

“Yes, We Can”

Indian IAS Academy

UPSC TEST SERIES 2018 – TEST – 1(07-01-2018)

Explanation:

- 1) Ans: A Desert soils are not poor in nutrients but they are deficient of rainfall.
- 2) Ans: D The Brahmaputra rises in Tibet east of Mansarowar lake very close to the sources of the Indus and the Satluj. It is slightly longer than the Indus, and most of its course lies outside India. It flows eastwards parallel to the Himalayas. On reaching the Namcha Barwa (7757 m), it takes a ‘U’ turn and enters India in Arunachal Pradesh through a gorge. Here, it is called the Dihang and it is joined by the Dibang, the Lohit, and many other tributaries to form the Brahmaputra in Assam. It meets River Meghna and Padma in Bangladesh, where the three rivers come together to form the largest delta in the world.
- 3) Ans: B The Mahanadi rises in the highlands of Chhattisgarh. It flows through Odisha to reach the Bay of Bengal. The length of the river is about 860 km. Its drainage basin is shared by Maharashtra, Chhattisgarh, Jharkhand and Odisha.
- 4) Ans: C
- 5) Ans: A
- 6) Ans: C
- 7) Ans: A
- 8) Ans: C
- 9) Ans: C Several tributaries, the Zaskar, the Nubra, the Shyok and the Hunza, join it in the Jammu and Kashmir region.
- 10) Ans: D Bandhavgarh National Park – Madhya Pradesh
Periyar Tiger Reserve – Kerala
- 11) Ans: C On 21 June, the Northern Hemisphere is tilted towards the sun. The rays of the sun fall directly on the Tropic of Cancer. As a result, these areas receive more heat. The areas near the poles receive less heat as the rays of the sun are slanting. The North Pole is inclined towards the sun and the places beyond the Arctic Circle experience continuous daylight for about six months. Since a large portion of the Northern Hemisphere is getting light from the sun, it is summer in the regions north of the equator. The longest day and the shortest night at these places occur on 21st June. At this time in the Southern Hemisphere all these conditions are reversed. It is winter season there. The nights are longer than the days.

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- 12) Ans: A The Himalayan mountains are divided into three main parallel ranges. The northernmost is the Great Himalaya or Himadri. The world's highest peaks are located in this range. Middle Himalaya or Himachal lies to the south of Himadri. Many popular hill stations are situated here. The Shiwalik is the southernmost range.
- 13) Ans: D The internal process leads to the upliftment and sinking of the earth's surface at several places. The external process is the continuous wearing down and rebuilding of the land surface. The wearing away of the earth's surface is called erosion.
- 14) Ans: A In the hot weather season sun rays more or less directly fall in this region. Temperature become very high. Hot and dry winds called loo, blow during the day time in the North Indian plains.
- 15) Ans: D Tropical Rain Forests occur in the areas which receive heavy rainfall. They are so dense that sunlight doesn't reach the ground. Many species of trees are found in these forests, which shed their leaves at different times of the year. Therefore, they always appear green and are called evergreen forest Important trees found in these forests are mahogany, ebony and rosewood. Andaman and Nicobar Islands, parts of North-Eastern states and a narrow strip of the Western slope of the Western Ghats are home of these forests.
- 16) Ans: B Migratory Birds: Some birds such as the Pelican, Siberian Crane, Stork, Flamingo, Pintail Duck and Curlew migrate to our country in the winter season every year.
- 17) Ans: A Photochemical Smog is most common in cities with sunny climates.
- 18) Ans: D
- 19) Ans: A Halocline is a distinct zone, where salinity increases sharply.
- 20) Ans: D
- 21) Ans: B Peninsular rivers flow at a much slower rate than the Himalayan Rivers.
- 22) Ans: B The sun, the moon and all those objects shining in the night sky are called celestial bodies. Some celestial bodies are very big and hot. They are made up of gases. They have their own heat and light, which they emit in large amounts. These celestial bodies are called stars. Some celestial bodies do not have their own heat and light. They are lit by the light of the stars. Such bodies are called planets.

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In ancient times, people used to determine directions during the night with the help of stars. The North star indicates the north direction. It is also called the Pole Star. It always remains in the same position in the sky.

