

MAINS TEST
 • PAPER-3 Part(A)
 • 13-10-2020

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 भारत का प्र. 1 उत्तर

1150
35

प्रश्न संख्या

मुख्य परीक्षा उत्तर पुस्तिका
 (Mains Answer Sheet)

कौटिल्य एकेडमी
 उत्कला का प्रवेश द्वार

1	A	<p>Kirchoffs law — law in electricity based on flow of electric current through nodes of circuit.</p> <p>• It states total current entering a node is exactly equal to charge leaving node.</p> <p>$I_1 + I_2 - I_3 = 0$</p>
1	B	<p>AYUSH — Ayurveda</p> <p>is based on non-allopathic principles.</p> <p>Government promotes it through AYUSH ministry.</p>
1	C	<p>GSLV — Geo Synchronous Launch Vehicle</p> <p>— Used by Indian Space Research Organisation (ISRO) to launch satellite in Geo synchronous orbit</p> <p>Example GSLV MK-III, can has heavier lift capacity of more than 4 ton.</p>



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1 D

TRIMS

stands for Trade Related Investment measures in services

Promoted by ~~mean~~ members of world Trade organisation

It sets rules and guidelines for promoting free flow of goods and services and protection.

13



1 F

Cloning means replication of species by using DNA technology. It uses gene transfer or replication.

Eg - ~~Making~~ twin baby

13

1 F

Vikram Sarabhai - Great Indian Scientist

Responsible for establishment of ISRO

• He was 1st director of ISRO

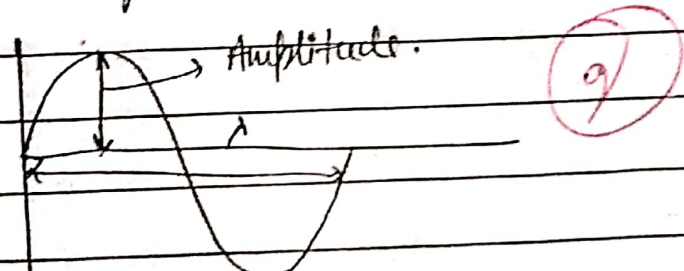
• Vikram Sarabhai Research Centre Bangalore is named after him.

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पूर्वा परीक्षा उत्तर पत्रिका
(Main Answer Sheet)



<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>TIFR</u> — stands for Tata Institute of Fundamental Research.
<input type="checkbox"/>	<input type="checkbox"/>	Its Research & development center under government of India
<input type="checkbox"/>	<input type="checkbox"/>	Fields: — Renewable energy, Atomic energy, Computer science.
<input type="checkbox"/>	<input type="checkbox"/>	Location: Mumbai
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Periodicity</u> — Repeating of electronic configuration leading to pairing of similar atoms in particular group.
<input type="checkbox"/>	<input type="checkbox"/>	Eg — Group 1 — Hydrogen, Lithium, Sodium in same group with periodicity of 1
<input type="checkbox"/>	<input type="checkbox"/>	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<u>Amplitude</u> — its height achieved by wave from base line.
<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	Higher the amplitude greater strength of signal.
<input type="checkbox"/>	<input type="checkbox"/>	We use amplitude magnification to let signal travel long distances.

प्रश्न संख्या

प्रश्न संख्या

1 J

Marasmus - It is a ^{deficiency} disease caused by lack of protein.

• leads to weakening of muscles, bulging of stomach.

• Commonly seen in children.

2

• Cured by high protein intake and balanced ^{nutritional} diet.

1 K

Osmosis → movement of solvent from low concentration region to high concentration region.

Example - In Raisin in water solution, water moves inside raisin.

Application → use in water purification, by Reverse osmosis.

2

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मुख्य परीक्षा उत्तर पुस्तिका
(Main Answer Sheet)



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कौटिल्य एकेडमी
उत्कृष्टता का प्रवेश द्वार

L

COBOL → It is computer language
 → It is 1st generation language
 → Now mainly Java, etc. are used.
 → stands for - Common business oriented language.

M

Bookmark → A computer application property which allows user to mark any important file / web page can be marked/bookmarked.

N

↳ Enables arranging important web pages help in quick access of those pages.

N

RRCAT → It is Research Centre located in Indore.

Raja Ramanna Centre for Advanced Technology.

