Compilation on Geography Questions

1. With regard to the Western Himalayas and the Eastern Himalayas, consider the following

1. The ranges of the Eastern Himalayas are more continuous compared to Western Himalayas
2. The Western Himalayas receive most of the precipitation in the winter months and the Eastern Himalayas in the summer months
3. Eastern Himalayas are much greener and dense compared to Western Himalayas

Choose the correct answer using the codes below.

1. 1 and 2 only
2. 2 and 3 only
3. 1 and 3 only
4. All of the above

Solution: 2

Western Himalaya refers to the western half of the Himalayan Mountain region, stretching from Badakhshan in northeastern Afghanistan/southern Tajikistan, through Kashmir to Nepal. Eastern Himalaya is situated between Central Nepal in the west and Myanmar in the east, occupying southeast Tibet in China, Sikkim, North Bengal, Bhutan and North-East India. The western himalayas consists of the most continuous range and the loftiest peaks and compared to eastern Himalayas. The western Himalayas receive more precipitation from northwest in the winters, and eastern Himalayas receive more precipitation from southeastern monsoon in the summers. Due to higher temperature and perception, the Eastern Himalayas are far greener with forests than the Western Himalaya.

2. Consider the following statements

1. The peninsular plateau is composed mainly of igneous and metamorphic rocks

2. The Garo, Khasi and Jaintia Hills form a part of peninsular block.

3. The peninsular plateau is the oldest and most stable landmass in India, devoid of earthquakes or volcanic activity.

Choose the correct answer using the codes below.

1. 1 and 2 only

2. 2 and 3 only

3. 1 and 3 only

4. All of the above

Solution: 1

The central-western parts of India, particularly Gujarat (in 1819, 1956 and 2001) and Maharashtra (in 1967 and 1993) have also experienced some severe earthquakes. Earth scientists have found it difficult to explain the occurrence of earthquakes in one of the oldest, most stable and mature landmass of Peninsular block for a long time. Recently, some earth scientists have come up with a theory of emergence of a fault line and energy build-up along the fault line represented by the river Bhima (Krishna) near Latur and Osmanabad (Maharashtra) and the possible breaking down of the Indian plate.

3. New Moore Island was recently in news because

1. of the maritime dispute between India and Sri Lanka on Kachatheevu islands

2. of the maritime dispute between India and Bangladesh

3. of the alarming decline in the population of dolphins and whales there

4. of the alarming decline in the area of mangroves and coral reefs there

Solution: 2

The island is located in the coastal, shallow Bay of Bengal immediately south of the international border river, the Hariabhanga. The island was claimed by both Bangladesh and India, although neither country established any permanent settlement there because of the island's geographical instability. Bangladesh claims the settlement of the boundaries between Bangladesh and India has been reached on the basis of Radcliffe Award. Bangladesh took these disputes to the PCA in 2009. Recently, the dispute came to an end as the Permanent Court of arbitration gave final verdict regarding this dispute alloting a large maritime area to Bangaldesh about 32,000 sq. kms. The delimitation award is binding on both the parties and is not subject to further appeal. But, New Moore Island (or South Talpatti Island to the Bangladesh) has fallen in India`s part of the Bay of Bengal.

4. Peninsular rivers in India are not flooded as much as the Himalayan rivers. The reasons can be?

1. India's peninsular rivers have relatively steep gradients.

2. There is little variation in flow from the dry to wet seasons.

3. Most rivers do not form deltas.

Choose the correct answer using the codes below.

1. 1 and 2 only

2. 2 and 3 only

3. 1 and 3 only

4. 1 only

Solution: 4

India's peninsular rivers have relatively steep gradients and thus rarely give rise to floods of the type that occur in the plains of northern India, despite considerable variations in flow from the dry to wet seasons. Forming Delta or not is irrelevant to the flooding of rivers. It depends more on the river's silt load, water volume flow, and gradient of flow.

5. The Himalayan Mountains are tectonic in origin, dissected by fast-flowing rivers which are in their youthful stage. Which of the following features made by rivers can be seen there?

1. Gorges

2. V-shaped valleys

3. Rapids

4. Waterfalls

Choose the correct answer using the codes below.

1. 1, 2 and 4 only

2. 1, 2 and 3 only

3. 3 and 4 only

4. All of the above

Solution: 4

The Himalayas along with other Peninsular mountains are young, weak and flexible in their geological structure unlike the rigid and stable Peninsular Block. Consequently, they are still subjected to the interplay of exogenic and endogenic forces, resulting in the development of faults, folds and thrust plains. These mountains are tectonic in origin, dissected by fast flowing rivers which are in their youthful stage. Therefore, various landforms like gorges, Vshaped valleys, rapids, waterfalls, etc. are indicative of this stage. These are both due to the speed of the rivers as well as the weak geological structure.

6. The Kashmir Himalayas are famous for Karewa formations, which are useful for the cultivation of

1. Zafran, a local variety of saffron

2. buckwheat, a local nutritional coarse grain

3. turnips, a local health supplement

4. All of the above

Solution: 1

The valley of Kashmir has many types of soils like: Gurti (clay), Bahil (Loam), Sekil (Sandy), Nambaal (Peats), Surzamin, Lemb, Floating garden soils and Karewa soils. Karewa formations are lake-laid clays and shales. These are lacustine (lake related) deposits and appear like flat mounds on the margin of high mountains. Below these karewas is spread the alluvium of the Jehlum. The highest karewa is near the Pir Panjal.

7. The British introduced tea plantations in the Darjiling and Sikkim Himalayas looking at some of the favourable conditions which were

1. Steep slopes

2. thick soil cover with low organic content

3. well distributed rainfall

4. mild winters

Choose the correct answer using the codes below.

1. 1, 2 and 4 only

2. 1, 2 and 3 only

3. 3 and 4 only

4. All of the above

Solution: 3

Tea plantation cannot grow in steep slopes, it requires moderate slopes. Moreover, soil with high organic content is needed for tea plantation. Moreover, mild winter and wellwww. distributed rainfall made the Darjeeling and Sikkim Himalayas an ideal destination for the British to grow tea plantations.

8. The Tarai region of the Northern plains supports luxurious growth of natural vegetation and varied wild life population. This is because

1. Re-emerging rivers from Bhabhar flow in undemarcated channels here creating marshy and swampy conditions

2. all fertile coarse load is deposited at Tarai region after rivers re-emerge from Bhabar region

3. the Tarai region is crossed by large Himalayan rivers which regularly deposit silt and clay here

4. Both 1 and 3

Solution: 4

Bhabar is a narrow belt ranging between 8-10 km parallel to the Shiwalik foothills at the break-up of the slope. As a result of this, the streams and rivers coming from the mountains deposit heavy materials of rocks and boulders, and at times, disappear in this zone. South of the Bhabar is the Tarai belt, with an approximate width of 10-20 km where most of the streams and rivers re-emerge without having any properly demarcated channel, thereby, creating marshy and swampy conditions known as the Tarai. This has a luxurious growth of natural vegetation and houses a varied wild life. The Terai is crossed by the large perennial Himalayan rivers Yamuna, Ganges, Sarda, Karnali, Narayani and Kosi that have each built alluvial fans covering thousands of square kilometres below their exits from the hills.

9. Consider the following statements about the Western and Eastern Ghats.

1. Western Ghats are comparatively higher in elevation than Eastern ghats.

2. Western Ghats are more continuous than the Eastern Ghats as the latter is eroded by several east flowing rivers.

3. The Eastern and the Western Ghats meet each other at the Nilgiri hills.

Choose the correct answer using the codes below.

1. 1 and 2 only

2. 2 and 3 only

3. 1 and 3 only

4. All of the above

Solution: 4

Most of the Peninsular rivers have their origin in the Western Ghats. Eastern Ghats comprising the discontinuous and low hills are highly eroded by the rivers such as the Mahanadi, the Godavari, the Krishna, the Kaveri, etc. Some of the important ranges include the Javadi hills, the Palconda range, the Nallamala hills, the Mahendragiri hills, etc. The Eastern and the Western Ghats meet each other at the Nilgiri hills.

10. Consider the following statements with regard to Western coastal plain

1. The western coastal plains provides natural conditions for the development of ports and harbours

2. The rivers flowing through western coastal plains do not form any deltas

Choose the correct answer using the codes below.

1. 1 only

2. 2 only

3. Both 1 and 2

4. None of the above

Solution: 3

The western coastal plains are an example of submerged coastal plain. Because of this submergence it is a narrow belt and provides natural conditions for the development of ports and harbours. Kandla, Mazagaon, JLN port Navha Sheva, Marmagao, Mangalore, Cochin, etc. are some of the important natural ports located along the west coast. The rivers flowing through the western coastal plain do not form any delta.

