

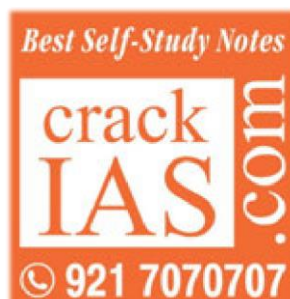
UPSC - Civil Services PRELIMS Examination 2021

Answer Key
General Studies
Prelims
Paper -I

10th Oct
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Compiled by:



1. Under the Indian Constitution, concentration of wealth violates
 - (a) the Right to Equality
 - (b) the Directive Principles of State policy**
 - (c) the Right to Freedom
 - (d) the Concept of Welfare

Exp. Article 39 (c) of the Indian Constitution states-Certain principles of policy to be followed by the State: The State shall, in particular, direct its policy towards securing –(c) that the operation of the economic system does not result in the concentration of wealth and means of production to the common detriment.

2. What is the position of the Right to property in India?
 - (a) Legal right available to citizens only
 - (b) Legal available to any person**
 - (c) Fundamental Right available to citizens only
 - (d) Neither Fundamental Right nor legal right

Exp. Article 300A states that - No person shall be deprived of his property save by the authority of law. Therefore, the article protects an individual from interference by the State and dispossess a person of the property unless it is in accordance with the procedure established by law.

3. What Was the exact constitutional status of India on 26th January, 1950?
 - (a) A Democratic Republic
 - (b) A Sovereign Democratic Republic**
 - (c) A Sovereign Secular Democratic Republic
 - (d) A Sovereign Socialist Secular Democratic Republic

Exp. As originally enacted the preamble described the state as a “sovereign democratic republic”. In 1976 the Forty-second Amendment changed this by adding words *socialist* and *secular* to read “sovereign *socialist secular* democratic republic”.

4. Constitutional government means
 - (a) a representative government of a nation with federal structure
 - (b) a government whose Head enjoys nominal powers
 - (c) a government whose Head enjoys real powers
 - (d) a government limited by the terms of the Constitution**

Exp. Constitutional government is defined by the existence of a constitution—which may be a legal instrument or merely a set of fixed norms or principles generally accepted as the fundamental law of the polity—that effectively controls the exercise of political power. The essence of constitutionalism is the control of power by its distribution among several state organs or offices in such a way that they are each subjected to reciprocal controls and forced to cooperate in formulating the will of the state.

5. With reference to India, the terms 'Halbi, Ho and Kui' pertain to
- (a) dance forms of Northwest India
 - (b) musical instruments
 - (c) pre-historic cave paintings
 - (d) tribal languages**

Exp. According to the 2011 census the Odisha tribal population is 95,90,765. Odisha's tribal language is divided into 3 main language families. They are Austro-Asiatic (Munda), Dravida and Indo-Aryan. Every tribe has its own language and language family. Each clan has a different dialect although speaking the same language. 21 languages and 74 dialects are in use. The languages are Austro-Asiatic:- Bhumij, Birhor, Rem (Bonda), Gatah (Didyai), Gutab (Gadaba), Sora(Saora), Gorum (Parenga), Khadia, Juang, Santali, Ho, Mundari, etc Dravid:- Gondi, Kui-Kondh, Kuvi-Kondh, Kisan, Koya, Olari, (Gadaba) Parja, Peng, Kudukh (Oraon) etc.Indo Aryan:- Bathudi, Bhuyan, Kurmali, Sounti, Sadri, Kandhan, Aghria, Desia, Jharia, Halbi, Bhatri, Matia, Bhunjia, etc.

6. Consider the statements in respect Of Bharat Ratna and Padma Awards:
1. Bharat Ratna and Padma Awards are titles under the Article 18(1) of the Constitution of India.
 2. Padma Awards, which were instituted in the year 1954, were suspended only once.
 3. The number Of Bharat Ratna Awards is restricted to a maximum of five in a particular year.

Which of the above statements are not correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3**

Exp. Statement (1) is incorrect - In 1996 , the Supreme Court upheld the constitutional validity of the National Awards—Bharat Ratna, Padma Vibhushan, Padma Bhushan and Padma Sri. It ruled that these awards do not amount to 'titles' within the meaning of Article 18 that prohibits only hereditary titles of nobility. Therefore, they are not violative of Article 18 as the theory of equality does not mandate that merit should not be recognised.

- Statement (2) is incorrect: Padma Awards, which were instituted in the year 1954, is announced every year on the occasion of Republic Day except for brief interruption(s) during the years 1978 and 1979 and 1993 to 1997.
- Statement (3) is incorrect: The number Of Bharat Ratna Awards is restricted to a maximum of three in a particular year.

7. Consider the following statements

Statement 1

The United Nations Capital Development Fund (UNCDF) and the Arbor Day Foundation have recently recognized Hyderabad as 2020 Tree City of the World.

Statement 2 :

Hyderabad was selected for the recognition for a year following its commitment to grow and maintain the urban forests.

Which one of the following is correct in respect of the above statements?

- (a) Both Statement 1 and Statement 2 are correct and Statement 2 is the correct explanation for Statement 1
- (b) Both Statement 1 and Statement 2 are correct but Statement 2 is not the correct explanation for Statement 1
- (c) Statement 1 is correct but Statement 2 is not correct
- (d) Statement 1 is not correct but Statement 2 is correct**

Exp. Statement 1 is not correct and statement 2 is correct: Hyderabad is the only city from India to have been recognised as a 2020 Tree City of the World by the Arbor Day Foundation and the Food and Agriculture Organization (FAO) for its commitment to growing and maintaining urban forests.

8. Consider the following statements in respect of the Laureus World Sports which was instituted in the year 2000:

- 1. American golfer Tiger Woods was the first winner of this award.
- 2. The award was received mostly by 'Formula One' players so far.
- 3. Roger Federer received this award maximum number of times compared to others.

Which of the above Statements are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only**
- (d) 1, 2 and 3

Exp. Statement 1 is correct: American golfer Tiger Woods was the first winner of this award in 2000. Statement 2 is not correct: Tennis players dominate the winners list, with eleven awards, while athletes and Formula One drivers have won four times, and golfers twice. Statement 3 is correct: In 2018 Tennis legend Roger Federer became the most decorated winner in the history of Laureus World Sports Awards after his sixth award.

9. Consider the following Statement in respect of the 32nd Summer Olympic':

- 1. The official Motto for the Olympics is 'A new world'.
- 2. Sport Climbing, Surfing, Skateboarding, Karate and Baseball are included in this Olympics,

Which Of the above statement' correct?

- (a) 1 only
- (b) 2 only**
- (c) Both 1 and 2

(d) Neither 1 nor 2

Exp. Statement 1 is not correct: The Olympic motto was amended to "faster, higher, stronger - together" during the International Olympic Committee's session in July 2021. The word "together" after a hyphen has been added to the earlier motto, which was made up of three Latin words -- Citius, Altius, Fortius, translating to "Faster Higher Stronger" in English.

Statement 2 is correct: Under new IOC rules first introduced for the Tokyo Games, Olympic host cities can hand-pick sports and propose them for inclusion in those Games if they are popular in that country and add to the Games appeal. The Tokyo Olympics saw six new sports that were not on the programme in Rio, out of which four made their debut, along with repackaged disciplines and the introduction of the mixed team events in traditional sports. Baseball and softball, surfing, skateboarding, karate and sports climbing will become part of the Olympic roster in Tokyo. Additionally, the Tokyo Olympics will also feature several existing sports in new forms in basketball and cycling.

10. Consider the following statements in respect of the ICC World Test Championship:

1. The finalists were decided by the number of matches they won.
2. New Zealand was ranked ahead of England because it won more matches than England.

Which of the above statements is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2

(d) Neither 1 nor 2

Exp. Statement 1 is not correct: The ICC considered percentage of points earned from the contested matches in deciding the finalists of the inaugural World Test Championship (WTC), which had been affected by the COVID-19 pandemic. As per the current regulations WTC league standings would be determined by the percentage of points (PCT) earned by teams. PCT is the percentage of points won out of the total number of points contested by each team. Statement 2 is not correct: New Zealand finished in the second spot with 70 percentage of points, including seven wins and four losses, while England was at 4th with 61. percentage of points, including 11 wins and 7 losses.

11. Consider the following statement:

1. Right of the City is an agreed human right and the UN habitat monitors the commitment made by each country in this regard.
2. Right to the city gives every occupant of the city right to reclaimed public spaces and public participation in the city.
3. Right to the city' means that the State cannot deny any-public service or facility to the unauthorized colonies in the city.

Which of the statement given above is/are correct?

- (a) 1 only
- (b) 3 only
- (c) 1 and 2 only**
- (d) 2 and 3 only

Exp. 'Right to the City' is an agreed human right. The Right to the City is the right of all inhabitants, present and future, to occupy, use, and produce just, inclusive, and sustainable

cities, defined as a common good essential to the quality of life. Also, the UN - Habitat monitors the commitments made by each country in this regard. Hence statement 1 is correct. Right to the city means right to reclaim public spaces, public participation in the city and more importantly right to housing and basic amenities. Hence statement 2 is correct. Here, the State can deny any public service or facility to the unauthorized colonies in the city. Hence statement 3 is not correct.

12. With reference to India. consider the following statements:

1. Judicial custody means an accused is in the custody of the concerned magistrate and such accused is locked up in police station, not in jail.
2. During judicial custody, the police officer in Charge of the Case is not allowed to interrogate the suspect without the approval of the court.

Which of the statements given above?

(a) 1 Only

(b) 2 only

(c) Both 1 and 2

(d) Neither nor 2

Exp. Police Custody means that police have the physical custody of the accused while Judicial Custody means an accused is in the custody of the concerned Magistrate. In the former, the accused is lodged in a police station lockup while in latter, it is the jail. **So, statement 1 is incorrect.**

- When Police take a person into custody, the Cr.P.C kicks-in and they were produced before a Magistrate within 24 hours of the arrest.
- During Judicial Custody, the police officer in charge of the case is not allowed to interrogate the suspect. However, the court may allow the interrogations to be conducted if it opines the interrogation being necessary under the facts produced before the court. **So, statement 2 is correct. And, Option (b) is correct.**

13. With reference to India, consider the following statements:

1. When a prisoner makes out a sufficient case, parole cannot be denied to such prisoner because it becomes a matter of his/her right.
2. State Governments have their own Prisoners Release on Parole Rules.

Which of the statements given above is/are correct?