Speciality in ~~optical fibre~~ ^{laser} and communication technology.

R&D in non-nuclear areas.

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1 0

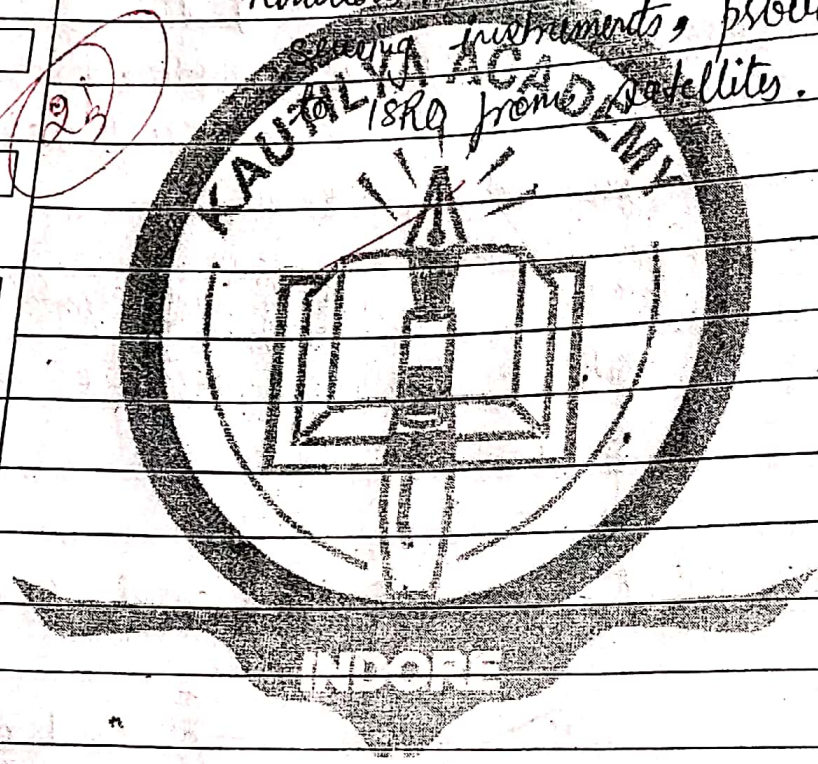
NRSC

National Remote Sensing Centre

located in Hyderabad, Telanga

comes under ISRO

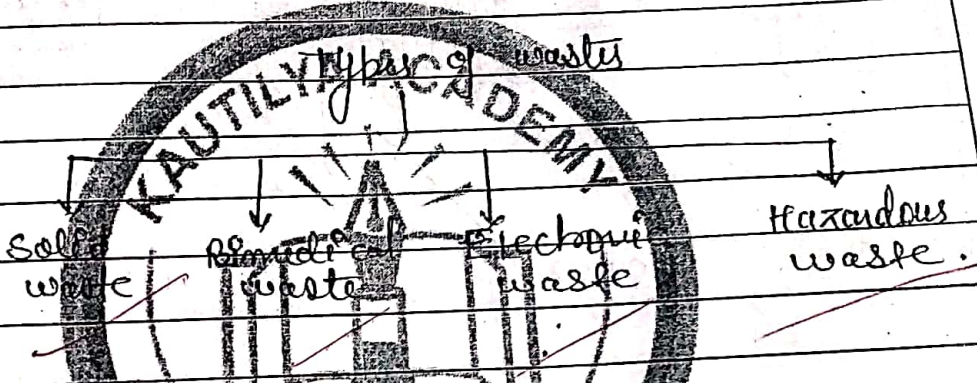
functions: → development of Remote Sensing instruments, provides data from satellites.





3 A

waste is any kind of unwanted material that ~~is~~ may or may not be harmful. It can be processed to make useful and prevent burden on resources.



Various types of wastes are —

(1) Solid waste — Waste generated by households including for solid garbage, vegetables, plastics.

