November 21, 2017

Q.1) Consider the following statements about Gandaki River

1. It is a left bank tributary of the Ganga in India
2. Dhaulagiri is the highest point of the Gandaki basin

Select the correct statements

a) 1 Only
b) 2 Only
c) Both 1 and 2
d) Neither 1 nor 2

Q.1) Solution (c)

The Gandaki River (also known as the Narayani in southern Nepal and the Gandak in India) is one of the major rivers of Nepal and a left bank tributary of the Ganges in India. In Nepal the river is notable for its deep gorge through the Himalayas and its enormous hydroelectric potential. It has a total catchment area of 46,300 square kilometers (17,900 sq mi), most of it in Nepal. The basin also contains three of the world's 14 mountains over 8,000 metres (26,000 ft), Dhaulagiri, Manaslu and Annapurna I. Dhaulagiri is the highest point of the Gandaki basin. It lies between the similar Kosi system to the east and the Karnali (Ghaghara) system to the west.

Source: https://economictimes.indiatimes.com/news/international/world-news/nepal-cancels-budhi-gandaki-agreement-with-chinese-company/articleshow/61628904.cms

Q.2) Consider the following statements about crassulacean acid metabolism (CAM)

1. It is an enhanced form of photosynthesis
2. It is not found in aquatic plants

Select the correct statements

a) 1 Only
b) 2 Only
c) Both 1 and 2
d) Neither 1 nor 2

Q.2) Solution (a)

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Crassulacean acid metabolism, also known as CAM photosynthesis, is a carbon fixation pathway that evolved in some plants as an adaptation to arid conditions. In a plant using full CAM, the stomata in the leaves remain shut during the day to reduce evapotranspiration, but open at night to collect carbon dioxide (CO_2). The CO_2 is stored as the four-carbon acid malate in vacuoles at night, and then in the daytime, the malate is transported to chloroplasts where it is converted back to CO_2, which is then used during photosynthesis. The pre-collected CO_2 is concentrated around the enzyme RuBisCO, increasing photosynthetic efficiency. This metabolism was first studied in plants of the family Crassulaceae. These mainly include succulents.

CAM is an adaptation for increased efficiency in the use of water, and so is typically found in plants growing in arid conditions.

The most important benefit of CAM to the plant is the ability to leave most leaf stomata closed during the day. Plants employing CAM are most common in arid environments, where water comes at a premium. Being able to keep stomata closed during the hottest and driest part of the day reduces the loss of water through evapotranspiration, allowing such plants to grow in environments that would otherwise be far too dry. Plants using only C3 carbon fixation, for example, lose 97% of the water they uptake through the roots to transpiration - a high cost avoided by plants able to employ CAM.

CAM photosynthesis is also found in aquatic species in at least 4 genera, including: Isoetes, Crassula, Littorella, Sagittaria, and possibly Vallisneria,[8] being found in a variety of species e.g. Isoetes howellii, Crassula aquatica.

These plants follow the same nocturnal acid accumulation and daytime deacidification as terrestrial CAM species. However, the reason for CAM in aquatic plants is not due to a lack of available water, but a limited supply of CO_2. CO_2 is limited due to slow diffusion in water, 10000x slower than in air. The problem is especially acute under acid pH, where the only inorganic carbon species present is CO_2, with no available bicarbonate or carbonate supply.

Aquatic CAM plants capture carbon at night when it is abundant due to a lack of competition from other photosynthetic organisms. This also results in lowered photorespiration due to less photosynthetically generated oxygen.

Aquatic CAM is most marked in the summer months when there is increased competition for CO_2, compared to the winter months. However, in the winter months CAM still has a significant role.

Source: http://www.thehindu.com/sci-tech/energy-and-environment/how-succulents-survive-without-water-decoded/article20556392.ece

Q.3) 'World Economic Outlook' is released by

a) IMF
b) WTO
c) World Bank
d) WEF

Q.3) Solution (a)

Source: http://www.livemint.com/Money/5MFOB8LlF5NMPYcGAnTZpI/India-up-one-place-on-Per-Capita-GDP-terms-to-126-Qatar-No.html

Q.4) Aligarh Movement is associated with

a) Caste Reforms
b) Religious Reforms
c) Education Reforms
d) None of the above

Q.4) Solution (c)

The Aligarh Movement was the push to establish a modern system of education for the Muslim population of British India, during the later decades of the 19th century. The movement's name derives from the fact that its core and origins lay in the city of Aligarh in Northern India and, in particular, with the foundation of: the Muhammadan Anglo Oriental Collegiate School. The founder of the original college, and the other educational institutions that developed from it, was Sir Syed Ahmad Khan. He became the leading light of the wider Aligarh Movement.

The educational reform established a base, and an impetus, for the wider Movement: an Indian Muslim renaissance that had a profound implications for the religion, the politics, the culture and society of the Indian sub-continent.

One of indirect consequences of the awakening is the notion that without this revival of a Muslim self-consciousness and self-confidence, directly attributable to the Movement, there could or would have been no Pakistan Movement in the run up to Indian Independence.

Source: http://indianexpress.com/article/opinion/indian-muslims-must-re-read-syed-ahmad-khan-4932572/

Q.5) Which of the following are correctly matched?

1. Himba Tribe – Namibia
2. Chukchi Tribe – Iceland
3. Rabari – India

Select the correct code:

a) 1 and 2
b) 2 and 3
c) 1 and 3
d) All of the above

Q.5) Solution (c)

The Himba are indigenous peoples with an estimated population of about 50,000 people living in northern Namibia, in the Kunene Region (formerly Kaokoland) and on the other side of the Kunene River in Angola. There are also a few groups left of the OvaTwa, who are also OvaHimba, but are hunter-gatherers. The OvaHimba are a semi-nomadic, pastoralist people, culturally distinguishable from the Herero people in northern Namibia and southern Angola, and speak OtjiHimba, a variety of Herero, which belongs to the Bantu family within Niger–Congo. The OvaHimba are considered the last (semi-) nomadic people of Namibia.

The Chukchi, or Chukchee are an indigenous people inhabiting the Chukchi Peninsula and the shores of the Chukchi Sea and the Bering Sea region of the Arctic Ocean within the Russian Federation. They speak the Chukchi language. The Chukchi originated from the people living around the Okhotsk Sea.

For almost 1,000 years, the Rabari have roamed the deserts and plains of what is today western India. It is believed that this tribe, with a peculiar Persian physiognomy, migrated from the Iranian plateau more than a millennium ago. The Rabari are now found largely in Gujarat and Rajasthan.