

165 $\frac{1}{2}$
300



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

प्रश्न
संख्या

मुख्य परीक्षा उत्तर पुस्तिका
 (Mains Answer Sheet)

<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	NAME - ANKUR GUPTA
<input type="checkbox"/>	<input type="checkbox"/>	Test - 2 PART A & B
<input type="checkbox"/>	<input type="checkbox"/>	- Geography
<input type="checkbox"/>	<input type="checkbox"/>	Date - 9 January 2021
<input type="checkbox"/>	<input type="checkbox"/>	Contact - 88 8587027550
<input type="checkbox"/>	<input type="checkbox"/>	ankur.gupta1506@gmail.com
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मुख्य परीक्षा उत्तर पुस्तिका
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प्रश्न संख्या

1	A	Temperature Inversion → Increase in temperature when go up; opposite to normal decrease with eg height
1		Example - Valleys, cold weather, at Tropopause.
1	B	Mixed farming → combination of various types of crop in one season of agriculture.
2		eg → crop rotation along with crop Benefit → Better soil, better fertility of soil.
1	C	Relief and Rehabilitation → • Providing safety, protection from disaster for short term eg medical help, food, shelter. • Rehabilitation → providing alternate shelter, livelihood, its long term measure.
2		
1	D	Relative Humidity → • Presence of moisture in air. • measured by = $\frac{\text{moisture in air present}}{\text{maximum saturation}}$ • help in analysis of weather condition, cloud studies, rainfall.
2		

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सफलता का प्रवेश द्वार

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Jet stream → High speed, narrow band of tropospheric winds with movement all round the earth in zigzag manner.
<input type="checkbox"/>	<input type="checkbox"/>	eg → 7 jet stream on earth
<input type="checkbox"/>	<input type="checkbox"/>	↳ sub-tropical westerly jet stream affects Indian weather.
<input type="checkbox"/>	<input type="checkbox"/>	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Gully erosion → removal of soil by action of water in forming gullies.
<input type="checkbox"/>	<input type="checkbox"/>	• found in steep mountains eg Chambal Ravine
<input type="checkbox"/>	<input type="checkbox"/>	• Stage form after sheet and rill erosion.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Atoll → A coral structure by symbiotic relation
<input type="checkbox"/>	<input type="checkbox"/>	• formed by subsequent growth of coral forming a mountain like structure.
<input type="checkbox"/>	<input type="checkbox"/>	• region → Great Barrier Reef Lakshadweep.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Albedo → It is amount of ^{sun} light reflected by a surface
<input type="checkbox"/>	<input type="checkbox"/>	• snow has higher albedo → So require sunglasses.
<input type="checkbox"/>	<input type="checkbox"/>	• snow > Desert soil > Trees.
<input type="checkbox"/>	<input type="checkbox"/>	• help in understanding Heat budget

पृष्ठ
 संख्या

<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Gandhi Sagar dam → An hydroelectric based dam in mandla district of Madhya Pradesh.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	• on Chambal river
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	• sharing with Rajasthan government
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	• multipurpose - Irrigation, Electricity etc
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Solar constant → is the sun rate at which Sun's energy is received in unit area per unit time.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	value = 1.8 kilowatt per hour.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Block mountain → formed by subsidence of a part relative to other region due to cracks
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	eg - rift valleys of Vindhyas & Satpura.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	① Narmada form estuary at Bharuch coast
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	② Tapi — form δ at Surat coast.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	Both in Arabian Sea.

प्रश्न संख्या

मुख्य परीक्षा उत्तर पुस्तिका
(Mains Answer Sheet)

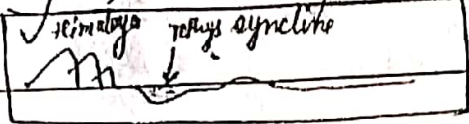


भारत का नं. 1 संस्थान
कौटिल्य एकेडमी
उत्कलता का प्रवेश द्वार...

M

Tethys Geosyncline → formed when Indian pen-
insula collided with Eurasian plate & between
lind Tethys sea.

↳ filled by material forming → Northern plain,
Himalaya Tethys syncline



N

ITCZ → zone of convergence of easterly wind
in North and Southern Hemisphere at equator.

- Moves upward in summer
& southward in winter ITCZ



- Impacts Indian monsoon area

O

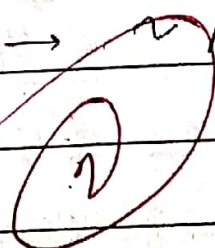
Cropping Intensity (C.I.)

Area under cultivation through
year

Total cultivable area.

- Dep degree of how much times crop grown
in field

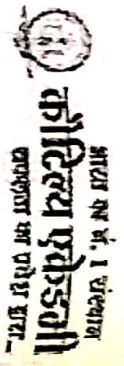
- India's C.I → 140%



~~Try to write as per New Booklet format~~

प्रश्न संख्या

प्रश्न संख्या उत्तर पत्रिका (Mains Answer Sheet)



भारत सरकार
कॉम्प्यूटर प्रणाली

2 A

India has 5th largest coal reserves in world at 330 Bn.

main regions of coal are - Top 5 states

• Jharkhand (1st), Odisha • Chhattisgarh • Bengal • Madhya Pradesh

→ mines at Raniganj, Dhanbad, Bokaro, Singrauli,

• Type of coal is bituminous & Terbitary

• mainly bituminous coal in Jharkhand (60-80% C)

High grade coal in Tamil Nadu (Neyveli)

• Anthracite in Jharkhand

Coal fields 60% reserves requirement in India.

2 B

Rebellion in Jharkhand regions.

① North East Dighri, Naha Kalia (Assam), Ambikapur.

② West coast → Bombay High (Maharashtra) - offshore → Orissa → Gujarat - Ankleshwar, Kutch field

③ Krishna - Godavari basin - Deltic region

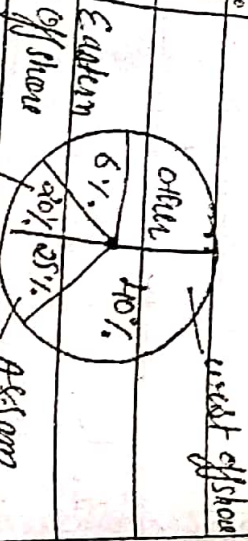
↳ eg - Raura oil field

• Tamil Nadu → Cauvery basin

North East



West Coast → East (K-G)



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उत्कला का प्रवेश द्वार...

