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Q.1) The Konyaks are found in

- 1. Nagaland
- 2. Arunachal Pradesh
- 3. Mizoram

Select the correct code:

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

Q.1) Solution (a)

The Konyak are a Naga people, and are recognised among other Naga by their tattoos, which they have all over their face and hands, chest, arms, calves. Facial tattoos were earned for taking an enemy's head. Mon district in Nagaland is called the 'Land of Angh's'. They have the largest population among the Nagas.

The Konyak's festival "Aoleang" falls in the month of April from 1 to 6. Aoleang is the biggest festival for the Konyak. They wear their traditional attire and sing folk song to celebrate the Aoleang festival. 'Lao Ong Mo' is the traditional harvest festival celebrated in the months of August/September.

The Konyaks can be found in Myanmar, in the Tirap and Changlang districts of Arunachal, and in the Mon district of Nagaland, India. They are known in Arunachal as Wancho Konyak.

The Konyak language belongs to the Northern Naga sub branch of the Sal subfamily of Sino-Tibetan.

The Konyaks were headhunters and this was prevalent till the early 1900's. In the recent past, they were known as war loving and often attacked nearby villages of other tribes taking the heads of opposing warriors as trophies to hang in the 'Paan' (a communal house). The number of heads indicated the power of a warrior and the tribe and becomes a collective totem. With the exception of these behaviors, the tribal members maintain a very disciplined community life with strict duties and responsibilities for every individual. Konyak culture is one among the richest culture among the Naga tribes.

Source: http://www.thehindu.com/sci-tech/science/scientists-discover-new-parasitic-plant-in-nagaland/article20551737.ece

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Q.2) Which of the following judgement laid that, "freedom of expression cannot be suppressed on account of threat of demonstration and processions or threats of violence"?

- a) S. Rangarajan v. Jagjivan Ram
- b) Hamdard Dawakhana v. Union of India
- c) Abbas v. Union of India
- d) Bennet Coleman and Co. v. Union of India

Q.2) Solution (a)

Supreme Court has clearly laid down, in the 1989 judgment in the case of S. Rangarajan v. Jagjivan Ram involving the film Ore Oru Gramathile (which dealt with the issue of reservation), that "freedom of expression cannot be suppressed on account of threat of demonstration and processions or threats of violence." That, the court noted, would be tantamount to "negation of the rule of law and surrender to blackmail and intimidation."

Source: http://www.thehindu.com/opinion/editorial/an-absurd-canvas/article20539604.ece

Q.3) Consider the following statements about Carbapenems

- 1. They are a class of last-resort antibiotics
- 2. Patients hospitalized with an invasive, ESBL infection are usually treated with a medicine from the carbapenem class

Select the correct statements

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

Q.3) Solution (c)

Carbapenems are antibiotics used for the treatment of infections known or suspected to be caused by multidrug-resistant (MDR) bacteria. Their use is primarily in people who are hospitalized.

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Like the penicillins and cephalosporins, they are members of the beta lactam class of antibiotics, which kill bacteria by binding to penicillin-binding proteins and inhibiting cell wall synthesis. They exhibit a broader spectrum of activity compared to cephalosporins and penicillins. Their effectiveness is less affected by many common mechanisms of antibiotic resistance than other beta lactams.

Patients hospitalized with an invasive, ESBL infection are usually treated with a medicine from the carbapenem class, though even those high-powered antibiotics are failing now that bacteria are increasingly harboring carbapenemase enzymes that neutralize these drugs. In many cases, that leaves just one antibiotic: colistin.

One study from Delhi's Ganga Ram hospital found that between 2002 and 2009, among patients infected by Klebsiella pneumoniae (a pneumonia-causing bacterium), the percentage of these pathogens that were resistant to carbapenems grew from 2% to 52%. Carbapenems are a class of last-resort antibiotics which doctors use only when others have failed.

Source: http://www.thehindu.com/opinion/op-ed/the-superbugs-of-hyderabad/article20536685.ece

Q.4) Consider the following statements about Petcoke

- 1. It emits less carbon dioxide than coal on a per-unit-of-energy basis when it is burned
- 2. Fuel grade petcoke is high in sulphur and metals

Select the correct statements

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

Q.4) Solution (b)

Petroleum coke, abbreviated coke or petcoke, is a final carbon-rich solid material that derives from oil refining, and is one type of the group of fuels referred to as cokes. Petcoke is the coke that, in particular, derives from a final cracking process—a thermo-based chemical engineering process that splits long chain hydrocarbons of petroleum into shorter chains—that takes place in units termed coker units.

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In petroleum coker units, residual oils from other distillation processes used in petroleum refining are treated at a high temperature and pressure leaving the petcoke after driving off gases and volatiles, and separating off remaining light and heavy oils. These processes are termed "coking processes," and most typically employ chemical engineering plant operations for the specific process of delayed coking.

This coke can either be fuel grade (high in sulfur and metals) or anode grade (low in sulfur and metals). The raw coke directly out of the coker is often referred to as green coke. In this context, "green" means unprocessed. The further processing of green coke by calcining in a rotary kiln removes residual volatile hydrocarbons from the coke. The calcined petroleum coke can be further processed in an anode baking oven in order to produce anode coke of the desired shape and physical properties. The anodes are mainly used in the aluminium and steel industry.

Petcoke is over 90 percent carbon and emits 5 to 10 percent more carbon dioxide (CO2) than coal on a per-unit-of-energy basis when it is burned. As petcoke has a higher energy content, petcoke emits between 30 and 80 percent more CO2 than coal per unit of weight. The difference between coal and coke in CO2 production per unit energy produced depends upon the moisture in the coal (increases the CO2 per unit energy – heat of combustion) and volatile hydrocarbon in coal and coke (decrease the CO2 per unit energy).

Source: http://www.thehindu.com/news/national/sc-for-nationwide-ban-on-furnace-oil-pet-coke/article20534514.ece

Q.5) SAFAR System is concerned with

- a) Tourism
- b) Air Quality
- c) Mines Allocation
- d) Connecting tier 2 & tier 3 cities through airways

Q.5) Solution (b)

SAFAR envisages a research based management system where strategies of air pollution mitigation go hand in hand with nation's economic development to target a win-win scenario.

Through SAFAR know the City Air Quality- Over all city pollution and Location specific Air Quality- A relative contribution of different environments in a city

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Under the plan scheme "Metropolitan Advisories for Cities for Sports, Tourism (Metropolitan Air Quality and Weather Services), Ministry of Earth Sciences (MoES), Govt. of India, has introduced a major national initiative, "System of Air Quality and Weather Forecasting and Research" known as "SAFAR" for greater metropolitan cities of India to provide location specific information on air quality in near real time and its forecast 1-3 days in advance for the first time in India.

It has been combined with the early warning system on weather parameters. The SAFAR system is developed by Indian Institute of Tropical Meteorology, Pune, along with ESSO partner institutions namely India Meteorological Department (IMD) and National Centre for Medium Range Weather Forecasting (NCMRWF).

The implementation of SAFAR is made possible with an active collaboration with local municipal corporations and various local educational institutions and governmental agencies in that Metro city.

The ultimate objective of the project is to increase awareness among general public regarding the air quality in their city well in advance so that appropriate mitigation measures and systematic action can be taken up for betterment of air quality and related health issues. It engineers awareness drive by educating public, prompting self-mitigation and also to help develop mitigation strategies for policy makers.

Source: https://timesofindia.indiatimes.com/city/delhi/40-of-smog-was-dust-from-gulf-safar/articleshow/61679352.cms