- 23) Ans: C The shape of the earth is not a sphere. It is 'Geoid' (earth is slightly flattened at poles). So the linear distance of a degree is greater at poles than at equator.
As the parallels of latitude become shorter pole ward, so the meridians of longitude, which converge at the poles, enclose a narrow space.
- 24) Ans: A On 21st March and September 23rd, direct rays of the sun fall on the equator. At this position, neither of the poles is tilted towards the sun; so, the whole earth experiences equal days and equal nights. This is called an equinox.
- 25) Ans: D Latitude has nothing to do with determining time on earth. Longitude can allow you to determine time. If you can determine the longitude you are at and know the time at some other longitude, then the difference between the two lets you calculate the time difference (as in time of day).
As the earth rotates from west to east, those places east of Greenwich will be ahead of Greenwich Time and those to the west will be behind it.
- 26) Ans: A The axis of the earth which is an imaginary line, makes an angle of $66\frac{1}{2}^\circ$ with its orbital plane. The plane formed by the orbit is known as the orbital plane.
What would happen if the earth did not rotate? The portion of the earth facing the sun would always experience day, thus bringing continuous warmth to the region. The other half would remain in darkness and be freezing cold all the time. Life would not have been possible in such extreme conditions.
- 27) Ans: D As the earth rotates from west to east, those places east of Greenwich will be ahead of Greenwich Time and those to the west will be behind it. The rate of difference can be calculated as follows. The earth rotates 360° in about 24 hours, which means 15° an hour or 1° in four minutes. Thus, when it is 12 noon at Greenwich, the time at 15° east of Greenwich will be $15 \times 4 = 60$ minutes, i.e., 1 hour ahead of Greenwich time, which means 1 p.m. But at 15° west of Greenwich, the time will be behind Greenwich time by one hour, i.e., it will be 11.00 a.m. Similarly, at 180° , it will be midnight when it is 12 noon at Greenwich.
- 28) Ans: B Areas lying between the Arctic Circle and the North Pole in the Northern Hemisphere and the Antarctic Circle and the South Pole in the Southern Hemisphere, are very cold. It is because here the sun does not rise much above the horizon. Therefore, its rays are always slanting and provide less heat. These are, therefore, called Frigid Zones (very cold).

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- 29) Ans: A The solid portion of the earth on which we live is called the Lithosphere. The gaseous layers that surround the earth, is the Atmosphere, where oxygen, nitrogen, arbondioxide and other gases are found. Water covers a very big area of the earth's surface and this area is called the Hydrosphere. The Hydrosphere comprises water in all its forms, that is, ice, water and water vapour. The Biosphere is the narrow zone where we find land, water and air together, which contains all forms of life.
- 30) Ans: A Tamilnadu is the first state in India which has made roof top rainwater harvesting structure compulsory to all the houses across the state.
- 31) Ans: d The channel sections, made of bamboo, divert water to the plant site where it is distributed into branches, again made and laid out with different forms of bamboo pipes. The flow of water into the pipes is controlled by manipulating the pipe positions. The above mentioned Bamboo pipe system is Prevalent in the state of Meghalaya.
- 32) Ans: C A johad is a rainwater storage tank principally used in the Rajasthan and Haryana. Panam keni, a harvesting technique uses a special type of well to store water in Kerala.
- 33) Ans: D Paramparagat Krishi Vikas Yojana (PKVY) related to promoting organic farm in the country.
- 34) Ans: D
- 35) Ans: D
- 36) Ans: B Mineral is a homogenous, naturally occurring substance with a definable internal structure.
- 37) Ans: D
- 38) Ans: A Brasilia Declaration is related to Road Safety in which India is committed to reduce the number of road accidents and fatalities by 50% by 2020.
- 39) Ans: C Coal is weight losing material.
- 40) Ans: B India is the second largest producer of sugarcane only after Brazil.
- 41) Ans: C