11. Consider the following rivers

1. Krishna
2. Kaveri
3. Godavari
4. Penganga

The correct sequence of these rivers when arranged from south to north is

1. 2, 1,3 and 4
2. 1,2,3 and 4
3. 1, 3, 4 and 2
4. 3, 2, 1 and 4

Solution: 1

Explanation: Check the Map of drainage system in Atlas

12. Assertion (A): The frequency of floods in North Indian plains has increased in recent times.

Reason (R): There has been reduction in the depth of river valleys due to deposition of silt.

1. Both A and R are true and R is the correct explanation of A
2. Both A and R are true but R is not the correct explanation of A
3. A is true but R is false
4. A is false but R is true

Solution: 1

The second statement is true as deposition reduces the depth and in rainy season the river outflows leading to flood.

13. Given are the Indian Rivers and corresponding National Parks

1. Lohit	Orang National Park
2. Chambal	Rajaji National Park
3. Narmada	Kanha National Park

Select the correct match

1. Only 2
2. 1 and 3
3. Only 3
4. 1, 2 and 3

Solution: 3

Explanation:Rajaji National Parkspread across Dehradun, Haridwar and Pauri districts of Uttarakhand.

Kanha National Park located in the upper reaches of Narmada and **The Orang National Park,** located on the north bank of the Brahmaputra River in the Darrangand Sonitpur districts of Assam.

14. Which of the following Rivers does not pass through Tropic of Cancer?

1. Sabarmati
2. Mahi
3. Damodar
4. Luni

Solution: 4

The River Luni: In Rajasthan

15. Amongst the following the river that passes through most number of countries?

1. Zambezi
2. River Severn
3. Danube
4. Missisippi

Solution- 3

Explanation- The Danube River touches or passes through ten countries, more than any other river. The Danube begins in Germany and encounters Austria, Slovakia, Hungary, Croatia, Serbia, Romania, Bulgaria, Moldova, and Ukraine. It eventually flows into the Black Sea.

16. Consider the following statements

1. The West flowing rivers contains very less amounts of Silt and due to its fast speed it cannot make delta.
2. Rivers arriving into a sea with high tidal range will not form delta because the changes in the tidal area will wash away the sediments brought by the river.
3. Western rivers flows in the fault region created by the mountains Vindhya and Satpura which are rocky and devoid of any alluvial material. Hence no Delta formation

Select the correct statement/s

1. Only 1
2. 1 and 2
3. 1, 2 and 3
4. Only 2

Solution: 3

Self Explanatory

17. Imagine you are travelling from New Delhi towards North. If you go vertically upwards towards Jammu and Kashmir, select the correct sequence in which you will cross these rivers

1. Ravi-Beas-Ravi-Satluj-Jhelum
2. Satluj-Beas-Ravi-Chenab-Indus
3. Satluj-Beas-Ravi-Chenab-Jhelum
4. Ravi-Beas-Ravi-Satluj-Indus

Solution- 2

Explanation: If one travels vertically upward, he/she will not cross Jhelum as it flows North-West of J&K. Other rivers will come in the sequence as mentioned in option 2.

18. Suppose you are travelling along the Eastern Ghat on Eastern Coast of India from Northern to Southern region, the sequence in which you will cross these rivers

1. Krishna-Godavari-Mahanadi-Kaveri
2. Mahanadi-Krishna -Godavari-Kaveri
3. Krishna-Godavari-Mahanadi-Kaveri
4. Mahanadi-Godavari-Krishna-Kaveri

Solution: 4

Explanation: Check the Map of India

19. Consider the statements w.r.t Ganges Drainage System and Peninsular Drainage System

1. Peninsular rivers bear the exception of flowing through Rift valleys, like Narmada, while Ganges Rivers have no such feature.
2. All Peninsular rivers are characterized by fixed course, absence of meanders and non-perennial flow of water while Ganges rivers are perennial, having meanders and have non-fixed courses.

Select the correct statement/s

1. Only 1
2. Only 2
3. Both
4. None

Solution: 4

Explanation: Damodar River, a river Ganges River System occupies the eastern margins of the Chotanagpur Plateau where it flows through a rift valley. So, first statement is wrong.

Peninsular rivers are characterized by fixed course, absence of meanders and non-perennial flow of water. The Narmada and Tapi which flow through the rift valley are, however, exceptions. Hence none of the statements are correct.

20. Consider the following Dams

1. Barna Dam	Chambal River
2. Pawna Dam	Maval River
3. Maithoon Dam	Barakar River
4. Gandhi Sagar Dam	Chambal River

Select the correct options

1. 1, 2 and 3
2. 3 and 4
3. 1, 2, 3 and 4
4. 1, 3 and 4

Solution: 2

Explanation:

Barna Dam: Barna River in MP

Pawna Dam: Maval River in Maharashtra

Maithoon Dam: Barakar River in Jharkhand

Gandhi Sagar Dam: Chambal River in MP

21. Snow line is a line above which no vegetation grows on high altitude mountains because of permanent snow cover. This snow line is higher for Eastern Himalayas compared to that of Western Himalayas. What are the reasons?

Consider the following statements

1. Eastern Himalayas are near to the Equator.
2. Western Himalayas are more continental in their location thus has lesser maritime influence.
3. Southwest monsoon winds have the moderating effect on the Western Himalayas.

Choose the correct code

1. 1, 2 only.
2. 1, 3 only.
3. 2, 3 only.
4. All the above.

Solution- 1

Snowline is a function of altitude and latitude. Higher is the latitude and altitude lower is the snowline. Eastern Himalaya's altitude as well as latitudinal location is lower compared to Western Himalayas. Due to higher altitude as well as latitude the temperature is much less in the Western Himalaya and as a consequence the snowline in the Western Himalaya is at a lower altitude than in the Eastern Himalaya. Southwest monsoon winds bring more rainfall to Eastern Himalayas than compared to Western Himalayas. Thus monsoon winds can have moderating effect on Eastern Himalayas and in turn increasing the altitude of snowline. Thus 3rd statement is wrong.

22. Heat waves was in news recently which killed more than 2,500 people in the year 2015 till June.

Consider the following statements regarding heat waves

1) Heat wave's adverse impact occurred mainly in Northern and Eastern region of India.
2) Severe heat waves come under National Calamity just like cold waves.
3) IMD recommended to declare a region as severe heat waves affected region if temperature reached beyond 45 degree Celsius.
4) It is a natural calamity found in tropical regions and not in temperate regions.

Choose the correct statement/s from the code

1. 1, 3 only
2. 2, 3, 4 only
3. 1, 2, 3 only
4. All the above

Answer: 1

Heat waves impacted mainly in northern states like Uttar Pradesh, Bihar and Eastern states like Odisha, Andhra Pradesh, Telangana.

Central government has declared cold waves, tsunamis etc as National Calamity but not heat waves. Thus recently after the heat waves took toll of many lives country wide, there was a demand from experts as well as many states for heat waves to be declared as National Calamity.

Heat waves are the phenomenon found not only in tropical regions but also in temperate regions. Example: UK experienced the severe heat waves in 2013.

23. During monsoon season the ITCZ (inter tropical convergence zone) shifts almost upto 25 degree North latitude over the Indian subcontinent while it rarely crosses 15 degree North latitude in other regions. This is because

1. Vast landmass of Eurasia located to the North of the Equator.
2. Intense low pressure over the Northwestern region of Indian subcontinent and over the vast, high altitude Tibetan plateau pulls ITCZ Northwards.
3. Shifting of Westerly jet streams to the North of Tibetan plateauat the end of the month of May.

Choose the correct code from the following

1. 1, 2 only.
2. 2, 3 only.
3. 1, 3 only.
4. All of the above.

Answer: 4

Inter tropical convergence zone is termed as a thermal equator and is the zone where the Northeast and Southeast trade winds meet. This ITCZ shifts Northwards upto 25 degree North latitude during the months of June-July. This is facilitated by all the above points mentioned.

Westerly jet streams: These shifts southward during winters because of the southern shift of entire pressure belts by some 10 degree latitudes which is in turn because of Southern shift of Sun towards Tropic of Capricorn during winters. These jet streams because of vast Tibetan plateau,get bifurcated into 2 parts, with one part traversing south of Himalyan mountains and the other to the north of Tibetan plateau. With the advent of summers and gradual shift of Sun towards Tropic of Cancer, the part of the jet streams to the South of Himalayas gets weakened. At the end of the month of May the Westerly jet streams completely shifts to the North of Himalayas and thus becomes stronger over the Central China and also Japan. This Northern shift facilitates the Northward shift of ITCZ.