Q	C	Spring tide	Neap tide
<input type="checkbox"/>	<input type="checkbox"/>	Rise in water more than normal & lower than normal	Rise in water less than normal (high tide) and higher than low tide.
<input type="checkbox"/>	<input type="checkbox"/>	low in low tide	
<input type="checkbox"/>	<input type="checkbox"/>	sun and moon along straight line	sun and moon at right angle (counteract forces)
<input type="checkbox"/>	<input type="checkbox"/>	occurs twice a month	Also occur twice in month
<input type="checkbox"/>	<input type="checkbox"/>	on full moon & New moon	7 days after each event of spring tide
<input type="checkbox"/>	<input type="checkbox"/>		
2	D	Volcanic land form	
<input type="checkbox"/>	<input type="checkbox"/>	Intrusive	Extrusive
<input type="checkbox"/>	<input type="checkbox"/>	Sytle, dykes	Crater
<input type="checkbox"/>	<input type="checkbox"/>	Lopo lith	Shield, domes
<input type="checkbox"/>	<input type="checkbox"/>	Lacco lith	Caldesa
<input type="checkbox"/>	<input type="checkbox"/>	Batholiths	Caldesa lakes (Lake Toba)
<input type="checkbox"/>	<input type="checkbox"/>	Lacco lith.	Lava plateau (Deccan)
<input type="checkbox"/>	<input type="checkbox"/>		Cratons
<input type="checkbox"/>	<input type="checkbox"/>		

also
Crack
94
land form
shell

(H)
(2)



असमान
वर्षों में

2	E	India has adopted following methods — Soil conservation
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	1. <u>Afforestation</u> → by planting tree through MGNREGA, National Bamboo mission
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	2. <u>Farming methods</u> → Contour bunding, Terrace farming, strip cultivation, checking shifting cultivation.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	3. <u>International cooperation</u> — REDD+, Paris Agreement
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	4. <u>INDC</u> — increase forest cover.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	4. <u>National mission</u> → • Promote Agro forestry, Green mission, PM Kishu's sikkid, Jarma
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	5. <u>Irrigation methods</u> → Drip, micro irrigation, PM Kaski
<input type="checkbox"/>	<input type="checkbox"/>	6. <u>Others</u> → mulching, Rock dam, inter cropping etc.

2	F	Industry refuse following
<input type="checkbox"/>	<input type="checkbox"/>	(Backward linkages)
<input type="checkbox"/>	<input type="checkbox"/>	→ Easy availability of cheap raw material
<input type="checkbox"/>	<input type="checkbox"/>	→ Efficient machines
<input type="checkbox"/>	<input type="checkbox"/>	→ Accessibility to low interest credit/capital
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	→ skilled labour force
<input type="checkbox"/>	<input type="checkbox"/>	→ modern technology, Transfer of technology
<input type="checkbox"/>	<input type="checkbox"/>	→ Transportation from mines to manufacturing units
<input type="checkbox"/>	<input type="checkbox"/>	(Forward linkages)
<input type="checkbox"/>	<input type="checkbox"/>	→ low cost of logistics
<input type="checkbox"/>	<input type="checkbox"/>	→ Transportation link from unit to market
<input type="checkbox"/>	<input type="checkbox"/>	→ Easy access to market & growth centre
<input type="checkbox"/>	<input type="checkbox"/>	→ Storage facilities
<input type="checkbox"/>	<input type="checkbox"/>	→ Packaging
<input type="checkbox"/>	<input type="checkbox"/>	→ Communication easy.



2	4	It is <u>sun rise</u> sun rising sector, which converts raw material in (food) into processed food.
		<ul style="list-style-type: none"> Govt. initiatives → TOP scheme, Cold chain facility, PM Sampada yojana, mega food Parks
		• Forward linkage → Packaging, Transport, marketing
		• Backward linkage → Raw material, Grading, Sorting.
		<p>Prevents wastage of goods → Better revenue for farmer</p> <p>food security ← (Relevance) → food moving security</p>
		Nutrition Security by fortification Promotes employment
		by fortification
	H	Agriculture is facing following problems —
		1) Low productivity compared to Brazil, China, USA.
		2) Disguised unemployment.
		3) Less remunerative prices for production.
		4) Climate change → Extreme weathers like flood, drought, high heat stress
		5) Low mechanisation, poor seeds quality.
		6) Marketing → APMC → cartels, high fees.
		7) Food processing is lower than potential.
		8) Small landholding, 40% non-formal credit scheme like PMKSY, Kisan credit card,
		ToP scheme, aim to double income by 2022.

no defile
 and
 p. m. k. s. y.

2/2



प्रश्न संख्या

2	1														
<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"/>														
2	7	Interior of Earth													
<input type="checkbox"/>	<input type="checkbox"/>	<table border="1"> <tr> <th>Crust</th> <th>Mantle (Upper & Lower)</th> <th>Core</th> </tr> <tr> <td> <ul style="list-style-type: none"> • Outermost part • Thickness - 8-110 km • Brittle • oceanic crust & continental crust • consist of Silica & Al </td> <td> <ul style="list-style-type: none"> • Middle part • 2900 km thick • Lithosphere = upper mantle + crust • Asthenosphere = 80-200 km ↳ Viscous </td> <td> <ul style="list-style-type: none"> • Innermost part • consist of Iron and Nickel • Outer core - molten • Inner core - solid • Densest • Thickness = 3200 km </td> </tr> </table>	Crust	Mantle (Upper & Lower)	Core	<ul style="list-style-type: none"> • Outermost part • Thickness - 8-110 km • Brittle • oceanic crust & continental crust • consist of Silica & Al 	<ul style="list-style-type: none"> • Middle part • 2900 km thick • Lithosphere = upper mantle + crust • Asthenosphere = 80-200 km ↳ Viscous 	<ul style="list-style-type: none"> • Innermost part • consist of Iron and Nickel • Outer core - molten • Inner core - solid • Densest • Thickness = 3200 km 							
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<input type="checkbox"/>	<input type="checkbox"/>	<table border="1"> <tr> <td>Crust</td> <td>Lithosphere</td> <td rowspan="2">→ Moho discontinuity</td> </tr> <tr> <td>Asthenosphere</td> <td>Mesosphere</td> </tr> <tr> <td>Mantle</td> <td></td> <td rowspan="2">→ Gutenberg's discontinuity</td> </tr> <tr> <td>Outer Core</td> <td>Barosphere</td> </tr> <tr> <td>In. Core</td> <td></td> <td></td> </tr> </table>	Crust	Lithosphere	→ Moho discontinuity	Asthenosphere	Mesosphere	Mantle		→ Gutenberg's discontinuity	Outer Core	Barosphere	In. Core		
Crust	Lithosphere	→ Moho discontinuity													
Asthenosphere	Mesosphere														
Mantle		→ Gutenberg's discontinuity													
Outer Core	Barosphere														
In. Core															

