

CAREERS 360

PREPARATION **Series**

AILET 2023

**Official Question
Paper with
Detailed Solutions**



Directions : I to X : Each set of questions in this section are based on the passage. The questions are to be answered on the basis of what is stated or implied in the passage. Choose the most appropriate response that accurately and completely answer the question.

PART – 1

I. Primogeniture

All titles are inherited by the oldest eligible child. Note that a dead child's progeny takes precedence over younger siblings. If no eligible descendants exist, the ruler's oldest eligible sibling is preferred. If lateral branches provide no candidate, the line of succession moves up to the primary parent* and repeats the aforementioned steps.

*the father if patrilineal marriage, the mother if matrilineal marriage

Ultimogeniture

All titles are inherited by the youngest eligible child. Note that a dead child's progeny takes precedence over older siblings. If no eligible descendants exist, the ruler's youngest eligible sibling is preferred. If lateral branches provide no candidate, the line of succession moves up to the primary parent* and repeats the aforementioned steps.

*the father if patrilineal marriage, the mother if matrilineal marriage

House seniority

All titles are inherited by the oldest eligible house member.

Note : The above rules of inheritance can take the following forms : gender-neutral; male preference, where younger men take precedence over older women; and vice versa for female preference.

Disowning

If a person is validly disowned, his/ her position in the line of succession ceases to exist. Only a person who has become a ruler in accordance with any of the rules of succession mentioned above can disown a person in the line of succession. A person in the line of succession may also choose to adopt monkhood, which automatically results in his/her permanent removal from the line of succession.

Section – A : English

1. Select the option that completes the following correctly.

Precedence: priority ::

- a) progeny : offspring
c) eligible : privileged

- b) lateral : vertical
d) primary : secondary




2. Select the option that can be the most suitable introductory line to this text.
- Inheritance laws served as important means of preserving both the size of the property and the power and prestige.
 - What distinguishes the Western Property System from the systems of most is that its category of private property is a default category.
 - Public regulation of land use has increased drastically in the 20th century.
 - A will is valid if it meets the formalities of the law, which usually, but not always requires that it be witnessed.
3. Select the option that correctly reflects in the given part of the line. "If lateral branches provide no candidates..."
- a) interrogation b) consequence c) condition d) reason
4. Select the option that substitutes the underlined words in the given sentence without changing its meaning.
- 'If a person is validly (1) disowned, his/her position in the line of succession ceases (2) to exist.'
- a) (1) technically ; (2) begins b) (1) unanimously ; (2) tries
 c) (1) justifiably ; (2) desists d) (1) functionally ; (2) struggles
5. Monkhood results in a permanent removal from the line of succession because of its feature of _____.
- a) recognising a higher power b) renouncing the material world
 c) embracing a new home d) establishing new relationships

Section – B : Logical Reasoning

6. A ruler's first-born son, at the moment of his birth, is first in the line of succession. This statement is _____
- Always correct with respect to the rule of primogeniture.
 - Always correct with respect to the rule of house seniority.
 - Capable of being correct in case of ultimogeniture.
 - All the above
7. A ruler's last-born son, at the moment of his birth, is first in the line of succession. This statement is _____
- Always correct with respect to the rule of ultimogeniture.
 - Never correct with respect to the rule of house seniority.
 - Capable of being correct in cases of primogeniture.
 - All the above



8. Different rules of inheritance can never create situations where the same person is first in the line of succession. This statement is _____
- Correct if seen only in context of the rules of primogeniture and ultimogeniture.
 - Not correct even if it is seen only in context of the rules of primogeniture and ultimogeniture.
 - Correct if seen only in context of the rules of primogeniture and house-seniority.
 - Both a) and c)
9. Y is the youngest child of X, the current ruler, who has 5 other children (each of them older than Y). Y is first in the line of succession. Which of the following inferences can be drawn for certain about their realm from the above two statements ?
- If the rule of primogeniture is followed, then Y's elder siblings have all been disowned.
 - Even if one or more of Y's elder siblings were not disowned, it is possible that the rule of primogeniture is followed.
 - ~~e~~ The only possible rule governing their realm is the rule of ultimogeniture.
 - All the above
10. Which of the following scenarios is/are possible ?
- A realm follows the rule of house-seniority. The ruler's eldest brother.
 - Even if one or more of Y's elder siblings were not disowned, it is possible that the rule of primogeniture is followed.
 - The only possible rule governing their realm is the rule of ultimogeniture.
 - All the above
11. X is the ruler of a realm. X has three younger sisters : W, Y and Z (in increasing order of ages). X is married to A, with whom he has three sons (B, C and D (in increasing order of ages)) and two daughters (E and F (in increasing order of ages)). F is younger than B. W is older than D. E is married to P and has two children : Q and R (in increasing order of ages). E dies. Stricken by grief after E's death, X dies. Assuming the realm follows gender-neutral ultimogeniture, the throne passes to _____
- W
 - F
 - B
 - ~~d~~ Q
12. In the facts of the question above, if the realm followed the rule of house seniority, the throne would pass to _____
- ~~a~~ Z
 - D
 - F
 - R

- 
- II. If you have ever watched a Grand Prix, you may have asked yourself, 'how do Formula One cars generate downforce?'