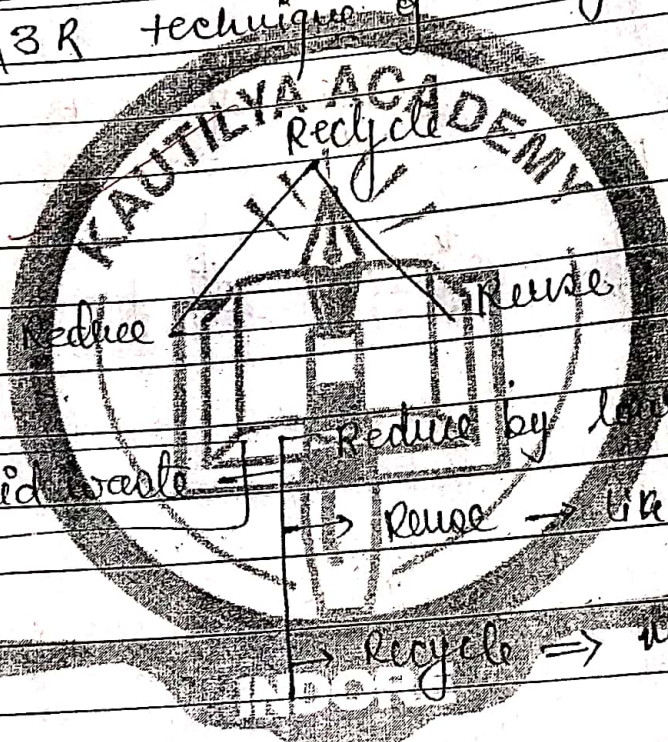
(2) Biomedical waste — includes syringes, gloves, PPE kits, Blood samples etc.

(3) Electronic waste — All electronic equipment not in use like TV, mobiles etc.

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(4) Hazardous waste → eg waste from Nuclear power plants etc.

3R technique of management



Solid waste → Reduce by lowering consumption → Reuse → like plastics etc → Recycle ⇒ making Biogas

Electronic waste → Reduce — use as per need and not luxury → Reuse — important components. → Recycle — by Producers

enquiry ask in details

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मुख्य परीक्षा उत्तर पुस्तिका
(Mains Answer Sheet)



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कौटिल्य अकादमी
व्यवस्था का पवित्र ड्राग

Government has released waste management rules that promotes 3R technique as well.

Example → • solid waste management Rules 2016
• Biomedical waste management rule.
• E-waste management rule 2017

These rules will provide Producer responsibility for collection of waste. Even cities have responsibility along with service charges.



Prevention of Communicable diseases

- * ~~Good~~ WASH technique → focusing on Sanitation, washing hand etc.
- * Avoiding crowded places
- * Wearing ~~mask~~
- * Balanced diet
- * Immunisation → Polio vaccine

Preventing Non-Communicable disease

- * Healthy life style — yoga, walk etc
- * Avoid consumption of Alcohol, Tobacco
- * Regular medical checkups.

~~Covid-19~~ has shown how a disease can have impact on socio-economic sphere. It is always better to have prevention than cure.

2/2

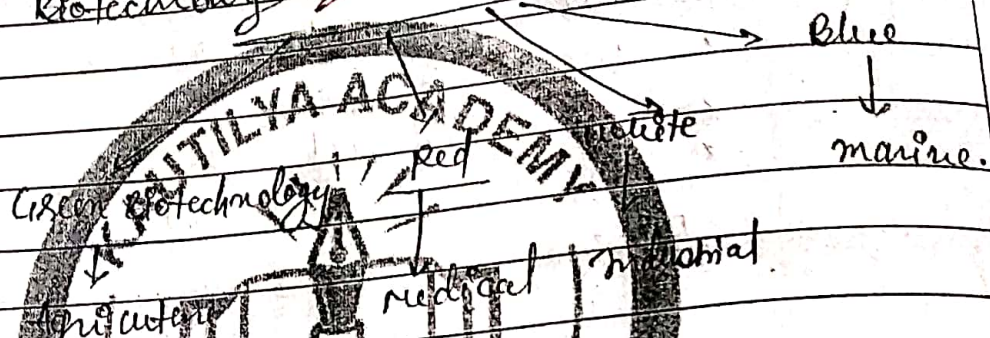
प्रश्न संख्या

3 D

Bio Technology is use of biological system like living organism to create different use ful products.

there are various type of

Biotchnology



various applications of Biotech. -

(1) In Agriculture -

- Today varieties of seeds are based on Biotech.

eg - Cotton crop → Bt-cotton → led to multiple increase in productivity.

- Hybrid seeds.

