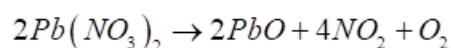


## **CDS II 2020: General Knowledge Paper Solution**

1. Ans. B.

On heating, lead nitrate is converted into yellow color lead oxide, brown color nitrogen dioxide, and colorless gas of oxygen. The reaction will be



This reaction is an example of a decomposition reaction.

2. Ans. D.

Valency is the combining capacity of the atom. The atomic number of phosphorus is 15. So, the electronic configuration will be 2,8,5. To complete the outer orbit, the atom has to gain 3 electrons or lose 5 electrons. Therefore, phosphorus has both valency 3 and 5.

3. Ans. D.

Silver does not react with oxygen under normal circumstances, because it is less reactive and comes downwards in the reactivity series. Silver reacts with hydrogen sulfide in the air and forms silver sulfide ( $Ag_2S$ ) which is responsible for black coating over the silver.

4. Ans. A.

Liquid nitrogen is used to keep samples at  $-196^\circ C$  which is considered the gold standard for biosamples preservation. It is used to store the biological tissues at a temperature below the glass transition point of water which is about  $-135^\circ C$ , stops virtually all biological activity, and minimizes the sample degradation over time.

5. Ans. C.

The most stable radioactive isotope of hydrogen is Tritium with a half-life of 12.32 years. It is a hydrogen isotope that consists of one proton, two neutrons, and one electron.

6. Ans. A.

Most of the bacteria generates a cell wall which is composed partly of a macromolecule called peptidoglycan, it is made up of amino sugars and short peptides. Penicillin is one of those antibiotics which prevents the

final cross-linkage step with the coordination of this macromolecule which results in the burst wall and kills the bacteria. It is safe for the host.

7. Ans. A.

A human being has 23 pairs of chromosomes in which one pair of X and Y chromosomes determine the sex of the human being. If there is one X chromosome from mother and one X chromosome from father, then two X chromosomes (XX) makes a girl whereas X chromosome from mother and Y chromosome from father then these chromosomes (XY) makes a boy.

8. Ans. D.

Mature sclerenchyma cells are generally having dead cells which are made up of heavily thickened secondary walls containing lignin. The cells are rigid and are generally found in nongrowing regions of the plant, such as the bark or mature stems.

9. Ans. B.

Phloem is the living tissue in vascular plants that transports the photosynthetic products which are the soluble organic compounds obtained during photosynthesis, mainly sugar sucrose to the parts of the plants where it is needed. This process is called translocation.

10. Ans. D.

Solar energy is a non-conventional source of energy because it does not produce any pollution which helps in reducing the greenhouse effect. Solar energy is the most readily available source of energy that does not belong to anybody as it is free from nature.

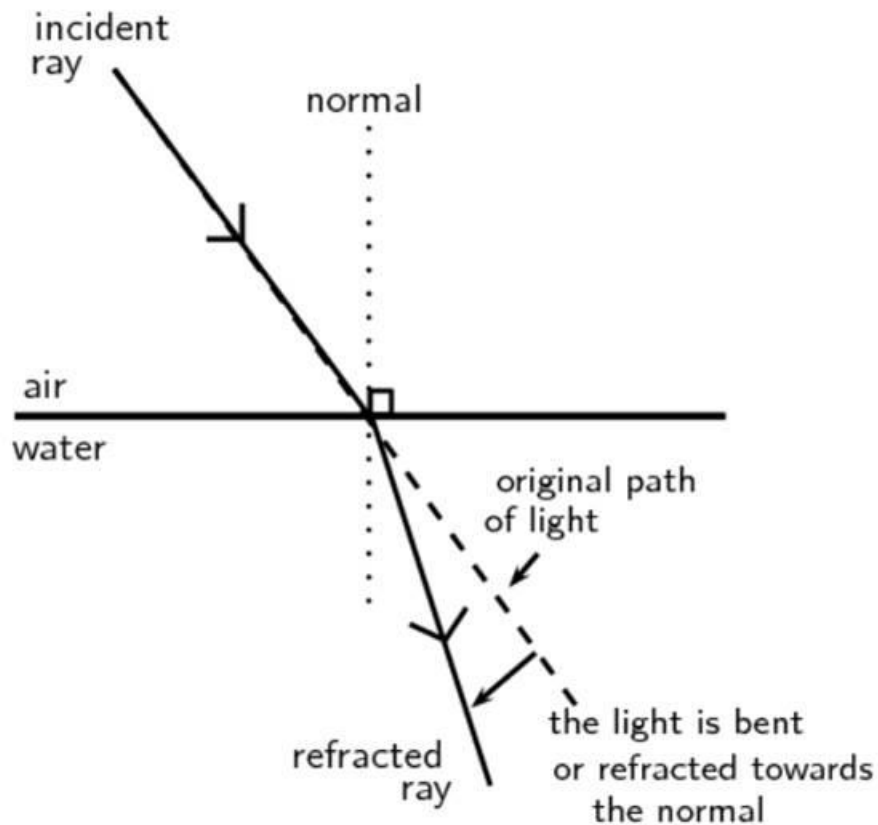
11. Ans. A.

A point light source is single and a small one that gives off the light in all directions, such as a lit candle. It is a source of light that has no screen or lampshade to block the direction in which the light can travel. As light rays travel from the point source and strike an opaque object, the light rays do not travel through an opaque object. There is an area behind the object where the light rays do not reach, and this is the place where the dark shadow forms. If the distance between the object and the light source changes, the scattering of the light rays' changes. When the object is far from the point source, the light rays coming from the source do not scatter much. As the object restricts the light rays being emitted at smaller angles, a smaller, sharper shadow forms behind it.

12. Ans. C.

Light and sound are very different. Sound is a mechanical disturbance that travels through air or another medium. Sound needs a medium to travel through a medium that determines its speed. A thunderstorm is a loud noise that follows a flash of lightning. Lightning can be seen before the sound of thunder is heard as light travels faster than sound. The speed of sound in air is 300m/s while Light travels at 186,282 meters per second. This indicates that the reason why we see lightning first in a thunderstorm is that the visible light waves formed by the plasma in the lightning travel to our eyes much faster than the crack of thunder sound reach to our ears.

13. Ans. C.



In this case, the angle of incidence is  $0^\circ$  and

$$\sin \theta_2 = \frac{n_1}{n_2} \sin \theta_1 = 0$$

$$\therefore \theta_2 = 0$$

In this case, the angle of incidence is  $0^\circ$ . This diagram shows that if the light ray is incident at  $0^\circ$ , then the angle of refraction is also  $0^\circ$ . There is no change in the direction of the light ray, thus, the speed of the light will change as it moves into the new medium.

14. Ans. C.

Given,

Object distance,  $u = 40\text{cm}$

Focal length,  $f = 25\text{cm}$

From mirror formula

$$\frac{1}{f} = \frac{1}{v} + \frac{1}{u}$$

$$= \frac{1}{-25} = \frac{1}{v} - \frac{1}{40}$$

$$\frac{1}{v} = \frac{1}{40} - \frac{1}{25} = 200\text{cm}$$

Hence, the image will be real, inverted, and magnified.

15. Ans. B.

Lens with power  $+2.5\text{ D}$  will bend the light rays through the largest angle because a positive sign shows a convex lens, a convex lens concentrates the light rays that are incident on it, so it is called a converging lens. The bending of light rays is maximal at the top and bottom of the convex lens because the top and bottom prisms have the greatest angle between the refracting surfaces.

16. Ans. D.

Silver articles turn black when kept in the open for a longer time due to the formation of  $(\text{Ag}_2\text{S})$ . Silver reacts with hydrogen sulfide in the air and forms silver sulfide  $(\text{Ag}_2\text{S})$  which is responsible for black coating over the silver.

17. Ans. A.

Zinc oxide is an amphoteric oxide that shows both properties of acidic and basic behavior. It dissolves in most of the acids but insoluble in water. An amphoteric oxide reacts with both acid and base to form salt and water.

18. Ans. D.

The only liquid elements at standard temperature (298 K) and pressure (1 atm.) are bromine (Br) and mercury (Hg). Bromine (Br), a reddish-brown liquid which melts at 265.9 K while Mercury (Hg), a toxic metal, melts at 234.32 K.

19. Ans. A.

John Dalton proposed the tenets of his atomic theory that chemical elements are made up of atoms. The atoms of an element are identical in mass while different elements have different masses. He proposed that atoms can not be created nor be destroyed. Dalton proposed the symbols of those elements, but these symbols are not used nowadays. He used them to represent elements and in combination compounds.

20. Ans. A.

Ammonium chloride is isolated from a mixture of sodium chloride and ammonium chloride by the process of sublimation. Ammonium chloride can be sublimed whereas sodium chloride cannot be sublimed. When a mixture of sodium chloride and ammonium chloride is heated, ammonium chloride changes its state from solid to vapor. The vapors of ammonium chloride are condensed on the cold surface. Sodium chloride is left behind.

21. Ans. A.

Helicobacter pylori is a gram-negative bacillus that is found in the gastric epithelial cells. These bacteria are responsible for 90% of duodenal ulcers and 70%-90% of gastric ulcers.