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

Exp. The provision of Parole is a privilege/concession but not a right of any convicted prisoner. **Hence, statement 1 is incorrect.**

- States do have separate prison/parole rules because “prison and persons detained” is a state subject of the 7th schedule. So, **statement 2 is correct.**

- And, **Option (b) is correct.**

14. At the national level, which ministry is the nodal agency to ensure effective implementation of the Scheduled Tribes and Other Traditional Forest Dwellers (Recognition of Forest Rights) Act, 2006?

- (a) Ministry of Environment, Forest and Climate Change
- (b) Ministry of Panchayati Raj
- (c) Ministry of Rural Development
- (d) Ministry of Tribal Affairs**

Exp.

Forest Rights Act, 2006

- The Forest Rights Act (FRA), 2006 recognizes the rights of the forest dwelling tribal communities and other traditional forest dwellers to forest resources, on which these communities were dependent for a variety of needs, including livelihood, habitation and other socio-cultural needs. The forest management policies, including the Acts, Rules and Forest Policies of Participatory Forest Management policies in both colonial and post-colonial India, did not, till the enactment of this Act, recognize the symbiotic relationship of the STs with the forests, reflected in their dependence on the forest as well as in their traditional wisdom regarding conservation of the forests.
- The Ministry of the Central Government dealing with Tribal Affairs or any officer or authority authorised by the Central Government on this behalf shall be the nodal agency for the implementation of the provisions of this Act. **Hence, option (d) is correct.**

15. A legislation which confers on the executive or administrative authority an unguided and uncontrolled discretionary power in the matter of application of law violates which one of the following Articles of the Constitution of India?

- (a) Article 14**
- (b) Article 28
- (c) Article 32
- (d) Article 44

Exp. The court exercises control over delegation of discretionary powers to the administration by adjudicating upon the constitutionality of the law under which such powers are delegated with reference to the fundamental rights enunciated in Part III of the Indian Constitution. Therefore, if the law confers vague and wide discretionary power on any administrative authority, it may be declared ultra vires Article 14, Article 19 and other provisions of the Constitution.

- Article 14 of the Constitution guarantees equality before law but the courts have permitted reasonable classification to be made. Where the law is valid under the article, a discriminatory action would still be violative of the equality clause.

- Hence, **option (a) is correct.**
- Also, by elimination, Art. 28, and Art.44 are unrelated to the question and Art. 44 is to protect the FR of the citizens.

16. Which one of the following in Indian polity is an essential feature that indicates that it is federal in character?

(a) The independence of judiciary is safeguarded.

(b) The Union Legislature has elected representatives from constituent units.

(c) The Union Cabinet can elected representatives regional parties. have from

(d) The Fundamental Rights are enforceable by Courts of Law.

Exp.

Key features of federalism:

- There are two or more levels (or tiers) of government.
- Different tiers of government govern the same citizens, but each tier has its own jurisdiction in specific matters of legislation, taxation and administration.
- The jurisdictions of the respective levels or tiers of government are specified in the constitution. So the existence and authority of each tier of government is constitutionally guaranteed.
- The fundamental provisions of the constitution cannot be unilaterally changed by one level of government. Such changes require the consent of both the levels of government.
- Courts have the power to interpret the constitution and the powers of different levels of government. The highest court acts as an umpire if disputes arise between different levels of government in the exercise of their respective powers. The most important feature of the federal system adopted by the Indian Constitution is the principle that relations between the States and the centre would be based on cooperation. And for this, Independent Judiciary is the prerequisite. **Hence, Option (a) is correct.**
- Sources of revenue for each level of government are clearly specified to ensure its financial autonomy.

17. Which one of the following best defines the term 'State'?

(a) A community of persons permanently occupying a definite territory independent of external control and possessing an organized government

(b) A politically organized people of a definite territory and possessing an authority to govern them, maintain law and order, protect their natural rights and safeguard their means of sustenance

(c) A number of persons who have been living in a definite territory for a very long time with their own culture, tradition and government

(d) A society permanently living in a definite territory with a central authority, an executive responsible to the central authority and an independent judiciary

Exp. In political science, the term “State” has a more specific and definite meaning- “word State means a community or society politically organized under one independent government within a definite territory. It alone has the prerogative of making laws. The lawmaking power derives from sovereignty, which is the most distinctive characteristic of the State.

18. With reference to Indian judiciary, consider the following statements:

1. Any retired judge of the Supreme Court of India can be called back to sit and act as a Supreme Court judge by the Chief Justice of India with prior permission of the President of India.
2. A High Court in India has the power to review its own judgement as the Supreme Court does.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2**
- (d) Neither 1 nor 2

Exp. Article 128 – Attendance of retired judges at sittings of Supreme Court –

Notwithstanding anything in this Chapter, the Chief Justice of India may at any time, with the previous consent of the President, request any person who has held the office of a Judge of the Supreme Court or of the Federal Court [or who has held the office of a Judge of a High Court and is duly qualified for appointment as a Judge of the Supreme Court] to sit and act as a Judge of the Supreme Court, and every such person so requested shall, while so sitting and acting, be entitled to such allowances as the President may by order determine and have all the jurisdiction, powers and privileges of, but shall not otherwise be deemed to be, a Judge of that Court: Provided that nothing in this article shall be deemed to require any such person as aforesaid to sit and act as a Judge of that Court unless he consents so to do.

Statement 2 is correct.

19. With reference to India, consider the following statements.

1. There is only one citizenship and one domicile.
2. A citizen by birth only can become the Head of State.
3. A foreigner once granted the citizenship cannot be deprived of it under any circumstances.

Which of the statements given above is/are correct?

- (a) 1 only**
- (b) 2 only
- (c) 1 and 3
- (d) 2 and 3

Exp.

According to Article 58 of the Constitution-

(1) No person shall be eligible for election as President unless he –

1) He/She is a citizen of India; (No further bifurcation is mentioned)

2) has completed the age of thirty-five years, and

3) is qualified for election as a member of the House of the People

(2) A person shall not be eligible for election as President if he holds any office of profit under the Government of India or the Government of any State or under any local or other authority subject to the control of any of the said Governments.

Explanation: For the purposes of this article, a person shall not be deemed to hold any office of profit by reason only that he is the President or Vice-President of the Union or the Governor of any State or is a Minister either for the Union or for any State.

• As per the Citizenship Act, 1955, a person may be deprived of his citizenship by –

o Renunciation

o Termination

o Deprivation

20. Which one of the following factors constitutes the best safeguard of liberty in a liberal democracy?

(a) A committed judiciary

(b) Centralization of powers

(c) Elected government

(d) Separation of powers

Exp. In the liberal approach which is inherent in democracy, all forms of power are rooted in the will of the people. This approach enhances the rule of law as one of the basic foundations of democracy; it affirms the separation of powers as a vehicle for their restraint, and it promotes individuals' rights and freedoms as a prerequisite for their dignity.

21. Water can dissolve more substances than any other liquid because

(a) it is dipolar in nature

(b) it is a good conductor of heat

(c) it has high value of specific heat

(d) it is an oxide of hydrogen

Exp. Water is called the universal solvent since it is capable of dissolving a variety of different substances more than any other liquid. Water can dissolve more substances than any other compound because of its polar nature. The water molecules because of their composition – hydrogen with a positive charge on one side and oxygen with a negative charge on another, are able to attract other molecules easily.

22. With reference to street-lighting, how do sodium lamps differ from LED lamps?

1. Sodium lamps produce light in 360 degrees but it is not so in the case of LED lamps.
2. As street-lights, sodium lamps have longer life span than LED lamps.
3. The spectrum of visible light from sodium lamps is almost monochromatic while LED lamps offer significant colour advantages in street-lighting.

Select the correct answer using the code given below.

(a) 3 only

(b) 2 only

(c) 1 and 3 only

(d) 1, 2 and 3

Exp. Sodium vapor lights are omnidirectional. Omnidirectional lights produce light in 360 degrees. This is a large system inefficiency because at least half of the light needs to be reflected and redirected to the desired area being illuminated. Whereas, LEDs are extremely energy efficient relative to every other commercially available lighting technology. There are several reasons for this to include the fact they waste very little energy in the form of infrared radiation (much different than most conventional lights to include fluorescent lights), and they emit light directionally (over 180 degrees versus 360 degrees which means there are far fewer losses from the need to redirect or reflect light). Hence, statement 1 is correct. In some areas (e.g. lifespan) sodium lamps are drastically inferior to LEDs. The extremely low maintenance and replacement costs with LEDs is actually a major cost benefit over the long term. LED lifespan can be greater than 100,000 hours, i.e more than 4 times than sodium lamps. Hence, statement 2 is not correct. Sodium -based lamps produce visible light directly but also in a very narrow frequency range (yellow -orange) so that objects of other colors appears as shades of grey. Such light is referred to as monochromatic. Sodium lamps are coated with indium tin oxide which permits visible light to exit but infrared radiation (heat) to be reflected back. Whereas a very broad spectrum of color rendering index (CRI) is available with LEDs ranging generally from 65 -95. Hence, statement 3 is correct.

23. The term 'ACE2' is talked about in the context of
- (a) genes introduced in the genetically modified plants
 - (b) development of India's own satellite navigation system
 - (c) radio collars for wildlife tracking
 - (d) spread of viral diseases**

Exp. ACE 2 Angiotensin-converting enzyme 2 is an enzyme attached to the membrane of cells in the intestines, kidney, testis, gallbladder. The angiotensin converting enzyme-2 (ACE-2) has been identified as the receptor for the SARS-CoV-2 viral.

24. Bisphenol A (BPA), a cause of concern, is a structural/ key component in the manufacture of which of the following kinds of plastics?
- (a) Low-density polyethylene
 - (b) Polycarbonate**
 - (c) Polyethylene terephthalate
 - (d) Polyvinyl chloride

Exp. Bisphenol A (BPA) is a chemical produced in large quantities for use primarily in the production of polycarbonate plastics and epoxy resins.

25. 'Triclosan', considered harmful when exposed to high levels for a long time, is most likely present in which of the following?
- (a) Food preservatives
 - (b) Fruit-ripening substances
 - (c) Reused plastic containers
 - (d) Toiletries**

Exp. Triclosan is an ingredient added to many consumer products intended to reduce or prevent bacterial contamination. It is added to some antibacterial soaps and body washes, toothpastes, and some cosmetics.

26. Which one of the following is a reason why astronomical distances are measured in light-years?
- (a) Distances among stellar bodies do not change.
 - (b) Gravity of stellar bodies does not change.
 - (c) Light always travels in straight line.
 - (d) Speed of light is always same.**

Exp. Astronomical distances are measures in light-years as the speed of light is constant. A *light-year* is how astronomers measure distance in space. It's defined by how far a beam of light travels in one year – a distance of six trillion miles.