3

draw figure with discontinuity

प्रश्न संख्या

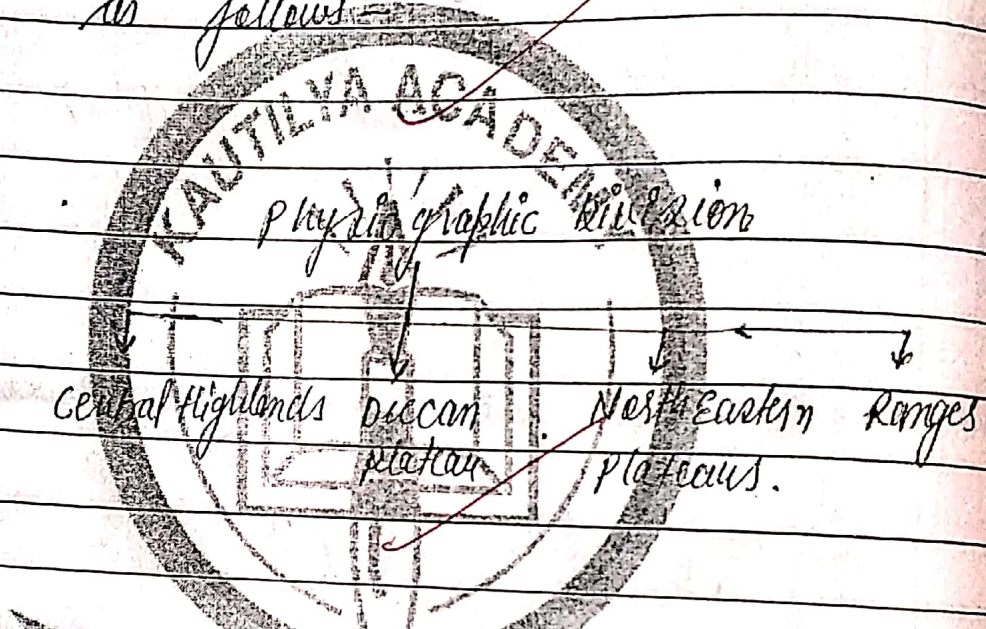
मुख्य परीक्षा उत्तर पुस्तिका
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भारत का नं. 1 संस्थान
कौटिल्य एकेडमी
वरद्वारा का प्रवेश द्वार

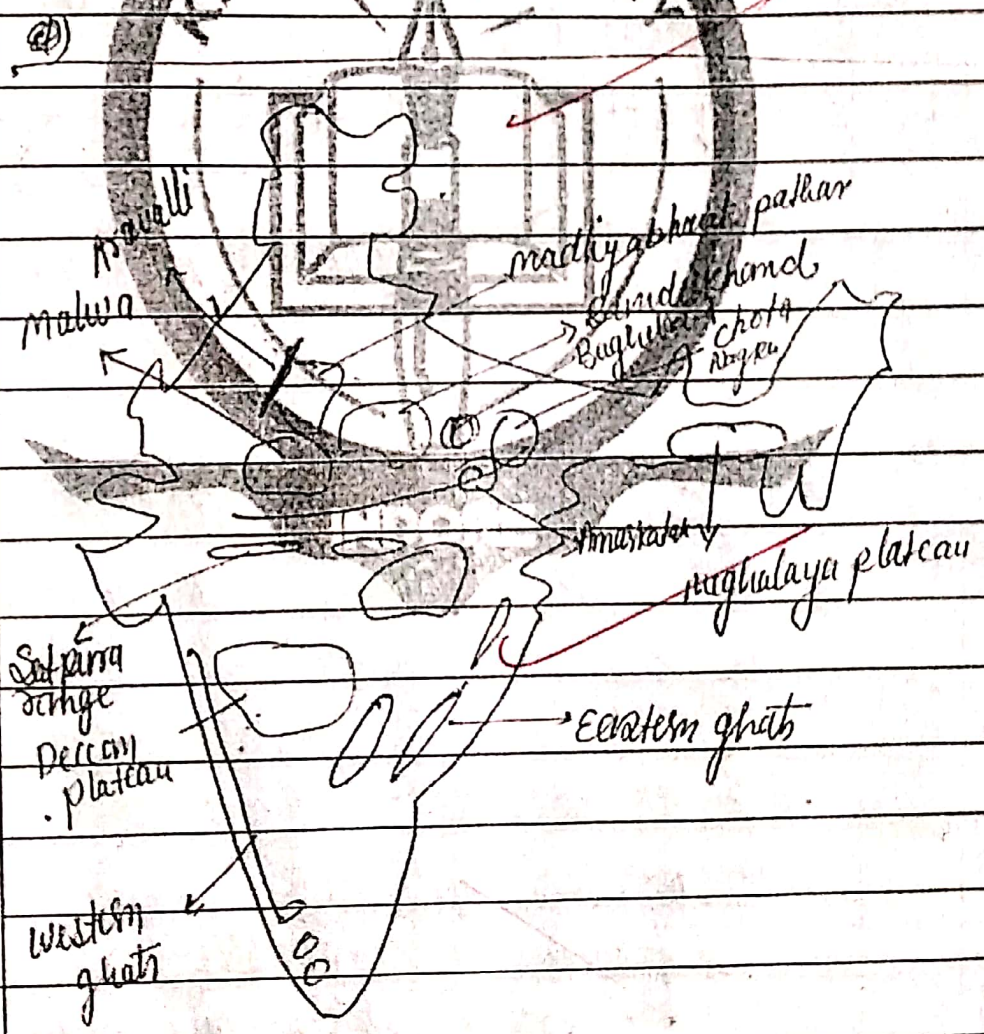
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	micro irrigation means applying small quantity of water, in regular interval, at plant etc.
<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	* Includes → (Drip irrigation) - drop of water at plant root zone through pipes at low pressure
<input type="checkbox"/>	<input type="checkbox"/>	→ (Sprinkler) → high pressure through pump and central sprinklers spray water.
<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	* Benefits → • High yield, water use efficiency (90%), • prevent soil erosion • low fertilizer use
<input type="checkbox"/>	<input type="checkbox"/>	* Initiatives → pm kishu sachin jagan - msc crop - • pvs discp
<input type="checkbox"/>	<input type="checkbox"/>	
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<input type="checkbox"/>	<input type="checkbox"/>	

