

1) c.

Statement 1: Prohibition writ is issued by a higher court to a lower court or tribunal to prevent the latter from exceeding its jurisdiction or usurping a jurisdiction that it does not possess. Thus, unlike mandamus that directs activity, the prohibition directs inactivity.

The writ of prohibition can be issued only against judicial and quasijudicial authorities. It is not available against administrative authorities, legislative bodies, and private individuals or bodies.

Statement 2: Certiorari in the literal sense, means 'to be certified' or 'to be informed'. It is issued by a higher court to a lower court or tribunal either to transfer a case pending with the latter to itself or to squash the order of the latter in a case. It is issued on the grounds of excess of jurisdiction or lack of jurisdiction or error of law.

Like prohibition, certiorari is also not available against legislative bodies and private individuals or bodies. So, 2 is wrong.

Thus, unlike prohibition, which is only preventive, certiorari is both preventive as well as curative.

Learning: Till recently, the writ of certiorari could be issued only against judicial and quasi-judicial authorities and not against administrative authorities. However, in 1991, the Supreme Court ruled that the certiorari can be issued even against administrative authorities affecting rights of individuals.

Q Source: Chapter 7: Indian Polity: M Laxmikanth

2) c:

They operate as limitations on the tyranny of the executive and arbitrary laws of the legislature. They are justiciable in nature, that is, they are enforceable by the courts for their violation.

Statement 2: Rights such as equality to contest for political office, right against discrimination etc show the political and social equality of citizens.

Learning: The aggrieved person can directly go to the Supreme Court which can issue the writs of habeas corpus, mandamus, prohibition, certiorari and quo warranto for the restoration of his rights. However, the Fundamental Rights are not absolute and subject to reasonable restrictions. Further, they are not sacrosanct and can be curtailed or repealed by the Parliament through a constitutional amendment act. They can also be suspended during the operation of a National Emergency except the rights guaranteed by Articles 20 and 21.

Q Source: Chapter 3: Indian Polity: M Laxmikanth

3) d

Statement 1: The term 'secular' was added to the Preamble of the Indian Constitution by the 42nd Constitutional Amendment Act of 1976. The Preamble secures to all citizens of India liberty of belief, faith and worship.

Statement 2: The State shall endeavour to secure for all the citizens a

Uniform Civil Code (Article 44) is mentioned in DPSP – Part IV.

Statement 3: The State shall not deny to any person equality before the law or equal protection of the laws (Article 14).

- The State shall not discriminate against any citizen on the ground of religion (Article 15).
- Equality of opportunity for all citizens in matters of public employment (Article 16).
- All persons are equally entitled to freedom of conscience and the right to freely profess, practice and propagate any religion (Article 25).
- Every religious denomination or any of its section shall have the right to manage its religious affairs (Article 26).
- Similarly Articles 27-30 also uphold values of secularism.

Q Source: Chapter 3: Indian Polity: M Laxmikanth

3) a

Statement 2: Article 14 says 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. This provision confers rights on all persons whether citizens or foreigners. Moreover, the word 'person' includes legal persons, viz, statutory corporations, companies, registered societies or any other type of legal person. So, 2 is wrong.

Statement 1: The Supreme Court held that where equals and unequals are treated differently, Article 14 does not apply. While Article 14 forbids class legislation, it permits reasonable classification of persons, subjects and transactions by the law. But the classification should not be arbitrary, artificial or evasive. Rather, it should be based on an intelligible differential and substantial distinction.

For e.g. a special law can be made for transgender as this classification is reasonable and just, but classification made solely on grounds of financial or economic status may be challenged in the courts for being based in unreasonable classification.

4) a

It consists of

- Protection of six rights regarding freedom of: (i) speech and expression, (ii) assembly, (iii) association, (iv) movement, (v) residence, and (vi) profession (Article 19).
- Protection in respect of conviction for offences (Article 20).
- Protection of life and personal liberty (Article 21).
- Right to elementary education (Article 21A).
- Protection against arrest and detention in certain cases (Article 22).

Right against exploitation (Articles 23–24) cover

- Prohibition of traffic in human beings and forced labour (Article 23).
- Prohibition of employment of children in factories, etc. (Article 24).

Q Source: Chapter 7: Indian Polity: M Laxmikanth

5) c

It literally means 'we command'. It is a command issued by the court to a public official asking him to perform his official duties that he has failed or refused to perform. It can also be issued against any public body, a corporation, an inferior court, a tribunal or government for the same purpose.

The writ of mandamus cannot be issued (a) against a private individual or body; (b) to enforce departmental instruction that does not possess statutory force; (c) when the duty is discretionary and not mandatory; (d) to enforce a contractual obligation; (e) against the president of India or the state governors; and (f) against the chief justice of a high court acting in judicial capacity.

Q Source: Chapter 7: Indian Polity: M Laxmikanth

6) c

These rights are not available to the foreigners (friendly aliens): Right against discrimination on grounds of religion, race, caste, sex or place of birth (Article 15).

- Right to equality of opportunity in the matter of public employment (Article 16).
- Right to freedom of speech and expression, assembly, association, movement, residence and profession (Article 19).
- Cultural and educational rights (Articles 29 and 30).
- Right to vote in elections to the Lok Sabha and state legislative assembly.
- Right to contest for the membership of the Parliament and the state legislature.
- Eligibility to hold certain public offices, that is, President of India, Vice-President of India, judges of the Supreme Court and the high courts, governor of states, attorney general of India and advocate general of states.