22. Ans. B.

Wings of birds and bats are considered analogous structures because they have similar functions and similar structures but different origins as they developed independently as an adaptation for flying.

23. Ans. D.

Pearls are harvested from Oyster through a harvesting process. Only Oysters have this quality to produce pearls with good shapes, lusters and qualities will be grafted a subsequent time. It takes much time to harvest

a cultured pearl from the birth of oyster larvae and this is mainly done in winters.

24. Ans. B.

Taxonomy is that branch of biology which manages the identification and naming of organisms. A genus is a taxonomic category that deals with the biological classification of living and fossil organisms, as well as viruses in biology. In the ladder of biological classification, the genus is above species and below family category. In binomial nomenclature, the genus name forms the first part of the binomial species name for each species within the genus taxonomic category. All the individuals of a particular organism, such as rose plants, belong to a taxonomic category called genus.

25. Ans. B.

Algae is a member of a group of predominantly aquatic photosynthetic organisms that belongs to the kingdom Protista. Algae is having many types of life cycles, and they are various in size from microscopic Micro monas species to giant kelps that reach around 60 meters (200 feet) in length.

26. Ans. B.

In physics optics, the refractive index of a material is a unitless number that describes how faster the light travels through the material. It is defined as

$$n = \frac{c}{v}$$

where,

c = speed of light in vacuum

v = phase velocity of light in the medium

So, If the speed of light in air is represented by c and the speed in a medium is v, then the refractive index of the medium can be calculated using the formula.

27. Ans. C.

Ultraviolet light is a form of electromagnetic radiation whose wavelength ranges from 10 nm to 400 nm, which is shorter than that of visible light, but longer than X-rays. Two types of waves are there i.e., transverse

waves and longitudinal waves. Ultraviolet light is an example of transverse waves. If the particles are displaced perpendicular to the direction the wave travels, then this is defined as transverse waves. If the particles are displaced parallel to the direction the wave travel is defined as longitude waves.

28. Ans. D.

The neutron is a subatomic particle, the symbol is  $n$  or  $n^0$ , which has a zero charge and a mass slightly greater than that of a proton. Protons and neutrons constitute the nuclei of atoms. Protons and neutrons make up the nucleus in the center of the atom, but neutrons do not revolve around the atomic nuclei.

29. Ans. D.

The gravitational force between the two objects is inversely proportional to the square of the distance between them.

The gravitational force will be  $\frac{1}{2 \times 2}$  if the distance between these two objects is doubled.

That is,  $\frac{1}{4}$ .

If the distance between two objects is increased by two times, the gravitational force between them will be  $\frac{1}{4}$ .

30. Ans. B.

As we know, Momentum is directly proportional to velocity. So, If the momentum of that object is doubled, but its mass does not increase then its velocity will be doubled. If the velocity will be doubled, then the kinetic energy increases by four times. If the linear momentum of a moving object gets doubled due to the application of a force, then its kinetic energy will be increased by four times.

31. Ans. D.

Pragyan, which signifies 'wisdom' in Sanskrit was a rover and the third component of the Chandrayaan-2 mission. Pragyan was a robotic vehicle that would traverse the lunar surface on the six wheels that were painted in the colours of the tiranga.



About Pragyan Rover:

The rover's mass was about 27 kg and was designed to operate on solar power. The rover was to move on 6 wheels traversing 500 meters on the lunar surface, performing on-site analysis and sending the data to the Vikram lander, which would have relayed it to the Earth station.

Its power system had a solar-powered sleep/wake-up cycle implemented, which could have resulted in longer service time than planned.

- Dimensions: 0.9 \* 0.75 \* 0.85 metre
- Power: 50 Watt
- Travel speed: 1 cm per sec.
- Planned mission duration:  $\leq 14$  days (one lunar day)

32. Ans. A.

The Mineral contents of samples from the Lonar crater-cum-lake in the Buldhana district, Maharashtra, which was established after a meteorite crash around 50,000 years ago, are similar to the moon rocks obtained from the first and the third manned moon missions, as per the study led by the IIT (Indian Institute of Technology), Bombay.

A meteorite crash occurs when a meteoroid rock (formed when asteroids break/collide) survives its travel through the Earth's atmosphere and the lands on the Earth's surface. Meteorites are classified as stony (made up of oxygen, iron, silicon & magnesium) or iron (predominantly made of iron & nickel) or a combination of stony-iron.

The Lonar crater in the basaltic Deccan traps is the Earth's largest and only hyper-velocity impact terrestrial crater caused by a meteorite crash. The Lonar crater and Meteor Crater in Arizona are the only two known natural craters formed entirely in basalt – a dark, fine-grained volcanic rock – and comparable to the basaltic crust on Mars.

33. Ans. C.

The Ministry of Human Resource Development has approved the 'Study in India' programme with, inter-alia, the following objectives:

- To improve India's soft power with a focus on the neighbouring countries and utilize it as a tool in diplomacy.
- To boost the number of inbound international Students in India.



- To double India's market share of the world's education exports from less than 1% to 2%.
- Increase in the contribution of int. student in the form of direct spends, indirect spends, spill-over effects.
- Improvement in overall quality of the higher education.
- Increase in the global ranking of India as an educational destination.
- To decrease the export – Import imbalance in the number of international students.
- Growth of India's global market share of international students.

The 'Study in India' programme's primary aim is to target foreign students by branding India as an attractive education destination. According to the existing Government framework, provision of 10 to 15% supernumerary seats for foreign students is there. The 'Study in India' programme would target the foreign students to be admitted as per this provision, which would not have any kind of adverse impact on the number of seats or admission of the Indian students.

The Government has accepted an expenditure of Rs. 150 crores for the 'Study in India' programme for the period of two years 2018-19 and 2019-20 which will be primarily for brand promotion activities.

34. Ans. B.

The MSDE (Ministry of Skill Development & Entrepreneurship) has launched 'Aatmanirbhar Skilled Employee Employer Mapping (ASEEM)' portal to help skilled people find the sustainable livelihood opportunities.

Key takeaways of the portal:

- ASEEM portal will provide employers a platform to assess the availability of the skilled workforce and formulate their hiring plans.
- The portal will map details of workers based on regions and local industry demands and will bridge the demand-supply gap of skilled workforce across sectors.
- The Artificial Intelligence-based platform will even provide real-time granular information by identifying relevant skilling requirements and employment prospects.
- Also available as an application, it comprises of three IT-based interfaces:

- Employer Portal: Employer on-boarding, demand aggregation, candidate selection.
- Dashboard: Reports, trends, analytics, and highlight the gaps.
- Candidate Application: Create and track candidate profile; share job suggestions.

35. Ans. B.

In the Odisha's Balasore district, a farmer, Basudev Mahapatra, spotted a turtle which is yellow in colour and according to the experts, it is the product of albinism. The turtle is known as the 'Indian flap shell turtle'. The turtle is commonly found in India, Pakistan, Sri Lanka, Bangladesh, Nepal and Myanmar. It is omnivorous & its diet consists of frogs, snails and even some aquatic vegetation.

About Albinism:

Albinism is a kind of genetic disorder where there is little or no production of pigment in the skin, eyes & hair or in other species in the fur, feathers, or scales.

36. Ans. A.

It was M.S. Aney who moved the motion of Secret sitting session of the Assembly in the year 1942.

Dr. Madhav Shrihari Aney popularly referred to as Loknayak Bapuji Aney/Bapuji Aney, was an ardent educationist, statesman, freedom fighter, a modern Sanskrit poet and a politician.

He was even designated with the title of 'Loknayak Bapuji', which means 'The People's Leader and Respected Father'. He was one among the founder of the Congress Nationalist Party.

He never permitted his critical faculties to be blurred by the emotion. Mahatma Gandhi admiring his calm logic, confined in him and often sought his counsel.

He was selected to arbitrate the disputes between Subhash Chandra Bose and Jatindra Mohan Sengupta.

He was never a breaker or a destroyer but was always a cementing factor believing in synthesis and not in segregation.

37. Ans. D.

The Lok Sabha's Secretary-General is the administrative head of the Lok Sabha Secretariat. He or she is appointed by the Speaker of the Lok Sabha. The post of the Secretary-General is equivalent to the rank of the Cabinet Secretary in the Government of India, who is the senior-most civil servant to the Indian Government.

Role of Secretary-General of Lok Sabha:

- In the discharge of his constitutional & statutory responsibilities, the Speaker of the Lok Sabha is assisted by the Secretary-General, Lok Sabha, (whose position, pay scale and status etc. is equivalent to that of the highest-ranking official in the Government of India, i.e. Cabinet Secretary, Joint Secretary and other officers, functionaries of the level of the Additional Secretary and staff of the Secretariat at various levels.
- The Secretary-General remains in the office till his/her retirement at the age of 60. He or she is answerable only to the Speaker; his/her actions can't be discussed or criticised in or outside the Lok Sabha.
- On the behalf of the President of India, he or she summons members to attend the session of Parliament and authenticates bills in the absence of the Speaker.