प्रश्न संख्या

3	A	<p>Peninsular Plateau is part of Gondwanaland and hence very old and subjected to denudation by various agents. It consist of many hill ranges, rich in mineral resources and divided as follows—</p>
		<p>physiographic division</p>  <p>Central Highlands Deccan Plateau North Eastern Ranges Plateaus.</p>
		<p>(1) Central highland — It is northern part and lies between North Plains and Narmada. In west lies Aravallis and Satpura in South.</p>
		<p>It is subdivided as —</p>
		<p>(a) Deccan uplands</p>
		<p>→ East of Aravallis</p>
		<p>→ Rolling plain by Banas River.</p>



<input type="checkbox"/> <input type="checkbox"/>	<p>(b) <u>Madhya Bharat Plateau</u></p> <ul style="list-style-type: none"> → lies east of Malwa uplands → districts Neemuch, Mandla, Gwalior etc.
<input type="checkbox"/> <input type="checkbox"/>	
<input type="checkbox"/> <input type="checkbox"/>	<p>(c) <u>Malwa Plateau</u></p> <ul style="list-style-type: none"> → western Madhya Pradesh, between Aravalli and Vindhya → Rivers → Chambal, Betwa, → Baratt rock structure.
<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"/>	
<input type="checkbox"/> <input type="checkbox"/>	
<input type="checkbox"/> <input type="checkbox"/>	
<input type="checkbox"/> <input type="checkbox"/>	
<input type="checkbox"/> <input type="checkbox"/>	<p>Fig. <u>Peninsular plateau region</u></p>



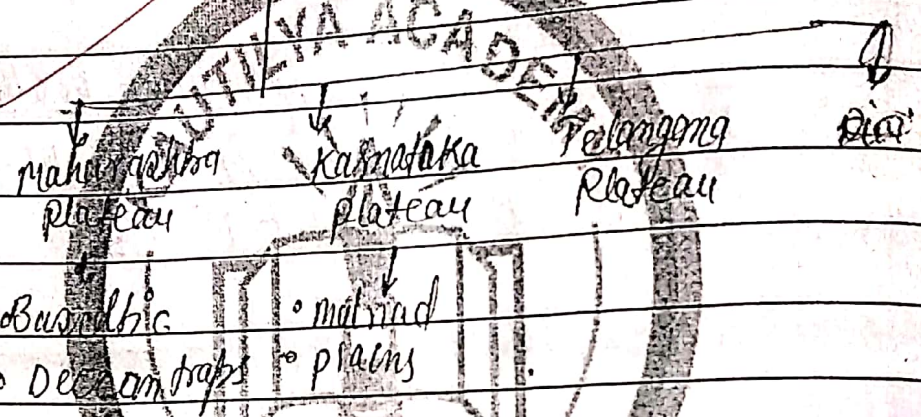


प्रश्न संख्या

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d) Bundelkhand - In MP & UP, South of Yamuna
 e) Baghelkhand - East of Malwa range
 f) Chotanagpur plateau - In Jharkhand, Chattisgarh
 ↳ sub divided - Rajmahal hill, Hazaribagh etc.

(2) Deccan plateau - South of Narmada River
 inverted triangle



(3) North East plateau - Meghalaya plateau
 separated by Rajmahal Gaid Gap.
 • sub divided as Garo, Khasi, Jaintia.

These also include ranges like Aravalli, Satpura, Vindhyas, Eastern & western Ghats. The Peninsular is rich in mineral resources like coal, Iron, Aluminium, copper etc. boosting economy, supporting ecosystem & diversity.



3 B

Plate Tectonic theory is the most modern and evolving that aim to give answers to motion of plates relative to each other. These are based on & developed over convectional current hypothesis and sea floor spreading theory.

It has following postulates —

(1) Outermost layer is lithosphere — consist of (crust + upper mantle) and it floats over asthenosphere



(2) Types of plates —

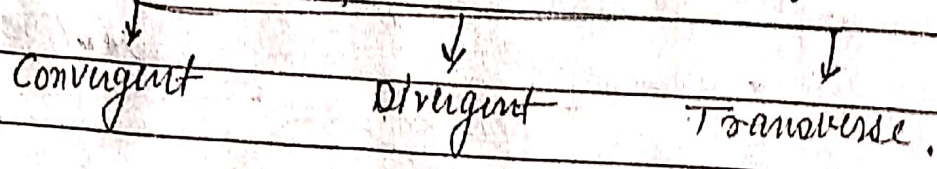
- (a) oceanic plates — completely in ocean
- (b) continental crust (C.C)
- (c) : oceanic & continental both (OC-)

→ It divides crust into 7 - major plates
20 - minor plates

(3) Plate move under influence of mantle cells and resulting into interaction.



There are 3 types of Boundary Interaction



① Divergent plate interaction —

also known as a Constructive plate interaction ..