24. The frequency of the cyclones is lower in Arabian sea when compared to Bay of Bengal. This is because

1. Arabian sea surface temperature is higher compared to that of Bay of Bengal.
2. Bay of Bengal receives the remnants of the typhoons originated in Northwestern Pacific ocean.
3. Arabian sea receives the remnants of cyclones from Bay of Bengal.

Choose the correct code from the following

1. 1, 2 only.
2. 1, 3 only.
3. 2, 3 only.
4. All the above.

Answer: 3

Bay of Bengal being a closed and a smaller water body, it has higher surface temperature compared to Arabian sea.

North Western region of Pacific ocean has the highest proportion of global tropical cyclones. These cyclones which originate in the Pacific ocean start moving towards south western direction and finally reach Bay of Bengal. But by the time they reach, they almost lose their energy and only remnants of cyclones reach Bay of Bengal. Similarly the cyclones originated in Bay of Bengal reach Arabian sea but only remnants of cyclones after shedding their energy while traversing over the peninsular landmass.

25. Consider the following statements regarding tropical cyclone which is one of the important determining factors for the success of Indian monsoons.

1. These are termed as the heat engines, which derive their energy from the condensation of water vapor into water droplets/drops.
2. More than 50% of the energy derived is utilized to sustain the wind movement around the central eye.
3. A mature cyclone releases energy equivalent to that of 100 hydrogen bombs.

Which of the following statements are NOT true

1. 1, 2only.
2. 1, 3only.
3. 2 only.
4. None of the above.

Answer: 3

The energy is derived from the condensation of water vapor into water droplets and of this only meager 3% is utilized for sustaining the wind movemnents.

26. Coal bed methane is released during coal mining and is generally recommended to extract it rather than letting it evaporate into the atmosphere when untapped because

1. CBM if is not extracted can cause fire hazards while mining deep areas.
2. CBM if allowed to escape into atmosphere, will get converted into carbon monoxide which is a potent green house gas.

Which of the statements is/are the correct reason/s?

1. 1 only.
2. 2 only.
3. Neither 1 nor 2.
4. Both 1 and 2.

Answer: 2

CBM doesn't cause any as such fire hazards if left un extracted.

CBM once extracted and used as a source of energy it will be less harmful to environment because the burning of CBM releases majorly carbon dioxide. But if it is not extracted it will escape into atmosphere and get converted into carbon monoxide which is more potent green house gas than carbon dioxide.

27. Consider the following statements regarding the production and reserves of copper in India.

1. Rajasthan has the largest reserves of copper and is also the highest producer of copper in India.
2. India is self sufficient in copper production and also at times it has also exportedcopper to countries like Japan, South Korea etc.
3. Production of copper is a tedious job especially in India as the copper ore found in India as it is of the lower grade compared to International grade of the ore.

Which are the correct statements?

1. 1 only.
2. 1, 3 only.
3. 2, 3 only.
4. 3 only.

Answer: 4

Explanation:

Rajasthan although has the highest reserves, it is not the highest producer. Madhya Pradesh is the highest producer currently.

The production of copper in India always falls short of demand and thus we import copper from countries like US, Japan, Canada etc.

Third statement is true because in India the metal content in the ore is quite low compared to international average. The metal content is less than 1% in India while the international average stands at 2.5%.

28. Consider the following statements regarding biogas which is a very important source of energy in rural areas.

1. Biogas has a higher thermal efficiency compared to charcoal, cow dung, kerosene.
2. Not only biogas serves as a source of energy in the form of fuel but also can be used as source of manure for farm crops.
3. It is slightly less environment friendly as it releases green house gases when burnt as a fuel.

Choose the incorrect code from the following

1. 1, 2 only.
2. 2, 3 only.
3. 3 only.
4. None of the above.

Answer: 1

Biogas is a type of gas that is formed by the biological breakdown of organic matter in an oxygen deficient environment. It is counted as an eco friendly bio fuel. Biogas contains 60% methane and carbon dioxide. It can be employed for generating electricity and also as automotive fuel. For example; each household builds its own plant to channel waste from the domestic toilet and nearby shelters for animals, usually pigs, cows into a sealed tank. The waste ferments and is naturally converted into gas and compost, resulting in improved sanitary conditions at home.

A large amount of straw, which was previously burned, is now put into biogas tanks to ferment. This reduces air pollution from smoke and helps produce high-quality organic fertilizer.
Biogas plants significantly lower the greenhouse effects on the earth's atmosphere. The plants lower methane emissions by entrapping the harmful gas and using it as fuel. Thus it is an environment friendly fuel.

29. Consider the following statements which describe the properties of a particular metal

1. It as a valuable metal of which the major ore is Wolfram.
2. It is self hardening which it imparts to the steel when alloyed with the steel.
3. Steel when alloyed with this metal, is used in manufacturing of ammunitions, armour plates, heavy guns etc.
4. Its alloys are heat resistant, corrosion resistant and hardfacing.

Choose the correct metal from the options

1. Tungsten
2. Chromium
3. Copper
4. Titanium

Answer: 1

30. Consider the following statements regarding the atomic minerals.

1. Uranium occurs both in the earth's crust as well as sea water.
2. India has one of the richest reserves of thorium in the world.
3. US have the highest reserves of uranium in the world.

Which of the above statements are correct?

1. 1 only.
2. 1, 2 only.
3. 2, 3 only.
4. All the above.

Answer: 2

Australia has the highest reserves of uranium and not the US.

31. Khadar soils are preferred over Bhangar soils for crop cultivation because

1. Khadar soil are composed of fine particles than that of Bhangar soil.
2. Bhangar soils lack in kankar nodules.

Choose the correct reason from the codes below.

1. 1 only.
2. 2 only.
3. Both.
4. none of the above.

Answer: 1

Bhangar soils are rich in kankarie calcareous deposits like calcium carbonate. Second statement is wrong and Bangar soils are rich in kankar nodules ie calcareous deposits. Infactkankar deposits improves soil fertility. Also that in Khader soils nutrients are renewed every year from flood waters and thus more fertile than Bangar soils which is rarely replenished with nutrients.

32. Why black soils are treated with cement or hydrated lime during Roadways and railways construction? Consider the reasons

1. To overcome problems of volume changes due to alternate expansion and shrinkage of soils.
2. To prevent soil erosion during wet season.
3. To improve bearing capacity of the soil.

Choose the correct reason from the codes below.

1. 1, 2 only.
2. 2, 3 only.
3. 1, 3 only.
4. All the above.

Answer: 4

The cement or lime treatment is being utilized for the following purposes:

1. To provide a pavement foundation of marginally weaker in strength than that of concrete pavement, but much improved strength than natural Black cotton soil (BC soil).
2. To consolidate subgrades and base courses for concrete pavement in order to make them resistant to volume changes and displacement or erosion in the presence of moisture even under the rocking action of curled slabs, if any.
3. To overcome the susceptibility of foundations to volume change
4. and to increase their shearing resistance and bearing capacity.

33. Although laterite soils are formed in regions with high rainfall and high temperature, it requires good dosage of manures. What are the reasons?

1. Intense leaching because of high rainfall.
2. lack or less availability of humus.

Choose the correct code from the following

1. 1 only.
2. 2 only.
3. Both .
4. None of the above.

Answer: 3

Intense leaching is caused by heavy rainfall which leaches silica and makes soil a bit acidic. High rainfall also inhibits humus formation with decreased bacterial activity.

34. Left hand side is the region and right hand side is the major reason in that region for soil degradation.

1. Odisha, Jharkhand --- deforestation and mining.
2. Rajasthan, Maharashtra --- over irrigation.
3. Punjab, Haryana --- overgrazing.

Which are correctly matched?

1. 1 only.
2. 1, 2 only.
3. All the above.
4. None of the above.

Answer: 1

Overgrazing is mainly the reason in the western India ie Rajasthan, Maharastra while over irrigation is the major reason in the North Western India ie Punjab, Haryana.

35. Black soils are known for its fertility with little or no evidence of exhaustion. This is because

1. Black soils with equal proportion of clay, gravel and coarse sand has high moisture retention capacity.
2. Cracks developed during dry season allow oxygenation of the soils.
3. Black soil has low level of kankar thus supports wide variety of crops.

Choose the incorrect reason from the codes below

1. 2 Only.
2. 2, 3 only.
3. 1, 3 only.
4. All the above.

