

(723)

TEST - 7

GS SCORE

GS MAINS MOCK 2021

GEOGRAPHY - 1

Time Allowed: 50 Mins.

Max. Marks: 60

Q.	Marks	Instructions to Candidate
1.		<ul style="list-style-type: none">• There are 05 questions.• All questions are compulsory.• The marks carried by a question is indicated against it.• Keep the word limit indicated in the questions in mind.• Answers must be written within the space provided.• Any page or portion of the page left blank in the Question-cum-Answer Booklet must be clearly struck off.
2.		
3.		
4.		
5.		
(19)		

Name Uttam

Roll No. 57128

Mobile No. [REDACTED]

Date 16 Nov. 2021

Signature Uttam

1. Invigilator Signature _____

2. Invigilator Signature _____

REMARKS

GS SCORE



2112
2112

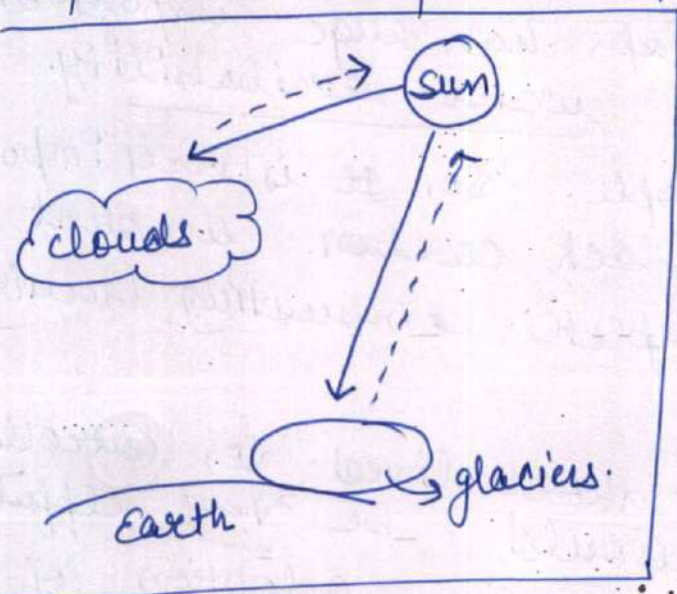
2112
2112

Q1. Discuss the role of albedo of ice caps in maintaining heat budget of earth. Analyze the impact of deposition of black carbon on ice caps on their albedo.

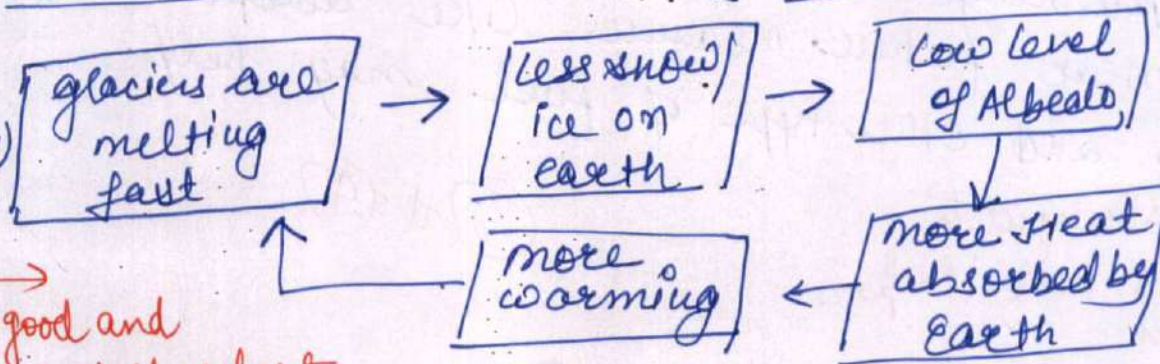
(10 Marks) (150 Words)

Albedo is a phenomenon under which the part of solar radiations reflected back to space before reaching to surface of earth.

This varies from planet to planet and for earth it is 35%. Mainly clouds and ice caps are responsible for albedo.



These radiations are not absorbed by earth and temperature of ocean & atmosphere is maintained to normal. In recent period due to impact of climate change.



Very good and apt use of flowchart. Keep it up.

So, Heat Budget of earth will be imbalanced. (It is sum total of sun radiations received by earth and reflected back to space)

Remarks

Give sub-heading i.e. Impact of deposition of black carbon on ice caps.

In normal situation it remains zero. Apart from faster melting, black carbon (a short-lived pollutant) is also impacting a lot heat budget by depositing on ice-caps. Black carbon tend to absorb all the incoming radiation and increases rate of melting of ice-caps which in turn reduces albedo.