- Due to divergence of plates and pushing of plate by lava

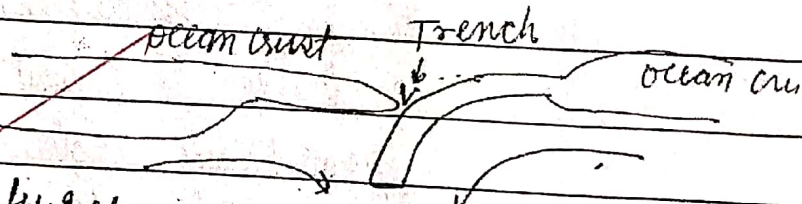


- example →
- African Rift valley
 - formation of Atlantic ocean.

② Convergent plate interaction →

3 types

(a) ocean-ocean crust collision —

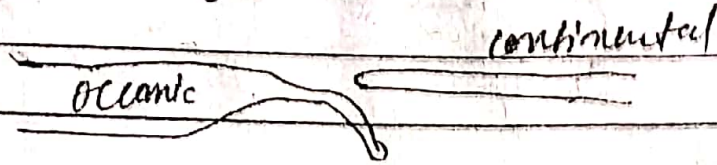


- features →
- formation of Trench,
 - Archipelago due to volcano.



(b) Ocean-Continental Collision —

↳ Subduction of ~~land~~ oceanic plate (heavy)



• Example → along west pacific coast →

(c) Continental-Continental Collision

feature → formation of fold mountains
eg - Himalaya, Andes etc

(3) Transform Boundary → plates slip each other

Eg → Los angeles - San Francisco

∴ Plate tectonic give answers to formation of fold mountains, Equ Earthquake & its distribution, formation of Archipelagoes. It is supported by evidence like magnetic rocks, eg mapping etc.

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प्रश्न
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मुख्य परीक्षा उत्तर पुस्तिका
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भारत का सं. 1 संस्थान
कीटिल्या एकेडमी
सफलता का प्रवेश द्वार...

3	D	As per projections
3	D	As per 'The world Population Prospects 2019' by UN, India will surpass China to become largest country by population by 2027.
		His demands for Population Stabilisation which means size of population remains unchanged i.e. zero population growth. India's National Population Policy aims to achieve stabilisation by 2045
		Parameters of population stability are -
		(1) Total fertility rate (TFR) → It is number of children a woman will have in her reproductive age. 2.1 is the replacement level. India has achieved — TFR of 2.3 (2017) with 25 states achieving TFR of 2.1
		(2) Crude Birth Rate — It is live birth per 1000 population. It has declined from 24 (2005) → 20 (2017)

3) Decadal growth rate — growth of population in 10 years.

Declined from 21% (1979) → 17.5% (2010)

4) Mortality rates

Infant mortality, Under 5 mortality, maternal mortality.
IMR declined from 140 (1950) → 34 (2017)

5) Level of migration — international and internal.

6) Population pyramid structure.
7) Age of marriage, family planning, contraceptive use etc.

Government has taken various policy measures to control population rise in India.

* National Population Policy, 2000

- targets population stabilization by 2045
- Reduce IMR ~~from 140~~ to less than 30
- Based on Voluntary and informed choice
- Reduce MMR to less than 100 per 1 lakh live.
- universal immunisation
- Promote family planning.
- Institutional deliveries — 80%.
- Trained deliveries — 100%.

* Different programmes for Education of women

- Sarva Shiksha Abhiyan, Right to education
- Beti Bachao Beti Padhao.

* Institutional delivery → Janani Suraksha Yojana,



* National Health Mission

* Family Planning through - Parivar Vikas

- Contraceptives availability → Anuthara & chaya.
- education of women
- Women reproductive rights.
- Promoting sterilization voluntarily.

India is one of the youngest country with 65% population below 35 years and it is going through period of demographic dividend. Population though ~~not~~ we should move toward stabilization but also consider population as resource and not burden.

PART-B

1	A	<ul style="list-style-type: none"> • It is land which is used for agricultural production. • It can be <u>arable</u> → plowing, tillage done • <u>fallow</u> → not growing presently. • India has around 44% land as cultivable. 	1
1	B	<p>(Leo) are hot, seasonal winds over north India.</p> <ul style="list-style-type: none"> • Carry ^{dust} rain & cause of <u>hot wave</u>, <u>cloudburst</u>. • During <u>summer</u> season, from <u>western part</u>. 	1 1/2
1	C	<ul style="list-style-type: none"> • <u>Caldera</u> - large hollow ^{Caldera} portion on top of volcanoes • accumulation of water form <u>lake</u> • formed by <u>accumulation of lava</u> 	1 1/2
1	D	<p>① Corals losing its coral due to loss of <u>Xoconthebe</u></p> <p>② Reason - High temperature, <u>acid rain</u>, ^{climate} change</p> <p>③ Affected area → <u>Great Barrier Reef (Australia)</u>, ^{coast of} <u>India</u></p>	2
1	E	<ul style="list-style-type: none"> • <u>Rift valley</u> are low land between 2 high lands • Formed by <u>faults</u> & subsequent <u>subsidence</u>. • Eg - <u>Narmada</u>, <u>Damodar</u>, <u>Mahanadi</u> <u>Rift valleys</u> 	3



प्रश्न संख्या

1	F	① Region in North Pacific Ocean surrounded by East Asia & West America. → Horse shoe shape or Ring
		② Named because of huge number of volcanoes here.
		③ World's 70% Earthquake occur here.
		④ features → Trenches, Volcanoes, Archipelagos, etc
1	G	• Moraines are rocks carried down by the glaciers as it moves down the mountain.
		• It forms large blocks varying size & form lake.
		• can lead to glacial lake outburst flood.
1	H	(Insberg) → Free standing rock structure
		↳ steep sides and flat top
		↳ region - Africa, Brazil etc.
1	I	• It means using resources for present generation by keeping needs of future generation in mind.
		• Given by: Brundtland Report in 1987 of UN.
		• UN SDG 2015-30 promotes 17 Goals 169 targets
1	J	Problems of soil —
		• Alkalinisation & Salination (eg - Punjab)
		• Soil erosion eg - Chambal ravine (Gully erosion)
		• Degradation due to deforestation, poor farming practices, excessive fertilizers etc.