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- 42) Ans: D Intensive type of farming is practised in areas of high population. Primitive Subsistence Farming is practised on small patches of land with the help of primitive tools like hoe, dao and digging sticks, and family/community labour.
- 43) Ans: A
- 44) Ans: B Joint Forest Management (JFM) depends on the formation of local (village) institutions that undertake protection activities mostly on the underdeveloped forest.
- 45) Ans: B Luster is an appearance of a material without reference to the colour.
- 46) Ans: D In mesosphere, temperature starts decreasing with the increase in altitude in contrast to Stratosphere. On July the position of the earth is called aphelion whereas on January, it is called perihelion.
- 47) Ans: A
- 48) Ans: C
- 49) Ans: D
- 50) Ans: B The folds of Great Himalayas are asymmetrical in nature.
- 51) Ans: C The part of Himalayas lying between Indus and Satluj has been traditionally known as Punjab Himalaya but it is also known regionally as Kashmir and Himachal Himalaya from west to east respectively. The part of the Himalayas lying between Satluj and Kali rivers is known as Kumaon Himalayas. The Kali and Tista rivers demarcate the Nepal Himalayas and the part lying between Tista and Dihang rivers is known as Assam Himalayas. There are regional names also in these broad categories
- 52) Ans: C The Brahmaputra marks the eastern most boundary of the Himalayas. Beyond the Dihang gorge, the Himalayas bend sharply to the south and spread along the eastern boundary of India. They are known as the *Purvachal* or the Eastern hills and mountains.
- 53) Ans: A The Ganga plain extends between Ghaggar and Teesta rivers. It is spread over the states of North India, Haryana, Delhi, U.P., Bihar, partly Jharkhand and West Bengal to its East, particularly in Assam lies the Brahmaputra plain.
- 54) Ans: C It was brokered by World Bank (WB). According to this, Beas, Ravi & Sutlej are to be governed by India, while, Indus, Chenab and Jhelum are to be taken by Pakistan.

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- 55) Ans: D Spits and bars form lagoons in the coastal areas, eg the Chilika lake, the Pulicat lake, the Kolleru lake. Lakes in the region of inland drainage are sometimes seasonal; for example, the Sambhar lake in Rajasthan, which is a salt water lake. Its water is used for producing salt. Most of the fresh water lakes are in the Himalayan region. They are of glacial origin. In other words, they formed when glaciers dug out a basin, which was later filled with snowmelt. The Wular lake in Jammu and Kashmir, in contrast, is the result of the tectonic activity.
- 56) Ans: D The climate of any particular place is influenced by a host of interacting factors. These include latitude, elevation, nearby water, ocean currents, topography, vegetation, and prevailing winds.
- 57) Ans: B A salt-water lake separated from the sea by the sandbars and spits is called as “Lagoon”
- 58) Ans: C
- 59) Ans: C
- 60) Ans: B
- 61) Ans: A
- 62) Ans: D In Ladakh, the heat of the sun can be felt intensely. The air at this altitude is so thin.
- 63) Ans: D
- 64) Ans: D
- 65) Ans: D
- 66) Ans: A Loess is a landform is formed by a deposition by Wind.
- 67) Ans: C Milpa, Roca, Ladang are Shifting farming. Rice needs high temperature, high humidity and rainfall.
- 68) Ans: B Chintzes – Masulipatnam, Calicos – Calicut
- 69) The character and extent of natural vegetation and wildlife is mainly determined by Temperature.
- 70) Ans: C
- 71) Ans: A “Cyclone Ockhi” has been named by Bangladesh.

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72) Ans: D

73) Ans: C Jet Stream is a river of wind that blows horizontally through the upper layers of the troposphere, generally from West to East, at an altitude of 20000 – 50000 feet. Both the Northern and Southern hemispheres have jet streams, although the jet streams in the north are more forceful due greater temperature gradients.

74) Ans: A The Inter Tropical Convergence Zone, or ITCZ, is a belt of low pressure which circles the Earth generally near the equator where the trade winds of the Northern and Southern Hemispheres come together. It is characterised by convective activity which generates often vigorous thunderstorms over large areas. It is most active over continental land masses by day and relatively less active over the oceans.

75) Ans: C The shift in the position of the ITCZ is related to the phenomenon of the withdrawal of the westerly jet stream from its position over the north Indian plain, south of the Himalayas. The easterly jet stream sets in along 15°N latitude only after the western jet stream has withdrawn itself from the region. This easterly jet stream is held responsible for the burst of the monsoon in India.

76) Ans: A El-Nino is merely an extension of the warm equatorial current which gets replaced temporarily by cold Peruvian current or Humbolt current (locate these currents in your atlas). This current increases the temperature of water on the Peruvian coast by 10°C. This results in:
(i) the distortion of equatorial atmospheric circulation;
(ii) irregularities in the evaporation of sea water;
(iii) reduction in the amount of planktons which further reduces the number of fish in the sea.

77) Ans: A During the south-west monsoon period after having rains for a few days, if rain fails to occur for one or more weeks, it is known as break in the monsoon. These dry spells are quite common during the rainy season. These breaks in the different regions are due to different reasons: (i) In northern India rains are likely to fail if the rain-bearing storms are not very frequent along the monsoon trough or the ITCZ over this region. (ii) Over the west coast the dry spells are associated with days when winds blow parallel to the coast.