Q Source: Chapter 7: Indian Polity: M Laxmikanth

7) d

The basic structure doctrine is an evolving concept. It hasn't been defined in the Constitution. Thus, option (a) is incorrect.

The Apex Court has held that the basic structure of the Constitution cannot be abrogated by a constitutional amendment. Thus option (b) is incorrect.

In the Keshavananda Bharti judgement in 1973, the Apex Court judges listed some of the basic features. It includes powers of the Supreme Court under Articles 32, 136, 141 and 142. Thus, option (c) is incorrect.

8) c:

Statement 1 is incorrect: Fundamental rights can be amended by constitution amendment till they do not violate basic structure of the constitution and thus they are not sacrosanct.

Statement 2 is correct: are available against the actions of both State and private individuals. Few Rights like Abolition of Untouchability etc are available against private citizen also.

Statement 3 is correct: These rights limit the power of Executive and legislature and thus prevents tyranny of executive and legislature.

9) d:

State has been defined in a wider sense so as to include all its agencies. It is the actions of these agencies that can be challenged in the courts as violating the Fundamental Rights.

According to the Supreme Court, even a private body or an agency working as an instrument of the State falls within the meaning of the 'State' under Article 12.

- DMRC has equal equity participation from GOI and GNCTD.
- RBI, UID Authority are statutory bodies.
- NITI aayog performs important public functions like recommending poverty line.

10) d

Statement 1 is incorrect : Article 15 provides that the State shall not discriminate against any citizen on grounds only of religion, race, caste, sex or place of birth. The two crucial words in this provision are 'discrimination' and 'only'. The word 'discrimination' means 'to make an adverse distinction with regard to' or 'to distinguish unfavourably from others'. The use of the word 'only' connotes that discrimination on other grounds is not prohibited.

Statement 2 is incorrect: Such a law can only be passed by parliament and not by any state (Article 16(3))

11) c: 1 is incorrect: It covers Right against pre-censorship on newspapers but not movies as movies has to pass through pre-screening and get certificate from CBFC.

2 is correct: Freedom of Press is covered under Freedom of Speech and Expression.

3 is correct: Freedom of speech also means Freedom to remain silent

4 is incorrect: While Right to demonstration and picketing is covered but Right to strike does not come under this right

12) d

Statement 1 is incorrect: This limitation is imposed only on criminal laws and not on civil laws or tax laws. In other words, a civil liability or a tax can be imposed retrospectively.

Statement 2 is incorrect: Protection against self-incrimination does not extend to (i) compulsory production of material objects, (ii) compulsion to give thumb impression, specimen signature, blood specimens, and (iii) compulsory exhibition of the body.

Statement 3 is incorrect: Protection against double jeopardy is available only in proceedings before a court of law or a judicial tribunal. In other words, it is not available in proceedings before departmental or administrative authorities as they are not of judicial nature.

13) a:

The Supreme Court has held that a religious denomination must satisfy three conditions:

It should be a collection of individuals who have a system of beliefs (doctrines), which they regard as conducive to their spiritual well being.

It should have a common organization

It should be designated by a distinctive name

14) c

Statement 1 is correct. The constitution prohibits levying tax for promotion or maintenance of any particular religion. But it does not prohibit putting a fee on any religious services. This is because the purpose of fee is to control secular administration of religious institutions. Hence statement 2 is correct

15) c:

Both the statements are correct. Using the Constitution amending power, provided under article 368, parliament can amend any part of the constitution. But, this power is not unlimited as, according to article 13(2), parliament can not enact any law which takes away or abridges the fundamental rights.

This power is basis of judicial review. This power limits the sovereignty of the Parliament. Article 21 provided for the phrase" procedure established by law", instead of "due process of law". However the SC in the Maneka Gandhi case declared that Indian judiciary follows 'due process of law' as well, where court can go beyond the letters of the law.

16) d

Statement 1 is incorrect. In institutions administered by the State but established under any endowment or trust, religious instruction is permitted. (Article 28)

Statement 2 is incorrect. No person attending any educational institution recognized by that state or receiving aid out of the State funds shall be required to attend any religious instruction or worship in that institution without his consent. (Article 28)

17) c

Statement 1 is correct. Constitution provides that the right to move Supreme Court for enforcing Fundamental Rights can be curtailed in some circumstances. Therefore President can suspend right to move any court for the enforcement of the fundamental rights during national emergency.

Statement 2 is also correct. Other rights like non-fundamental constitutional rights, statutory rights, customary rights, can't be enforced under Article 32.

Statement 3 is also correct. Parliament can empower any other court to issue directions, orders and writs of all kinds. However this can be done without prejudice to the above powers conferred on the Supreme Court. Here any other court does not include High courts.

18) d

Statement 1 is incorrect. CEPF is a joint initiative of l'Agence Française de Développement, Conservation International, the European Union, the Global Environment Facility, the Government of Japan, the MacArthur Foundation and the World Bank.