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मुख्य परीक्षा उत्तर पत्रिका
(Mains Answer Sheet)



भारत का नं. 1 संस्थान
कौटिल्य एकेडमी
राजस्थान का प्रवेश द्वार

(2) In Health care

- cloning
- 3 parent baby
- In vitro fertilization
- CRISPR-Cas technology.

(3) Industrial Application

- Food processing industry for long shelf life
- In leather industry in tanning.

(4) Marine

- Aquaculture, improving productivity
- Oil spills → clean by oil zapper are microorganisms.

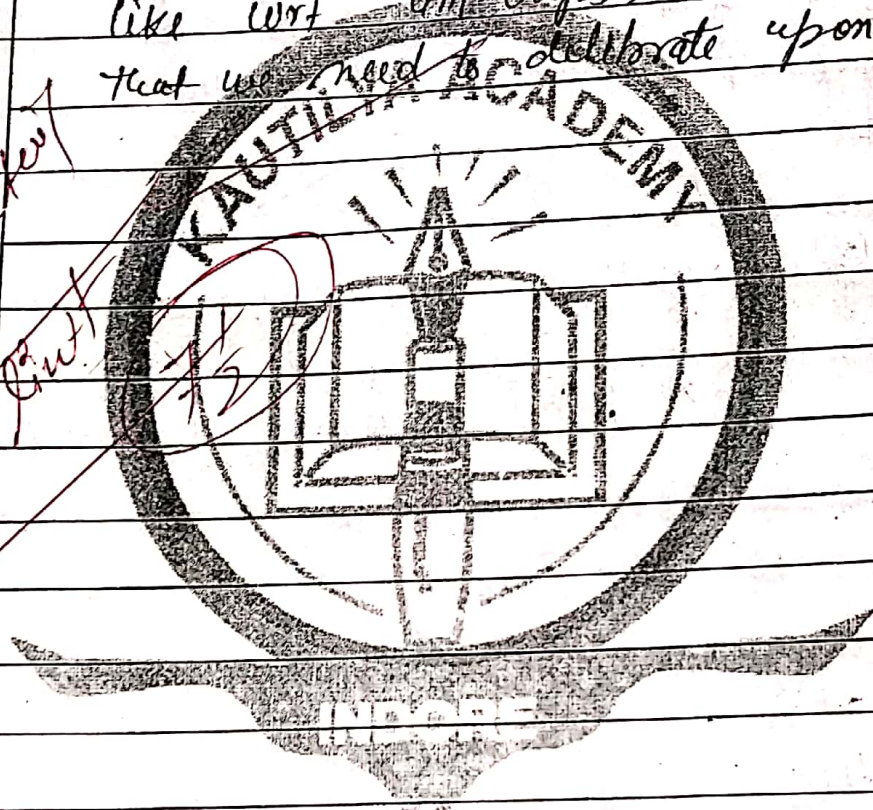
(5) Energy

↳ New bio man system, Fuel cells based on microorganism properties.



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Biotechnology has revolutionised research space in various fields. It has improved productivity, efficiency. But there are some ethical concerns like wnt GM crops, CRISPR etc that we need to deliberate upon.



Exp. 100% in answer
100% in answer



<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Human Robots are electronic equipment with specific programmes to perform specific task. Eg - Sophia - 1st human robot that got citizenship.
<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	They help in enhancing quality of human life:-
<input type="checkbox"/>	<input type="checkbox"/>	* Reaching inaccessible areas → Eg in Mines
<input type="checkbox"/>	<input type="checkbox"/>	* Protecting human life → Eg fires
<input type="checkbox"/>	<input type="checkbox"/>	* Serving infected people → eg - used in many hospitals to serve covid-19 patients.
<input type="checkbox"/>	<input type="checkbox"/>	* Doing daily chores in houses → cleaning, cooking etc.
<input type="checkbox"/>	<input type="checkbox"/>	* Linking them with AI technology further enhances experience.
<input type="checkbox"/>	<input type="checkbox"/>	* can use them in hotels & industries.
<input type="checkbox"/>	<input type="checkbox"/>	There are fear of robot overtaking humans. But these technologies are only in development stages and government need to regulate them.