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- 78) Ans: D There are three main reasons for the excessive cold in north India during this season : (i) States like Punjab, Haryana and Rajasthan being far away from the moderating influence of sea experience continental climate. (ii) The snowfall in the nearby Himalayan ranges creates cold wave situation; and (iii) Around February, the cold winds coming from the Caspian Sea and Turkmenistan bring cold wave along with frost and fog over the northwestern parts of India.
- 79) Ans: C The Peninsular region of India, however, does not have any well-defined cold weather season. There is hardly any seasonal change in the distribution pattern of the temperature in coastal areas because of moderating influence of the sea and the proximity to equator.
- 80) Ans: D Most parts of India do not have rainfall in the winter season. However, there are some exceptions to it:
(i) In northwestern India, some weak temperate cyclones from the Mediterranean sea cause rainfall in Punjab, Haryana, Delhi and western Uttar Pradesh. Although the amount is meagre, it is highly beneficial for rabi crops.
(ii) Central parts of India and northern parts of southern Peninsula also get winter rainfall occasionally.
(iii) Arunachal Pradesh and Assam in the northeastern parts of India also have rains between 25 mm and 50 mm during these winter months.
- 81) Ans: A Blossom Shower: coffee flowers blossom in Karnataka and nearby areas
- 82) Ans: C In the Indian tradition, a year is divided into six two-monthly seasons. This cycle of seasons, which the common people in north and central India follow is based on their practical experience and age-old perception of weather phenomena. However, this system does not match with the seasons of south India where there is little variation in the seasons.
Vasanta Chaitra-Vaisakha March-April
Grishma Jyaistha-Asadha May-June
Varsha Sravana-Bhadra July-August
Sharada Asvina-Kartika September-October
Hemanta Margashirsa-Pausa November-December
Shishira Magha-Phalguna January-February
- 83) Ans: D Climatic Regions of India According to Koeppen’s Scheme
Amw Monsoon with short dry season West coast of India south of Goa
As – Monsoon with dry summer Coromandel coast of Tamil Nadu
Aw – Tropical savannah Most of the Peninsular plateaus, south of the Tropic of Cancer
Bwhw – Semi-arid steppe climate North-western Gujarat, some parts of western Rajasthan and Punjab
Bwhw – Hot desert Extreme western Rajasthan

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Cwg – Monsoon with dry winter Ganga plain, eastern Rajasthan, northern Madhya Pradesh,

most of North-east India

Dfc – Cold humid winter with short summer Arunachal Pradesh

E – Polar type Jammu and Kashmir, Himachal Pradesh and Uttaranchal

84) Ans: B Monsoons and the Economic Life in India

- Except Himalayas all the parts of the country have temperature above the threshold level to grow the crops or plants throughout the year.
- Sudden monsoon burst creates problem of soil erosion over large areas in India.
- Winter rainfall by temperate cyclones in north India is highly beneficial for rabi crops.

85) Ans: A 1. A sunrise industry is one that is new or relatively new, is growing fast and is expected to become important in the future. Examples of sunrise industries include hydrogen fuel production, petrochemical industry, food processing industry, space tourism, and online encyclopedias.

Steel Industry is the one of the oldest industry in the world

2. Tata Steel Limited (formerly Tata Iron and Steel Company Limited (TISCO)) is an Indian multinational steel-making company headquartered in Mumbai, Maharashtra, India, and a subsidiary of the Tata Group. Tata Iron and Steel Company was founded by Jamshetji Tata and established by Dorabji Tata on 26 August 1907, as part of his father Jamshetji's Tata Group. By 1939 it operated the largest steel plant in the British Empire .

It is Private Company.

3. TISCO was started in 1907 at Jamshedpur, near the confluence of the rivers Subarnarekha and Kharkai in Jharkhand.

86) Ans: C 1. The first textile mill in the country was established at Fort Gloster near Kolkata in 1818 but it closed down after some time.

2. In a data released for the marketing year of 2014-2015, India has beaten China to become the largest producer of cotton in the world. According to the President of Cotton Association of India, Dhiren N. Sheth, India produced 6.51 million tonnes of the fibre against 6.48 million tonnes registered by China in the cotton year 2014-15. The data for the year came from the International Cotton Advisory Committee.