27. We adopted parliamentary democracy based on the British model, but how does our model differ from that model?
1. As regards legislation, the British Parliament is supreme or sovereign but in India, the power of the Parliament to legislate is limited.
 2. In India, matters related to the constitutionality of the Amendment of an Act of the Parliament are referred to the Constitution Bench by the Supreme Court.

Select the correct answer using code given below.

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

Exp. Britain follows "Parliamentary Sovereignty", i.e., Parliament is supreme. But, India follows constitutional government where the power of Parliament to legislate is limited by the constitution. Hence statement 1 is correct. The provision for a Constitution bench has been provided in the Constitution of India under Article 143 and Article 145(3). It is the Chief Justice of India who is constitutionally authorized to constitute a constitution bench and refer cases to it. A constitution bench consists of at least five or more judges of the court which is set up to decide substantial questions of law with regard to the interpretation of the constitution in a case. Hence statement 2 is correct.

28. With reference to the Union Government, consider the following statements:
1. N. Gopalaswamy Iyengar Committee suggested that a minister and a secretary be designated solely for pursuing the subject of administrative reform and promoting it.
 2. In 1970, the Department of Personnel was constituted on the recommendation of the Administrative Reforms Commission, 1966, and this was placed under the Prime Minister's charge.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only
- (c) Both 1 and 2
- (d) Neither 1 nor 2**

Exp.

1st Administrative reforms committee suggested that a minister and a secretary be designated solely for pursuing the subject of administrative reform and promoting it. Hence statement 1 is not correct. In 1970, the Department of Personnel was constituted on the recommendation of the Administrative Reforms Commission, 1966, and this was placed under the charge of Cabinet Secretariat. In 1985, it was placed under the overall charge of the Prime Minister assisted by a Minister of State. Hence statement 2 is not correct.

29. 'Right to Privacy' is protected under which Article of the Constitution of India?

- (a) Article 15
- (b) Article 19
- (c) Article 21**
- (d) Article 29

Exp. Right to privacy is protected as an intrinsic part of the right to life and personal liberty under Article 21 and as a part of the freedoms guaranteed by Part III of the Constitution (puttuswamy case).

30. Consider the following statements:

1. In India, there is no law restricting the candidates from contesting in one Lok Sabha election from three constituencies.
2. In 1991 Lok Sabha Election, Shri Devi Lal contested from three Lok Sabha constituencies.
3. As per the existing rules, if a candidate contests in one Lok Sabha election from many constituencies, his/her party should bear the cost of bye- elections to the constituencies vacated by him/her in the event of him/her winning in all the constituencies.

Which of the statement given above is/are correct is/are?

- (a) 1 only
- (b) 2 only**
- (c) 1 and 3
- (d) 2 and 3

Exp. Statement 1 is incorrect: As per Section 33(7) of the RPA, one candidate can contest from a maximum of two constituencies (more constituencies were allowed until 1996 when the RPA was amended to set the cap at two constituencies).

Statement 3 is incorrect: If a candidate is contesting from more than one constituency, he has to lodge a separate return of election expenses for every election which he has contested. The election for each constituency is a separate election. (Refer : Section 77 of the Representation of People Act, 1951)

31. The vegetation of savannah consists of grassland with scattered small trees, but extensive areas have no trees. The forest development in such areas is generally kept in check by one or more or a combination of some conditions.

Which of the following are such conditions?

1. Burrowing animals and termites
2. Fire
3. Grazing herbivores
4. Seasonal rainfall
5. Soil properties

Select the correct answer using the code given below.

(a) 1 and 2

(b) 4 and 5

(c) 2, 3 and 4

(d) 1, 3 and 5

Exp. Savanna or Sudan climate is a transitional type of climate found between the equatorial forests & trade wind hot deserts.

- It is confined within the tropics (Tropic of Cancer & Tropic of Capricorn) & is best developed in Sudan, where dry & wet climate are most distinct, hence named Sudan climate.
- It covers much of Africa (Kenya, Nigeria, Gambia) as well as large areas of Australia, South America (Brazilian highlands), and India.
- Sudan climate is characterized by an alternate & distinct hot, rainy season (from May to Sep) & cool, dry season (Oct – April) in N – Hemisphere & vice versa in S – Hemisphere.
- The savanna climate has a temperature range of 18° – 30° C.
- In winters, it is usually about 18° – 25° C & in summers, the temperature ranges from 25° – 30° C.
- Like the monsoon climate, the maximum temperature tends to occur in late spring to early summer prior to the onset of the rainy season, with Daily temperature range greater during the dry season & annual temp. range increasing towards poleward from equatorial region.

- Both the length of the rainy season as well as annual total rainfall decreases from equatorial region to polewards.
- On the whole, the annual precipitation (~100 cm annually) is less than the tropical monsoon climate & length of wet & dry seasons differs with the locality.
- Prevailing winds of the region are the trade winds, which bring rain to the eastern coastal districts.
- They are strongest in summers but are relatively dry by the time they reach the continental interiors or western coasts of the continents, so scattered grasses & short trees dominates.
- In west Africa, N-E trade winds blow from the Sahara Desert & reach Guinea coast as dry dust laden winds called locally 'Harmattan', means the doctor, which increases the rate of evaporation & provides cooling effect at Guinea coast; but it is such a dry dusty wind that, besides ruining the crops, sometimes it may cause fire; it also stirs up a thick dusty haze & impedes inland river navigation.

32. With reference to the water on the planet Earth, consider the following statements:

1. The amount of water in the rivers and lakes is more than the amount of groundwater.
2. The amount of water in polar ice caps and glaciers is more than the amount of groundwater.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only**
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Exp. **Ocean water: 97.2 percent**

Glaciers and other ice: 2.15 percent

Groundwater, : 0.61 percent

Fresh water lakes: 0.009 percent

Inland seas: 0.008 percent

Soil Moisture: 0.005 percent

Atmosphere: 0.001 percent

Rivers: 0.0001 percent.

33. Consider the following statements

1. Moringa (drumstick tree) is a leguminous evergreen tree.
2. Tamarind tree is endemic to South Asia.
3. In India, most of the tamarind is collected as minor forest produce.
4. India exports tamarind and seeds of moringa.
5. Seeds of moringa and tamarind can be used in the production of biofuels.

Which of the statements given above are correct?

- (a) 1, 2, 4 and 5 only
(b) 3, 4 and 5 only
(c) 1,3 and 4
(d) 1,2, 3 and 5

Exp.

- **Statement 1 is incorrect:** Moringa Oleifera is a medium-sized evergreen tree that is native to Africa and Asia. Also known as The Moringa Tree, the Drumstick Tree or The Miracle Tree. This is non-leguminous tree.
- **Statement 2 is incorrect:** Tamarind, (*Tamarindus indica*), evergreen tree of the pea family (Fabaceae), native to **tropical Africa**.

34. The black cotton soil of India has been formed due to the weathering of

- (a) brown forest soil
(b) fissure volcanic rock
(c) granite and schist
(d) shale and limestone

Exp.

Black soils are derivatives of Deccan trap lava and are spread mostly across interior Gujarat, Maharashtra, Karnataka, and Madhya Pradesh on the Deccan lava plateau and the Malwa Plateau, where there is both moderate rainfall and underlying basaltic rock.

- The Deccan trap, which is the source of the black soils, is a basaltic province formed during the hot spot volcanism when the Indian plate was above the Reunion island about 66 million years ago.
- At that time, the less viscous Basaltic lava erupted through the fissures covering a vast area of about ten lakh sq km. **Hence option (b) is correct.**
- These soils are also known as the 'Regur Soil' or the 'Black Cotton Soil'.

35. With reference to recent development regarding 'Recombinant Vector Vaccines', consider the following statements:

1. Genetic engineering is applied in the development of these vaccines.

2. Bacteria and viruses are used as vectors.

Which of the statements given above is/are correct?

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

Exp. Genetic engineering is broad term that refers to the process that is used to manipulate the genetic structure of an organism. Recombinant technology is one of the methods of Genetic Engineering. Though Recombinant Vector Vaccines are primarily developed using virus, they can also be developed using bacteria.

36. In the context of hereditary diseases, consider the following statements:
1. Passing on mitochondrial diseases from parent to child can be prevented by mitochondrial replacement therapy either before or after in vitro fertilization of egg.
 2. A child inherits mitochondrial diseases entirely from mother and not from father.
- Which of the statements given above is/are correct?
- (a) 1 only
 - (b) **2 only**
 - (c) Both 1 and 2
 - (d) Neither 1 nor 2
37. Bollgard I and Bollgard II technologies are mentioned in the context of
- (a) clonal propagation of crop plants
 - (b) **developing genetically modified crop plants**
 - (c) production of plant growth substances
 - (d) production of biofertilizers

Exp. Bollgard I, the predominantly cultivated pest tolerant cotton, contains only one gene, the Cry 1Ac, from Bacillus Bollgard II **contains the Cry 2 Ab gene**, in addition to Cry 1 Ac.

38. In a pressure cooker, the temperature at which the food is cooked depends mainly upon which of the following?
1. Area of the hole in the lid
 2. Temperature of the flame
 3. Weight of the lid
- Select the correct answer using the code given below.
- (a) **1 and 2 only***
 - (b) 2 and 3 only
 - (c) 1 and 3 only
 - (d) 1, 2 and 3
39. Consider the following:
1. Bacteria
 2. Fungi
 3. Virus
- Which of the above can be cultured in artificial/ synthetic medium?
- (a) 1 and 2 only
 - (b) 2 and 3 only
 - (c) 1 and 3 only
 - (d) **1, 2 and 3**
40. Consider the following statements:
1. Adenoviruses have single-stranded DNA genomes whereas retroviruses have double-stranded DNA genomes.

2. Common cold is sometime caused by an adenovirus whereas AIDS is caused by a retrovirus.

Which of the statements given above is/are correct?

(a) 1 only

(b) 2 only

(c) Both 1 and 2

(d) Neither 1 nor 2

Exp. Adenoviruses are medium-sized (90–100 nm), non-enveloped, icosahedral viruses composed of a nucleocapsid and a linear, doublestranded DNA (dsDNA) genome. Viruses of the family Adenoviridae infect vertebrates, including humans. In a double stranded RNA form, retroviruses infect a host cell with their genome, and then are reverse transcribed into double stranded DNA, with the DNA then integrated into the home cell genome. The virus thereafter replicates as part of the host cell's DNA. Hence statement 1 is not correct. Adenoviruses are common viruses that cause a range of illness. They can cause cold-like symptoms, fever, sore throat, bronchitis, pneumonia, diarrhea, and pink eye (conjunctivitis). HIV is called a retrovirus because it works in a back-to-front way. Unlike other viruses, retroviruses store their genetic information using RNA instead of DNA, meaning they need to 'make' DNA when they enter a human cell in order to make new copies of themselves. Hence statement 2 is correct.