Statement 2 is incorrect. The Critical Ecosystem Partnership Fund (CEPF) was founded in 2000 to address this challenge by empowering civil society in developing countries and transitional economies to protect the world's biodiversity hotspots, which are some of Earth's most biologically rich yet threatened terrestrial ecosystems.

19) c:

The Korean Peninsula is a peninsula in East Asia. It extends southwards for about 1,100 km from continental Asia into the Pacific Ocean and is surrounded by the Sea of Japan to the east, and the Yellow. Sea of Japan is also known as East Sea.

20) d:

In order to promote and support protection, management and enhancement of the environment in the South Asian region, the Governments of Afghanistan, Bangladesh, Bhutan, India, Maldives, Nepal, Pakistan and Sri Lanka established the SACEP in 1982 in Sri Lanka.

The SACEP jointly with the International Maritime Organisation (IMO) developed a "Regional Oil Spill Contingency Plan" to facilitate international co-operation and mutual assistance in preparing and responding to a major oil pollution incident in the seas around the Maritime States of Bangladesh, India, Maldives, Pakistan and Sri Lanka.

21) d

Statement 1 is incorrect. The Pradhan Mantri Sahaj Bijli Har Ghar Yojana – 'Saubhagya' aims to provide free electricity connections to all households (both APL and poor families) in rural areas and poor families in urban areas will be provided. The Solar Photovoltaic (SPV) based standalone system will be provided only to those un-electrified households located in remote and inaccessible villages/habitations, where grid extension is not feasible or cost-effective.

Statement 2 is incorrect. The Rural Electrification Corporation (REC) has been designated as its nodal agency for the Saubhagya scheme.

22) d:

Swadeshi movement was initiated against the partition of Bengal in 1905. It was led by extremist of Indian National Congress and had support of the moderates as well.

It led to boycott of British goods like Liverpool salt, Manchester cloth etc. The protest against British goods led to dropping of British textile by five to fifteen times.

However, the most important aspect of the movement was focus on self reliance or atma-shakti which led to development of indigenous industries and nationalistic institutes like Bengal National College founded by Aurobindo Ghosh, Bengal Technical Institute, National Council of Education. Funds were also raised to send students Japan for advanced learning

23) b

Both Moderates and Extremists Indian nationalist leaders, including Lokamanya Tilak, decided to support the war effort of the Government. The leaders' hope was that a grateful Britain would repay India's loyalty with economic and political concessions enabling India to take a long step towards selfgovernment

24) d:

Statement 1 is correct. During the Swadeshi movement, a section of Muslims supported the partition scheme from the very beginning. The Government was very eager to enlist the support of the Muslims against the Hindus. This policy

was initiated by Lord Curzon when he visited East Bengal in 1904. He induced Nawab Salimulla of Dacca to declare himself in favour of the Partition.

Nawab Salimulla became the leader of the Muhammadan opposition to the anti-partition and Swadeshi movement. Inflammatory anti-Hindu pamphlets were distributed patronized by the government officials that resulted in the outbreak of many communal riots, the most serious of which were those at Comilla and Jamalpur

Statement 2 is correct. Under Morley-Minto reforms, Muslim voters (and later Sikhs and others) were put in separate constituencies from which only Muslims could stand as candidates and for which only Muslims could vote. Separate electorates turned elections and legislative councils into arenas for communal conflicts. Since the voters were exclusively the followers of one religion, the candidates did not have to appeal to voters belonging to other religions. They could, therefore, make blatantly communal appeals.

Statement 3 is correct. The Lucknow Pact contributed to the rise of communalism in India owing to the following provisions:

The weightage to Muslim minority was recognized, the result was that this left the way open to the future resurgence of communalism in Indian politics.

Muslim member's strength in legislature was laid down province by province, thus one of the most dangerous pacifist policies of congress not only recognized communal representation but also recognized communal privileges.

Any legislature could not work if 3/4th member of any religion opposed it, its consequence was introduction of communal veto in legislature.

25. d

The 'Water Scarce Cities Initiative' is a collaborative water management approach initiated by the World Bank.

26) b

Ryotwari : Individual farmer was the owner of his land and had to pay his part of revenue.

Zamindari : Revenue was fixed permanently between zamindar and the British. Zamindar was made as owner of land.

Mahalwari : A group of villages(mahal) were assigned the responsibility to collect revenue.

27) c

Extremists wanted to extend the movement to rest of India and beyond the programme of just Swadeshi and Boycott to fully fledged mass struggle with aim of Swaraj but Moderates were not ready for it. The social boycott was an outcome of economic swadeshi movement. It was preached to go against the repressive measures of the Government. The social boycott was a very powerful weapon. The boycott of foreign goods led to the increase in demand of indigenous goods especially clothes which fell short of supply. Herry John Stedman Cotton had opposed the idea of partition of Bengal.

28) d:

Effects of swadeshi movement: The movement resulted in the regeneration of indigenous goods; The boycott of foreign goods led to the increase in demand of indigenous goods; The mill-owners of Bombay and Ahmedabad came to the rescue of the movement; The Boycott movement in Bengal supplied a momentum and driving force to the cotton mills in India and the opportunity thus presented was exploited by the mill-owners; It was complained at that time that the Bombay mill-owners made a huge profit at the expense of what they regarded as 'Bengali Sentimentalism', for buying indigenous cloth at any sacrifice; Bengal had to supplement the supply from Bombay mills by the coarse production of handlooms; The weaving industry in Bengal was a very flourishing one till the British ruined it after they had established their rule over the province in the 18th century; The economic boycott movement seemed to be a suitable opportunity for reviving that industry; The clothes produced were very coarse but were accepted by the Bengalis in the true spirit of the Swadeshi Movement.