38. Ans. D.

Shri Ram Bajpai founded the Seva Samiti Boy Scouts Association in the year 1914 at Bombay on the lines of the world-wide Baden-Powell Organisations, which at that time banned Indians from joining it. Though later Baden-Powell, after a private visit to India, lifted the colour bar, Bajpai's organisation continued its separate existence, for it had the aim of bringing about the complete Indianisation of the Boy Scout movement in India.

39. Ans. C.

Origin of Trade Unions Act in India:

1918 – First Registered Organized Trade Union – Madras Labour Union led by B P Wadia and V. Kalyanasundaram Mudaliar, in the year 1918. The strike was started by the workers of the Buckingham and Carnatic Mills in Madras, against the managing company, Binny & Co.

1919 – ILO (International Labour Organisation) got formed.

1920 – First Trade Union Federation – All India Trade Union Congress (AITUC) in the year 1920. The founding Presidents were Lala Lajpat Rai, N M Joshi & Joseph Baptista. The AITUC was formed to secure a

nominating body for representing Indian Labour at the International Labour Conference

1920 – Ahmedabad Textile Labour Association established by Anasuya Sarabhai, who was a pioneer of the women’s labour movement in India.

1922 – Central Labour Board, Bombay

1922 – Bengal Trade Union Federation

1922 – All India Railwaymen’s Federation ( AIRF)

40. Ans. C.

Narayan Malhar Joshi was an Indian trade union leader and the follower of Gopal Krishna Gokhale. Joshi got involved in labour issues and initiated the All India Trade Union Congress in the year 1920 along with the Lala Lajpat Rai.

Malhar Joshi was the general secretary of AITUC from the year’s 1925 to 1929 and from 1940 to 1948. In the year 1931, he left AITUC and established the All India Trade Union Federation.

The AITUC (All India Trade Union Congress) is the oldest trade union federations in India. It is linked with the Communist Party of India. As per the provisional statistics from the Ministry of Labour, AITUC had a membership of 14.2 million in the year 2013.

The AITUC is governed by a body headed by the National President Ramendra Kumar & General Secretary Amarjeet Kaur, both the politician affiliated with the Communist Party of India.

The AITUC is a founder member of the World Federation of Trade Unions. Presently, its institutional records are part of the Archives at the Nehru Memorial Museum and Library, at Teen Murti House, Delhi.

41. Ans. B.

Subhash Chandra Bose formed an alliance with the Muslim League to destroy the Holwell Monument in Calcutta during 1939-40.

After the failure of Bose-Mahasabha alliance, Bose entitled his alliance with the Muslim League of being a larger vision and strategic purpose.

Muslim League's objective in allying with Bose was simply to employ him as a useful tool to keep Congress and Hindus divided, while at the same time consolidating itself in Bengal as the sole Moslem representative.

Indeed, Bose would continue his labours to 'woo them to his side' at all costs, and it is towards that direction that he spent his energies in the next political program that he took up: Muslim League led agitation to remove the Holwell Monument.

42. Ans. D.

A remote and unknown town, Qadian in Gurdaspur emerged as a centre of religious learning in the year 1889, when Mirza Ghulam Ahmad established the Ahmadiyya Muslim Community, and in the year 1891, it became the venue for the annual gatherings of the communities.

Qadian remained the administrative headquarters and the capital of the Ahmadiyya Caliphate until the partition of India in the year 1947 when much of the Community migrated to Pakistan.

Mirza Ghulam Ahmad was an Indian religious leader and the founder of the Ahmadiyya movement in Islam. He claimed to have been divinely appointed as the promised Messiah & Mahdi—which is the metaphorical second coming of Jesus, in fulfilment of the Islam's latter-day prophecies, as well as the Mujaddid (centennial reviver) of the 14<sup>th</sup> Islamic century.

43. Ans. D.

Sarojini Naidu, Annie Besant, Hirabai Tata, Mithan Tata went to London in the year 1919 to give evidence before the Joint Parliamentary Committee on the Government of India Bill and received a warm support from the British Women's organisations like the Women's freedom League and the Women's International League<sup>36</sup>.

44. Ans. B.

Among the given cities, Singapore is closest to the equator.

Some other cities which lie closest to the equator:

Each of the following cities straddles/abuts the Equator, as the coordinates for each are less than one Degree latitude from the Equator. Only the core city population is provided, so there may be some suburbs that could have been part of this list, as well.

- Quito, Ecuador
- Kampala, Uganda
- Pekanbaru, Indonesia
- Padang, Indonesia

- Libreville, Gabon
- Pontianak, Indonesia
- Kisumu, Kenya
- Macapa, Brazil
- Mbandaka, Dem. Republic of Congo
- Manta, Ecuador
- Kismayo, Somalia
- Entebbe, Uganda
- Nuevo Loja, Ecuador
- Sao Tome, Sao Tome

45. Ans. A.

Inceptisols:

General characteristics: These are usually the weakly developed young soil though they are more developed than entisols.

Area (in Thousand Hectares): 130372.9

Percentage of the total area of India: 39.74

Entisols:

General characteristics: Usually young or underdeveloped. Lack vertical development of horizons. These are less fertile soils.

Area (in Thousand Hectares): 92131.71

Percentage of the total area of India: 28.08

Alfisols:

General characteristics: Pale, greyish brown to reddish in colour with moderate-to-high reserves of basic cations and are fertile. Although their productivity depends on moisture and temperature. They are supplemented by the moderate application of lime and other chemical fertilizers.



Area (in Thousand Hectares): 44448.68

Percentage of the total area of India: 13.55

Vertisols:

General characteristics: These are expandable clay soils, formed of more than 30% clays. Vertisol clays are black when wet and become iron-hard when dry. When drying, Vertisols crack, and the cracks widen and deepen as the soil dries; this produces cracks 2 to 3 cm wide. These are productive soils. The regur soils of India are an example of vertisols.

Area (in Thousand Hectares): 27960

Percentage of the total area of India: 8.52

46. Ans. A.

The tropical Savannah climate is even called the tropical wet and dry climate. It is the climate experienced in the savannah or tropical grassland regions of the world. These places are situated near the equator, and they lie between the Southern and the Northern Tropics.

The climate dominates various parts of the African continent, the northern areas of South America, and parts of Asia like India. The tropical Savannah climate has to alternate the dry & wet seasons, therefore its name.

It shares some similar characteristics with that of the tropical monsoon climate, but it receives less annual rainfall as compared to the tropical monsoon climate. In the Koppen classification, the climate is designated as Aw or As.

47. Ans. D.

The Isotherm Line, which divides the India North-South into almost two equal parts in the month of January is 20°C.

Isotherms are the lines that connect points of equal temperature on weather maps, so at every point along a given isotherm, the temperature values are the same.

Isotherms help to visualize and to interpret the horizontal temperature distribution of an area by showing the patterns of temperature on a weather or oceanography map. Constructing the map of isotherms is an elementary step in the temperature data analysis, and the process, in general, is known as contouring.



It can even be done for the other parameters like barometric pressure (isobars), dew point temperature (isodrosotherms), geopotential height (isohypses), wind speed (isotachs), and salinity (isohalines). Isotherms are always smooth, labelled with the values, and mostly parallel to each other.

48. Ans. C.

The Decadal growth rate of population in terms of percentage was highest in India in 1971.

The population growth rate peaked during the decade 1971-81, perhaps in the year's 1972-73 (based on the Sample Registration Scheme data). The avg. annual exponential growth rate declined marginally to 2.11 per cent (4.5%) after having remained at a plateau for the previous two decades of 1961-71 & 1971-81. At this point in time, the fertility and mortality trends indicate that the India will reach the replacement level fertility (Net Reproductive Rate of Unity) by the years 2010-2015.

The decadal growth rate is a critical part of the census operations. It gives an overview of the percentage of total population growth in a particular decade.

There are records that keep track of the increase and the decrease in population. And it is called 'decadal' as the decade consists of a period of 10 years. Therefore, the decadal growth rate gives an overview of the total population growth in a particular decade.

49. Ans. D.

Timber is a type of wood that has been processed into beams and planks. It is also known as 'lumber' in the US and Canada. Any wood capable of yielding a minimum dimensional size can be termed as timber or lumber. It is a stage in the process of wood production.

Timbers are used for structural purposes. Those woods which are adapted for building purposes are timbers.

Finished timber is supplied in standard sizes for the industry. Timber is used for building houses and making furniture.

The Timber vegetation is generally found in Subtropical, Temperate and Alpine region.

50. Ans. B.

The place in India receiving the lowest rainfall is Leh. The avg. annual rainfall in the region is less than 50 cm. The cities like Jaisalmer in Rajasthan and Leh in Ladakh receives the least rainfall.

Leh lies on 3527 metres above sea level and is considered to have the desert climate. During the year, there is virtually no precipitation in Leh. According to Koppen and Geiger, this climate is categorised as BWk. The avg. annual temperature is 5.2 °C (i.e. 41.4 °F) in Leh. The annual rainfall is 103 mm (i.e. 4.1 inches).

The temperatures are the highest on avg. in July, at around 17.4 °C (i.e. 63.3 °F). The lowest average temperatures in the year happen in January when it is around -8.6 °C (i.e. 16.5 °F).

51. Ans. C.

As per the Budget Estimates of the expenditure on major subsidies during 2019-20, the maximum expenditure was likely to be on food subsidy.