41. How is permaculture farming different from conventional chemical farming?

1. Permaculture farming discourages monocultural practices but in conventional chemical farming, monoculture practices are pre- dominant.
2. Conventional chemical farming can cause increase in soil salinity but the occurrence of such phenomenon is not observed in permaculture farming.
3. Conventional chemical farming is easily possible in semi-arid regions but permaculture farming is not so easily possible in such
4. Practice of mulching is very important in permaculture farming but not necessarily so in conventional chemical farming.

Select the correct answer using the code given below.

(a) 1 and 3

(b) 1, 2 and 4

(c) 4 only

(d) 2 and 3

Exp. Permaculture is, amongst others, an approach to land management that adopts arrangements observed in flourishing natural ecosystems. It includes a set of design principles derived using whole systems thinking. It uses these principles in fields such as regenerative agriculture, rewilding, and community resilience. Permaculture discourages monoculture and serves to open up the possibility of growing a wide range of food grains, fruits and vegetables and thereby expanding the food basket; thus permaculture also contributes to community health. Hence, statement 1 is correct. Application of permaculture methods and introducing permaculture techniques like swales, natural mulching, rainfall harvesting, legume cultivation, have a clear role in improving soil properties, increasing soil organic matter content and reducing soil salinity. Hence, statement 2 is correct. Due to its focus on water conservation and region specific crops, it is very much suitable for arid and semi arid regions. Hence, statement 3

is not correct. Mulch is a material placed on the soil surface to maintain moisture, reduce weed growth, mitigate soil erosion and improve soil conditions. Mulching can help to improve crop yield and optimise water use which is an essential component of permaculture. Hence, statement 4 is correct.

42. With reference to 'palm oil', consider the following statements:

1. The palm oil tree is native to Southeast Asia.
2. The palm oil is a raw material for some industries producing lipstick and perfumes.
3. The palm oil can be used to produce biodiesel.

Which of the statements given above are correct?

(a) 1 and 2 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

Exp.

- **Statement 1 is incorrect:** More than 80 percent of palm oil is grown in Southeast Asia, with Indonesia and Malaysia leading the world in production of the commodity. Oil palms were introduced to Malaysia and Indonesia in the mid-20th century from Africa, and large scale production followed. The growth has been rapid and widespread, and the natural forest and all that live in it face a dire future.
- **Statement 2 is correct:** Palm oil and its derivatives are present in at least 70% of cosmetic products, according to Croda, a global specialty ingredients supplier to the beauty and personal care industry. This goes to show that palm-derived ingredients are preferred by the manufacturers for their functional benefits.
- **Statement 3 is correct:** Generally, RBD palm oil is used to produce biodiesel due to the low FFA content (0.1-0.5%) and thus minimize the impact of saponification reaction. Darnoko and Cheryan (2000) studied the transesterification of RBD palm oil with methanol catalyzed by KOH.

43. With reference to the Indus River system, of the following four rivers, three of them pour into one of them which joins the Indus direct. Among the following, which one is such river that joins the Indus direct?

(a) **Chenab**

(b) Jhelum

(c) Ravi

(d) Sutlej

Exp. The Indus originates in the northern slopes of the Kailash range in Tibet near Lake Manasarovar. It follows a northwesterly course through Tibet. It enters Indian territory in Jammu and Kashmir. The main tributaries of the Indus in India are Jhelum, Chenab, Ravi, Beas and Sutlej. Jhelum and Ravi join Chenab, Beas joins Sutlej, and then Sutlej and Chenab join to form Panjnad, 10 miles north of Uch Sharif in Muzaffar Garh district. The combined stream runs southwest for approximately 44 miles and joins the Indus River at Mithankot.

44. With reference to India, Didwana, Kuchaman, Sargol and Khatu are the names of
- glaciers
 - mangrove areas
 - Ramsar sites
 - saline lakes

Exp. Rajasthan Plains is in the westernmost part of the Northern Plains of India. These plains cover the western part of Rajasthan. The Thar Desert This is the westernmost part of the Rajasthan Plains. The Aravalli mountain divides the Rajasthan plains into two parts. To the west of the Aravalli Mountains, there are Arid and Semi-Arid places. To the east of the Aravallis is the fertile plain i.e. Jaipur and Udaipur plains. Luni is the only river that flows through this area. The inland drainage basin north of the Luni river is the source of its salt and other reservoirs. Sambhar, Didwana, Kuchwana, Sargol and Khatu are main lakes in the Rajasthan.

45. Consider the following rivers:

- Brahmani
- Nagavali
- Subarnarekha
- Vamsadhara

Which of the above rise from the Eastern Ghats?

- 1 and 2
- 2 and 4
- 3 and 4
- 1 and 3

Exp. Rivers originating on the Eastern Ghats include: • Baitarani River • Budhabalanga River • Rushikulya River • Vamsadhara River • Palar River • Nagavali River • Champavathi River • Gosthani River • Sarada River • Sabari River • Sileru River • Tammileru • Gundlakamma River • Pennai Yaru River • Swarnamukhi • Kundu River • Vellar River • Penna River.

46. Consider the following statements:

- The Global Ocean Commission grants licences for seabed exploration and mining in international waters.
- India has received licences for seabed mineral exploration in international waters
- 'Rare earth minerals' are present on seafloor in international waters.

Which of the statements given above are correct?

- 1 and 2 only
- 2 and 3 only
- 1 and 3 only
- 1, 2 and 3

Exp. The Global Ocean Commission was an international initiative between 2013 and 2016 to raise awareness, and promote action to address, the degradation of the ocean and help restore it to full health and productivity. Licences for seabed exploration and mining in international waters are granted by International Seabed Authority (ISA). Hence, statement 1 is not correct. India has been exploring deep sea for minerals since 1981. In 2017, India's exclusive rights to explore polymetallic nodules from seabed in Central Indian Ocean Basin (CIOB) have been extended by five years. Hence, statement 2 is correct. The deep seabed contains two potential sources for rare earth elements: polymetallic nodules which typically contain manganese,

nickel, copper, cobalt and rare earth minerals; and seafloor hydrothermal vents which pump out rare-earth elements dissolved in their hot fluids. Hence, statement 3 is correct.

47. Among the following, which one is the **least** water-efficient crop?

- (a) Sugarcane
- (b) Sunflower
- (c) Pearl millet
- (d) Red gram

Exp. Sugarcane is a Water Intensive Crop

48. Consider the following statements

1. In the tropical zone, the western sections of the oceans are warmer than the eastern sections owing to the influence of trade winds.
2. In the temperate zone, westerlies make the eastern sections of oceans warmer than the western sections.

Which of the statements given above is/are correct?

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

Exp. Mid-ocean surface temperatures vary with latitude in response to the balance between incoming solar radiation and outgoing longwave radiation. There is an excess of incoming solar radiation at latitudes less than approximately 45° and an excess of radiation loss at latitudes higher than approximately 45° . The northward displacement of warm water to higher latitudes by the Gulf Stream of the North Atlantic and the Kuroshio (Japan Current) of the North Pacific creates sharp changes in temperature along the current boundaries or thermal fronts where these northward-moving flows meet colder water flowing southward from higher latitudes. At low latitudes the trade winds act to move water away from the lee coasts of the landmasses to produce areas of coastal upwelling of water from depth and reduce surface temperatures. Hence option (c) is correct.

49. In the context of India's preparation for Climate-Smart Agriculture, consider the following statements:
1. The 'Climate-Smart Village' approach in India is a part of a project led by the Climate Change, Agriculture and Food Security (CAAFS), an international research programme.
 2. The project of CCAFS is carried out under Consultative Group on International Agricultural Research (CGIAR) headquartered in France.
 3. The International Crops Research Institute for the Semi-Arid Tropics (ICRISAT) in India is one of the CGIAR's research centres.

Which of the statements given above are correct?

- (a) 1 and 2 only
(b) 2 and 3 only
(c) 1 and 3 only
(d) 1, 2 and 3

Exp.

Statement 1 is correct: Rajapakar is a Climate-Smart Village (CSV), a part of a project led by the CGIAR Research Program on Climate Change, Agriculture and Food Security (CAAFS). Built on the principles of CSA, this program provides technological, organizational and systemic support to farmers in association with institutions to help them cope with climate change, in 36 sites across 20 countries.

- **Statement 2 is correct:** The governance and management of the CGIAR Research Program on Climate Change, Agriculture and Food Security (CAAFS) are based on lessons learned by CGIAR headquartered in France.
- **Statement 3 is correct:** ICRISAT is headquartered in Patancheru near Hyderabad, Telangana, India, with two regional hubs and six country offices in sub-Saharan Africa. It is a member of the CGIAR Consortium. CGIAR is a global research partnership for a food secure future.

50. "Leaf litter decomposes faster than in any other biome and as a result the soil surface is often almost bare. Apart from trees, the vegetation is largely composed of plant forms that reach up into the canopy vicariously, by climbing the trees or growing as epiphytes, rooted on the upper branches of trees." This is the most likely description of
- (a) coniferous forest
(b) dry deciduous forest
(c) mangrove forest
(d) tropical rain forest

Exp. The tropical rainforest is a hot, moist biome found near Earth's equator. The hot and humid conditions make tropical rainforests an ideal environment for bacteria and other microorganisms. Because these organisms remain active throughout the year, they quickly decompose matter on the forest floor. In other biomes, such as the deciduous forest, the decomposition of leaf litter adds nutrients to the soil. But in the tropical rainforest, plants grow

so fast that they rapidly consume the nutrients from the decomposed leaf litter. As a result, most of the nutrients are contained in the trees and other plants rather than in the soil. Most nutrients that are absorbed into the soil are leached out by the abundant rainfall, which leaves the soil infertile and acidic.

Epiphytes - these are plants which live on the branches of trees high up in the canopy. They get their nutrients from the air and water, not from the soil. Epiphytes are found throughout rainforests.

51. With reference to the history of ancient India, Bhavabhuti, Hastimalla and Kshemeshvara were famous
- (a) Jain monks
 - (b) Playwrights**
 - (c) Temple Architects
 - (d) Philosophers

Exp. Bhavabhuti was an 8th-century scholar of India noted for his plays and poetry, written in Sanskrit. His plays are considered equal to the works of Kalidasa. With just this knowledge, aspirants could correctly arrive at the right answer.