प्रश्न
संख्या

1	K	What → Human disaster caused by Nuclear Plant fault when & where → 26 April 1986, Pribyat, Chernobyl, Soviet
		Impact - Environment damage, loss of life, Economic losses. efforts → Protective dome/shield, Rehabilitation.
1	L	• means use of water in efficient manner for irrigation • methods → Drip Irrigation, Sprinkler or manual • Schemes → PM Krishi Sinchai Yojana (more drop per drop) • Benefit - Saves water, Power, prevent soil erosion.
1	M	Death valley → Desert valley in Mojave desert of California USA. one of the hottest places on earth.
1	N	(1) what → deposits of remains of organism and salts. (2) where → Pelagic (floor of sea), Neritic (shelf floor) (3) types → Terrigenous (mud - Red, Blue Green) Biogenous like oozes; Polymetallic Nodules Extraction govern by UN law of sea.
1	(O)	• Region of 30° North & South hemisphere around Earth. • Very calm, dry wind, & zone of descending wind • Ancient time, horse were thrown to reduce load of ship.

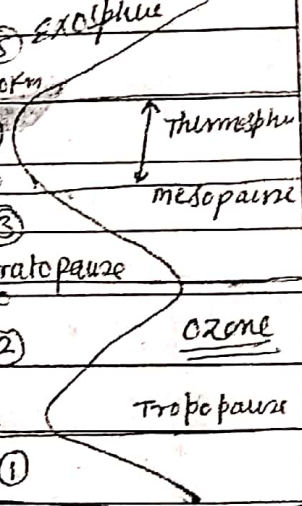
2

प्रश्न संख्या

2	A	Cones are volcanic landform, formed by accumulation of lava.
		Types of cones are —
		① Composite cone — very high and steep Composite etc. ↳ alternate layers of lava & Ash ↳ Also called stratovolcanoes
		② Cinder cone — smaller volcano but very explosive. ↳ accumulation of cinders, scoria among cone.
		③ Parasitic cone → subsidiary dykes from main cone, act as parasitic
		④ Others — spatter and tuff
		Features like Caldera lake form by broken collar at top.
2	B	Atmosphere is classified on basis of temperature, pressure,
		① Troposphere (upto 10 km from earth) ↳ with height temperature (T) decreases
		② Stratosphere — (10 km — 50 km) ↳ with height temperature increases.
		↳ Ozone present at around 30 km.
		③ Mesosphere (50 — 80 km) Temp decrease with height
		④ Thermosphere — upto 400 km ↳ Temperature rises due to ions presence
		⑤ Exosphere — Beyond 400 km ↳ Rarefied air ↳ Temperature increases.

Disseuse detail

Write such type of answer





2	C	Soil supports plants & formed by following factors —
		① (Climate) → Tropical climate faster decomposition → Temperate coniferous → acidic soil
		② (Topography) — like mountain (Himalaya) → ^{Thick profile} → B North Plain → depositional alluvial soil.
		③ (Parent rock) — eg — Deccan lava platea forms Black Cotton soil; etc.
		④ (Vegetation) and (living organisms) — organisms decompose organic matters into humus
		⑤ (Time) → Dense basalt takes long time to form soil.
		ICAR has classify 8 types of soil in India.
2	D	Ecosystem has been affected by human activities — (Negative impact)
		• Deforestation for agriculture land, wood etc
		• Pollution — air pollution, Land & water pollution.
		• High fertilizer use → eutrophication • coral bleaching.
		• climate change • Biodiversity loss — extinction high
		• loss of habitat • forest fires •
		(Positive impact) — • Afforestation • wildlife sanctuaries
		• Recycling • creation of laws for environment protection
		• International agreement — Paris agreement (UNFCCC)
		• cleaning of seas, lakes, wetland — Ramsar sites.
		caused Human have both positive and negative changes in Ecosystem.

24

3



<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<p>PVTGS are more vulnerable amongst Tribals.</p> <ul style="list-style-type: none"> Debas Commission classified them in 1975. Defined as — <ul style="list-style-type: none"> Declining population or stagnant Low literacy Threat to culture Living in Isolation from mainstream Economically backward Roor agriculture technology like Ponds.
<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<p>3</p> <p>Odish. Total PVTG are 75,</p> <ul style="list-style-type: none"> Odisha has highest PVTG. MP has 3 PVTG — Bhaeria, Baiga & Sahariya
<input type="checkbox"/>	<input type="checkbox"/>	
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<p>2 F</p> <p>Jute is cash-crop and is prime factor for industry.</p> <ul style="list-style-type: none"> Location → Most number in West-Bengal, Bihar, Odisha Raw material → jute is prime raw material Usage → jute bag for sugar, ropes etc. Problem → <ul style="list-style-type: none"> jute region to Bangladesh after partition Old machine → Inefficiency Synthetic products → Low demand. Programmes — <ul style="list-style-type: none"> Golden fibre Revolution jute-ICARE Mandatory 100% packaging of grain. Requirements → Modernization, Research and development <p>jute is ecofriendly hence a suitable replacement.</p>
<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	

Mention
of jute
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and

3



2 | 11

2 | 11

As per census 2011, India has 150 million internal migrants.

Reason for migration from village to cities.

- (1) Better employment opportunity like in Real estate construction, daily wages etc

- (2) Seasonal unemployment in agriculture.

- (3) Better health and education infrastructure.

- (4) Better standards of living → Better Transport, entertainment, drinking water etc.

- (5) marriages especially amongst women.

Problem → slums, poor Planning, Covid-19 Pandemic

Benefits → cheap labour, chances of personal growth.