29) b

It was made by the rebels during the revolt of 1857. This proclamation was published in the midst of the "Great Mutiny" of 1857.

30) d: The cause of the growth of Extremism: True Nature of the British Rule Revealed, Poverty and Frustration, International Influence, Failure of the Moderates, Growth of Education, Increasing westernisation, etc

31) a: Sashtri Jambekar had started a weekly 'Darpan' to spread the knowledge in Indian society. He attacked brahmanical orthodoxy and reform Hindu society.

The title of 'Lokhitwadi' was given to Gopal Hari Deshmukh, who advocated reorganisation of Indian society on rational principles and modern humanistic and secular values.

Dadabhai Naraoji was a great reformer for Parsi community to grant legal status to women and apply uniform personal law.

Jyotiba Phule campaigned against caste domination and Brahmanical supremacy.

32) d:

Sir Syed Ahmed Khan was modern in thought. He wanted Muslims to learn western education in order to remove the backwardness among Muslims. He was the founder of Anglo-Oriental College which renamed into Aligarh Muslim University for imparting modern education to Muslims. In his later days he supported British rule in India and encouraged communalism and separatism.

33) a

Militant nationalists wanted to extend the Swadeshi and boycott movement from Bengal to rest of the country and boycott from every form of association. Moderates wanted to confine it to Bengal only and boycott only to foreign goods. Lucknow Pact refers to an agreement reached between the Indian National Congress and the Muslim League at the joint session of both the parties, held in Lucknow, in the year 1916. The divided Congress re-united in the crucial Lucknow session of congress in 1916 but Lucknow pact was not signed between them.

34) b: They believed in very peaceful methods like petitions, meetings, resolutions, etc. Government was forced by them to pass Indian Council Act of 1892. But nationalists were not fully satisfied. It remained the official majority in the council. Their demands include Indianisation of administrative services, friendly relations with India's neighbours, separation of executive from judiciary, etc.

35) d

36) a:

Statement 1 is derived from Article 14 i.e. Equality before law where all are treated equally before law.

Statement 2 is derived from Article 15 i.e. that prohibits discrimination.

Statement 3 is derived from Article 19(1), but this does not correlate with the concept of Equality rather it signifies Liberty i.e. freedom.

37) b

38) d

39) a:

Statement 1 is incorrect. The National Innovation Foundation (NIF) – India was set up in March 2000 with the assistance of Department of Science and Technology, Government of India.

Statement 2 is correct. NIF scouts, supports and spawns grassroots innovations developed by individuals and local communities in any technological field, helping in human survival without any help from formal sector.

NIF helps grassroots innovators and outstanding traditional knowledge holders get due recognition, respect and reward for their innovations. It also tries to ensure that such innovations diffuse widely through commercial and/or non-commercial channels, generating material or non-material incentives for them and others involved in the value chain.

40) b

41) d

42) c

43) d

44) a

45) b

Separate electorate means some seats are reserved in legislature exclusively for depressed classes for which only adults of these communities are eligible. Separate electorates for Muslims was introduced after the passage of Morley-Minto reforms of 1909.

McDonald Award was meant to provide separate electorates of depressed classes.

46) d

All the statements are correct. The NEAC was launched in mid 1986 with the objective of creating environmental awareness at the national level. In this campaign, nominal financial assistance is provided to NGOs, schools, colleges, universities, research institutes, women and youth organisations, army units, government departments etc. from all

over the country for conducting awareness raising and action oriented activities. Thirty four Regional Resource Agencies (RRAs) appointed by the Ministry are involved in conducting, supervising and monitoring the NEAC activities.

47) B

IMPRINT India Programme is joint initiative of Indian Institutes of Technology (IITs) and Indian Institute of Science (IISc).

It seeks to develop road map for research to solve major engineering and technology challenges in 10 technology domains relevant for country.

48) C

49) B

50) B

51) A

Option B: Of the nine monolithic temples found in Mahabalipuram, the most important are Five Rathas known after the famous five Pandava brothers of the Mahabharata fame. These monuments are carved out a single rock.

Option C: Recent excavations to the north and south of the Shore Temple have revealed rock-cut figures representing religious themes of period prior to the construction to the temple. Besides, a monolithic Bhuharaha, a reclining image of Vishnu, the base of Durga shrine with deer and a square socket possibly to accommodate mahastambha have also been exposed.

Most of the monuments like rock-cut rathas, sculptured scenes on open rocks like Arjuna's penance, the caves of Govardhanadhari and Mahishasuramardini, the Jala-Sayana Perumal temple (the sleeping Mahavishnu or Chakrin at the rear part of the Shore temple complex) are attributed to the period of Narasimhavarman-I Mamalla.

52) D

Statement 1: A shield volcano on Mars, Olympus Mons, is the largest volcano in the Solar System.