52. Consider the following statements:
1. The Montague-Chelmsford Reforms of 1919 recommended granting voting rights to all the women above the age of 21.
 2. The Government of India Act of 1935 gave women reserved seats in legislature.

Which of the statements given above is/are correct?

- (a) 1 only
- (b) 2 only**
- (c) Both 1 and 2
- (d) Neither 1 nor 2

Exp. In 1918, when Britain granted limited suffrage to women property holders, the law did not apply to British citizens in other parts of the Empire. Despite petitions presented by women, women's demands were ignored in the Montagu-Chelmsford Reforms. Though they were not granted voting rights, nor the right to stand in elections, the Government of India Act 1919 allowed Provincial Councils to determine if women could vote, provided they met stringent property, income, or educational levels.

- With limited input from women, the report from the three Round Tables was sent to the Joint Committee of the British Parliament recommending lowering the voting age to 21, but retaining property and literacy restrictions, as well as basing women's eligibility on their marital status. It also provided special quotas for women and ethnic groups in provincial legislatures. These provisions were incorporated into the Government of India

Act 1935. Though it extended electoral eligibility, the Act still allowed only 2.5% of the women in India to vote.

53. With reference to 8th August, 1942 in Indian history, which one of the following statements is correct?

(a) The Quit India Resolution was adopted by the AICC.

(b) The Viceroy's Executive Council was expanded to include more Indians.

(c) The Congress ministries resigned in seven provinces.

(d) Cripps proposed an Indian Union with full Dominion Status once the Second World War was over.

Exp. In July 1942, the Congress Working Committee met at Wardha and resolved that it would authorise Gandhi to take charge of the non-violent mass movement. The resolution generally referred to as the 'Quit India' resolution. Proposed by Jawaharlal Nehru and seconded by Sardar Patel, it was to be approved by the All India Congress Committee meeting in Bombay in August. The Quit India Resolution was ratified at the Congress meeting at Gowalia Tank, Bombay, on August 8, 1942. Hence option (a) is the correct answer.

54. Who among the following is associated with 'Songs from Prison', a translation of ancient Indian religious lyrics in English?

(a) Bal Gangadhar Tilak

(b) Jawaharlal Nehru

(c) Mohandas Karamchand Gandhi

(d) Sarojini Naidu

Exp. Songs from Prison is a collection of songs and lyrics by Gandhi, written during his imprisonment in Yeravada Jail, Poona.

55. With reference to medieval India, which one of the following is the correct sequence in ascending order in terms of size?

(a) Paragana-Sarkar-Suba

(b) Sarkar-Paragana-Suba

(c) Suba-Sarkar-Paragana

(d) Paragana-Suba-Sarkar

Exp. Mughal Empire was divided into Suba, Sarkar, Pargana and Village. However, the question is to arrange in ascending order in terms of size. So Option A is the correct answer.

56. Who among the following was associated as Secretary with Hindu Female School which later came to be known as Bethune Female School?

(a) Annie Besant

(b) Debendranath Tagore

(c) Ishwar Chandra Vidyasagar

(d) Sarojini Naidu

Exp. The college owes its origin to John Elliot Drinkwater Bethune (1801-1851). What began as Hindu Female School in 1849 was renamed as Bethune School in 1856. The Managing Committee of the school was then formed and Pandit Ishwarchandra Vidyasagar, a relentless supporter of women's emancipation was made the Secretary.

57. In the context of Colonial India, Shah Nawaz Khan, Prem Kumar Sehgal and Gurbaksh Singh Dhillon are remembered as

(a) Leaders of Swadeshi and Boycott Movement

(b) Members of the Interim Government in 1946

(c) Members of the Drafting Committee in the Constituent Assembly

(d) Officers of the Indian National Army

Exp. Red Fort trials: Between November 1945 and May 1946, approximately ten courts-martial were held in public at the Red Fort in Delhi. Claude Auchinleck, the Commander-in-Chief of the British-Indian army, hoped that by holding public trials in the Red Fort, public opinion would turn against the INA. Those to stand trials were accused variously of murder, torture and "waging war against the King-Emperor". However, the first and most celebrated joint courts-martial – those of Prem Sahgal, Gurubaksh Singh Dhillon and Shah Nawaz Khan – were not the story of torture and murder Auchinleck had hoped to tell the Indian press and people.

58. With reference to Indian history, which of the following statements is/are correct?

1. The Nizamat of Arcot emerged out of Hyderabad State.

2. The Mysore Kingdom emerged out of Vijayanagara Empire.

3. Rohilkhand Kingdom was formed out of the territories occupied by Ahmad Shah Durrani.

Select the correct answer using the code given below.

(a) 1 and 2

(b) 2 only

(c) 2 and 3

(d) 3 only

Exp. Nizamat of Arcot was established by Mughal Emperor Aurangzeb and was the legal dependency of the Nizam of Hyderabad, it did not emerge from the Hyderabad state. Hence statement 1 is not correct. Mysore was a small feudatory kingdom under the Vijayanagar Empire. After Vijayanagar fell in 1565, the ruling dynasty of Wodeyars asserted their independence and the Raja Wodeyar ascended the throne in 1578. The capital moved from Mysore to Srirangapatnam in 1610. Hence statement 2 is correct. Several states emerged as a

result of the decline of the Mughal Empire. Some of them are Awadh, Bengal, Rohilkhand. The states of Rohilakhand and the kingdom of the Bangash Pathans were a fall out of the Afghan migration into India. Large scale immigration of Afghans into India took place in mid -18th century because of political and economic turmoil in Afghanistan. Ali Muhammad Khan took advantage of the collapse of authority in north India following Nadir Shah's invasion, to set up a petty kingdom, Rohilakhand. Ahmad Shah Durrani was the founder of the state of Afghanistan and ruler of an empire that extended from the Amu Darya to the Indian Ocean and from Khorāsān into Kashmir, the Punjab, and Sindh. Hence statement 3 is not correct.

59. Which one of the following statements is correct?

- (a) Ajanta Caves lie in the gorge of Waghora river.
- (b) Sanchi Stupa lies in the gorge of Chambal river.
- (c) Pandu-lena Cave Shrines lie in the gorge of Narmada river.
- (d) Amaravati Stupa lies in the gorge of Godavari river.

Exp. The most prominent examples of the rock-cut architecture of this period are found at Ajanta and Bagh (Huntington, 1985: 239–74). The spectacular Buddhist site of Ajanta consists of several caves nestled in a curving section of the Sahyadri hills, overlooking the Waghora river. There are 28 caves at Ajanta. Hence option (a) is the correct answer.

60. Consider the following statements:

1. 21st February is declared to be the International Mother Language Day by UNICEF.
2. The demand that Bangla has to be one of the national languages was raised in the Constituent Assembly of Pakistan.

Which of the above statements is/are correct?

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

Exp. February 21 is International Mother Language Day first declared by UNESCO in 1999 (not UNICEF).

61. With reference to Chausath Yogini Temple situated near Morena, consider the following statements:

1. It is a circular temple built during the reign of Kachchhapaghata Dynasty.
2. It is the only circular temple built in India.
3. It was meant to promote the Vaishnava cult in the region.
4. Its design has given rise to a popular belief that it was the inspiration behind the Indian Parliament building.

Which of the statements given above are correct?

- (a) 1 and 2
- (b) 2 and 3 only
- (c) 1 and 4**
- (d) 2, 3 and 4

Exp.

- The Chausath Yogini temple is in Mitaoli village (also spelled Mitawali or Mitavali), near Padaoli in **Morena district** 40 kilometres (25 mi) from Gwalior. According to an inscription dated to 1323 CE (Vikram Samvat 1383), the temple was built by the Kachchhapaghata king Devapala (r. c. 1055 – 1075). It is said that the temple was the venue of providing education in astrology and mathematics based on the transit of the Sun.
- It is externally circular in shape with a radius of 170 feet and within its interior part it has 64 small chambers. Within the main central shrine there are slab coverings which have perforations in them to drain rainwater to a large underground storage. The pipe lines from the roof lead the rain water to the storage are also visible. The Parliament house was inspired by the circular Chausath Yogini Temple.
- The cells and the main shrine are flat topped, but it is believed that initially each had a shikhara on top. While the 64 Yoginis originally placed in the 64 subsidiary shrines are now missing, a **Shiva linga** has taken their places in each cell. The central shrine also holds a Shivalinga.

62. Which one of the following ancient towns is well-known for its elaborate system of water harvesting and management by building a series of dams and channelizing water into connected reservoirs?

(a) Dholavira

(b) Kalibangan

(c) Rakhigarhi

(d) Ropar

Exp. Dholavira is located on Khadir bet island in the Rann of Kutch in Gujarat. In protohistoric times, water levels in the Rann may have been higher than they are today, allowing boats to sail from the coast up to the site. The architecture of Dholavira shows a large-scale use of sandstone, combined in places with mudbrick—a feature of the Harappan sites of Gujarat. The city had an impressive and unique water harvesting and management system. It can be noted that this area receives less than 160 cm of rain every year and is very prone to droughts. The site is flanked by two streams— the Manhar and Mandasar. Dams were built across these to channelize their water into reservoirs. Hence option (d) is the correct answer.

63. In the first quarter of seventeenth century, in which of the following was/were the factory/factories of the English East India Company located?

1. Broach

2. Chicacole

3. Trichinopoly

Select the correct answer using the code given below.

(a) 1 only

(b) 1 and 2

(c) 3 only

(d) 2 and 3

Exp. By 1623, English East India Company had established factories at Surat, Broach, Ahmedabad, Agra, and Masulipatam.

- In 1625, the East India Company's authorities at Surat made an attempt to fortify their factory, but the chiefs of the English factory were immediately imprisoned and put in irons by the local authorities of the Mughal Empire.
- The English opened their first factory in the South at Masulipatam in 1611. But they soon shifted the center of their activity to Madras the lease of which was granted to them by the local king in 1639.

64. From the decline of Guptas until the rise of Harshavardhana in the early seventh century, which of the following kingdoms were holding power in Northern India?

1. The Guptas of Magadha

2. The paramaras of Malwa

3. The Pushyabhutis of Thanesar
4. The Maukharis of Kanauj
5. The Yadavas of Devagiri
6. The Maitrakas of Valabhi

Select the correct answer using the code given below.