Answer: 1

Black soil is mainly composed of clay, thus it has high moisture retention capacity. Black soils are in fact rich in kankar nodules which add to the fertility of the soil.

36. Consider the statements regarding red and yellow soils.

1. Soil looks yellowish when iron diffused in the soil gets hydrated.
2. Red and yellow soils are mainly found in the deltaic regions especially in the Eastern Indian coast.
3. Less fertile coarser soils are found in the uplands while fertile fine soils occur in the low lying regions.

Which are the correct statements?

1. 1 only.
2. 1, 2 only.
3. 1, 3 only.
4. 2, 3 only.

Answer: 3

This type of soils get red colour when iron is diffused in the crystalline and metamorphic rocks. The same soil turns yellow when the iron diffused gets turned into hydrated form.

These soils occur generally in the drier regions of Eastern and Southern India and not in the deltaic regions.

37. Consider the following statements regarding a particular soil

1. Found in the summits of Western Ghats, Eastern Ghats, Vindhyas, Sathpuras and Malwa plateau.
2. Subjected to intense leaching and thus not fit for agriculture unless manures and fertilizers are used.
3. It is the end product of weathering process and thus it is indefinitely durable.

Which is the soil that is spoken about in the above statements?

1. Forest soil.
2. Mountain Soil.
3. Laterite soil.
4. Red soil.

Answer: 3

Although first two statements ie 1 and 2 do comply with mountain soil and forest soil, the third statement is unique for laterite soil.

38. Consider the statements regarding salinization which is a one of the major problem, reducing Indian agricultural productivity.

1. In drier regions, capillary action can lead to salt accumulation on the surface of the land which is brought from the deep saline ground water tables.
2. Irrigation can result in salinization of soils.
3. It can occur both naturally as well as artificially.

Choose the correct statements from the codes given below.

1. 1, 2 only.
2. 1, 3 only.
3. 2, 3only.
4. All the above.

Answer: 4

In drier regions wherever salt accumulation has occurred because of capillary action, the salts are brought from the shallow depth where the saline ground water table exists.

Salination can be caused by natural processes such as mineral weathering or by the gradual withdrawal of an ocean. It can also come about though artificial processes such as irrigation.

Salinity from irrigation can occur over time wherever irrigation is used; since almost all water (even natural rainfall) contains some dissolved salts. When the plants use the water, the salts are left behind in the soil and eventually begin to accumulate.

39. The soil salinization occurred due to irrigation is a concern in drier regions and not in humid regions. Consider the following statements

1. In humid regions, there is enough precipitation to leach (wash) the salts below the plant root zone.
2. In drier regions, higher temperature leads to higher evaporation of water resulting into leaving behind of salt on the surface of the soil.
3. Soil salinization occurring due to irrigation can equally impact both humid areas as well as drier areas.

Choose the correct statement from the code given below

1. 1, 2 only.
2. 1 only.
3. 2 only.
4. 3 only.

Answer: 1

40. Laterite soils and Forest soils are acidic in nature. What is the reason for this?

1. High rainfalls leach away the cations into sub soil region.
2. Trees and plants absorb the cations necessary for their development.
3. Cations are washed away along with running water and drained into sea/ocean.
4. None of the above reasons are correct.

Answer: 1

Water from rain, flooding, or other sources seeps into the ground, during which it can dissolve chemicals and carry them into the underground water supply. Thus also causing ground water contamination.

41. The best way to improve crop production in India is to increase the crop intensity ie by increasing gross sown area.

Which is not the hindering factor involved in improving the crop intensity?

1) Infertile soil.
2) Deficiency in moisture, especially in rain fed region.
3) Insufficient usage of manures and fertilizers.
4) Large tracts of black soil.

Answer: 4

In fact black soil is an added advantage in improving the crop intensity as it requires very less irrigated or rainfall water as it has a very good capability to retain moisture.

The usage of manures and fertilizers per hectare is quite low in India compared to other countries like China, Japan etc.

42. In India El Nino can have comparatively lesser impact on Sugarcane and Urad production.

What are the reasons?

1) Sugarcane is largely grown under irrigated areas.
2) Urad is mainly grown in regions where rainfall variability is very low.
3) Urad is drought resistant crop.
4) Sugarcane although a khariff crop requires very less water.

Choose the right pair of reasons from the codes below

1) 1, 2.
2) 1, 3.
3) 2, 4.
4) 3, 4.

Answer: 2

More than 90% of the area under sugarcane is under irrigation and thus rainfall failure cannot much impact production provided electricity and water supply is made available for the farmers.

Urad is drought resistant crop thus grown in regions even if the rainfall variability is very high.

43. Ragi, a millet is currently encouraged to include in the diet to supplement nutrients to counter the malnutrition that is haunting the country.

Consider the following statements Ragi.

1) Ragi is rich in iron, calcium, roughphage and is mainly grown in dry regions.
2) Among minor producers Sikkim, Arunachal Pradesh, Uttarakhand are included.
3) It is grown as a major crop in Bengaluru-Mysuru table land from where the country's majority of Ragi production comes from.

Choose the correct statements from the code below.

1) 1, 2 only.
2) 2, 3 only.
3) 1, 3 only.
4) All the above.

Answer: 4

Among minor producers even Jharkhand, Jammu Kashmir are also involved apart from the states mentioned in the 2nd statement.

Ragi production and consumption is highest in Bengaluru-Mysuru table region.

44. Tea best grows in Assam, Darjeeling and Jalpaiguri districts of West Bengal. What is/are the uniqueness of this region which suits this crop?

1) It has warm and humid climate.
2) Showers are mainly concentrated in 4-5 months ie June to October in any year.
3) Deep, fertile and well drained soil.
4) Rugged topography of the relief near the Himalayan foot hills.

Choose the correct code.

1) 1, 2, 3 only.
2) 1, 3 only.
3) 1, 3, 4 only.
4) All the above.

Answer: 2

Showers are almost evenly distributed throughout the year with very low dry spell.

Well drained gentle sloped soils are required and rugged topography is not suitable for tea plantations.

45. Indian agriculture is termed to be an Intensive Subsistence Farming type. What are the characteristic that has made Indian agriculture to be categorized into that type?

1) Very high population density.
2) Labour intensive farming.
3) Lower yield of production in terms of per capita labour force.
4) Very small and fragmented land holdings.
5) Usage of farm machinery.

Choose the correct code from the following.

1) 1, 2, 3 only.
2) 1, 2, 3, 4 only.
3) 2, 3, 4 only.
4) All the above.

Answer: 2

The following are the characteristics of the Intensive Subsistence Farming.

Land holdings are very small due to inheritance law prevalent in the country and high population mounts pressure on the land holdings to be utilized in an intensive way so as to cater the demand for food from huge population. Farmers work with the help of family labour and use of machinery is limited and most of the agricultural operations are done by manual labour. Farm yard manure is used to maintain the fertility of the soil. In this type of agriculture, the yield per unit area is high but per labour productivity is low.

46. Kerala has outpaced every other state in the country in terms of Rubber production. The reasons being

1) It has hot and humid climate with precipitation more than 200cms annually.
2) Very small dry spell during summers for 2-3 months.
3) Well drained red soil with gentle slope and no stagnation of water.

Choose the correct reason/s from the code below.

1) 1 only.
2) 1, 2 only.
3) 1, 3 only.
4) All the above.

Answer: 2

Kerala largely has laterite soil and not red soil.

47. Sugarcane grown in subtropical region has lower productivity than that is grown in tropical regions.

Consider the following statements about subtropical region ie Northern India which has low productivity in sugarcane production.

1) Frost formations.
2) Floods and water logging.
3) High diurnal temperature.
4) Low humidity.

Choose the correct reason/s from the codes below.

1) 1, 2 only.

2) 2, 3 only.
3) 3, 4 only.
4) 1, 2, 3 only.

Answer: 1

First two statements are self explanatory.

A higher diurnal temperature and low humidity are required for a better productivity. Thus these two factors are not reducing the productivity.

48. The productivity in the Indian agriculture has stagnated since 1990's although the usage of fertilizers has considerably increased since then.

What is/are the possible reason/s?

1) Unscientific usage of fertilizers.
2) Agriculture productivity in India has reached a zenith position and any further increase in the productivity cannot come through increase in the usage of fertilizers.
3) Increasing monsoon vagaries because of Climate Change.
4) Both 1 and 3.