- It is three times taller than Mount Everest and about five hundred km in diameter.
- The surface of Venus is dominated by volcanic features and has more volcanoes than any other planet in the Solar System.
- Mercury is quieter as compared to these two planets, but volcanoes do exist on it.

Statement 2: There is evidence for the existence of ice, as well as water, on the surface of planets other than earth.

- In 2012, NASA's Messenger confirmed the discovery of ice in permanently shadowed craters near Mercury planet's North pole.
- Astronomers have detected that the atmosphere of Venus as well as of Mars contains water vapour.
- But, there isn't any water on the surface of Venus, in form of rivers, lakes or oceans.
- New findings from NASA's Mars Reconnaissance Orbiter (MRO) provide the strongest evidence yet that liquid water flows intermittently on present-day Mars.

53) C

The real effective exchange rate (REER) is the weighted average of a country's currency relative to an index or basket of other major currencies, adjusted for the effects of inflation.

The weights are determined by comparing the relative trade balance of a country's currency against each country within the index.

- This exchange rate is used to determine an individual country's currency value relative to the other major currencies in the index, such as the U.S. dollar, Japanese yen and the euro.
- The REER takes into account any changes in relative prices and shows what can actually be purchased with a currency.

54) D

The crust overlies the solidified and uppermost layer of the mantle.

Oceanic crust is the result of erupted mantle material originating from below the plate, cooled and in most instances, modified chemically by seawater.

It is primarily composed of mafic rocks, or sima, which is rich in iron and magnesium. It is thinner than continental crust, or sial, generally less than ten km thick; however Oceanic crust is denser. So, both A and R are incorrect.

55) B

One of the objectives of the National Telecom policy-2012 is "Strive to create One Nation - One License" across services and service areas.

56) D

While recommending price policy of various commodities under its mandate, the Commission keeps in mind demand and supply, cost of production, price trends in the market, both domestic and international, inter-crop price parity (i.e. if one crop is too steeply priced as against the other), terms of trade (price ratios) between agricultural and non-agricultural sectors, likely implications of MSP on consumers of that product, besides ensuring optimal utilization of natural resources like land and water.

It may be noted that cost of production is an important factor that goes as an input in determination of MSP but it is not the only factor. Thus, recommending MSPs of various crops is not a 'cost plus' pricing exercise, though cost is an important determinant.

57) D

Statement 1 and 4: Water seeps into cracks and crevices in rock. If the temperature drops low enough, the water will freeze. When water freezes, it expands.

The ice then works as a wedge. It slowly widens the cracks and splits the rock. When ice melts, water performs the act of erosion by carrying away the tiny rock fragments lost in the split.

Statement 2: Thermal stress weathering results from the expansion and contraction of rock, caused by temperature changes.

For example, heating of rocks by sunlight or fires can cause expansion of their constituent minerals.

As some minerals expand more than others, temperature changes set up differential stresses that eventually cause the rock to crack apart.

Statement 3: Plants and animals are agents of mechanical weathering. The seed of a tree may sprout in soil that has collected in a cracked rock.

As the roots grow, they widen the cracks, eventually breaking the rock into pieces. Over time, trees can break apart even large rocks. Even small plants, such as mosses, can enlarge tiny cracks as they grow.

58) D

Statement 1: The Vindhyas do not form a single range in the proper geological sense: the hills collectively known as the Vindhyas do not lie along an anticlinal or synclinal ridge.

The Vindhya range is actually a group of discontinuous chain of mountain ridges, hill ranges, highlands and plateau escarpments. The term "Vindhyas" is defined by convention, and therefore, the exact definition of the Vindhya range has varied at different times in history.

Statement 2: old Fold Mountains are characterized by having stopped growing higher due to the cessation of upward thrust caused by the stopping of movement of the tectonic plates in the Earth's crust below them.

In ancient times they were extremely high but since have worn down almost completely by millions of years of weathering. In contrast, the Himalayas are continuously rising young fold mountains of today.

59) A

There are other partners, apart from WHO and UNICEF. However, there is no legal commitment, so statement 2 is wrong.

India is among nine countries that will be part of the network. Other countries are Bangladesh, A Cote d'Ivoire, Ethiopia, Ghana, Malawi, Nigeria, Tanzania and Uganda.

60) C

The total area of the world's coral reefs amounts to less than one quarter of 1% of the entire marine environment. About 71% of the earth's surface is covered by water.

- Forests cover 31 percent of the world's land surface. Hence, they have a greater area than coral reefs. So, A is correct.

- Coral reefs can be found around the world and even in places we would not expect. In recent years scientists have discovered cold water coral reefs off the coast of Norway and deep underwater in the Mediterranean Sea. So, R is incorrect

61) A

Statement 1: This was done with a view to maintain price stability, while keeping in mind the objective of growth, transparency and credibility of monetary authority of the country.

Learning: Out of the six members of MPC, three members will be from the Reserve Bank of India (RBI), including the Governor, RBI, who will be the ex-officio Chairperson, the Deputy Governor, RBI and one officer of RBI.

62) B

Lands, minerals and other things of value under the waters of the ocean within the territorial waters of India, the continental shelf of India and the exclusive economic zone of India vests in the Union.

Hence, a state near the ocean cannot claim jurisdiction over these things. India's territorial waters extend to a distance of 12 nautical miles from the appropriate base line.