Expenditure on Subsidies:

In the year 2019-20, the total expenditure on subsidies is estimated to increase to Rs 3,38,949 crore (13.3%) over the revised estimate of 2018-19. This is owing to an increase in expenditure on petroleum, fertiliser, food, and other interest subsidies. Details are given below:

- Food subsidy: Allocation for food subsidy is estimated at Rs 1,84,220 crore in 2019-20, a 7.5% increase as compared to the revised estimate of 2018-19. In 2018-19 budget, Rs 1,69,323 crore was allocated for food subsidy; however, the revised estimate is higher than the budgeted estimate by Rs 1,975 crore. The revised estimate for 2018-19 is 71% higher than the expenditure on food subsidy in 2017-18.
- Fertiliser subsidy: Expenditure on fertiliser subsidy is estimated at Rs 79,996 crore in 2019-20. This is estimated to increase by Rs 9,910 crore (1%) over the revised estimate of 2018-19. Allocation to the subsidy in 2019-20 budget is Rs 5,010 crore higher than the allocation made in 2019-20 interim budget.
- Petroleum subsidy: Expenditure on petroleum subsidy is estimated to rise by Rs 12,645 crore (9%) in 2019-20. Petroleum subsidy consists of subsidy on LPG (Rs 32,989 crore) and kerosene subsidy (Rs 4,489 crore). The increase in allocation in 2019-20 is owing to an increase in LPG subsidy of Rs 12,706 crore (62.6%) from 2018-19 revised estimates.
- Other subsidies: Expenditure on other subsidies includes interest subsidies for several government schemes, subsidies for the price support

scheme for agricultural produce, import of pulses, and assistance to state agencies for procurement, among others. In 2019-20, the expenditure on these other subsidies had increased by Rs 4,251 crore (9%) over the revised estimate of 2018-19. Table 4 provides details of subsidies in 2019-20.

52. Ans. C.

The substantial deceleration in the nominal GDP growth reflects poorly on the government's fiscal marksmanship. In other words, it signifies that the government was not able to assess the magnitude of economic growth deceleration that was underway. The poor fiscal marksmanship, in turn, leads to inaccurate policymaking because a government could end up making policies for an economy that does not actually exist on the ground.

The fiscal policy 2019-20 was characterized by sluggish growth in Tax revenue relative to the budget estimates.

The Non-Tax revenue registered the considerably higher growth in the first eight months of this financial year compared to the same period last year.

The country's fiscal deficit widened to 4.6 per cent of the Gross Domestic Product in the year 2019-20 mainly on account of poor revenue realisation, according to official data. The deficit, which signifies the gap between government revenue and expenditure, is higher than the revised estimate of 3.8 per cent for the fiscal.

53. Ans. D.

The enactment of the NFSA (National Food Security Act) 2013 on 5<sup>th</sup> July 2013 marks a paradigm shift in the approach to food security from welfare to a rights-based approach.

The NFSA Act was rolled out in the year 2014.

The Act legally entitles up to 75 percent of the rural population and 50 percent of the urban population to receive subsidized foodgrains under the Targeted Public Distribution System.

About two-thirds of the population thus is covered under the Act to receive highly subsidised foodgrains.

The NFSA 2013 is being implemented in all the States or UTs, on an all India basis.

Out of maximum coverage of 81.35 crore, around 80 crore persons have been covered under NFSA at present for receiving highly subsidized foodgrains.

The identification of beneficiaries by States/UTs is a continuous process, which involves exclusion of ineligible or fake or duplicate ration cards and also exclusion on account of death, migration etc. and inclusion on account of birth as also that of genuine left-out households.

54. Ans. C.

Ease of Doing Business report 2020 (with respect to India):

- India has recorded an increase of 14 positions at 63<sup>rd</sup> rank against its rank of 77 last year.
- For the 3<sup>rd</sup> consecutive year, India was also amongst the top 10 improvers.
- India's improved ranking was on the back of reforms like (a) dealing with construction permits, (b) trading across borders and (c) resolving insolvency.
- The Indian Imports and exports also became easier with the single electronic platform for trade stakeholders, among other things.
- India even saw the biggest jump in ranking in resolving insolvency category to 52<sup>nd</sup> rank from 108<sup>th</sup>.
- Although, the country still lags in areas like enforcing contracts and registering property.
- The report has said that India takes 58 days and costs on average 7.8% of a property's value to register it, longer and at a greater cost than among OECD high-income economies.
- Further, it takes 1,445 days for a company to resolve the commercial dispute through a local first-instance court which is almost three times the average time in the OECD high-income economies.

World Bank 'Ease of Doing Business': India's Progress from 2016 to 2020

TOPIC	RANK IN 2016	RANK IN 2020
Starting a business	155	136
Dealing with construction permits	183	27
Getting electricity	70	22
Registering property	138	154
Getting Credit	42	25
Protecting Minority Investors	8	13
Paying Taxes	157	115
Trading across Borders	133	68
Enforcing Contracts	178	163
Resolving Insolvency	136	52
Overall	130	63

55. Ans. C.

For every rupee with the government –offer, 68 paise came from the direct & indirect taxes while the states' share of taxes & duties is the single-largest expen'e head accounting for 23% of the total spending as per the 1019-20 budget.

As per the Budget for 2019-20 presented in the Parliament by Finance Minister Nirmala Sitharaman, GST collections contributed 19 paise in every rupee revenue collection.

The Corporation tax is the single largest source of the income, contributing 21 paise to each rupee earned.

The collection from borrowings & other liabilities will be 20 paise whereas income tax will yield 16 paise to every rupee collection.

The govt. intends to earn 9 paise from the non-tax revenue like disinvestment, 8 paise from the Union excise duty, 4 paise from the customs and 3 paise from the non-debt capital receipts in every rupee collection.

On that of the expenditure side, the biggest outlay component is the states' share of the taxes & duties at 23 paise, followed b' the interest payment at 18 paise.

56. Ans. D.

Below are some major active volcanos of the world with their location:

Active Volcanos - Location

Mauna Loa - Hawaii

Eyjafjallajokull - Iceland

Mount Vesuvius - Italy

Mount Nyiragongo - Congo

Taal Volcano - Philippines

Mount Merapi - Indonesia

Galeras - Colombia

Sakurajima - Japan

Santa Maria - Guatemala

57. Ans. D.

The Tropic of Capricorn, also called the Southern Tropic, is an imaginary line (a latitude circle) which indicates the southernmost point where the Sun is directly overhead at noon. This occurs during the solstice on December 21.

The Tropic of Capricorn is one among the five crucial latitudinal circles marked on the globe. It is  $23^{\circ}26'13.3''$  south of the Equator.

It passes through the following countries or overseas territories:

- Chile
- Argentina
- Paraguay
- Brazil
- Namibia
- Botswana
- South Africa
- Mozambique
- Madagascar
- Australia
- French Polynesia



58. Ans. B.

Chandrakant Sompura, the Ahmedabad-based architect whose design has been adopted by Shri Ram Janmabhoomi Teerth Kshetra for the construction of the temple.

The temple will retain its original plan of 'Nagara' style of temple architecture with the Ram Mandir being three-storeys and of 161 feet height. The temple will have five-domed mandaps, and one Shikhar, all adhering to the principles of Vastu Shastra.

Chandrakant Sompura is the fifteenth-generation of the Ahmedabad-based family that has been into temple architecture, having constructed over 200 temples in India & abroad. His grandfather P.O. Sompura had designed the Somnath temple in the year 1949. The family has the long list of temples to its credit involving Akshardham in Gujarat, Swaminarayan mandir in Mumbai and Birla Mandir in Calcutta.

59. Ans. A.

The recent explosion near OIL well in Baghjan is due to removing the spool during the blowout control operations.

In a written statement, OIL said, 'The three experts were provided with medical attention immediately at the well site, and later on they were taken to the burn unit section at Astha Hospital in Dibrugarh district. They were released after dressing of their injuries.'

Further they added, 'While removing the spool during blowout control operations at Baghjan well no. 5, three experts from M/s Alert sustained minor injuries. Treatment was provided immediately to the injured experts.'

60. Ans. C.

The Serum Institute of India was halting the trial of the Oxford University-Astrazeneca COVID-19 vaccine in India until the British-Swedish drug maker restarts the trial.

The move came a day after the Pune-based vaccine maker received a show-cause notice from the DGCI (Drug Controller's General of India).

The central drug regulator had pulled up the company for not informing it about the pharma giant AstraZeneca pausing the clinical trials of the Oxford COVID-19 vaccine candidates in other countries.



On 8<sup>th</sup> September 2020, the clinical trials of one of the Oxford-AstraZeneca's COVID-19 vaccine were suspended in the United Kingdom after a participant developed an unexplained illness.

61. Ans. A.

August 6, 2020, marks the 75<sup>th</sup> anniversary of the dropping of the first atomic bomb. Two American atomic bombs ended World War II in August 1945, and the devastation will be forever remembered. In an instant when the first bomb was dropped, tens of thousands of residents of Hiroshima, Japan were killed by "Little Boy," the code name for the first atomic bomb used in warfare in world history.