* Better you write in bullet points

melting of ice-caps has huge impact on temperature of earth, water-availability and livelihood of people. So, it is very important to reduce black carbon amount (added due to incomplete combusting, burning of woods, fuels.).

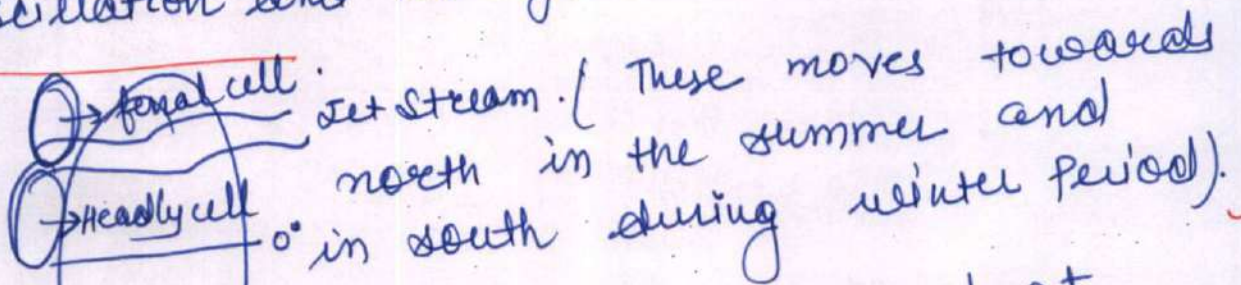
This is very short-lived. So, controlling its percentage now- would be very helpful in near future. measures like adoption of LPG and other type of fuel may help.

Discuss the strategies to counter emission of black carbon.

(3) + (4)

Q2. Most scientists agree that climate change is making events driven by the jet stream worse. Explaining the phenomenon of jet streams, discuss how climate change affects the jet streams? (10 Marks) (150 Words)

Jet streams are fast moving currents of air blowing at height of 15 to 18 km with a speed of around 200 kmph. (at tropopause). The course of these streams is not influenced by the solar oscillation and change in climate.



Jet streams are formed at confluence of Ferrel and Hadley cells. All the Jet stream (Exception eastern jet stream flows during summer over mainland India) are westerly in nature (due to rotation of earth from north west to east).

Jet stream influences the monsoons in India and arrival and frequency of rainfall is generally determined by these.

In Present times, climate change is influencing the jet stream.

Explain the Implication of Climate change

Remarks

* Please write your basic books & class notes

1.5 to 1.8
2

The diagram shows the structure of the cell wall and the cell membrane. The cell wall is composed of cellulose, hemicellulose, and pectin. The cell membrane is composed of phospholipids and proteins. The diagram also shows the nucleus, mitochondria, and other organelles.

The diagram illustrates the structure of a plant cell. The cell wall is the outermost layer, followed by the cell membrane. Inside the cell, there is a large central vacuole, a nucleus, and other organelles. The diagram is labeled with various parts of the cell.