Similarly, India's exclusive economic zone extends upto 200 nautical miles.

63) C

Statement 1: Depending on soil pH test results, agricultural lime may need to be applied to maintain pH, or to recover pH to an appropriate level. Liming is the most economical method of ameliorating soil acidity.

Statement 2: Its solubility makes it ineffective to grow major crops as limestone reacts with water at a rapid pace. Moreover, the landforms made by limestone make an area difficult as a habitat for humans. So, few agricultural communities can be found in such areas.

64) D

Statement 1: IDFs can be set up either as a Trust or as a NBFC, not a bank. So, 1 is wrong.

Statement 2: Government had conceptualized the idea of IDF, which is an innovative attempt, for addressing the issue of sourcing long term debt for infrastructure projects.

Potential investors under IDFs may include off-shore institutional investors, off-shore high net worth individuals, and other institutional investors (insurance funds, pension funds, sovereign wealth funds, etc.). So, 2 is wrong.

65) C

The Montreal Protocol has been recognized as the most successful international environmental treaty in history.

It has been universally ratified and all the 197 United Nations member countries of the world are the parties to the Vienna Convention and its Montreal Protocol.

To date, the Convention and Protocol have enabled reductions of more than 97% of all global consumption of controlled ozone-depleting substances.

66) A

The following conditions are favourable for the formation of delta:

Statement 1: Active erosion of the river in its upper course to provide extensive gravel, sand and silt to be eventually deposited as deltas. Low erosion will hinder deltas. So, 1 is correct.

Statement 2: The coast should be sheltered preferably tideless, else delta will be washed away. So, 2 is correct.

Statement 3: The sea should be shallow adjoining the delta as the sediments will disappear in the deep waters of the sea. So, 3 is incorrect as shallow sea favour delta formation.

67) C

Option A: A tectonic uplift of a mountain range can create depressions that accumulate water and form lakes. But, this is not the case with ox-bow lakes that are generally smaller and confined.

Option B: The advance and retreat of glaciers can scrape depressions in the surface where water accumulates; such lakes are common in Scandinavia, Patagonia, Siberia and Canada. The most notable examples are probably the Great Lakes of North America.

Option D: Crater lakes are formed in volcanic craters and calderas which fill up with precipitation more rapidly than they empty via evaporation.

Option C: The involved mechanism has been covered in previous tests

68) D

Cryogenic stage technology (low temperature) will provide India with the capability to launch heavy (four ton class) satellites in Geosynchronous Transfer Orbit (GTO), an altitude where satellites revolve in sync with Earth's rotation. This will have windfall gains for our space sector.

ISRO has recently successfully ground tested India's largest indigenously developed Cryogenic Upper Stage engine for GSLV Mark III.

The latest one uses Liquid Oxygen and Liquid Hydrogen propellant combination stored at minus 253 degrees centigrade. Since this is a very complex technology, only a handful of nations have developed it.

69) A

BIMSTEC headquarters is situated in Dhaka, Bangladesh

A BIMSTEC Free Trade Area Framework Agreement has been signed by member nations.

Cooperation in BIMSTEC, starting with six sectors—including trade, technology, energy, transport, tourism and fisheries—for sectoral cooperation in the late 1997, it expanded to embrace nine more sectors—including agriculture, public health, poverty alleviation, counter-terrorism, environment, culture, people to people contact and climate change—in 2008.

70) A

Although minority communities are known to hold a rich heritage of traditional skills, arts and craftsmanship, in today's world of competitive market, globalization, young generation is not keen to pursue the traditional arts. It was in this backdrop that the USTTAD scheme was worked out.

- This initiative is not limited to giving incentives to traditional artisans and craftsmen but also building their capacities in every which way to withstand the competition and preserve and promote their art.
- USTTAD also helps establish linkages of traditional skills with the global market.
- The scheme also provides for institutional support for up-gradation of Skills and Training in Traditional Arts/Crafts.
- USTTAD Fellowship for Research and Development is another step towards promoting the Hunar of our traditional craftsmen

71) D

Statement 1: The Masala bonds refer to rupee-denominated bonds through which Indian entities can raise money from foreign markets in rupee, and not in foreign currency. Basically, they are debt instruments that are typically used by corporates to raise money from investors.

- The issuance of rupee denominated bonds, Indian entity is protected against the risk of currency fluctuation, typically associated with borrowing in foreign currency.
- Masala bonds also help in internationalization of the rupee and in expansion of the Indian bond markets. These bonds are usually traded on the London Stock Exchange (LSE) and not in India.

Statement 2: RBI has given such permission very recently. The Housing Development Finance Corporation (HDFC) was the first Indian company to issue rupee-denominated bonds "masala bonds" on London Stock Exchange (LSE) in 2016.

72) b

It is practiced by both men and women. Kalaripayattu, the martial art form of Kerala is regarded as the oldest and most scientific of its kind in the world. Feats like chaattom (jumping), ottam (running), marichil (somersault), use of weapons such as daggers, swords, spears, maces, and ability to strike at vital points are taught.

73) c

Species that suit description in STATEMENT 1 are known as KEYSTONE species.

Those suiting STATEMENT 2 description are more similar to those living in ecological niches.