It was the first-ever nuclear weapon used in the warfare. The Little Boy bomb was dropped by the Boeing B-29 Superfortress Enola Gay which was piloted by the Colonel Paul W. Tibbets, Junior commander of the 509<sup>th</sup> Composite Group of the US Army Air Forces and Captain Robert A. Lewis.

The Little Boy was developed by Lieutenant Commander Francis Birch's group at the Manhattan Project's Los Alamos Laboratory during the World War II, a reworking of their unsuccessful Thin Man nuclear bomb. Like that of the Thin Man, it was a gun-type fission weapon, but it derived its explosive power from the nuclear fission of uranium-235, whereas Thin Man was based on fission of plutonium-239.

62. Ans. B.

President Michel Aoun said 2,750 tonnes of ammonium nitrate, used in fertilisers and bombs, had been stored for six years at the port without safety measures after it was seized.

The explosion was the strongest ever to rip through Beirut, a city still scarred by the civil war that ended three decades ago and reeling from an economic meltdown and a surge in coronavirus infections. The blast rattled buildings on the Mediterranean island of Cyprus, about 160 km away.

Nearly 5,000 people were injured in Tuesday's explosion at Beirut port, and tens of thousands were left without homes fit to live in after shockwaves smashed building facades, sucked furniture out into streets and shattered glass miles inland.

63. Ans. C.

The following below are the basic features of protective democracy:

- Protective democracy believes in popular sovereignty. But since people can't directly take part in the processes of the state, they do it through their representatives.
- Both the popular sovereignty and the representative form of the government are very much legitimate.
- It is the basic duty of the state to secure the rights & liberties of citizens and whether this is properly performed or not people keep the strong vigilance over the functions of the state.
- The authority is very much accountable to the People and to form its elections are held on a regular basis. There are even other ways of establishing accountability
- A very significant way of protecting the rights, liberties and distribution of privileges is the division of powers among the legislature, executive and judiciary. This is done in all liberal democracies.
- There is a prevalence of the constitutionalism. Both the ruler & the ruled are controlled by the principles laid down in the Constitution.
- The Constitution is the source of power for all and is the guarantor of the rights and liberties. There are even measures to prevent the violation of rights and liberties.
- Organisations associations groups have quite enough freedom, and they always act as the friends of citizens and fight against any violation of rights or encroachment on liberty.
- Competition in all the spheres is a feature of the protective democracy.
- A clear distinction among the state and civil society is strictly maintained.

64. Ans. D.

Article – 243 :

Definitions - In this Part, unless the context otherwise requires—

(a) 'district' means a district in a State;

(b) 'Gram Sabha' means a body consisting of persons registered in the electoral rolls relating to a village comprised within the area of Panchayat at the village level;

(c) 'intermediate level' means a level between the village and district levels specified by the Governor of a State by public notification to be the intermediate level for the purposes of this Part;

(d) 'Panchayat' means an institution (by whatever name called) of self-government constituted under article 243B, for the rural areas;

(e) 'Panchayat area' means the territorial area of a Panchayat;

(f) 'population' means the population as ascertained at the last preceding census of which the relevant figures have been published;

(g) 'village' means a village specified by the Governor by public notification to be a village for the purposes of this Part and includes a group of villages so specified.

Article – 243C : the Legislature of a State may, by the law, make provisions with respect to the composition of Panchayats.

65. Ans. C.

Article 176 provides for the special address by the Governor.

- At the initiation of the 1<sup>st</sup> session after every general election to the Legislative Assembly and at the commencement of the 1<sup>st</sup> session of each year, the Governor shall address the Legislative Assembly or, in the case of a State having a Legislative Council, both House assemble together.
- Provision are made by the rules regulating the procedure of the House or either House for the allotment of time for discussion of the matters referred to in such address.

President or Governor Address:

- o Commonly referred to as the President's/Governor's Address, they are a constitutional requirement.
- o The Constitution gives the President and the Governor the power to address the sitting of the legislature. The special power is with respect to the two occasions.
- o The first is to address the opening session of the new legislature after the general election. The second is to address the first sitting of the legislature each year.
- o A session of the new or a continuing legislature can't begin without fulfilling this requirement.

o When the Constitution came into effect, the President was required to address each session of Parliament.

o So during the provisional Parliament in the year 1950, the President gave an address for all three sessions. At the suggestion of Speaker G V Mavalankar, the first Constitutional Amendment in 1951 changed this position.

o Besides being a constitutional requirement, the President's or Governor's Address is keenly watched as it outlines the government's policy agenda and stands on issues.

66. Ans. C.

Secularism as a Western term is defined as the separation of powers of church & State. In the context of the other societies, it is near-complete freedom of religion and the lack of authority of religious leaders over the political matters. Democracy is not a pre-requisite for establishing a secular state though secularism works best when adapted with a democratic system.

Characteristics of the secular society:

- Separation of state & religion- Religious groups, do not interfere in affairs of state, and the state does not interfere in religious affairs.
- Religious freedom- Defend the absolute freedom of the religious and other belief. It protects the rights of both the believers and non-believers.
- Equal access to the public services- No discrimination is allowed to access the public services on the basis of religion. State-funded schools are non-religious in character.
- It refuses theocracy, i.e. theocracy is a government by divine guidance or by the officials who are regarded as divinely guided. In several theocracies, government leaders are members of the clergy, and the state's legal system is based on religious law. Contemporary examples of theocracies include Saudi Arabia, Iran, and the Vatican.
- Protection of free speech & expression- Religious people have the right to express their beliefs publicly but so do those who oppose/question those beliefs.
- Promote the idea of democracy- All the citizens are considered equal irrespective of their religious affiliation and universal human rights precedes the religious demands.

67. Ans. A.

Ram Manohar Lohiya was an activist for the Indian freedom struggle and the socialist movement in India.

Lohia's Seven Revolutions (i.e. Sapta Kranti):

- for equality between man and woman;
- against the political, economic and race-based inequalities;
- for the destruction of castes;
- against foreign domination
- for economic equality, planned production and against the private property;
- against interference in private life;
- against the arms & weapons and for Satyagraha.

About Ram Manohar Lohiya:

- He was a staunch supporter of positive discrimination a state shall make in-order to uplift the position of women, OBCs, and other vulnerable groups. This makes sense in a present-day society where reservation is being provided to various group by the supreme law of the land under Art 16(b) (reservation to OBC, SC & ST) and by 73<sup>rd</sup> and 74<sup>th</sup> C.A.A (women in local bodies elections.).
- He provided the ideological and organizational base for OBC empowerment.
- However, in the present political environment, it is often misused via caste-based politics by various political groups.
- He called for the eradication of caste and class-based society. At present, it is required to establish an egalitarian and inclusive society.
- He called for planned production. To achieve the goals of SDG, and fight the twin menace of climate change and global warming, his idea needs to be implemented with true intentions.
- He was critical of foreign domination, which is needed to maintain the sovereignty of the nation and so that its developmental benefits reach to the last man of the society.

- He was critical of arms and weapons and advocated Satyagraha to put one's unheard voice. This is essential to achieve peace and harmony in the world. Even international organizations are striving for disarmament in present times.
- He also advocated politics as a practice of ethics and values, which is desirable in the present political environment.

68. Ans. B.

The MHA (Ministry of Home Affairs) is the 'Nodal Ministry' for the management of the natural disasters in India. It is headquartered in New Delhi. The PM of India is the chairman of the NDMA. It has five members.

Functions of the NDMA (National Disaster Management Authority):

- Lay down policies on disaster management.
- Approval to the National Plan in response to the disasters.
- Approval to the plans made by the Ministries or Departments of the Government of India as per the national plan.
- Lay down the guidelines for the prevention of the disaster or the mitigation of its effects. These guidelines must be followed by the different Ministries or Departments of the Government of India.
- To issue the guidelines that need to be followed by the State Authorities while making the State Plan to tackle disasters.
- Recommend the outlay of funds to mitigate the impact of natural disasters.
- Coordinate the enforcement and implementation of the disaster management policy and plans.
- To take appropriate measures in order to mitigate, prevent, or prepare the capacity building for dealing with threatening disaster situations.
- To make the policies and guidelines for the functioning of the National Institute of Disaster Management (NIDM).
- Provide needful support to the neighbouring countries during major disasters as decided by the central government.

69. Ans. C.



The Liberal Party of India was the political organization espousing the values of liberalism in the politics of India under the British Raj.

The Liberal Party was formed in the year 1910, and British intellectuals and British officials were often participating members of its committees. The Indian National Congress, which had been established to create a mature political dialogue with the British government, included both the moderates and extremists. Many moderate leaders with liberal ideas left Congress with the rise of the Indian nationalism.

When the Montagu report of the year 1918 was made public, there was a split in the Congress over it. The moderates greeted it while the extremists opposed it. This results in a schism in the Congress with moderate leaders forming the 'Indian National Liberal Federation' in the year 1919. The party was founded by Surendra Nath Banarjee, and some among its prominent leaders were Tej Bahadur Sapru, V. S. Srinivasa Sastri and M. R. Jayakar.