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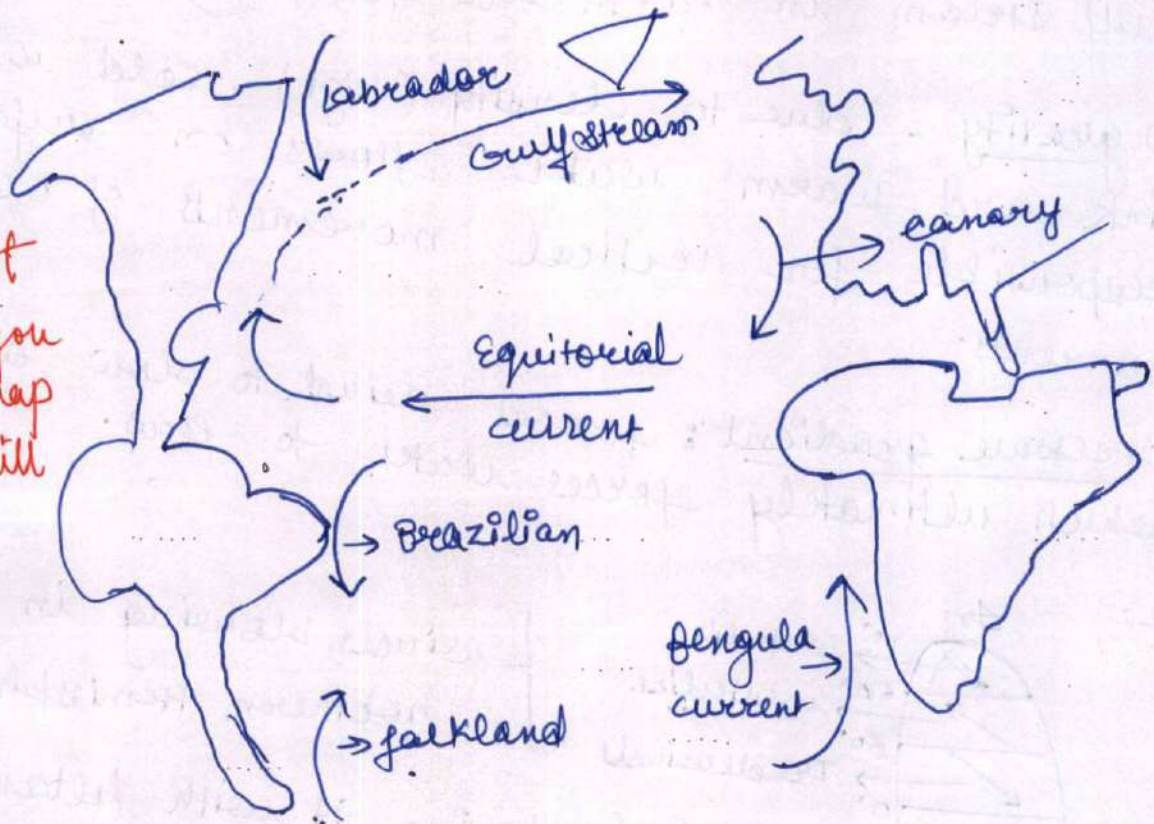
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Remarks

Q3. Major ocean currents are greatly influenced by the stresses exerted by the prevailing winds and Coriolis force. Discuss the forces which influence the major currents of oceans. Explain with examples why oceanic circulation pattern roughly corresponds to the earth's atmospheric circulation pattern. (15 Marks) (250 Words)

Ocean currents are proper channel of water in the ocean flowing in particular direction at particular time period since ages.

sn



Good effort
+ better if you improve map making skill

Atlantic Ocean : Major currents

Ocean current are influenced by following major factors:

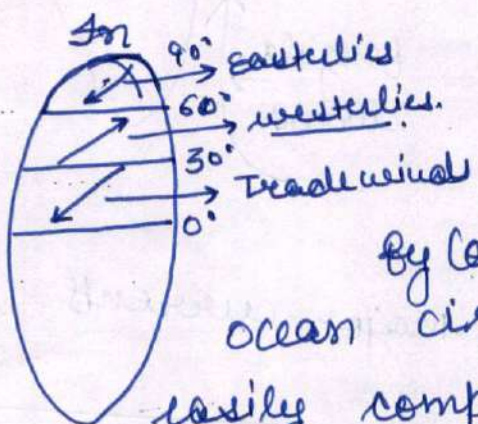
better if you write primary & secondary factors

Remarks

Ques
prints

- 1) wind → Trade winds are mainly responsible for generation of equatorial currents in all major ocean.
- 2) Coriolis force: responsible for movement of current "left" in the northern hemisphere and "right" in Southern Hemisphere. (Brazilian in Southern and Gulf Stream in north are examples.)
- 3) gravity - due to density (High) - cold water sink and warm water flows on surface. responsible for vertical movements of ocean currents.
- 4) Pressure gradient: forces wind to blow and which ultimately forces water to flow.

Bring more imp. points here



winds blowing in the northern hemisphere.

By comparing it with Atlantic ocean circulation - it can be easily comprehended - Gulf stream which is responsible for the Warm port conditions in Britain is largely influenced by the predominant westerly wind in these latitudes.

Remarks

→ Please discuss the reasons for circulation pattern
* You have not addressed the 2nd part of the question

moreover, flow of Labrador current from Poles towards equator can be attributed to some extent to the easterly winds.

Ocean current plays very important role in climatic, economic situation of destination area. for instance cold currents can make the destination area desert like situation.

Not needed. meeting of cold and Hot ocean current can is best fishing grounds. And ocean current (warm) is responsible for best weather conditions in Britain.

Similarly, Indian ocean circulation is also largely dictated by monsoonal patterns.

Conclusion not as per the context of the question.

$(3) + 2 = (5)$

- Q4. Apart from thermal gradient factors other factors such as relief, orography and upper air circulation are responsible for onset of monsoon in the Indian subcontinent. Elucidate. (15 Marks) (250 Words)

Monsoons - seasonal change in flow of wind direction. Indian sub-continent (all countries) face monsoonal climate. Maximum rainfall is received in just 4 months of year (from June to September).