Statement 3: An ecotype is a population (or subspecies or race) that is adapted to local environmental conditions. The implication is that those individuals which were best adapted to the prevailing conditions left the most offspring.

Moreover, those more successful individuals carry genes that are partly responsible for their success in that environment. Thus, the adaptations of these ecotypes are based on the interactions of their own special sets of genes with their own environment.

74) b

The Government amended the Reserve Bank of India Act, 1934 during the present financial year.

The amended Act provides for inflation target to be set by the Government, in consultation with the Reserve Bank, once in every five years and further provides for a statutory basis for the constitution of an empowered Monetary Policy Committee (MPC).

As per the revised monetary policy framework, the Government has fixed the inflation target of 4 per cent with tolerance level of +/- 2 per cent for the period beginning from 2016 to 2021.

75) b

Statement 1: An estuary is a partially enclosed coastal body of brackish water with one or more rivers or streams flowing into it, and with a free connection to the open sea.

- They are an important part of the shipping industry because there are many industrial ports located in estuaries due its depth of water and connection with open sea. So, 1 is wrong.

- Estuaries are often the economic centres of coastal communities. Estuaries provide habitat for more than 75 percent of the U.S. commercial fish catch, and an even greater percentage of the recreational fish catch

Statement 2: Estuaries also help to maintain healthy ocean environments. They filter water providing cleaner habitats for marine life.

Estuaries also provide critical habitat for species that are valued commercially, recreationally, and culturally. Birds, fish, amphibians, insects, and other wildlife depend on estuaries to live, feed, nest, and reproduce.

76) c

Fungi and such other oxidize biomass and thus called decomposers and are not primary producers. So, A is incorrect. However, fungi in other forms, when forming symbiotic relation with algae can become primary producers. For e.g. lichens located in tundra climates are an exceptional example of a primary producer that, by mutualistic symbiosis, combine photosynthesis by algae (or additionally nitrogen fixation by cyanobacteria) with the protection of a decomposer fungus.

77) D

Five basic factors control the formation of soils:

- parent material;
- topography;
- climate;
- biological activity;
- time

In fact soil forming factors act in union and affect the action of one another.

The climatic elements involved in soil development are:

Moisture in terms of its intensity, frequency and duration of precipitation - evaporation and humidity;

Temperature in terms of seasonal and diurnal variations.

78) C:

Pair 1 is incorrectly matched. Playas are erosional landforms created by winds. Plains are by far the most prominent landforms in the deserts. In basins with mountains and hills around and along, the drainage is towards the centre of the basin and due to gradual deposition of sediment from basin margins, a nearly level plain forms at the centre of the basin. In times of sufficient water, this plain is covered up by a shallow water body. Such types of shallow lakes are called as playas where water is retained only for short duration due to evaporation and quite often the playas contain good deposition of salts.

Pair 2 is correctly matched. Many rock-outcrops in the deserts, easily susceptible to wind deflation and abrasion, are worn out quickly leaving some remnants of resistant rocks polished beautifully in the shape of mushroom with a slender stalk and a broad and rounded pear shaped cap above.

Pair 3 is correctly matched. Stalactites are depositional landforms by groundwater. Stalactites hang as icicles of different diameters. Normally they are broad at their bases and taper towards the free ends showing up in a variety of forms.

79) D:

Since tides are caused by the earth-moon-sun positions which are known accurately, the tides can be predicted well in advance. This helps the navigators and fishermen plan their activities. Tidal flows are of great importance in navigation.

Tides are helpful in desilting the sediments and in removing polluted water from river estuaries.

Electricity generation is well known and a lot of tidal power plants are at work.

80) B

Bars, Barriers and Spits are depositional landforms.

A ridge of sand and shingle formed in the sea in the off-shore zone (from the position of low tide waterline to seaward) lying approximately parallel to the coast is called an off-shore bar. An off-shore bar which is exposed due to further addition of sand is termed a barrier bar.

The off-shore bars and barriers commonly form across the mouth of a river or at the entrance of a bay. Sometimes such barrier bars get keyed up to one end of the bay when they are called spits.

81) C

Statement a is incorrect: The vertical pressure gradient force is not balanced by the frictional force.

Statement b is incorrect: In the lower atmosphere the pressure decreases rapidly with height. The decrease amounts to about 1 mb for each 10 m increase in elevation.

Statement c is correct: The vertical pressure gradient force is balanced by nearly equal gravitational force which is exerted downward in opposite direction to that of air movement.

Statement d is incorrect: It is not necessary that the air present at the surface has more water molecules. The air is denser because of gravity and so has high pressure. Perhaps we should remember that air moves from high pressure area to low pressure area.

82) D

Option 1 is correct: Freezing, thawing and frost wedging results in physical weathering as it results in periodic expansion and contraction of the rocks. Frost weathering occurs due to growth of ice within pores and cracks of rocks during repeated cycles of freezing and melting. This process is most effective at high elevations in mid-latitudes where freezing and melting is often repeated. Glacial areas are subject to frost wedging daily. In this process, the rate of freezing is important. Rapid freezing of water causes its sudden expansion and high pressure. The resulting expansion affects joints, cracks and small inter granular fractures to become wider and wider till the rock breaks apart.