3



प्रश्न संख्या

2	I	Indian monsoon originates from southwest by 15 June.
		Process -
		① By June ITCZ over North India, heating and low pressure.
		② It creates low pressure and wind from Indian Ocean.
		③ This takes moisture and monsoon high move to mainland.
		④ This divides into (a) Bay of Bengal branch (b) Arabian Sea branch.
		⑤ This is intercepted by mountains, monsoon high & cause orographic rainfall.
		⑥ Other factors are → La Niña, El Niño, Dipole, North East rain caused by reversal of Trade winds.
2	J	As per NDMA, 12% of India's land is prone to flooding.
		→ Affected areas → Ganga-Brahmaputra basin, Cauvery basin.
		→ Urban flooding - Mumbai, Chennai, Hyderabad, Pune etc.
		→ Problems = Agriculture loss, life & property loss, Economic loss.
		→ Reason = climate change, poor urbanisation, siltation, etc.
		Solution & Approach → ① Early warning system.
		② World Bank's DRIP → Dam management. Programme.
		③ Smart cities → urban planning.
		④ Interlinking of rivers like Ken-Betwa project.
		⑤ Implementing Sendai framework - Risk Reduction.
		⑥ NDMA guideline of Urban Flooding, 2016.
		Preparedness and creating resilience help tackle flood.



2	K	sustainable development (SD) keeps need of future generation in mind which benefiting present generation.
		- Steps by India -
		① Anti Poverty Programs - MGNREGA, Rural Livelihood
		② Health and educate - RTE (2009), PM-Jan arogya yojana.
		③ Environment Protection -> 8 National missions, INDC under Paris agreement (2015), wildlife Act 1972
		④ Anti Hunger -> National Food Security Act 2013, Antyodaya
		⑤ Gender equality -> Article 14, 13, 16, Anti Harassment law -> Reservation in Panchayat (1/3 rd)
		⑥ International cooperation -> National Solar Alliance India is in line of fulfill SDG 2015-30 by UNSDN

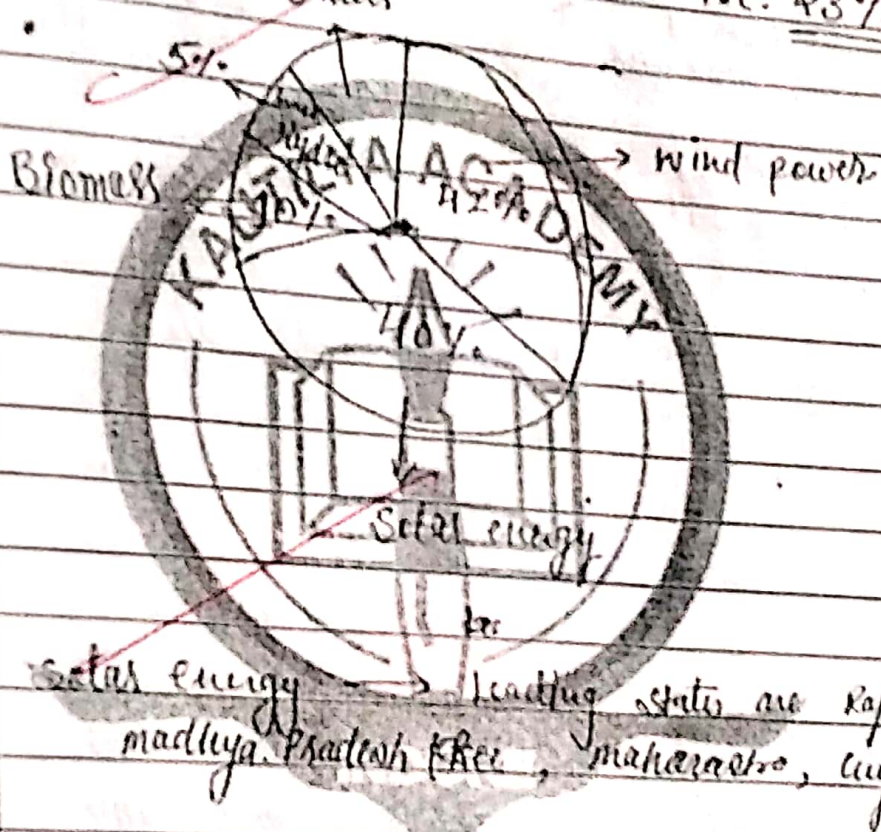
32

प्रश्न
संख्यामुख्य परीक्षा उत्तर पुस्तिका
(Mains Answer Sheet)

3	c	Non-Conventional sources of energy are those which have been developed in recent past
		which are compared to conventional sources like coal, oil and gas and synonymous to renewable sources in India.
		Important sources are
		1. Solar energy - converting sun light into electricity using solar panels.
		2. Wind energy - wind's kinetic speed into electricity off shore, on shore
		3. Bio mass - energy from. Jirwood, cow dung etc
		4. Geothermal energy - energy from heat beneath earth like hot rock, geysers, lava etc
		5. waste to energy - municipal solid waste, and sewage, through → Incineration, gasification
		6. fuel cells, Bio fuels etc
		7. Tidal energy - energy from changes in high low tide.

Present Status in India

Renewable & non-conventional energy installed capacity = 87000 MW i.e. 23%



Solar energy → leading states are Rajasthan, Madhya Pradesh, Kerala, Maharashtra, Gujarat etc

wind → Jaipur wind park - 1600 MW
Tamil Nadu, Maharashtra, Madhya Pradesh (4000 MW)

tidal → proposed in Gulf of Kutch, Gujarat

Biomass → Andhra Pradesh, Tamil Nadu, V.P.

Thermal → potential regions are Himalaya, Godavari basin



प्रश्न संख्या

मुख्य परीक्षा उत्तर पुस्तिका (Mains Answer Sheet)

<input type="checkbox"/>	<input type="checkbox"/>	Need
<input type="checkbox"/>	<input type="checkbox"/>	Less pollution than conventional
<input type="checkbox"/>	<input type="checkbox"/>	Protection of Natural resources
<input type="checkbox"/>	<input type="checkbox"/>	Energy security
<input type="checkbox"/>	<input type="checkbox"/>	Reduced import dependence of coal.
<input type="checkbox"/>	<input type="checkbox"/>	Economic Benefit with reduced fiscal deficit
<input type="checkbox"/>	<input type="checkbox"/>	fulfill international obligations
<input type="checkbox"/>	<input type="checkbox"/>	Leads to Sustainable development
<input type="checkbox"/>	<input type="checkbox"/>	Government has renewed targets for non-conventional energy from 175 Gw to now 222 Gw. by 2022. Steps like National solar missions, International solar alliances, focus on Research and development will help achieve these target and lead to sustainable development.