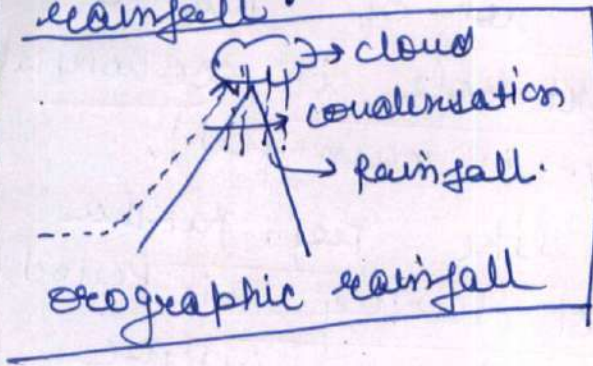


Relief and orography. Onset of Indian monsoon is largely influenced by thermal gradient. due to oscillation of sun towards trropic of cancer. north hemisphere is intensely heated and low pressure is created. winds from south of equator flow from High Pressure zone to low pressure.

Remarks

After this onset Other factors impact Monsoon such as:

1) Relief and topography :- western ghats and Meghalaya Hills in India faces the orographic rainfall.



(2) Upper air circulation
In upper air circulation both westerly jet stream as well as easterly jet stream influence.

Easterly jet stream strengthens the monsoon by bringing cyclones of Bay of Bengal and to India mainland (burst of monsoon)

b) westerly jet stream - withdrawal plays a major role in onset. If withdrawal is not on time - then onset can be delayed and also the 'break of monsoon' is also caused by westerly jet stream.

(3) orography - mighty mountains (Himalayas) plays an important role in capturing the monsoon- (rain bearing winds) in the country only.

→ You have missed Imp. by aspects

ITCZ & impact of air masses.

Remarks

and movement of monsoonal winds towards eastern India is due to deflection of wind from the Myanmar Hills.

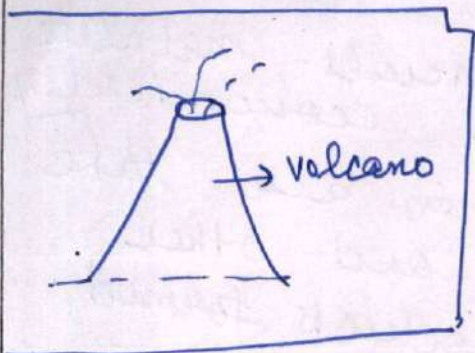
Hence, it can be said the monsoon in India is influenced by lot of factors. Monsoon plays very important role in economical (agriculture in India \approx 50% is rain-fed), cultural (major festivals like Teej, Raksha Bandhan & are celebrated during this period) and climatic (provide relief from intense heating).

Due to change in climate - a major factor ENSO (El-Nino, Southern Oscillation), Indian ocean dipole also influences the Indian monsoon.

$$(3.5) + 1.5 = (5)$$

Good Conclusion

Q5: "On the one hand volcanoes cause harm to life and property, displacement of people and air and water pollution, but at the same time it provides benefits to people in different ways". Elucidate. (10 Marks) (150 Words)



volcano is defined as a vent through which pyroclastic debris, ashes, lava comes from interior of earth to surface.

volcanoes are associated with the earthquakes, huge loss to life in nearby active volcanoes (Hawaii islands - volcanoes are responsible for causing huge destruction). It also pollutants like SO₂, sulphur aerosol to the atmosphere (so responsible for air pollution) and when these pollutants get mixed with water - water contaminates that

to associate volcanoes usually, it is a penalisation with the negative written arguments present different picture.
outcomes but the below

debris and lava bring the pyroclastic surface. These materials after being cooled to local soil - provides increased fertility.

Remarks

Apply apply

2) Volcanoes which are not active now for instance Deccan traps of India provides highly fertile agricultural land (black soil for cotton production)

3) Lava contains a no. of minerals - metallic minerals - can be harnessed economically

4) metamorphic rocks formation also take place. So, marble, schist and other economically important products formed.

5) Volcanoes contains large no. of aerosols (which absorbs the incoming solar radiation) and so, reduces the temperature of earth. So aid in global warming.

6) Volcanoes add a number of suspended particulate matters - which aid in condensation of air and rainfall is caused.

7) Volcanoes also aid in sea-floor spreading and brings required elements for bior diversity in ocean.

Volcanoes have both positive as well as negative contribution. We can consider it as a beautiful balance of nature.

These use some keywords - Globalwelling Cooling Hot springs & Geothermal energy etc.

4
→ Gard answer.