- (a) 1, 2 and 5
- (b) 1, 3, 4 and 6**
- (c) 2, 3 and 4
- (d) 5 and 6

Exp. In the sixth century CE, the Huns occupied Malwa, Gujarat, Punjab and Gandhara. As the Hun invasion weakened the Gupta hold in the country, independent rulers emerged all over the north like Yasodharman of Malwa, the Maukharis of Uttar Pradesh, the Maitrakas in Saurashtra and others in Bengal. In time, the Gupta Empire came to be restricted to only Magadha. North India splintered into several warrior kingdoms after the downfall of the Gupta Empire. Excepting in the areas that were subdued by the Huns (modern Punjab, Rajasthan and Malwa), regional identity became pronounced with the emergence of many small states. Maithriyas had organised a powerful state in Sourashtra (Gujarat), with Valabhi as their capital. Agra and Oudh were organised into an independent and sovereign state by the Maukharis. The Vakatakas had recovered their position of ascendancy in the western Deccan. Despite political rivalry and conflict among these states, Thanesar, lying north of Delhi between Sutlej and Yamuna, was formed into an independent state by Pushyabhutis. By the beginning of the tenth century two powerful Rajput Kingdoms Gurjar Pratihara and Rashtrakutas had lost their power. Tomaras (Delhi), Chauhans (Rajasthan), Solankis (Gujarat), Paramaras (Malwa), Gahadavalas (Kanauj) and Chandelas (Bundelkhand) had become important ruling dynasties of Northern India. At the beginning of the fourteenth century, when the Delhi Sultanate was preparing to extend southwards, the Deccan and south India were divided into four kingdoms: the Yadavas of Devagiri (Western Deccan or present Maharashtra), the Hoysalas of Dvarasamudra (Karnataka), the Kakatiyas of Warangal (eastern part of present Telengana) and the Pandyas of Madurai (southern Tamil Nadu). Hence option (b) is the correct answer.

65. According to Portuguese writer Nuniz, the women in Vijayanagara Empire were expert in which of the following areas?
1. Wrestling

2. Astrology
3. Accounting
4. Soothsaying

Select the correct answer using the code given below.

- (a) 1, 2 and 3 only
- (b) 1, 3 and 4 only
- (c) 2 and 4 only
- (d) 1, 2, 3 and 4**

Exp. Fernao Nuniz, Portuguese traveller, visited the empire during the reign of Achyuta Deva Raya. According to Nuniz, a large number of women were employed in royal palaces as dancers, domestic servants and palanquin bearers. There were also wrestlers, astrologers and soothsayers among them. Some women were also appointed as accountants, judges, bailiffs, and watch women.

66. With reference to Madanapalle of Andhra Pradesh, which one of the following statements is correct?

- (a) Pingali Venkayya designed the tricolour Indian National Flag here.
- (b) Pattabhi Sitaramaiah led the Quit India Movement of Andhra region from here.
- (c) Rabindranath Tagore translated the National Anthem from Bengali to English here.**
- (d) Madame Blavatsky and Colonel Olcott set up headquarters of Theosophical Society first here.

Exp. The song Jana-gana-mana, composed originally in Bangla by Rabindranath Tagore, was adopted in its Hindi version by the Constituent Assembly as the National Anthem of India on January 24, 1950. It was first sung on December 27, 1911 at the Calcutta Session of the Indian National Congress. The complete song consists of five stanzas. It was at Madanapalle (Chittoor), in February 1919, that Tagore translated his Bengali poem 'Jana Gana Mana' into English as 'Morning Song of India'. It was given tune by Margaret Cousins.

67. Consider the following pairs:

(Historical Place) (Well-known for)

1. Burzahom : Rock-cut shrines
2. Chandraketugarh : Terrachotta art
3. Ganeshwar : Copper artefacts

Which of the pairs given above is/are correctly matched?

- (a) 1 only
- (b) 1 and 2
- (c) 3 only
- (d) 2 and 3**

Exp. The Ganeshwar-Jodhpura Chalcolithic culture was first discovered in the 1970's post the excavation at Jodhpura and Ganeshwar respectively. The site of Ganeshwar yielded a lot of copper objects such as arrowheads, spearheads, chisels, fish hooks, razor blades; ornaments like rings, hairpins, bangles, antimony rods, double spiral headed pin amongst others.

- Around 50 km north-east of Kolkata, near the tiny village of Berachampa in West Bengal, lies the 2,300-year-old site of Chandraketugarh, filled with the most amazing terracotta sculptures. Two years later, archaeologist Rakhaldas Banerji – the man who discovered the ruins of Mohenjodaro – visited Chandraketugarh and found a vast crop of terracotta artefacts.

68. Consider the following statements:

1. It was during the reign of Iltutmish that Chengiz Khan reached the Indus in pursuit of the fugitive Khwarezm prince.
2. It was during the reign of Muhammad bin Tughluq that Taimur occupied Multan and crossed the Indus.
3. It was during the reign of Deva Raya II of Vijayanagara Empire that Vasco da Gama reached the coast of Kerala.

Which of the statements given above is/are correct?

(a) 1 only

(b) 1 and 2

(c) 3 only

(d) 2 and 3

Exp. Statement 1 is correct: The Khwarezm ruler Jalaluddin who was being pursued by Chengiz Khan fled to Delhi Sultanate. Iltutmish, who was ruling Delhi then, refused the request of Jalaluddin for asylum. Statement 2 is not correct: Muhammad Tughluq time period is 1324 - 1351 (He died in 1351) Source: https://ncert.nic.in/ncerts/l/gess1_03.pdf and Timur had started his career of conquest in 1370. He crossed Indus during the reign of Firuz Shah Tughluq (1351 -1388). Statement 3 is not correct: Devaraya II died in 1446 and Vasco da Gama arrived in 1498.

69. Consider the following statements:

1. St. Francis Xavier was one of the founding members of the Jesuit Order.
2. St. Francis Xavier died in Goa and a church is dedicated to him there.
3. The Feast of St. Francis Xavier is celebrated in Goa each year.

Which of the statements given above are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only**
- (d) 1, 2 and 3

Exp. St. Francis Xavier, one of the founders of the Society of Jesus, arrived in Goa in 1542 and travelled as far as Thoothukudi and Punnakayal to baptize the converts. Xavier established a network of Jesuit mission centres. Hence statement 1 is correct. He died of a fever on a Chinese island in 1552, at just 46 years old, and was brought back to Goa a few years later. Hence statement 2 is not correct. Each year, on 3rd December, marks the anniversary of St Francis Xavier's death, when thousands gather at the Basilica of Bom Jesus. This annual festival, known as the Feast of St Francis. Xavier is the biggest of all the Christian festivals in Goa. Hence statement 3 is correct.

70. With reference to the history of ancient India, which of the following statements is/are correct?

1. Mitakshara was the civil law for upper castes and Dayabhaga was the civil law for lower castes.
2. In the Mitakshara system, the sons can claim right to the property during the lifetime of the father, whereas in the Dayabhaga system, it is only after the death of the father that the sons can claim right to the property.
3. The Mitakshara system deals with the matters related to the property held by male members only of a family, whereas the Dayabhaga system deals with the matters related to the property held by both male and female members of a family.

Select the correct answer using the code given below.

- (a) 1 and 2
- (b) 2 only**
- (c) 1 and 3
- (d) 3 only

Exp. The Dayabhaga and The Mitakshara are the two schools of law that govern the law of succession of the Hindu Undivided Family Under Indian Law.

- According to the Mitakshara law school a joint family refers only to the male member of a family and extends to include his son, grandson and great-grandson. They collectively have co-ownership/Coparcenary in the Joint Family. Thus, a son by birth acquires an

interest in the ancestral property of the joint family. Under the Dayabhaga law school, the son has no automatic ownership right by birth but acquires it on the demise of his father.

- In the Mitakshara system the wife cannot demand partition. She, however, has the right to a share in any partition effected between her husband and her sons. Under the Dayabhaga this right does not exist for the women because the sons cannot demand partition as the father is the absolute owner. In both the systems, in any partition among the sons, the mother is entitled to a share equal to that of a son. Similarly, when a son dies before partition leaving the mother as his heir, the mother is entitled to a share of her deceased son as well as share in her own right when there is a partition between the remaining sons.

71. Which one of the following is used in preparing a natural mosquito repellent?

- (a) Congress grass
- (b) Elephant grass
- (c) Lemongrass**
- (d) Nut grass

Exp. Citronella the essential oil found in Lemongrass is registered with the FDA. It is the most widely used natural mosquito repellent found in candles, sprays, and lotions. To help deter mosquitoes with its strong fragrance, plant lemongrass along walkways and in locations close to seating areas. Hence, option (c) is the correct answer.

72. Consider the following kinds of organisms:

1. Copepods
2. Cyanobacteria
3. Diatoms
4. Foraminifera

Which of the above are primary producers in the food chains of oceans?

- (a) 1 and 2
- (b) 2 and 3
- (c) 3 and 4**
- (d) 1 and 4

73. Consider the following animals:

1. Hedgehog
2. Marmot
3. Pangolin

To reduce the chance of being captured by predators, which of the above organisms rolls up/roll up and protects/protect its/their vulnerable parts?

- (a) 1 and 2
- (b) 2 only
- (c) 3 only
- (d) 1 and 3**

Exp. Hedgehogs are a small mammal with short limbs and a body low to the ground. When they are frightened, or annoyed, hedgehogs will roll into a ball so that a predator will feel the full brunt of its sharp spines and will then leave the hedgehog alone. Hence option 1 is correct.

Marmots are relatively large ground squirrels in the genus *Marmota*, with 15 species living in Asia, Europe, and North America. These herbivores are active during the summer when often found in groups, but are not seen during the winter when they hibernate underground. They are the heaviest members of the squirrel family. They do not roll up when threatened. Hence, option 2 is not correct.

Pangolins are uniquely covered in tough, overlapping scales. These mammals eat ants and termites using an extraordinarily long, sticky tongue, and are able to quickly roll themselves up into a tight ball when they feel threatened. Hence option 3 is correct.

74. With reference to the 'New York Declaration on Forests', which of the following statements are correct?

1. It was first endorsed at the United Nations Climate Summit in 2014.
2. It endorses a global timeline to end the loss of forests.
3. It is a legally binding international declaration.
4. It is endorsed by governments, big companies and indigenous communities.
5. India was one of the signatories at its inception.

Select the correct answer using the code given below.