Tej Bahadur Sapru emerged as the most significant leader among the Liberals. At the time of the agitation against the Simon Commission, he initiated the idea of an all-parties conference in India to prepare an agreed constitutional scheme. This resulted in the 'Nehru Report' which proposed the Constitution and persuaded the new Labour government in Britain to offer India a Round Table Conference.

70. Ans. C.

S.B. Tambe was the first one to accept a ministerial position in the central provinces in Oct. 1925.

Shripad Balwant Tambe was the pledger from Amravati in the Berar division of Central Provinces. He was a member of the Swaraj Party and the President of the Central Provinces Legislative Council.

He was designated as the member of the Government of Central Provinces after the Moropant Vishvanath Joshi's tenure ended in the year 1925. His appointment formed political interest all over India and the Swaraj Party. He was opposed by Motilal Nehru and others, but Mr M R Jayakar from Bombay Legislative Council supported the move citing similarity with V J Patel.

As of the year 1927, he inaugurated 'The Poona Sevasadan Society, Nagpur Branch' on 2<sup>nd</sup> January, when he was a member of Government of Central Provinces and Berar.

In the year 1931, Tambe attended the 2<sup>nd</sup> Round Table Conference.



71. Ans. D.

After the first world war, the Triveni Sangh was formed by the Ahirs and the Kurmis.

The 'Triveni Sangh' was a caste coalition and political party established in Shahabad District of Bihar in pre-independence India to voice the political solidarity of 'middle peasant castes' as well as to carve a space in democratic politics for the lower castes.

The Triveni Sangh was formed in the year 1934 by the members of backward castes of Bihar, namely Yadavs, Ahirs, Koeri, and Kurmi. Its nomenclature was acquired from the confluence of three mighty rivers, i.e. the Ganga, Yamuna and the mythical Saraswati at Allahabad.

The Sangh claimed of having a minimum of one million dues-paying members. Its establishment was countered by the formation of the Indian National Congress's backward class federation, which was established at the same time.

72. Ans. D.

Mohammedan Anglo-Oriental Defence Association was founded in the year 1893 by Sir Syed Ahmad Khan as a part of the Aligarh movement.

He established it as he considered competence in English and 'Western sciences' necessary skills for maintaining Muslims' political influence, especially in Northern India.

Also, the growing influence and the popularity of Congress became a cause of concern for the British.

In order to counter the rising influence of the Congress, the British encouraged the formation of the Mohammedan Anglo-Oriental (M.A.O.) Defence Association in 1893.

73. Ans. C.

The Moderates constitutional demands were:

- Expansion of the Legislative Council and the Legislative Assemblies, both Central and Provincial.
- Increase in the membership of Indians by involving some members elected by local bodies such as chambers of commerce, universities, etc. in these councils and by giving much more powers to them. They demanded the Indian control over the public purse and raised the slogan 'No taxation without representation'.

- By the starting of the 20<sup>th</sup> century, they demanded for Swaraj (self-rule) within the British Empire similar to that of the self-governing colonies in Australia and Canada.
- Adequate representation of the Indians in the Executive Council of the Viceroy and those of the Governors.
- Reformation and expansion of the legislative councils formed by the act of 1861. They demanded the rise in the membership of these councils and all legislative and financial matters involving the Budget should be submitted to these councils.
- The legislative council's members to be directly elected by the people of India, i.e. they demanded Universal Adult Franchise.
- A complete separation of the executive and the judicial branches of administration.
- Complete self-government modelled on self-governing British colonies like Australia and Canada.

The Moderates made the following below demands in the administrative sphere:

- Demand for the simultaneous Indian Civil Service examinations in England & India.
- Complete separation of the executive & the judiciary. They made this demand to protect the Indians from the arbitrary acts by the police and the bureaucracy.
- The rise in the municipal bodies powers and also reduction of official control over them.
- Repeal of the Arms Act and the License Act.
- More comprehensive employment of the Indians in the higher grades of the administrative services and higher jobs for Indians in the army.
- Spread of primary education among the people.
- Improvement of the police system to make it quite honest, efficient and popular.

74. Ans. D.

During the 19<sup>th</sup> century, 'Satapatra Series' was written by G.H. Deshmukh.

Gopal Hari Deshmukh was an Indian activist, thinker, social reformer and writer from Maharashtra. His original surname was Shidhaye. Because of 'Vatan' (i.e. the right of Tax collection) that the family had received, the family was later called Deshmukh. Deshmukh is regarded as a prominent figure of the Social Reform Movement in Maharashtra.

At age 25, G.H. Deshmukh started writing articles aimed at social reform in Maharashtra in the weekly Prabhakar under the pen name Lokhitawadi. In the initial two years, he penned 108 articles on the social reform. All those group of articles has come to be known in the Marathi literature as Lokhitawadinchi Shatapatre.

He promoted emancipation (i.e. liberation) and education of women and wrote against the arranged child marriages, dowry system, and polygamy, all of which were prevalent in India in his times.

He also wrote against the evils of the caste system which was strongly prevalent in India in his times, condemned the harmful Hindu religious orthodoxy, and attacked the monopoly in the religious matters and rituals which Brahmin priests had through the long tradition (Deshmukh, himself, belonged to the Brahmin caste). He enunciated certain 15 principles for bringing about religious reform in Hindu society.

75. Ans. A.

- The Great Barrier Reef is the largest among the living structure on the Earth.
- It is a site of the remarkable variety and beauty on the north-east coast of Australia. The reef is situated off the coast of Queensland, Australia, in the Coral Sea.
- It comprises the world's largest collection of coral reefs, with 400 types of the coral, 1,500 species of fish and about 4,000 types of mollusc. It even holds great scientific interest as the habitat of species like the dugong (i.e. sea cow) and the large green turtle, which are threatened with extinction.
- The reef, which is large enough to be visible from the space, is made up of nearly 3,000 individual reefs. Majority of the Great Barrier Reef is a marine protected area, managed by the Great Barrier Reef Marine Park Authority of Australia.

76. Ans. B.

- Part II of the Indian Constitution contains provisions related to citizenship. So, any amendment to the citizenship act will fall under part II of the Constitution.
- Articles 5 - 11 contain provisions related to citizenship in India.
- Part I - States and union territories.
- Part IV – Directive Principles of State Policy.
- Part VI – The states.

77. Ans. C.

- Article 32 of Indian Constitution empowers the Supreme Court of India to issue writs: habeas corpus, mandamus, prohibition, quo warranto and certiorari, for the enforcement of fundamental rights.
- By Article 226, the High Courts have also been empowered to issue writs, for the implementation of Fundamental Rights.
- Hence both Supreme Court and High Courts can issue writs.

78. Ans. A.

Benegal Narsing Rau was appointed as the advisor to the Constituent Assembly. He played a crucial role in framing the general structure of the Constitution and preparation of the first draft. He travelled to different countries and had extensive meetings with eminent jurists and political experts throughout the world.

He was appointed as India's representative to the United Nations Security Council from 1950 to 1952. From February 1952 until his death, he was a judge of the International Court of Justice at The Hague.

79. Ans. B.

- The 42<sup>nd</sup> Amendment to the Constitution of India was enacted in 1976. The Amendment: attempted to reduce the power of the Supreme Court and High Courts, added Article 51 A, which contained the Fundamental Duties for citizens and added Socialist, Secular, and Integrity added to the Preamble of the Constitution.
- The Amendment transferred five subjects (Education, Forests, Weight & Measures, Protection of Wild Animals and Birds, and Administration of Justice) from the state list to the concurrent list.

- The Amendment also added the four new Directive principles of the state policy.
- Due to the scale of changes introduced, this amendment is also known as 'mini-Constitution'.

80. Ans. B.

- India is a multi-party democracy. The Election Commission is gives recognition to political parties as national or state political parties on the basis of their performance in the elections.
- Election Commission of India recognises three type of political parties: National Party, State Party and registered unrecognized parties.
- As of November 2020, India has eight national political party: All India Trinamool Congress, Bahujan Samaj Party, Bharatiya Janata Party, Communist Party of India, Communist Party of India (Marxist), Indian National Congress, National People's Party and Nationalist Congress Party.

81. Ans. D.

- Parliamentary Committee means a Committee appointed or elected by the House or nominated by the Speaker and which works under the direction of the Speaker and presents its report to the House or to the Speaker.
- Parliamentary Committees are of two kinds: Standing Committees and Ad hoc Committees. Standing Committees are permanent and regular committees which are constituted from time to time. Ad hoc Committees are appointed for a specific purpose and they cease to exist when they finish the task assigned to them and submit a report.
- The members of these committees are appointed or elected on a motion made and adopted or nominated by the Speaker of the Lok Sabha or the Chairman of the Rajya Sabha.

82. Ans. B.

- Parliamentary privilege are rights and immunities enjoyed by Members of Parliament in their individual capacity.
- Article 105 of the Constitution of India which provides for powers, privileges and immunities of the Houses of Parliament and of the members and the Committee.

- The privileges of the MPs are not fettered by the Article 19(1)(a) of the Constitution of India and they must be read subject to the Articles 20-22 and Article 32 of the Constitution of India.
- The MPs are provided immunity from any proceedings, civil or Criminal, in any court in respect of the publication in a newspaper or a substantially true report of the proceedings of either House of Parliament unless the publication is provided to have been made with malice.
- This immunity is not available in private capacity.