The United States Department of Agriculture has also predicted that India will retain this position for the next cotton season as well by producing 27 percent of the global cotton.

87) Ans: B Teak belongs to Tropical Deciduous Forest.

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- 88) Ans: C The India State of Forest Report (ISFR) 2015 states that the majority of the increase in forest cover has been observed in open forest category mainly outside forest areas, followed by Very Dense Forest. While Open Forest area has increased by 4, 744 sq km, which is 9.14 per cent of the geographical area, the area under Very Dense Forest has increased by 2, 404 sq kms, which is 2.61% of the geographical area. The total carbon stock in the country's forest is estimated to be 7, 044 million tones, an increase of 103 million tonnes, which is an increase of 1.48 in percentage terms over the previous assessments. The increase in the carbon stock is in line with the INDC targets. The INDC target for forestry sector envisages creation of additional carbon sink of 2.5 to 3.0 billion tonnes of CO₂.
- 89) Ans: B Centre Promulgates Indian Forest (Amendment) Ordinance, 2017 to Encourage Bamboo Cultivation in Non-Forest Areas Before this amendment, the felling and transit of bamboo grown on forest as well non-forest land attracted the provisions of the Indian Forest Act, 1927 (IFA, 1927). This was a major impediment for bamboo cultivation by farmers on non-forest land. s per the assessment of United Nation's Industrial Development Organisation (UNIDO), the bamboo business in the North-East Region alone has a potential of about Rs. 5000 crores in the next ten years. The move is in line with the objective of doubling the income of farmers, besides conservation and sustainable development.
- 90) Ans: B Biosphere Reserve can be declared by state or central government. The Gulf manner reserve is the first marine Biosphere Reserve established in India and is situated along the southern coast of Tamilnadu.
- 91) Ans: C It affects the speed of the wind. It is greatest at the surface and its influence generally extends upto an elevation of 1 - 3 km. Over the sea surface the friction is minimal.
- 92) Ans: C The Coriolis force acts perpendicular to the pressure gradient force. The pressure gradient force is perpendicular to an isobar. The higher the pressure gradient force, the more is the velocity of the wind and the larger is the deflection in the direction of wind.
- 93) Ans: C Hadley cell, model of the Earth's atmospheric circulation that was proposed by George Hadley (1735). It consists of a single wind system in each hemisphere, with westward and equatorward flow near the surface and eastward and poleward flow at higher altitudes. The tropical regions receive more heat from solar radiation than they radiate back into space, and the polar regions radiate more than they receive; because both areas have nearly constant temperatures, Hadley theorized that warm air must therefore rise near the Equator, flow poleward at high altitudes, and lose heat to the cold air present near the poles. This cooler and denser air then descends and flows equatorward at low levels until it nears the Equator, where it is warmed and rises again.

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94) Ans: D

95) Ans: B Most important factors for forecasting fog formation are 1) long nights during colder months; 2) clear skies and light winds; 3) moist air; 4) a low-level temperature inversion and the 5) sufficient supply of condensation nuclei.

96) Ans: D

97) Ans: B A mid-ocean ridge or mid-oceanic ridge is an underwater mountain range, formed by plate tectonics.

This uplifting of the ocean floor occurs when convection currents rise in the mantle beneath the oceanic crust and create magma where two tectonic plates meet at a divergent boundary.

The mid-ocean ridges of the world are connected and form a single global mid-oceanic ridge system that is part of every ocean, making the mid-oceanic ridge system the longest mountain range in the world, with a total length of about 60,000 km.

98) Ans: A Salinity at depth is very much fixed, because there is no way that water is ‘lost’, or the salt is ‘added.’ There is a marked difference in the salinity between the surface zones and the deep zones of the oceans.

99) Ans: A When the sun, the moon and the earth are in a straight line, the height of the tide will be higher. These are called spring tides and they occur twice a month, one on full moon period and another during new moon period. When the earth is closest to the sun (*perihelion*), around 3rd January each year, tidal ranges are also much greater, with unusually high and unusually low tides. When the earth is farthest from the sun (*aphelion*), around 4th July each year, tidal ranges are much less than average. Education • Knowledge • Service

100) Ans: C West coasts of the continents in tropical and subtropical latitudes (except close to the equator) are bordered by cool waters. Their average temperatures are relatively low with a narrow diurnal and annual ranges. There is fog, but generally the areas are arid. Warm currents flow parallel to the east coasts of the continents in tropical and subtropical latitudes. This results in warm and rainy climates.