Answer: 4

Unscientific usage is the main reason ie unbalanced dosage of nitrogen, phosphorous, potassium. In the ideal condition it should be 4:2:1. But in India it is completely unbalanced . Based on region the ratio of N:P:K varies in a big way eg: all India it is 8.2:3.2:1, for Punjab it is 61.9:19.3:1, for Haryana it is 61.4:18.7:1. This can have negative impact like decreasing the soil fertility and thus reducing the yield. Monsoon vagaries definitely has increased with time.

49. What are the factors that have favoured the Wheat production in North West India?

1) Western disturbances.
2) Fertile alluvial soil brought down mainly by Indus and Ganga river system.
3) Semi arid region.

Choose the correct code from the following.

1) 1, 2 only.
2) 2, 3 only.
3) 1, 3 only.
4) All the above.

Answer: 1

North West India does have semi arid region but that itself is not a favourable characteristic, it's the Western disturbance that favours Wheat production.

50. Although green revolution brought a great success for our country during later 1960's it also brought in few negatives. What are those negatives?

1) Inter crop disparity.
2) Inter personal inequalities.
3) Environmental pollution.
4) Regional economic disparity.
5) Unemployment.
6) Self sufficiency in all types of agricultural crop production.

Choose the correct code from the following.

1) 1, 2, 3 only.
2) 1 , 3, 4, 5 only
3) 1, 2, 3, 4, 5 only.
4) 1, 2, 3, 4, 6 only.

Answer: 3

Inter cropping disparity because it was food grains which got impetus especially wheat and many other crops were neglected eg: pulses.

Largely green revolution favoured large farmers than small and marginal farmers because green revolution needed some initial investments for mechanization, high yielding seeds etc while small and marginal farmers could hardly afford such expenditures.

With unbalanced fertilizers usage it led to soil fertility decline and also crops were grown in such areas where those were not supposed to be grown like rice crop which was started in Haryana and Punjab because of Green revolution.

Green revolution mainly benefitted North West India and coastal areas in Eastern India. Thus agricultural income increased only in those regions where Green revolution was brought and thus increasing regional disparity in terms of economy.

Mechanization was supported and encouraged to get the better benefits of Green revolution thus resulting into unemployment. Self sufficiency was brought only in food grains like rice wheat etc, and not in every crop.

51. Consider the statements regarding a particular valley which was in the news recently.

1) It is a part of Gangotri National Park.
2) It is a cold desert and looks like a replica of Tibetan plateau.
3) It is home for Snow Leopard.

Which is that valley?

1) Nellong valley.
2) Kashmir valley.
3) Alaknanda valley.
4) Bhagirathi valley.

Answer: 1

52. Central Zoo Authority, a body set up in 1992 for the oversight of zoos.

Consider the following statements regarding CZA.

1) It is set up under the Wild Life Protection Act, 1972.
2) It is an affiliated member of World Association of Zoos and Aquarium.
3) It doesn't have the power to regulate the trade of endangered species.

Choose the correct statements from the following code.

1) 1, 2 only.
2) 2, 3 only.

3) 1, 3 only.
4) All the above.

Answer: 1

It does have the power to regulate the trade of endangered species. Apart from that it also has the power to regulate and approve the exchange of animals between Indian and foreign zoos.

53. The trees found in Western side of Western Ghats and in the Northeast region generally don't shed their leaves i.e they are evergreen.

What are the possible reasons?

1) These regions do not have prolonged dry season.
2) These regions don't have severe winters.
3) These regions have the humidity level beyond 75% almost throughout the year.

Choose the correct reason/s from the codes below.

1) 1 only.
2) 2 only.
3) 1, 2 only.
4) All the above.

Answer: 4

Prolonged dry season and severe winters do result in shedding of leaves by trees.

Tropical deciduous trees shed their leaves during dry season because of excess evaporation and temperate deciduous trees shed their leaves during severe winters.

54. In Tamil Nadu region, evergreen forests are found despite hot and dry summers with temperature of about 28 degree Celsius.

What is/are the reason/s?

1) Annual rainfall of about 100cms mostly from the North East monsoon winds during October to December.
2) A humidity of more than 75% throughout the year.
3) Red and yellow soil found in Tamil Nadu region can retain moisture well.
4) Both 1 and 2.

Answer: 4

Humidity is the main reason for trees not shedding their leaves during prolonged dry seasons. Red and Yellow soils are not good at retaining moisture unlike Black soil which is very good at retaining moisture.

55. Himalayan yew is a plant found in Himachal Pradesh and Arunachal Pradesh was in news recently.

Consider the following statements regarding the plant.

1) It is a medicinal plant.
2) A chemical compound called 'Taxol 'obtained from the plant is used as an effective anti-TB drug.

Choose the incorrect statements from code below.

1) 1 only.
2) 2 only.
3) Both are true.
4) None of the above.

Answer: 2

A chemical compound called ' taxol ' obtained from the plant is used as an effective anti-cancer drug.

56. Enrich plantation is something in which a single commercially valuable species is extensively planted in a region and other local species are eliminated.

Consider the statements regarding Enrich plantation.

1) Teak monoculture has damaged the natural forest majorly in Northeast India which was earlier introduced by British.
2) Chir, Pine plantations in the Himalayas have replaced the Himalayan Oak and Rhododendron forests.

Choose the correct statements from the code below.

1) 1 only.
2) 2 only.
3) Both.
4) None of the above.

Answer: 2

Teak monoculture majorly impacted South India.

Source: NCERT.

57. Few forests in India are protected under the name of Sacred Grooves.

Consider the following statements regarding Sacred Grooves.

1) It is a nature worship which is an age old belief based on the premise that all the creations of the mother Nature have to be protected.
2) It is recognized under Wildlife Protection Act, 1972.

Choose the correct statement/s from the following code.

1) 1 only.
2) 2 only.
3) Both.
4) None of the above.

Answer: 3

Prior to 2002 these forest regions were not recognized under any of the existing laws. But in 2002 an amendment was brought in Wildlife Protection Act, 1972 to include Sacred Grooves under the act.

Source: NCERT.

58. Migration is an unavoidable worldwide phenomenon.

Which among the following is/are the not the push factors for rural to urban migration especially in India.

1) Unemployment.
2) Health and education facilities.
3) Monsoon vagaries.
4) Caste disabilities.

Answer: 2

Human migration is the movement by people from one place to another with the intention of settling temporarily or permanently in the new location. The movement is typically over long distances and from one country to another, but internal migration is also possible. Migration may be individuals, family units or in large groups.

There are 2 factors ie push and pull factor which might be real or perceptional.

Push factors are those that force the individual to move voluntarily, and in many cases, they are forced because the individual risk something if they stay.

Pull factors are those factors in the destination region that attract the individual or group to leave their home. Those factors are known as place utility, which is the desirability of a place that attracts people. Better economic opportunities, more jobs, and the promise of a better life like better health and education facilities often pull people into new locations.

59. Developing countries like India has an adverse sex ratio of less than 1000 while in developed countries it is more than 1000. [Sex ratio: It is the number of females in a country for every 1000 males]

What is/are the possible reason/s with reference to India?

1) Social disadvantages that female face like female foeticide, female infanticide, domestic violence etc.

2) Stopping at one child ie couples restrain themselves from going for second child provided the first child born is male.

Choose the correct code from the following.

1) 1 only.
2) 2 only.
3) Both.
4) None of the above.

Answer: 3

Close to 10 per cent of Indian households are opting to have only one child as they seek to concentrate their resources to maximize earning opportunities for their offspring in a scramble for jobs. The trend is most pronounced among educated people in metropolitan areas, research by the Delhi-based National Council of Applied Economic Research shows.

60. Which is/are the country/s in the world to use Gross National Happiness to measure the progress of the country?

Consider the countries.

1) India.
2) Bangladesh.
3) Sweden.
4) Bhutan.

Choose the country/s from the code below.

1) 1, 4 only.
2) 2, 4 only.
3) 3 only.
4) 4 only.

Answer: 4

Bhutan is the only country in the world to officially proclaim the Gross National Happiness (GNH) as the measure of the country's progress. Material progress and technological developments are approached more cautiously taking into consideration the possible harm they might bring to the environment or the other aspects of cultural and spiritual life of the Bhutanese. This simply means material progress cannot come at the cost of happiness. GNH encourages us to think of the spiritual, non-material and qualitative aspects of development.

The four pillars of GNH philosophy are the promotion of

1. Sustainable development
2. Preservation and promotion of cultural values
3. Conservation of the natural environment, and
4. Establishment of good governance.

61. Consider the statements regarding our Solar System.

1) Pluto is the largest dwarf planet revolving around the Sun.
2) Every planet except Venus rotates from West to East just like Earth on its own axis.
3) It is nuclear fusion which takes place within the Sun which releases huge heat energy.