Option 2 is correct: Salt weathering results in physical weathering. Salts in rocks expand due to thermal action, hydration and crystallisation. Salt crystals in near-surface pores cause splitting of individual grains within rocks, which eventually fall off. This process of falling off of individual grains may result in granular disintegration or granular foliation.

Option 3 is correct: Various minerals in rocks possess their own limits of expansion and contraction. Because of diurnal changes in the temperatures, the internal movement among the mineral grains of the superficial layers of rocks takes place regularly. Due to differential heating and resulting expansion and contraction of surface layers results into subsequent exfoliation.

83) B:

Statement 1 is incorrect. Humus accumulates in cold climates as bacterial growth is slow. In humid tropical and equatorial climates, bacterial growth and action is intense and dead vegetation is rapidly oxidised leaving very low humus content in the soil.

Statement 2 is correct. In dry climates, because of high temperature, evaporation exceeds precipitation and hence ground water is brought up to the surface by capillary action and in the process the water evaporates leaving behind salts in the soil. Such salts form into a crust in the soil known as hardpans.

84) B

Statement 1 is incorrect - Fold mountains are mainly found at convergent plate boundaries which are destructive in nature. They occur along the plate margins of continent-continent, continent-ocean or ocean-ocean.

Statement 2 is correct - The upfolded waves in a folding are called anticlines and the troughs or downfolds are synclines

85) C

All three processes mentioned are associated with Metamorphic rocks. In the process of metamorphism some rock grains or minerals get arranged in layers or lines. Such an arrangement of minerals or grains in metamorphic rocks is called foliation or lineation.

Sometimes minerals or materials of different groups are arranged into alternating thin to thick layers appearing in light and dark shades. Such a structure in metamorphic rocks is called banding.

86) D

All the exogenic geomorphic processes are covered under a general term, denudation. The word 'denude' means to strip off or to uncover. Weathering, mass wasting/movements, erosion and transportation are included in denudation

87. B

Any limestone or dolomitic region showing typical landforms produced by the action of groundwater through the processes of solution and deposition is called Karst topography after the typical topography developed in limestone rocks of Karst region in the Balkans adjacent to Adriatic sea. The karst topography is also characterised by erosional and depositional landforms.

88) C

89) D

90) B

Statement 1 is incorrect - Under great heat and pressure igneous rock and sedimentary rocks become Metamorphic rocks.

Statement 2 is correct - Alluvial deposits in the Indo Gangetic plain is sedimentary accumulation.

91) D

92) A

93) B

94) C

The International Organization for Migration (IOM) is an intergovernmental organization that provides services and advice concerning migration to governments and migrants, including internally displaced persons, refugees, and migrant workers.

The UN General Assembly unanimously adopted a resolution in July 2016 approving an agreement to make the International Organisation for Migration part of the UN as a related organization.

95) B

96) B: The Bhim yatra was organised by the Safai Karamcharis Andolan in 2016, under the leadership of Bezwada Wilson. It launched on International Human Rights Day to commemorate B R Ambedkar's 125th birth anniversary. The yatris are family members of workers killed by hazardous fumes while they were inside manholes and sewage lines.

97.A

Statement (a) is incorrect.

Middle East respiratory syndrome (MERS) is a viral respiratory disease caused by a novel coronavirus (Middle East respiratory syndrome coronavirus, or MERS-CoV) that was first identified in Saudi Arabia in 2012.

Since 2012, 27 countries have reported cases of MERS including Algeria, Austria, Bahrain, China, Egypt, France, Germany, Greece, Islamic Republic of Iran, Italy, Jordan, Kuwait, Lebanon, Malaysia, the Netherlands, Oman, Philippines, Qatar, Republic of Korea, Kingdom of Saudi Arabia, Thailand, Tunisia, Turkey, United Arab Emirates, United Kingdom, United States, and Yemen.

Middle East Respiratory Syndrome (MERS) is spread through human-to-human transmission. However, current scientific evidence suggests that dromedary camels are a major reservoir host for MERS-CoV and an animal source of MERS infection in humans.

98) c: Scientists from The Broad Institute and Massachusetts Institute of Technology in US have developed RNA Editing for Programmable A to I Replacement (REPAIR), a new gene editing tool therapies that can reverse disease-causing mutations in humans.

REPAIR gene editing tool can tweak an individual RNA 'letters' in human cells without making changes to entire genome and can have profound potential as a tool for both research and disease treatment.

REPAIR is based on gene editing tool CRISPR (Clustered Regularly Interspaced Short Palindromic Repeats) that can be used to modify DNA in cells.

99) c

Both the statements are correct.

Pyramid of energy is always upright, can never be inverted, because when energy flows from a particular trophic level to the next trophic level, some energy is always lost as heat at each step. Each bar in the energy pyramid indicates the amount of energy present at each trophic level in a given time or annually per unit area.

Ecological Pyramid of number and biomass can be both upright and inverted. For example Pyramid of numbers in forest and parasitic food chain is upright and inverted respectively. Pyramid of biomass is upright in forest ecosystem because the biomass of producer is much more than herbivores or consumer which outweigh the biomass of upcoming trophic level (carnivores). However in pond ecosystem, pyramid of biomass is inverted since the producer biomass is less than primary and secondary consumer (biomass of large fish is more than phytoplankton or small producers).

100) b
