u> These fields deals with the development of genetically modified plants by introducing the gene of interest in the plant. This in turn helps in increasing the crop yield.</p>
<input type="checkbox"/>	<input type="checkbox"/>	<p>Various pest-resistant crops such as Bt-cotton and Bt-brinjal are created by transferring the genes from <i>Bacillus thuringiensis</i> into the plants. The animal with desirable characteristics are bred together to obtain the offspring with the desired traits.</p>
<input type="checkbox"/>	<input type="checkbox"/>	<p><u>Applications of Biotechnology</u></p>
<input type="checkbox"/>	<input type="checkbox"/>	<p>• <u>Nutrient Supplementation</u> - it can be infused into food in situations of acid e.g. - Golden rice is prepared by the infusion of beta-carotene into the rice.</p>
<input type="checkbox"/>	<input type="checkbox"/>	<p>• <u>Abiotic Stress</u> - Technology helps in the production of crops in any harsh climate</p>
<input type="checkbox"/>	<input type="checkbox"/>	<p>• <u>Industrial Biotechnology</u> - It involve the production of cosmetic, alcohol, detergents etc.</p>
<input type="checkbox"/>	<input type="checkbox"/>	

प्रश्न
संख्या

मुख्य परीक्षा उत्तर पुस्तिका
(Mains Answer Sheet)

• Strength fibres - Spider web have material with the strongest & tensile strength. The genes from the spider have been picked up and infused in goat to produce silk protein in their milk.

• Bio Fuels - It is widely used in energy production. Due to the depletion of natural resources, there is a need to find an alternative source.

• Healthcare - Technology applied in the development of pharmaceuticals that had proven problematic when produced through conventional means due to purity concerns.

Challenges - Companies have not been able to launch new product at a significant pace because of red-tape and multiple regulatory bodies. These India suffer from brain drain. Top global biotech companies are able to poach the brightest Indian mind with attractive job profile, that's why India doesn't have proper trained manpower to use this technology.