Choose the correct statements from the following code.

1) 1, 2 only.
2) 1, 3 only.
3) 2, 3 only.
4) 3 only.

Answer: 4

Pluto is the second largest dwarf planet next only to Eris. Venus and Uranus' rotatory motion is different from rest of the planets ie from East to West.

Hydrogen nuclei combine to form helium inside the Sun under high temperature and pressure and releases huge heat energy and this process is nuclear fusion.

62. Earth although has an average density of 5.5 g/cm^3, its core has a density of more than 11 g/cm^3.

What are the possible reasons?

1) Core is formed of materials like iron, nickel etc which has higher density.
2) Incumbent pressure from the overlaying rocks.
3) High temperature prevalent in the core region [more than 5000 degree Celsius].

Choose the correct code from the following.

1) 1, 2 only.
2) 2, 3 only.
3) 1, 3 only.
4) All the above.

Answer: 1

High temperature need not result into higher density.

63. There are different discontinuities within the Earth's internal structure. Which are the discontinuities that have been incorrectly matched with its/their respective locations?

1) Mohorvic discontinuity -- boundary between Core and Mantle.
2) Wiechert-Gutenberg discontinuity -- boundary between Crust and Mantle.
3) Conrad discontinuity – located at a depth of 15-20kms from the Earth's surface.

Choose the correct code from the following.

1) 1, 2 only.
2) 2, 3 only.
3) 3 only.
4) 2 only.

Answer: 1

Mohorvic discontinuity is the boundary between Crust and Mantle.

Wiechert-Gutenberg discontinuity is the boundary between Core and Mantle.

64. Consider the statements regarding Earth's interior and seismic waves.

1) Primary waves totally disappear in the core region revealing that outer core is made up of liquid.
2) Secondary waves show changes in its speed as it travels from magma chamber to lithosphere region indicating difference in density.
3) The speed of secondary waves is highest inside the Earth's Core region indicating highest density in the Core region.

Choose the correct statement/s from the code below.

1) 1, 2 only.
2) 2 only.
3) 1, 3only.
4) 2, 3 only.

Answer: 2

Primary waves (P-waves) are compressional waves that are longitudinal in nature. These waves can travel through any type of material, including fluids, and can travel at nearly twice the speed of S waves. Thus will not disappear in the core. But S waves do disappear in the core region.

Secondary waves (S-waves) are shear waves that are transverse in nature. S-waves can travel only through solids, as fluids (liquids and gases) do not support shear stresses. S-waves are slower than P-waves, and speeds are typically around 60% of that of P-waves in any given material. S waves speed varies with density just like P waves and this speed increases with increasing density. Since there is density difference between lithosphere and magma chamber the speed of the S waves do change.

S waves do not enter the Core region as the outer core is made up of liquid.

65. Earth experiences seasons in a rhythmic fashion.

What are the causative factors?

1) Rotation of the Earth on its own axis.
2) Revolution of the Earth in its orbit around the Sun.
3) Spherical shape of the Earth.
4) Earth's tilted axis.

5) Axial parallelism.

Choose the correct code from the following.

1) 1, 2 only.
2) 1, 2, 3 only.
3) 1, 2, 4, 5 only.
4) All the above.

Answer: 4

Axial parallelism is the unchanging orientation of the Earth's axis. Earth's North Pole is currently pointing to the Polar star.

All the above reasons combine and result a into season formation.

66. Winter solstice for Northern Hemisphere generally is on 22nd or 21st December every year.

Consider the statements regarding winter solstice in Northern Hemisphere.

1) The circle of illumination excludes the North Pole region from Sunlight.
2) From 66.5 degree South to 90 degree South, the Sun remains below the horizon the entire day.
3) Arctic Circle is the Southernmost parallel in the Northern Hemisphere that experiences a 24 hour period of darkness on this day.

Choose the correct statements from the codes below.

1) 1 only.
2) 1, 3 only.
3) 2 only.
4) None of the above.

Answer: 2

Winter solstice occurs for the Northern Hemisphere in December and for the Southern Hemisphere in June.

In the second statement it should have been 66.5 degree North to 90 degree North latitude and not South latitudes.

67. Paleomagnetism is the past magnetism of Earth stored in a rock.

Which among the following type of rocks provides most reliable readings of magnetism at a particular time?

1) Igneous rocks.
2) Sedimentary rocks.
3) Metamorphic rocks.
4) All the above rock types are equally reliable.

Answer: 1

Increasing reliability of the rocks: igneous > sedimentary > metamorphic.

68. Earth's magnetosphere is the area around the Earth where the geomagnetic field stretches out into space. Consider the following statements regarding magnetosphere.

1) It is uneven in shape as it stretches largely towards the Sun because of Sun's magnetic field.
2) Solar winds can have influence on the Earth's magnetosphere.
3) This sphere deflects the charged particles that approach the Earth's surface.

Choose the correct statement/s from the following codes.

1) 1, 2 only.
2) 2, 3 only.
3) 1, 3 only.
4) All the above.

Answer: 2

First statement is wrong because the magnetosphere stretches away from the Sun and not towards the Sun.

The solar wind is a stream of plasma released from the upper atmosphere of the Sun. It consists of mostly electrons, protons and alpha particles with energies usually between 1.5 and 10 keV.

As the solar wind approaches a planet that has a well-developed magnetic field (such as Earth, Jupiter and Saturn), the particles are deflected by the Lorentz force. This region, known as the magnetosphere, causes the particles to travel around the planet rather than bombarding the atmosphere or surface. The magnetosphere is roughly shaped like a hemisphere on the side facing the Sun, then is drawn out in a long wake on the opposite side. The boundary of this region is called the magnetopause, and some of the particles are able to penetrate the magnetosphere through this region by partial reconnection of the magnetic field lines.

69. Plasma is one of the four fundamental states of matter. Consider the following statements.

1) It doesn't have volume but has shape.
2) It is the most abundant form of matter.
3) Gas or air can be turned into plasma when artificially ionized.

Choose the correct statements from the codes below.

1) 3 only.
2) 1, 3 only.
3) 2, 3 only.
4) 1 only.

Answer: 3

It neither has volume nor has shape.

The matter in Sun and other stars in the universe is made up of plasma matter, hence most abundant.

Electromagnetic phenomenon can be used to ionize gas particles.

70. Sun spots are the one found on the outer surface of the Sun.

Consider the statements regarding Sun spots.

1) Sun spots region generally have lower temperature than the surrounding region on the Sun's outer surface.
2) Sun spots do not have any effect on Earth's climate.
3) Each period of weak Sun spot activity co-relates with the period of overall high solar radiation output from the Sun's surface.
4) Sun spots generally have 11 year cycle.

Choose the correct statement/s from the following codes.

1) 1, 2 only.
2) 1, 3, 4 only.
3) 1, 2, 4 only.
4) 2, 4 only.

Answer: 2

Sunspots are temporary phenomena on the photosphere of the Sun that appear visibly as dark spots compared to surrounding regions. They correspond to concentrations of magnetic field that inhibit convection and result in reduced surface temperature compared to the surrounding photosphere. Sunspots usually appear as pairs, with each spot having the opposite magnetic polarity of the other.

Sunspot populations quickly rise and more slowly fall on an irregular cycle of 11 years, although significant variations in the number of sunspots attending the 11-year period are known over longer spans of time.

Since sunspots are darker than the surrounding photosphere it might be expected that more sunspots would lead to less solar radiation and a decreased solar constant. However, the surrounding margins of sunspots are brighter than the average, and so are hotter; overall, more sunspots increase the Sun's solar constant or brightness.

Thus sun spots do have effect on the Earth's climate because it varies the solar radiation output thus affecting the insolation reaching on the Earth's surface.

71. Continental Drift theory by Wegener changed the perceptions about the Earth's crust.

Consider the statements regarding this theory.

1) Sialic masses used to float over the Sima without any resistance being offered by Sima.
2) Earlier all land masses were united to form a massive landmass known as 'Panthalasa'.
3) Ocean floors were considered to be stable and never moved.

Choose the correct statement/s from the following.

1) 1 only.
2) 1, 3 only.
3) 2, 3 only.
4) None of the above.

Answer: 2

Continental Drift theory by Wegener tried to solve the problem of location of young fold mountains.

2nd statement: panthalasa was the name given to single vast ocean and pangaea was the name given to united massive landmass.