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<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	
2	F	Quantum computers are based on principle of quantum energy different from bit in traditional computer.
<input type="checkbox"/>	<input type="checkbox"/>	eg. Sycamore (a quantum computer) recently performed task that will take supercomputer to do in hundreds of years.
<input type="checkbox"/>	<input type="checkbox"/>	quantum can exist at multiple positions whereas as in digital bit system only 1 position is taken.
<input type="checkbox"/>	<input type="checkbox"/>	this enable quantum to store multiple of information.
<input type="checkbox"/>	<input type="checkbox"/>	Advantages
<input type="checkbox"/>	<input type="checkbox"/>	Application -
<input type="checkbox"/>	<input type="checkbox"/>	→ Faster than Super Computer
<input type="checkbox"/>	<input type="checkbox"/>	→ Use in Space research,
<input type="checkbox"/>	<input type="checkbox"/>	→ Predicting weather accurately
<input type="checkbox"/>	<input type="checkbox"/>	→ medical explanations.
<input type="checkbox"/>	<input type="checkbox"/>	→ In the health care technology.
<input type="checkbox"/>	<input type="checkbox"/>	Government in Budget 2020, provided ₹ 8000 crore for promotion of quantum tech. over next 5 years.



2	4	Environment has been impacted by multitude of factors.
		Rapid and unplanned urbanisation eg - Mumbai floods.
		Unsustainable Agriculture practices eg Green Revolution
		Causes of Degradation → High burden of population on limited resources.
		Rapid industrialisation ↳ production based on demand & not need & necessity
	(4)	↳ climate change caused by above factors eg - Increase in forest fire (Amazon, Australia)
		Environment we need to focus on sustainable development goals & implement Paris agreement.

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2 4

Sustainable development focus on need of present generation while protecting resources for future generation.

Sustainable development's purpose



Need for sustainable development

→ impact of climate change is visible

→ Threat of food security

→ environment degradation.

→ caring for future generations.

SDG 2015-30 aims at sustainable development in which india is on right path. But more efforts are required.

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 2 3



2		3		Difference Between metal & Nonmetal			
		Metal		Non metal			
<input type="checkbox"/>	<input type="checkbox"/>	* Ductile and Brittle		* non ductile			
<input type="checkbox"/>	<input type="checkbox"/>	Eg Copper		mainly gaseous nature or solid.			
<input type="checkbox"/>	<input type="checkbox"/>	* Solid, liquid		* generally gas, solid			
<input type="checkbox"/>	<input type="checkbox"/>	* lustrous		* exception - Br is liquid.			
<input type="checkbox"/>	<input type="checkbox"/>			* not lustrous			
<input type="checkbox"/>	<input type="checkbox"/>			exception - Iodine.			
<input type="checkbox"/>	<input type="checkbox"/>	* Sonorous		* does produce sound			
<input type="checkbox"/>	<input type="checkbox"/>	Eg - Aluminium					
<input type="checkbox"/>	<input type="checkbox"/>	* Application		* Application			
<input type="checkbox"/>	<input type="checkbox"/>	wires, Aeroplane etc.		Carbon → Diamond			
<input type="checkbox"/>	<input type="checkbox"/>			Oxygen → survival			
<input type="checkbox"/>	<input type="checkbox"/>	* Conduct electricity		* Non conductor of electricity, heat			
<input type="checkbox"/>	<input type="checkbox"/>	Eg - Cu wire		exception - Graphite			
<input type="checkbox"/>	<input type="checkbox"/>						
<input type="checkbox"/>	<input type="checkbox"/>						

4/2

प्रश्न संख्या

मुख्य परीक्षा उत्तर पुस्तिका (Mains Answer Sheet)



भाषा क्र. 1 संस्थागत कौटिल्य एकेडमी सफलता का प्रवेश द्वार

Q. L

Let x be cost price of table.

C.P = x — (i) , S.P = $1.13x$ — (ii)

profit % = 13

□ □

If sold at 25 more, Profit = 18%.

— (iii) $SP_2 = x(1.18)$ — (iv)

□ □

from (i) & (iii) $SP_2 = x + 25$ = New selling price.

□ □

$x + 25 = 1.18x$

□ □

$\Rightarrow 0.18x = 25$

□ □

$x = \frac{25 \times 100}{18} = 500$

□ □

∴ Cost price of table is Rs 500

□ □

5

Remark:
 Please check and mark
 for in detail with
 the correct sum