~~Nuclear
 Sources
 Non-conventional sources~~

3 D

Oceanic salinity is the measure of amount of salts present in ocean part per million. These salts include NaCl , MgCl_2 , MgSO_4 & CaSO_4 etc. Average salinity of ocean is taken as 35 ppm.

Reason for salinity physical and chemical actions like hydrolysis, volcanic activity inside ocean, & reaction of water on rock containing salt.

Salts follow principle of conservation i.e. total salts in ocean is constant.

These are various controlling factor of salinity —

① Rate of Evaporation from sea water.
Eg → Red sea has high salinity.

② Rate of precipitation → high precipitation decreases salinity

Eg — Tropical region less due to frequent precipitation than subtropical.



③ Addition of fresh water → due to rivers. eg. Black sea, Persian gulf

④ High temperature → leads to high evaporation & high salinity

⑤ Region of Glaciers →
• melting adds fresh water → Decreases salinity

• Freezing ~~also~~ reduces fresh water, so high salinity → Region of North poles.

⑥ Enclosure of ocean eg. Mediterranean sea has high salinity, no mixing.

(Distribution of salinity)

(A) Horizontal distribution

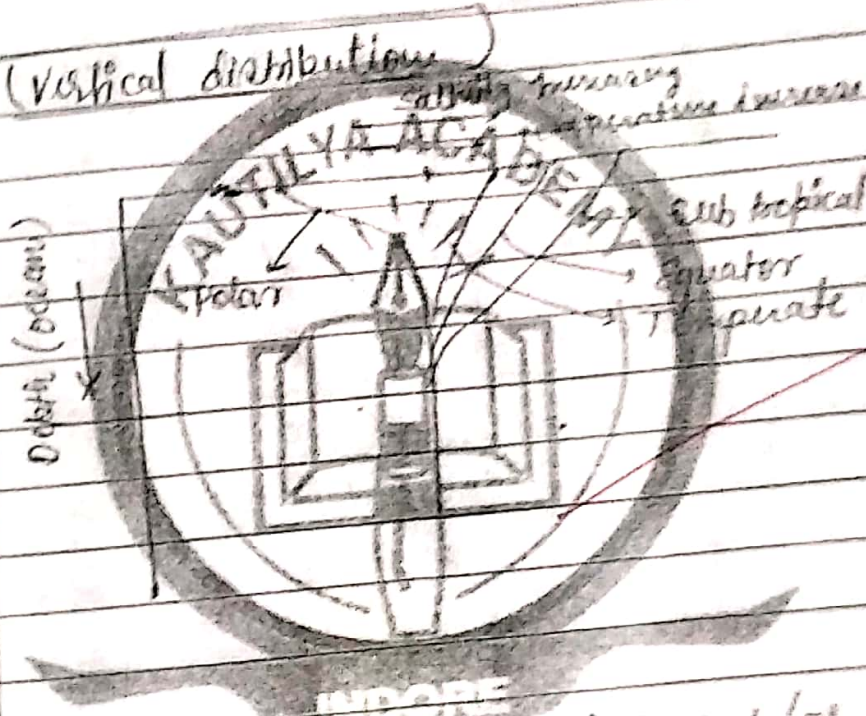
• North hemisphere more saline than south due to less ocean, high temperature.

• ~~But~~ Salinity decreases polewards

• But Tropical don't have highest salinity due to Rainfall, upwelling.

- Enclosed seas like Mediterranean have higher than average salinity.
- Fresh water addition like Ganga in Bay of Bengal decreases salinity.

(Vertical distribution)



Salinity is important for many organism within ocean. Any change affects ocean ecosystem. Climate change has been causing change at local level due to melting of glaciers, rising temperature etc.

0/3



प्रश्न संख्या

3	E	Earthquake is vibrations of earth surface caused by movement of tectonic plates and releasing energy along boundary interaction.
		Causes of Earthquake —
		(I) Natural cause
		(a) Volcanic eruptions mainly explosive like cinder or stratovolcanoes.
		• Pacific ring of fire.
		(b) Boundary interactions
		eg → Continental-Continental interaction of Indian plate in collision causing EQ at Himalayan region.
		(c) (Meteorites) colliding on Earth surface.
		(d) Landslides
		(II) (man made causes)
		• Big dams changing to pressure distribution
		eg → Zgorog dam
		• mine explosions.

- Nuclear testing Eg - North Korea.

(Earthquake in Kutch)

what - what earthquake occurred in Kutch region of Gujarat

- Intensity and magnitude 7.9 Richter scale
- when - 26 January 2001
- Area affected - 21 of 25 districts
- most affected - Kutch, Bhuj, Jamnagar, Rajkot.
- epicentre - North East of Bhuj, 25 km.

(Impact)

→ Casualties → Nearly 19,000 died
→ 1.5 lakh people injured

→ Economic Losses - loss of building infrastructure
- 10 thousand industrial unit affected
- Loss of Rs 150 billion.
- Reconstruction cost = Rs 100 billion.

प्रश्न
संख्या

मुख्य परीक्षा उत्तर पुस्तिका
(Mains Answer Sheet)

<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	Social Impact → affected health infrastructure ↳ children education, psychological problem.
<input type="checkbox"/>	<input type="checkbox"/>	Immediate issues ↳ shelter, food, medical aid, livelihood etc
<input type="checkbox"/>	<input type="checkbox"/>	Government Response
<input type="checkbox"/>	<input type="checkbox"/>	Short term ↳ Rescue & relief operations ↳ temporary food, shelter provided
<input type="checkbox"/>	<input type="checkbox"/>	mid term ↳ Reconstruction and Rehabilitation ↳ of 3 lakh families
<input type="checkbox"/>	<input type="checkbox"/>	↳ GSDMA created
<input type="checkbox"/>	<input type="checkbox"/>	Long term ↳ capacity building of GSDMA ↳ Reduction and mitigation plan for future ↳ Early warning system.
<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	93
<input type="checkbox"/>	<input type="checkbox"/>	It was worst earthquake in past 250 years but Natch converted it into opportunity and they Build back better and resilient infrastructure today.
<input type="checkbox"/>	<input type="checkbox"/>	
<input type="checkbox"/>	<input type="checkbox"/>	