72. Consider the statements regarding different types of plates in 'Plate Tectonic Theory'.

1) Destructive plate boundary is one in which continuous upwelling of molten material ie lava takes place.
2) Divergent plate boundary is one which two plates slide past one another thus neither creating nor destroying continental landmass.
3) Convergent plate boundary is one in which one plate overrides the other plate.

Choose the correct statement/s from the following code.

1) 1, 2 only.
2) 2 only.
3) 3 only.
4) All the above.

Answer: 3

Divergent plate boundary or constructive plate boundary:

A tectonic boundary where two plates are moving away from each other and new crust is forming from magma that rises to the Earth's surface between the two plates. The middle of the Red Sea and the mid-ocean ridge (running the length of the Atlantic Ocean) are divergent plate boundaries.

Convergent plate boundary or destructive plate boundary:

It is a tectonic boundary where two plates move towards each other. If thetwo plates are of equal density, they usually push up against each other,forming a mountain chain. If they are of unequal density, one plate usually sinks beneath the other in a subduction zone.

The western coast of SouthAmerica and the Himalayan Mountains are convergent plate bou ndaries. Also called active margin , collision zone.

Transform plate boundary:

Transform plate boundary is one in which two plates slide past one another thus neither creating nor destroying continental landmass.

73. Consider the statements regarding geysers which are special type of hot springs.

1) Hot water and vapour spouts from geyser tube intermittently.
2) It represents the minor form of broader processes of vulcanicity.
3) It is found only in tropical regions.

Choose the incorrect statement/s from the following code.

1) 2, 3 only.
2) 1, 2 only.
3) 2 only.
4) 3 only.

Answer: 4

A geyser is a spring characterized by intermittent discharge of water ejected turbulently and accompanied by steam.

Over one thousand known geysers exist worldwide. At least 1,283 geysers have erupted in Yellowstone National Park, Wyoming, United States, Valley of geysers, Russia etc. Thus it is found also in the temperate regions.

74. Consider the statements regarding earthquake (seismology).

1) Primary waves are analogous to sound waves and it can travel through liquid medium.
2) Secondary waves are analogous to water ripples and it cannot pass through liquid medium.
3) Surface waves are most destructive and slowest among the three waves (primary, secondary, surface waves).

Choose the incorrect statement/s from the following codes.

1) 1, 2 only.
2) 3 only.
3) 2, 3 only.
4) None of the above.

Answer: 4

Primary waves (P-waves) are compressional waves that are longitudinal in nature. These waves can travel through any type of material, including fluids, and can travel at nearly twice the speed of Secondary waves.

Secondary waves (S-waves) are shear waves that are transverse in nature. S-waves can travel only through solids, as fluids (liquids and gases) do not support shear stresses.

75. Consider the statements regarding volcanoes.

1) More than 95% of the global volcanoes are along the plate boundaries.
2) High intensity volcano types like Visuvius type, Peelean type etc are concentrated in the convergent plate boundaries.
3) Low intensity volcano like Mid Atlantic Ridge are concentrated in the divergent plate boundary regions.

Choose the correct statement/s from the following codes.

1) 1, 2 only.
2) 2, 3 only.
3) 1, 3 only.
4) All the above.

Answer: 4

In the convergent plate boundaries, one plate is subdued by the other plate and the plate which is pushed underneath the other plate goes to greater depth and starts melting, this result in high intensity volcanoes.

While in divergent plate boundaries, the plate move away from each other thus thinning the crust and thus volcano rises easily to the surface without any force being needed to apply to rise to the Earth's surface.

76. Every relief can be classified into different types of reliefs.

Match the following.

1) 1st Order relief --- continental plates.
2) 2nd Order relief --- plains and deltas.
3) 3rd Order relief --- fold mountains.

Choose the correctly matched pair from the following codes.

1) 1 only.
2) 1, 2 only.
3) 1, 3 only.
4) None of the above.

Answer: 1

2nd Order reliefs are the one formed because of endogenic events like volcano, earthquake or plate movents either constructive or destructive plate boundaries. Ex: fold mountains, block mountains etc.

3rd Order reliefs are the formed because of exogenic events. Ex: flood plains, deltas etc.

77. Weathering is the basic and first step in soil formation.

Consider the statements regarding weathering.

1) The rate of weathering increases with increasing steepness of the slope.
2) Mechanical weathering is higher in humid regions than in drier regions.
3) Chemical weathering is higher in drier regions than in humid regions.

Choose the correct statement/s from the codes below.

1) 1 only.
2) 2, 3 only.
3) 1, 3 only.
4) All the above.

Answer: 1

Steepness increases the weathering rate. The weathered rocks are easily removed by gravity, flowing water, moving wind etc if the steepness is higher thus exposing new rocks for weathering thereby increasing its rate. Mechanical weathering is higher in drier regions as there exists higher diurnal temperature. Few minerals are water soluble like calcium carbonate etc thus humid region favours the chemical weathering. Moreover water is the main agent of chemical weathering in the rocks.

78. Mass wasting or mass movement is a common phenomenon at the foothills of big, steep mountains like Himalayas, Atlas etc.

Consider the following statements regarding mass wasting.

1) Rock debris that moves down the hill is mainly derived from weathering.

2) The rock debris moves down mainly because of earthquake, volcano, moving water etc.

Choose the correct statement/s from the following codes.

1) 1 only.
2) 2 only.
3) Both.
4) None of the above.

Answer: 1

Rock debris move under the influence of Gravitational force and this movement is aided or triggered by volcano, earthquake, moving water etc.

79. Natural levees are depositional landforms on either side of the banks of a river. What are the disadvantages of natural levees.

1) Levees if breached can cause catastrophic floods.
2) Levee forming regions cannot be used for agricultural purposes.
3) Levee formation leads to sedimentation of river basins.

Choose the correct disadvantage/s from the following codes.

1) 1, 2 only.
2) 2, 3 only.
3) 1, 3 only.
4) All the above.

Answer: 3

Levee forming regions are good for agricultural purposes as its soil is renewed every year thus imparting fertility.

As the levee limits the flow of river water within its boundaries the river sheds its sediments only in the river basin thus making river basins narrower and shallow thus increasing the risks of floods.

80. Arcuate deltas are the most common type of deltas, example being Ganga delta, Rhine delta, Nile delta etc.

Consider the following statements regarding this type of delta.

1) It is formed when river water is denser than sea water.
2) It is formed when river water is as dense as sea water.
3) It is known as growing delta.

Choose the correct statement/s from the following codes.

1) 1 only.
2) 2 only.
3) 1, 3 only.
4) 2, 3 only.

Answer: 4

It is known as growing delta because the sedimentation from the river grows towards the sea every year. Delta formed when river water is denser than sea water is known as estuarine. Ex: Narmada River which flows westwards and joins Arabian sea and forms estuary. Bird-Foot delta is formed when the river water is less dense than the sea water. Ex: Mississippi delta.

81. The atmosphere is a gaseous envelope which surrounds Earth's surface.

Consider the following statements regarding the Earth's atmosphere.

1) Rotation of Earth helps in binding of atmosphere to Earth's surface.
2) It sustains life on the Earth by not allowing Earth to become too hot or too cold.
3) Content of water vapour increases from the equator towards the poles.

Choose the correct statement/s from the following code.

1) 1, 2 only.
2) 2 only.
3) 2, 3 only.
4) All the above.

Answer: 2

Rotation of earth induces centrifugal force which pushes any object away from the Earth's surface. Thus rotation doesn't help atmosphere to bind to Earth's surface.

Atmosphere filters the harmful rays from the Sun and also helps in controlling the temperature so that life can be sustained.

Content of water vapour is highest near to surface of the Earth ie upto some 5 kms from the surface, beyond that it reduces drastically.

82. Troposphere being the weather layer is the most important layer.

Consider the statements regarding this weather layer.

1) The height of the troposphere increases from Equator to the Poles.
2) The height of the troposphere is comparatively more during the summer season than in the winter season.
3) The height of the troposphere doesn't get affected by the change in seasons.

Choose the correct statement/s from the following code.

1) 2 only.
2) 1, 3 only.
3) 2, 3 only.
4) 3 only.

Answer: 1

Because of the strong convection in the Equatorial region, the tropopause is pushed upward there by increasing the height of troposphere in the Equators while it is not the case in the Poles.

During summer season, the air gets heated up and creates low pressure on the ground thus increasing the pressure gradient which propels the air movements upwards and in turn pushing the tropopause upwards.