- (a) 1, 2 and 4**
- (b) 1, 3 and 5
- (c) 3 and 4
- (d) 2 and 5

Exp. The New York Declaration on Forests (NYDF) is a political declaration calling for global action to protect and restore forests. It offers a common, multistakeholder framework for forest action, consolidating various initiatives and objectives that drive forest protection, restoration, and sustainable use. It is a voluntary and non-legally binding political declaration which grew out of dialogue among governments, companies and civil society, spurred by the United Nations Secretary-General's Climate Summit held in New York in 2014. Hence, statements 1 and 4 are correct while statement 3 is not correct. The declaration includes ambitious targets to end natural forest loss by 2030, with a 50% reduction by 2020 as a milestone toward its achievement. Hence, statement 2 is correct. The Declaration is currently endorsed by over 190 entities including more than 50 governments, more than 50 of the

world's biggest companies, and more than 50 influential civil society and indigenous organizations. It is not endorsed by India. Hence, statement 5 is not correct.

75. Magnetite particles, suspected to cause neurodegenerative problems, are generated as environmental pollutants from which of the following?

1. Brakes of motor vehicles
2. Engines of motor vehicles
3. Microwave stoves within homes
4. Power plants
5. Telephone lines

Select the correct answer using the code given below.

- (a) 1, 2, 3 and 5 only
- (b) 1, 2 and 4 only
- (c) 3, 4 and 5 only
- (d) 1, 2, 3, 4 and 5**

Exp. Magnetite can have potentially large impacts on the brain due to its unique combination of redox activity, surface charge and strongly magnetic behaviour. Airborne magnetite pollution particles < ~200 nm in size can access the brain directly via the olfactory and/or trigeminal nerves, bypassing the blood-brain barrier. These tiny particles, each less than a thousandth the width of a human hair, are generated by a wide variety of processes, both natural and fabricated, including forest fires and wood-burning stoves, road traffic pollution, and many high-temperature industrial processes. In addition to occupational settings (including, for example, exposure to printer toner powders), higher concentrations of magnetite pollution nanoparticles may arise in the indoor environment from open fires or poorly-sealed stoves used for cooking and/or heating, and in the outdoor environment from vehicle (tailpipe and brake wear) and/or industrial PM sources.

76. Which one of the following is a filter feeder?

- (a) Catfish
- (b) Octopus
- (c) Oyster**
- (d) Pelican

Exp. Filter Feeder is an animal (such as a clam or baleen whale) that obtains its food by filtering organic matter or minute organisms from a current of water that passes through some part of its system. Oysters are natural filter feeders. This means they feed by pumping water through

their gills, trapping particles of food as well as nutrients, suspended sediments and chemical contaminants. Hence, option (c) is the correct answer.

77. In case of which one of the following biogeochemical cycles, the weathering of rocks is the main source of release of nutrient to enter the cycle?

- (a) Carbon cycle
- (b) Nitrogen cycle
- (c) Phosphorus cycle**
- (d) Sulphur cycle

Exp. Much of the phosphorus on Earth is tied up in rock and sedimentary deposits, from which it is released by weathering, leaching, and mining. Phosphorus moves in a cycle through rocks, water, soil and sediments and organisms. Over time, rain and weathering cause rocks to release phosphate ions and other minerals. This inorganic phosphate is then distributed in soils and water. Hence, option (c) is the correct answer.

78. Which of the following are detritivores?

- 1. Earthworms
- 2. Jellyfish
- 3. Millipedes
- 4. Seahorses
- 5. Woodlice

Select the correct answer using the code given below.

- (a) 1, 2 and 4 only
- (b) 2, 3, 4 and 5 only
- (c) 1, 3 and 5 only**
- (d) 1, 2, 3, 4 and 5

Exp. Detritivores are heterotrophs that obtain nutrients by consuming detritus. There are many kinds of invertebrates, vertebrates and plants that carry out coprophagy. By doing so, all these detritivores contribute to decomposition and the nutrient cycles. Examples of detritivores are earthworms, blowflies, millipedes, maggots, and woodlice. Seahorse is considered a secondary consumer. They occupy a middle position in their food chain. Seahorses do not have teeth; they suck in their food and swallow it whole. Thus their prey needs to be very small. Primarily, seahorses feed on plankton, small fish and small crustaceans, such as shrimp and copepods. Fish, jellyfish and crustaceans are common secondary consumer. Hence, option (c) is the correct answer.

79. The 'Common Carbon Metric', supported by UNEP, has been developed for

- (a) Assessing the carbon footprint of building operations around the world.**

- (b) Enabling commercial farming entities around the world to enter carbon emission trading.
- (c) Enabling governments to assess the overall carbon footprint caused by their countries.
- (d) Assessing the overall carbon footprint caused by the use of fossil fuels by the world in a unit time.

Exp. The Common Carbon Metric is the calculation used to define measurement, reporting, and verification for GHG emissions associated with the operation of buildings types of particular climate regions. It does not include value-based interpretation of the measurements such as weightings or benchmarking. Hence, option (a) is the correct answer.

80. Which of the following have species that can establish symbiotic relationship with other organisms?

- 1. Cnidarians
- 2. Fungi
- 3. Protozoa

Select the correct answer using the code given below.

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only
- (d) 1, 2 and 3**

Exp. Symbiosis is a close ecological relationship between the individuals of two (or more) different species. The relationship between cnidarians and dinoflagellate algae is termed as "symbiotic". Two common mutualistic relationships involving fungi are mycorrhiza and lichen. Symbiosis in protozoa mostly represents a close mutualistic association between a protozoan and unicellular symbionts (bacteria, cyanobacteria or/and unicellular algae) or protozoans and a multicellular organism (ruminants, lower termites, wood-eating cockroaches, plants).

81. The money multiplier in an economy increases with which one of the following?

- (a) Increase in the Cash Reserve Ratio in the banks
- (b) Increase in the Statutory Liquidity Ratio in the banks
- (c) Increase in the banking habit of the people**
- (d) Increase in the population of the country

Exp. The money created by the Federal Reserve is the monetary base, also known as high-powered money. Banks create money by making loans. A bank loans or invests its excess reserves to earn more interest. A one-dollar increase in the monetary base causes the money supply to increase by more than one dollar. The increase in the money supply is the money multiplier.

82. With reference to Indian economy, demand-pull inflation can be caused/increased by which of the following?

1. Expansionary policies
2. Fiscal Stimulus
3. Inflation-indexing wages
4. Higher purchasing power
5. Rising interest rates

Select the correct answer using the code given below.

(a) 1, 2 and 4 only

(b) 3, 4 and 5 only

(c) 1, 2, 3 and 5 only

(d) 1, 2, 3, 4 and 5

Exp. Demand-pull inflation is the upward pressure on prices that follows a shortage in supply, a condition that economists describe as "too many dollars chasing too few goods.

83. With reference to India, consider the following statements:

1. Retail investors through demat account can invest in 'Treasury Bills' and 'Government of India Debt Bonds' in primary market.
2. The 'Negotiated Dealing System-Order Matching' is a government securities trading platform of the Reserve Bank of India.
3. The 'Central Depository Services Ltd.' Is jointly promoted by the Reserve Bank of India and the Bombay Stock Exchange.

Which of the statements given above is/are correct?

(a) 1 only

(b) 1 and 2

(c) 3 only

(d) 2 and 3

Exp. **CDSL is promoted by BSE which later divested its stakes among nationalized banks**

84. With reference to 'Water Credit', consider the following statements:

1. It puts microfinance tools to work in the water and sanitation sector.
2. It is a global initiative launched under the aegis of the World Health Organization and the World Bank.
3. It aims to enable the poor people to meet their water needs without depending on subsidies.

Which of the statements given above are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only
- (c) 1 and 3 only**
- (d) 1, 2 and 3

Exp. **WaterCredit is an initiative of water.org.** Water.org is a global non-profit organization working to bring water and sanitation to the world.

85. In India, the central bank's function as the 'lender of last resort' usually refers to which of the following?

1. Lending to trade and industry bodies when they fail to borrow from other sources
2. Providing liquidity to the banks having a temporary crisis
3. Lending to governments to finance budgetary deficits

Select the correct answer using the code given below.

- (a) 1 and 2
- (b) 2 only**
- (c) 2 and 3
- (d) 3 only

Exp. **A lender of last resort (LoR) is an institution, usually a country's central bank, that offers loans to banks or other eligible institutions that are experiencing financial difficulty or are considered highly risky or near collapse.**

86. 'R2 Code or Practices' constitutes a tool available for promoting the adoption of

- (a) Environmentally responsible practices in electronics recycling industry**
- (b) Ecological management of 'Wetlands of International Importance' under the Ramsar Convention
- (c) Sustainable practices in the cultivation of agricultural crops in degraded lands
- (d) 'Environmental Impact Assessment' in the exploitation of natural resources.

Exp. R2 stands for Responsible Recycling and is a standard specifically created for the electronics recycling industry by Sustainable Electronics Recycling International (SERI). Hence, option (a) is the correct answer. SERI is the housing body and ANSI -accredited Standards Development Organization for the R2 Standard: Responsible Recycling Practices for Use in Accredited Certifications Programs. Stakeholders who contributed to the creation of these standards include the U.S. Environmental Protection Agency (the EPA was responsible for a study of the implementation of the R2 standards); regulators from state agencies; electronics recyclers, refurbishers, and their trade associations; OEMs/customers of electronics recycling services; and non-governmental organizations.

87. Why is there a concern about copper smelting plants?

1. They may release lethal quantities of carbon monoxide into environment.
2. The copper slag can cause the leaching of some heavy metals into environment.
3. They may release sulphur dioxide as a pollutant.

Select the correct answer using the code given below.

- (a) 1 and 2 only
- (b) 2 and 3 only**
- (c) 1 and 3 only
- (d) 1,2 and 3

Exp. Carbon monoxide is used in copper smelters to reduce copper oxide. $CuO + CO \rightarrow Cu + CO_2$. hence its unlikely that a smelter will release lethal quantities of carbon monoxide in to the environment.

88. With reference to furnace oil, consider the following statements:

1. It is a product of oil refineries.
2. Some industries use it to generate power.
3. Its use causes sulphur emissions into environment.

Which of the statements given above are correct?

- (a) 1 and 2 only
- (b) 2 and 3 only**
- (c) 1 and 3 only
- (d) 1, 2 and 3

Exp. Fuel oil (also known as heavy oil, marine fuel, bunker, furnace oil, or gasoil) is a fraction obtained from petroleum distillation. Hence, statement 1 is correct. Diesel-based power plants may use Diesel, Furnace Oil, Heavy Fuel Oil (HFO), Low Sulfur Fuel Oil (LSFO) or Low Sulfur Heavy Stock (LSHS). The Basin Bridge Diesel Generator Power Plant (DGPP) in Tamil Nadu was one such example. Hence, statement 2 is correct. The oxides of sulphur (SO_x; SO₂ + SO₃) emissions are a direct result of the sulphur content of the fuel oil. During the combustion process this fuel-bound sulphur is rapidly oxidised to sulphur dioxide (SO₂). A small fraction of the SO₂, some 3-5% may be further oxidised to sulphur trioxide (SO₃) within the combustion chamber and exhaust duct. Hence, statement 3 is correct.