83. Ans. A.

- Al-Biruni was a scholar from Uzbekistan, who visited India in the 11<sup>th</sup> century CE. He was captured as slave by Mahmud of Ghazni and spent most of his years in city of Ghazni. He visited India in 1017 CE.
- Al-Biruni's Kitab-ul-Hind is written in Arabic and is divided into 80 chapters on subjects such as religion and philosophy, festivals, astronomy, alchemy, manners and customs, social life, weights and measures, iconography, laws and metrology.

84. Ans. B.

- Ibn Batuta was a Moroccan traveller who visited India in 14<sup>th</sup> century CE.
- Before he set off for India in 1332-33, he had made pilgrimage trips to Mecca, and had already travelled extensively in Syria, Iraq, Persia, Yemen, Oman and a few trading ports on the coast of East Africa.
- Muhammad Bin Tughlaq, the sultan of Delhi was impressed by his scholarship and appointed him the *qazi* or judge of Delhi.
- He also went to China as the envoy of Muhammad Bin Tughlaq.
- Ibn Battuta wrote a book titled Rihla in Arabic.

85. Ans. B.

- The Azamgarh proclamations, issued on 25th August 1857 stressed on the issue of unity among Hindus and the Muslims of the country.
- While the real author of the proclamation is not known, many sources have indicated that the proclamation was written by Firoz Shah, grandson of the Mughal emperor Bahadur Shah Zafar.
- Thus, only statement 2 is incorrect.



86. Ans. B.

- The revolt of 1857 was initiated by the Indian soldiers employed by the East India Company. The soldiers were aggrieved by many reasons, the most immediate being introduction of the greased cartridges of the Enfield Rifle.
- Lord Canning was the Governor General of India at the time of Revolt of 1857.
- Important leaders and places of the revolt were:

Place	Leader
Barrackpore	Mangal Pandey
Arrah	Veer Kunwar Singh
Delhi	Bahadur Shah II, General Bakht Khan
Lucknow	Begum Hazrat Mahal, Birjis Qadir
Kanpur	Nana Sahib, Rao Sahib, Tantia Tope, Azimullah Khan
Jhansi	Rani Laxmibai
Faizabad	Maulvi Ahmadullah

87. Ans. D.

- The resolution on Fundamental Rights and Economic Policy was passed at the Karachi session of Indian National Congress in 1931. The session was presided by Sardar Patel.
- The Congress also endorsed the Gandhi-Irwin pact at the Karachi Session.
- The Congress passed the historic 'Purna Swaraj' resolution at its Lahore session in 1929.

88. Ans. C.

- The Philosophy of the Bomb was written by Bhagwati Charan Vohra in a response to a critical essay written by Mahatma Gandhi against the methods used by revolutionaries.
- Gandhiji had written that if we continue to use violent means to achieve independence, we will not achieve true independence.
- The revolutionaries put forward their views through their essay 'The Philosophy of the Bomb'.

89. Ans. D.



- The Gupta Empire, established by Sri Gupta rose on the ruins of the Kushan Empire and ruled for more than 200 years.
- The rulers of the Gupta dynasty issued largest number of gold coins (called Dinars) in India. The Gupta rulers also issued silver coins but the coins made of copper are very scarce.
- The gold coins of the Gupta rulers are the extraordinary examples of artistic excellence. The coins depicted the ruling monarch on the obverse and carried legends with the figure of a goddess on the reverse.
- Chandragupta II, Kumaragupta I, Skandagupta and Budhagupta issued silver coins.

90. Ans. C.

- In the first century CE, Gandhara (now in Pakistan), Mathura in northern India and Vengi in Andhra Pradesh emerged as important centres of art production.
- The Gandhara School of Art was highly influenced by Greco-roman style.
- Initially, grey-blue schist and green phyllite were predominantly used for making the sculptors but by the 3<sup>rd</sup> century CE stucco completely replaced stone as material used for sculptors. The sculptures were originally painted and gilded.
- The Gandhara school was influenced by the anthropomorphic traditions of Roman religion and represented the Buddha with a youthful Apollo-like face, dressed in garments resembling those seen on Roman imperial statues.

91. Ans. A.

- The landforms formed as a result of erosional and depositional action of running water (mainly rivers) are known as fluvial landforms.
- George, braids, Canyon, Alluvial Fans and Cones, Natural Levee, Waterfalls, potholes, Meanders, oxbow lakes and deltas are examples of fluvial landforms.
- When the discharge of a river is low, the river takes the route of less resistance, thus forming braided channels.
- Cirque is a landform formed by glacial erosion.

92. Ans. A.

- Tundra vegetation is characterised by extremely low temperatures and low biodiversity.
- It is found in the polar areas of Europe, Asia and North America.
- The vegetation is composed of dwarf shrubs, sedges and grasses, mosses, and lichens.
- Belarus does not have a Tundra Vegetation.

93. Ans. A.

- The four innermost planets (planets closer to the Sun i.e. Mercury, Venus, Earth and Mars) are referred as terrestrial planets.
- Jupiter, Saturn, Uranus and Neptune are referred as gas giants as well as Jovian planets.

94. Ans. B.

- Mariana Trench located in the Pacific Ocean is considered as the deepest point (11,034 meters deep) of the oceans.
- Tonga Trench, located in the south-west Pacific Ocean is the second deepest trench of the world.
- The Kermadec Trench is an ocean trench in the south Pacific Ocean.

95. Ans. A.

- A tectonic plate (also called lithospheric plate) is a massive, irregularly-shaped slab of solid rock, generally composed of both continental and oceanic lithosphere.
- The plate tectonics theory proposes that the earth's lithosphere is divided into seven major and some minor plates.
- The Seven Major tectonic plates are:
  1. Antarctica and the surrounding oceanic plate
  2. North American plate
  3. South American plate
  4. Pacific plate
  5. India-Australia-New Zealand plate

6. Africa with the eastern Atlantic floor plate

7. Eurasia and the adjacent oceanic plate

96. Ans. B.

- Mauritius Prime Minister Pravind Jugnauth declared a state of emergency after MV Wakashio, a Japanese-owned ship that ran aground offshore days ago began spilling tons of fuel.

- Coral reefs, seagrasses and mangroves make Mauritian waters extraordinarily rich in biodiversity. The oil spill threatens to ruin the blue waters and can cause irreversible damage to marine biodiversity.

97. Ans. C.

- Percy Mahinda Rajapaksa was sworn in as the Prime Minister of Sri Lanka for the fourth time in August 2020.

- Prior to this, he had served as the President of Sri Lanka from 2005 to 2015.

- Gotabaya Rajapaksa is the eight President of Sri Lanka.

98. Ans. A.

- The 2300 km-long submarine Optical Fibre Cable (OFC) which connects Andaman and Nicobar Islands with mainland India was inaugurated by Indian Prime Minister in August 2020.

- The OFC was laid to provide better connectivity from Chennai to Port Blair and seven other Islands - Swaraj Deep (Havelock), Long Island, Rangat, Hutbay (Little Andaman), Kamorta, Car Nicobar and Campbell Bay (Great Nicobar).

- Initially, the Shaheed island was not connected to mainland through this programme.

99. Ans. B.

- The Wimbledon is one of the four grand slam tournaments of Lawn Tennis, with other three being Australian Open, French open and US Open.

- Simona Halep of Romania defeated Serena Williams in the final to win the Ladies' Singles tennis title at the 2019 Wimbledon Championships.

- Halep also became the first Romanian female player to win the Wimbledon.

100. Ans. D.

- INS Viraat was a Centaur-class aircraft carrier of the Indian Navy. It was acquired by India from Royal Navy of the United Kingdom in 1987.
- INS Viraat was formally decommissioned from Indian Navy in 2017.
- Presently INS Vikramaditya is the flagship aircraft carrier of the Indian Navy.
- INS Rajput is a guided-missile destroyer. INS Chakra and INS Khanderi are attack submarines of the Indian Navy.

101. Ans. A.

- The Rio de la Plata or River Plate forms part of the border between Argentina and Uruguay. The cities of Buenos Aires and Montevideo are located on its western and northern shores, respectively.
- The Orinoco River flows through Venezuela and Colombia and is the fourth largest river in the world by discharge volume of water.
- The Purus river is a tributary of Amazon and flows through Peru and Brazil.
- The Madeira river flows through Bolivia and Brazil and is the biggest tributary of the Amazon.

102. Ans. D.

As of November 2020, India has eight Union Territories. The following table mentions Union Territories and their geographical area:

Union Territory	Area
Ladakh	174,852 km <sup>2</sup>
Jammu and Kashmir	55,538 km <sup>2</sup>
Andaman and Nicobar Islands	8,249 km <sup>2</sup>
Delhi	1,490 km <sup>2</sup>
Dadra and Nagar Haveli and Daman and Diu	603 km <sup>2</sup>
Puducherry	492 km <sup>2</sup>
Chandigarh	114 km <sup>2</sup>
Lakshadweep	32 km <sup>2</sup>

103. Ans. B.

- The Climax mine, is a major molybdenum mine located in Colorado (United States of America).
- Molybdenum is an essential trace mineral. China, Chile and the US are the three largest producers of molybdenum.