83. Consider the following

1. These clouds are one of the highest clouds in the atmosphere

2. They are also called thunderheads and produce rains, thunder and lightning

Select the correct answer based on above statements

1. Stratocumulus
2. Cumulonimbus
3. Nimbostratus
4. Cirrocumulus

Answer- 2

84. Consider the statements regarding insolation which is nothing but the radiant energy received from the Sun in the form of heat and light.

1) Insolation received on the surface of the Earth decreases from Equator to the Poles.
2) During Summer Solstice, maximum insolation received at the ground surface is between the 30 to 40 degree South latitudes.
3) Insolation received is comparatively higher in the outer limit of the atmosphere than that is on the surface of the Earth.

Choose the correct statement/s from the following codes.

1) 1, 2 only.
2) 2, 3 only.
3) 1, 3 only.
4) All the above.

Answer: 3

Solar rays will have to travel longer distance to reach the polar region than the Equatorial regions thus large amount of energy is lost due to scattering, diffraction, reflection etc. thus higher insolation is experienced in the equatorial region.

Similarly the insolation is higher in the outer limits of the atmosphere.

In the second statement, the latitudes should have been North rather than South.

85. Generally the incoming Solar radiations are absorbed, scattered and reflected in the atmosphere. Based on the above statement which of the following is/are correctly matched?

1) Clouds --- reflection.
2) Atmospheric gases --- scattering.
3) Dust particles, haze --- absorption.

Choose the correct code from the codes below.

1) 1 only.
2) 1, 2 only.
3) 1, 3 only.
4) All the above.

Answer: 1

Atmospheric gases especially green house gases absorb radiations and heat up the atmosphere. Dust particles and haze are largely involved in the scattering of the light.

86. Consider the statements regarding the cyclones.

1) In a cyclone, the air circulation is anti-clockwise in the Northern Hemisphere and clockwise in the Southern Hemisphere.
2) Tropical cyclones being embedded in the Trade winds, in general move from East to West.
3) Temperate cyclones being embedded in the Westerlies, in general move from West to East.

Choose the correct statement/s from the following codes.

1) 1, 2 only.
2) 2, 3 only.
3) 1, 3 only.
4) All the above.

Answer: 4

87. The atmospheric temperature significantly varies in its distribution pattern. The factors that are the reason for this variability include

1) Sign of latitude.
2) Land and water distribution.
3) Oceanic currents.

Choose the correct reason from the following codes.

1) 1, 2 only.
2) 2, 3 only.
3) 1, 3 only.
4) All the above.

Answer: 4

Apart from the three mentioned, the variability is also the effect of prevailing winds, cloud cover and altitude.

88. Temperature anomaly is the deviation of temperature either more or less than the average of the surrounding region.

Consider the statements regarding the same.

1) Positive anomaly is the record of higher temperature than the normal which is identified over the land in lower latitudes during day time.
2) Negative nomaly is the record of lower temperature than the normal which is identified over the sea in higher latitudes during night time.

Choose the correct statement/s from the following.

1) 1 only.
2) 2 only.
3) Both the above.
4) None of the above.

Answer: 1

Negative anomaly cannot be seen in higher latitudes over the waters during day time rather than night time.

89. The extreme cold winters in the Central low lands of U.S.A is due to a particular polar wind.

Which is that wind?

1) Loo.
2) Blizzard.
3) Harmattan.
4) Chinook.

Answer: 2.

Loo is a local seasonal wind that blows in summers in the Northern India.

Harmattan wind blows in Saharan region. It blows from the Northeast and from East to West in the Saharan region.

Chinook blows down the slope from the Rocky mountain in the U.S.A. The winds descending from the mountains get heated up adiabatically and reduce the severity of the winters in the foot hill region.

90. Temperature in the Stratosphere increases because of the presence of Ozone.

This Ozone _____ the sunlight

1) Absorbs.
2) Scatters.
3) Reflects.
4) None of the above.

Answer: 1

91. Coral reefs destruction is a major concern in the backdrop of Climate Change. Consider the statements regarding the coral reefs.

1) Coral reefs are example of a symbiotic relation between coral polyps and photosynthetic algae.
2) Coral reefs are confined to deep waters.
3) Coral reefs are marine equivalent of tropical rain forest.

Which of the statement/s is/are true?

1) 1, 2 only.
2) 2, 3 only.
3) 1, 3 only.
4) All the above.

Answer: 3

They are confined to shallow waters.

92. Continental rise is a feature found on the boundary of the continental slope. Consider the statements regarding the continental rise.

1) Continental rise are comprised of the finer textured smaller materials.
2) Continental rise are found only in the active boundary continental slope.

Which of the following statement/s is/are correct?

1) 1 only.
2) 2 only.
3) Both the above.
4) None of the above.

Answer: 1

Second statement: It is not found in the active boundary because these structures will be destructed during the formation of trenches in the active plate boundary. Thus found only in the passive boundaries.

93. Consider the following statements.

1) Pelagic waters are the surface waters between two shorelines extensive upto the depth of 500 meters.
2) Benthic waters extend from the depth of 500 meters to the base of the ocean.

Which of the following statement/s is/are true?

1) 1 only.
2) 2 only.
3) Both the above.
4) None of the above.

Answer: 3

94. A particular ocean has a broad shape of 'S' in the North South orientation. Which is that ocean?

1) Atlantic Ocean.
2) Pacific Ocean.
3) Indian Ocean.
4) Southern Ocean.

Answer: 1.

95. In which part of the ocean does the typical example of reversal of ocean current can be observed which is guided by the planetary wind system?

1) Northern part of Indian Ocean.
2) Southern part of Indian Ocean.
3) North Atlantic Ocean.
4) South Pacific Ocean.

Answer: 1

In the Northern part of Indian Ocean, the ocean currents are clearly guided by the planetary winds. There is complete reversal of the ocean currents direction right from the African Eastern coast to the Indian coast. Ex: Somalian current flows from North to South in the African East coast during winters when there is off shore North East Trade wind. The same current reverses its direction when there is South West Monsoon wind. It flows from South to North.

96. Which of the statements are true regarding Equatorial climatic conditions?

1) It is known as latitudinal climate.
2) Low range of temperature is mainly due to the equatorial air mass.
3) There is no seasonality in this region or there are no distinguished seasons unlike other climatic regions.

Which among the following statement/s is/are true?

1) 3 only.
2) 2, 3 only.
3) 1, 2 only.
4) All the above.

Answer: 4

The climatic region is extensive from 10degree South to 10degree North. And this type of climatic condition is confined to only this latitudinal expanse. So it is also termed as latitudinal climate. Equatorial air mass keeps the temperature moderate in the Equatorial region.

97. Consider the statements regarding the Mediterranean climate.

1) During summers this climatic region comes under the influence of On-shore Westerly wind.
2) During winters this climatic region comes under the influence of Off-shore Trade wind.

3) Atmospheric stability exists over the region during summers because of anti-cyclonic conditions.

Which of the statement/s is/are correct?

1) 1, 2 only.
2) 3 only.
3) All the above.
4) None of the above.

Answer: 2

During summers this climatic region comes under the influence of Off-shore Trade winds.

During winters this climatic region comes under the influence of On-shore Westerly wind.

98. Desert is mainly located in the tropical West margins of the continents. What is/are the possible reason/s?

1) Existence of the perennial high pressure over this region.
2) Prevailing On-shore winds throughout the year.
3) Cold currents on the continental west margins add to the atmospheric stability of the region.

Choose the correct code from the following.

1) 1 only.
2) 1, 2 only.
3) 1, 3 only.
4) 2, 3 only.

Answer: 3

Second statement: it is Off-shore winds and not On-shore winds the blows over this region. This winds carry no moisture thus causes no precipitation.

Ex of cold currents: canaries current in the Atlantic East coast, West Australian current in the West continental margins of Australia etc.

99. Atacama desert is one of the driest deserts of the world. Apart from other reasons there is a particular current which has made it a driest desert. Which is that current?

1) Benguela current.
2) Okhotsk current.
3) Peruvian current.
4) None of the above.

Answer: 3.

100. Frank Joseph land of Russia makes the northern most limit of summer vegetation in Tundra climate. Which is the type of precipitation that occurs in this region that supports this vegetation?

1) A very low cyclonic depression that causes light rainfall in the form of snow fall.
2) Frontal precipitation that causes precipitation in the form of snow fall.
3) Convectional type of precipitation.
4) Both 1 and 2.

Answer: 2

No cyclonic depression exists because of very low temperature and also weak pressure gradient.

Convectional precipitation to occur, the air on the land surface should be heated to larger extent so that it becomes lighter thus rises and condenses to give precipitation. But very low temperature in the higher latitudes causes no convectional precipitation.