89. What is blue carbon?

- (a) Carbon captured by oceans and coastal ecosystems**
- (b) Carbon sequestered in forest biomass and agricultural soils
- (c) Carbon contained in petroleum and natural gas
- (d) Carbon present in atmosphere

Exp. Blue carbon is the term for carbon captured by the world's ocean and coastal ecosystems. Hence, option (a) is the correct answer. These coastal systems, though much smaller in size than the planet's forests, sequester this carbon at a much faster rate, and can continue to do so for millions of years.

90. In the nature, which of the following is/are most likely to be found surviving on a surface without soil?

1. Fern
2. Lichen
3. Moss
4. Mushroom

Select the correct answer using the code given below.

- (a) 1 and 4 only
(b) 2 only
(c) 2 and 3
(d) 1, 3 and 4

Exp. A fern is a member of a group of vascular plants that reproduce via spores and have neither seeds nor flowers. Ferns require indirect sunlight, moist soil, and a humid atmosphere. Ferns prefer potting soil with good drainage and high organic content. Hence, option 1 is not correct.

Lichens are a complex life form that is a symbiotic partnership of two separate organisms, a fungus and an alga. They only require an undisturbed surface, time, and clean air. Lichens grow on any undisturbed surface--bark, wood, mosses, rock, soil, peat, glass, metal, plastic, and even cloth. Hence option 2 is correct.

Mosses are non-flowering plants which produce spores and have stems and leaves, but don't have true roots. Moss is very low maintenance and needs virtually nothing except shade and moisture to thrive. Hence option 3 is correct. A mushroom or toadstool is the fleshy, spore-bearing fruiting body of a fungus, typically produced above ground, on soil, or on its food source. Mushrooms can be cultivated hydroponically as fungi. Hence option 4 is not correct.

91. Consider the following statements:

1. The Governor of the Reserve Bank of India (RBI) is appointed by the Central Government.
2. Certain provisions in the Constitution of India give the Central Government the right to issue directions to the RBI in public interest.
3. The Governor of the RBI draws his power from the RBI Act.

Which of the above statements are correct?

- (a) 1 and 2 only
(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

Exp. According to Section 8 of RBI ACT 1934- A Governor and (not more than four) Deputy Governors to be appointed by the Central Government. Hence statement 1 is correct. According to Section 7 of RBI ACT 1934- The Central Government may from time to time give such directions to the Bank as it may, after consultation with the Governor of the Bank, consider necessary in the public interest. There is no such provision in the constitution of India. Hence statement 2 is not correct.

According to Section 7 of RBI Act 1934- The Governor and in his absence the Deputy Governor nominated by him in this behalf, shall also have powers of general superintendence and direction of the affairs and the business of the Bank, and may exercise all powers and do all acts and things which may be exercised or done by the Bank. Hence statement 3 is correct.

92. With reference to casual workers employed in India, consider the following statements:

1. All casual workers are entitled for Employees Provident Fund coverage.
2. All casual workers are entitled for regular working hours and overtime payment.
3. The government can by a notification specify that an establishment or industry shall pay wages only through its bank account.

Which of the above statements are correct?

(a) 1 and 2 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 1, 2 and 3

Exp. Statement (1) is correct: Holding that an employer cannot differentiate between contractual and permanent employees, the Supreme Court has ruled that casual workers are also entitled to social security benefits under the Employees' Provident Funds and Miscellaneous Provisions Act.

93. Which among the following steps is most likely to be taken at the time of an economic recession?

(a) Cut in tax rates accompanied by increase in interest rate

(b) Increase in expenditure on public projects

(c) Increase in tax rates accompanied by reduction of interest rate

(d) Reduction of expenditure on public projects.

Exp. Recession- It is a situation which is characterized by negative growth rate of GDP in two successive quarters. Some of the indicators of a recession include slowdown in the economy, fall in investments, fall in the output of the economy etc. If an economy experiences a recession and GDP falls, tax revenues fall because firms and households pay lower taxes when they earn

less. It is prudent for government as well as central bank to follow Expansionary fiscal and monetary policy respectively to stimulate the economy, but keeping in mind the inflationary pressure.

In all the given options- Cut in tax rates accompanied by increase in interest rate- Increase in interest rate results into credit crunch in the economy which is not desirable at the time of recession. Increase in expenditure on public projects- It is one of the tool to stimulate the economy at the time of recession, as it triggers the virtuous cycle of investment, which leads to increase in GDP (production of goods & services) and income in the economy and in turn increase in demand, and thus completes the virtuous cycle. Increase in tax rates accompanied by reduction of interest rate-Increase in tax rate is not desirable at the time of recession as income is falling in the economy. Reduction of expenditure on public projects- It is not desirable at the time of recession as it will lead to less government expenditure thereby not contributing much to output. Hence (b) is the correct answer.

94. Consider the following statements:

Other things remaining unchanged, market demand for a good might increase if

1. price of its substitute increases
2. price of its complement increases
3. the good is an inferior good and income of the consumers increases
4. its price falls

Which of the above correct? statements are

(a) 1 and 4 only

(b) 2, 3 and 4

(c) 1, 3 and 4

(d) 1, 2 and 3

Exp. Law of Demand- Law of Demand states that other things being equal, there is a negative relation between demand for a commodity and its price. In other words, when price of the commodity increases, demand for it falls and when price of the commodity decreases, demand for it rises, other factors remaining the same. Hence, statement 4 is correct. The quantity of a good that the consumer demands can increase or decrease with the rise in income depending on the nature of the good. For most goods, the quantity that a consumer chooses, increases as the consumer's income increases and decreases as the consumer's income decreases. Such goods are called Normal Goods. Thus, a consumer's demand for a normal good moves in the same direction as the income of the consumer. However, there are some goods the demands for which move in the opposite direction of the income of the consumer. Such goods are called Inferior Goods. As the income of the consumer

95. With reference to 'Urban Cooperative Banks' in India, consider the following statements.

1. They are supervised and regulated by local boards set up by the State Governments.
2. They can issue equity shares and preference shares.
3. They were brought under the purview of the Banking Regulation Act, 1949 through an Amendment in 1966.

Which of the statements given above is/ are correct?

(a) 1 only

(b) 2 and 3 only

(c) 1 and 3 only

(d) 2 and 3

Exp. The recent Banking Regulation (Amendment) Act 2020 enables the RBI to get all the powers, including those hitherto exclusively with the registrar of cooperative societies. However, powers of registrar continue to be with him but the powers of RBI override those of registrar.

- UCBs are permitted to raise equity share capital, preference shares and debt instruments.
- The applicability of banking laws to cooperatives societies since March 1, 1966 ushered in 'duality of control' over UCBs between the Registrar of Cooperative Societies/Central Registrar of Cooperative Societies and the Reserve Bank of India.

96. Indian Government Bond Yields are influenced by which of the following?

1. Actions of the United States Federal Reserve
2. Actions of the Reserve Bank of India
3. Inflation and short-term interest rates

Select the correct answer using the code given below.

(a) 1 and 2 only

(b) 2 only

(c) 3 only

(d) 1, 2 and 3

Exp. Bond yield is the return an investor gets on that bond or on a particular government security. It depends on the price of the bond which is impacted by its demand. The major factors affecting the yield is the monetary policy of the Reserve Bank of India, especially the course of interest rates, the fiscal position of the government and its borrowing programme, global markets, economy, and inflation. Actions of the United States federal reserve can impact the investments flowing in India. The investments by foreign players in government securities can be effected by this. This will lead to change in demand of government securities and thereby impacting its yield. Hence statement 1 is correct. Actions of Reserve bank determine the liquidity and also the cost of funds available in the economy through its various inflation management tools. The cost of funds will directly impact the demand of government securities in the market and thereby influencing its yield. Hence statement 2 is correct. Inflation and short term rates determine the purchasing capacity of the people in the economy. Therefore, this also has impact on the demand and price of the government -securities thereby influencing the yield. Hence statement 3 is correct.

97. Consider the following:

1. Foreign currency convertible bonds
2. Foreign institutional investment with certain conditions
3. Global depository receipts
4. Non-resident external deposits

Which of the above can be included in Foreign Direct Investments?

- (a) 1, 2 and 3
- (b) 3 only
- (c) **2 and 4**
- (d) 1 and 4

Exp. FII - Foreign investment in Indian securities has also been made possible through the purchase of Global Depository Receipts, Foreign Currency Convertible Bonds and Foreign Currency Bonds issued by Indian issuers which are listed, traded and settled overseas.

98. Consider the following statements.

The effect of devaluation of a currency is that it necessarily

- 1. improves the competitiveness of the domestic export in the foreign markets
- 2. increases the foreign value domestic currency
- 3. improves the trade balance

Which of the above statements is/ are correct?

- (a) **1 only**
- (b) 1 and 2
- (c) 3 only
- (d) 2 and 3

Exp.

A key effect of devaluation is that it makes the domestic currency cheaper relative to other currencies. There are two implications of a devaluation. First, devaluation makes the country's exports relatively less expensive for foreigners. Second, the devaluation makes foreign products relatively more expensive for domestic consumers, thus discouraging imports. This may help to increase the country's exports and decrease imports, and may therefore help to reduce the current account deficit.

99. Which one of the following effects of creation of black money in India has been the main cause of worry to the Government of India?

- (a) Diversion of resources to the purchase of real estate and investment in luxury housing
- (b) Investment in unproductive activities and purchase of precious stones, jewellery, gold, etc.
- (c) Large donations to political parties and growth of regionalism
- (d) **Loss of revenue to the State Exchequer due to tax evasion**

Exp. Black money eats up a part of the tax and, thus, the government's deficit increases.

100. Which one of the following is likely to be the most inflationary in its effects?

- (a) Repayment of public debt
- (b) Borrowing from the public to finance a budget deficit
- (c) Borrowing from the banks to finance a budget deficit.
- (d) **Creation of new money to finance a budget deficit**

Exp. Borrowing from public and banks will lead to a decrease in the money supply in market as in both the options money in hand is reduced for public and money to lend is reduced for banks. Creation to new money to finance a budget deficit will have more inflationary effect than repayment of debt, as it will lead to an increase in total money supply in the market.(as new money is being created). Hence option (d) is the correct answer. During last fiscal year, option of monetization of deficit was explored but idea was dropped due to likely inflationary pressure.