104. Ans. A.

- The Sea of Azov is a connected to the Black Sea by the Strait of Kerch. The Don River and Kuban River flow into the Sea of Azov.
- The Sea of Azov, a northern extension of the Black Sea, is an important geopolitical region located on the southern coastlines of Russia and Ukraine.

105. Ans. C.

- Ozone layer in Earth's stratosphere absorbs most of the ultraviolet radiation of the Sun and thus stops them from reaching Earth's surface.
- The thickness of the ozone in a column of air from the ground to the top of the atmosphere is measured in terms of Dobson units (DU).
- Ozone depletion (thinning of the ozone layer) is a result of an increase in Chlorofluorocarbons (CFCs) in the Earth's atmosphere.
- International Day for the Preservation of the Ozone Layer is observed on 16<sup>th</sup> September every year.

106. Ans. D.

A perfectly competitive market has the following defining features:

- The market consists of a large number of buyers and sellers
- Each firm produces and sells a homogenous product. i.e., the product of one firm cannot be differentiated from the product of any other firm.
- Entry into the market as well as exit from the market are free for firms.
- Information is perfect

107. Ans. A.

- A demand curve graph depicts the relationship between price of a commodity (the y-axis) and the quantity of that commodity that is demanded at that price (the x-axis).

- Demand curve will shift to left or right as a result of change in any non-price determinant of demand. Thus, normally there is no shift in demand curve when price of a commodity falls.
- Several factors like rising income, change in population, changes in expectations and changes in tastes and preferences affect individual and market demand.

108. Ans. A.

- The Index of Industrial production measures variations in the production of various industries and is released by the Ministry of Statistics & Programme Implementation.
- IIP divides industries into six use-based sectors: Primary Goods, Capital Goods, Intermediate Goods, Infrastructure/ Construction goods, Consumer durables and Consumer nondurables.
- Weights of the different sectors under the used based classification – 2011-12 series are:

Sector (2011-12 series)	Number of groups	Weights
Primary Goods	15	34.05
Capital Goods	67	8.22
Intermediate Goods	110	17.22
Infrastructure/ Construction goods	29	12.34
Consumer durables	86	12.84
Consumer nondurables	100	15.33
Total	407	100

109. Ans. A.

- The concept of Human Development Index was developed in 1990 by the Pakistani economist Mahbub ul Haq.
- The HDI measures average achievement of a country in three basic dimensions of human development: a long and healthy life, access to knowledge, and a decent standard of living.
- 
- The top five countries in the Global Human Development Index 2019 were: Norway, Switzerland, Ireland and Germany.
- United States of America was ranked at 16<sup>th</sup>, South Africa at 113<sup>th</sup> and India was ranked at 129<sup>th</sup> position.

110. Ans. C.



- Trade surplus refers to a situation when the value of exports is greater than import.
- Trade deficit refers to a situation when the amount of import exceeds exports.
- India's overall trade deficit, including both goods and services, has increased to USD 103.63 billion in 2018-19 from USD 84.45 billion in 2017-18.
- Since 2014-2015 India has consistently run trade surplus with USA and UAE.
- India has trade deficit continuously since 2014-15 with respect to other major trading partners i.e. China, Saudi Arabia, Iraq, Germany, Korea RP, Indonesia and Switzerland.

111. Ans. D.

Coral reefs are one of the most biologically diverse marine ecosystems on the Earth. Corals grow over geological time scales and have been in existence for about 200 million years.

- Coral reefs play an important role in marine ecosystem and support the habitats of flora and fauna in the sea.
- Australian Great Barrier Reef, Belize Barrier Reef and the New Caledonian Barrier Reef, The Mesoamerican Barrier Reef System, The Florida Reef Tract and Rainbow Reef are some examples of coral reef.
- Kyushu Island (Japan) is not a coral reef island.
- In India, Coral reefs are present in the areas of Gulf of Kutch, Gulf of Mannar, Andaman & Nicobar, Lakshadweep Islands and Malvan.

112. Ans. B.

- Haryana will host the 4<sup>th</sup> edition of the Khelo India Youth Games after the Tokyo Olympics 2021.

Games	Year	Host	TOP Three
1 <sup>st</sup> Khelo India Youth Games	2018	Delhi	Haryana Maharashtra Delhi
2 <sup>nd</sup> Khelo India Youth Games	2019	Pune	Maharashtra Haryana Delhi
3 <sup>rd</sup> Khelo India Youth Games	2020	Guwahati	Maharashtra Haryana Delhi

113. Ans. B.

- Girish Chandra Murmu, a 1985-batch IAS officer of Gujarat cadre became the first Lieutenant Governor of newly created Union Territory of Jammu and Kashmir on 31<sup>st</sup> October 2019.
- He resigned from the post on 5 August 2020 and was appointed as the 14<sup>th</sup> Comptroller and Auditor General of India.

114. Ans. D.

- Actress Vidya Balan portrayed the role of Shakuntala Devi in the biopic movie based on the life the noted mathematician.
- Shakuntala Devi (1929-2013), also known as 'the Human Computer' due to her quick calculation was a famous mathematician and writer.
- She multiplied two 13-digit numbers in only 28 seconds at the Imperial College, London in 1980 and earned a place in the 1982 edition of the Guinness Book of World Records.
- The numbers, selected at random by a computer, were 7,686,369,774,870 and 2,465,099,745,779 and the correct answer was 8,947,668,177,995,426,462,773,730.
- She also wrote a number of books including *Figuring: The Joy of Numbers*, *The World of Homosexuals*, *Astrology for You*, *Mathability: Awaken the Math Genius in Your Child*, *Perfect Murder*.

115. Ans. B.

- The idea to designate a name to cyclone to ensure smooth communication was conceived in 2000 by a group of tropical countries including Bangladesh, India, the Maldives, Myanmar, Oman, Pakistan, Sri Lanka and Thailand.

- The regional specialised meteorological centres (RSMCs) and Tropical Cyclone Warning Centres (TCWCs) are responsible for naming tropical Cyclones that form in every ocean basin across the world.
- There are six regional specialised meteorological centres (RSMCs) in the world, including the India Meteorological Department (IMD), and five TCWCs.
- The name of Cyclone Nisarga, which caused widespread damage in West Bengal and Bangladesh coast in May 2020 was suggested by Bangladesh.

116. Ans. B.

- The United Nations has designated 12 August as the International Youth Day. The theme of International Youth Day 2020 was "Youth Engagement for Global Action".

Event	Date
World Environment Day	5 June
World No-Tobacco Day	31 May
International Day against Drug Abuse and Illicit Trafficking	26 June
International Youth Day	12 August

117. Ans. B.

Commission	Article
The National Commission for Scheduled Castes	Article 338
The National Commission for Scheduled Tribes	Article 338 A
The National Commission for Backward Classes	Article 338 B

118. Ans. C.

- Article 32 of Indian Constitution empowers the Supreme Court of India to issue writs: habeas corpus, mandamus, prohibition, quo warranto and certiorari, for the enforcement of fundamental rights.
- By Article 226, the High Courts have also been empowered to issue writs, for the implementation of Fundamental Rights.
- The writ of Quo Warranto, which literally translates to 'by what authority' is issued against a person holding a public office. This writ is issued to restrain a person from holding a public office which he is not entitled.
- The writ of Quo Warranto is filed if there has been a contravention of the Constitution or a statute or statutory instrument, in appointing such person to that office.

- The office must be a substantive one and not merely the function or employment of a servant at the will and during the pleasure of another.

119. Ans. A.

The six Fundamental Rights are enshrined in Part III (Articles 12 to 35) of the Indian Constitution.

- The fundamental right to equality is guaranteed by Articles 14 to 18 and Articles 19 to 22 deals with the fundamental right to freedom.
- Article 14 states that "The State shall not deny to any person equality before the law or the equal protection of the laws within the territory of India."
- Article 19 deals with the protection of six rights regarding freedom of: speech and expression, assembly, association, movement, residence and profession.
- The Right to property guaranteed by Article 31 was removed as a Fundamental Right by the 44<sup>th</sup> Constitutional Amendment (1978). Thus, Right to property has now become a legal right only.
- Articles 31A, 31 B and 31 C deals with right to property and they are exception to the Fundamental Rights.
- Article 31A contains laws regarding the acquisition of any estate or right by the government or management of any property.
- Article 31B states that the acts which are present in the ninth schedule and are inconsistent with the provisions laid down by the constitution or resist any decree or order will be left on the competent legislature to amend, revoke or to let it be in force.
- Article 31C states that no law which gives effect to the provisions contained in Article 39B and Article 39C can be challenged under Article 14, Article 19, or Article 31.

120. Ans. C.

The President is the first citizen of India (head of the Indian state). The Indian has following terms of office:

- The President holds the office for a term of five years from the date of entering his/her office.
- The President may resign before the expiration of his/her term by writing to the Vice President.

- The President can also be removed from the office before the completion of his/her term by the way of Impeachment.
- The President can hold the office beyond his term of five years till his/her successor assumes charge.
- The Indian President is also eligible for re-election to the office of President.

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