Motorsports is all about speed. Being the fastest around will mean victory. But there is a limit to how fast one can travel on the ground without the car taking off. For attaining great speeds a car needs to remain firmly on the ground and have a good grip on the racing track. This means that all cars need to generate a downward force sufficient enough to keep them firmly on the ground for the speed that they intend to attain.

One way to remain on the ground at great speeds is to increase the weight of the car. But an increased weight will need more power to drive the car and make the handling of the car difficult. The alternative to this is to create the required force to stay grounded. Downforce can be generated from the air flowing around the car and will increase as the speed of the car increases.

The wings of an aeroplane help it to take off in the air at a specified speed. The same wing, if installed inverted on a car can make the car stay firmly on the ground. Just like in an aeroplane, as the speed of the car increases, the wings will press the car more firmly on the ground, thereby making handling of the car through twists and turns easier at high speed. This force that presses the car to the ground is called downforce.

Aerodynamic downforce plays an important role in the performance of Formula One cars, DTM, Indy cars and touring cars. Good grip on the racing track is equally important as the power generated by a racing car engine. Good ground adhesion gives the car stability and better cornering ability. Hence a racing car must generate a ground force equal to several times its weight.

Modern Formula One cars can generate as much as 5G downforce. That means, at full speed, the effective weight pressing down on the track will be 5 times the weight of the car. Almost all the surfaces of a Formula One car are engineered to produce downforce. The downforce by the front portion of the car has to be balanced by the downforce produced by the rear portion.

While the downforce on either side of the car can be balanced by symmetry, the downforce between the front and the rear cannot. This downforce has to be balanced by design. Most of the downforce in Formula One cars is produced by the wings and by diffusers. The downforce required by the car for ultimate performance will vary from track to track and on the conditions of the track.

While too much front downforce could lead to understeer, too much downforce generated by the rear portion could lead to oversteer. The balancing of the downforce between the front and the rear can be done by careful designing of the body parts of the car. The balancing act of the downforce also comes with an increased drag on the car.

**Section – A : English**

13. Select the option that correctly sorts facts (F) and opinions (O).
- Grand Prix is worth watching.
 - Formula One cars are beautifully designed unlike other types of cars.
 - ~~Symmetry is unable to address the downforce between the front and rear of a racing car.~~
 - The weight of a racing car has to be far less than the ground force generated.
- a) F- (iii) & (iv); O- (i) & (ii) b) F- (i), (ii) & (iii); O- (iv)
c) F- (ii) & (iii); O- (i) & (iv) d) F- (iv); O- (i), (ii) & (iii)
14. Select the idiomatic expression that addresses the given text, most appropriately.
- A vicious cycle
 - Two can play at the game
 - Dot the i's and cross the t's
 - The tip of the iceberg
15. What type of text could the given piece, best be categorised under ?
- ~~a) analytical~~ b) expository ~~c) descriptive~~ d) inspirational
16. In the line, 'The alternative to this is to create the required force to stay grounded.', what is the nature of meaning for 'staying grounded', that the writer DOES NOT refer to ?
- ~~a) metaphorical~~ b) exact c) non-figurative d) literal
17. Select the most appropriate option as a concluding remark for the given text.
- Racing regulations make it hard to gain an advantage over competitors.
 - The total aerodynamic package of the race car is emphasized now more than ever before.
 - We can understand the downforce concept both mathematically and logically.
 - ~~Downforce ensures that cars are firmly planted on the road at speed.~~

Section – B : Logical Reasoning

18. If the orientation of the wings in a Formula One car were reversed (and all other things remain equal), the effective weight pressing down on the track would be X times the weight of the car. X is
- = 1
 - > 1
 - < 1
 - Cannot be determined
19. A super car has a greater acceleration and top-speed compared to a Formula One car, but does not have wings that generate even half the downforce as compared to a Formula One car. The super car would still handily lose a race against a Formula one car. Which among the following statements is correct the race track ?
- The race track is straight.
 - ~~The race track has at least a few turns.~~
 - The race track is made of soft, rubber-y surface.
 - The race track is made of asphalt.



20. Without downforce-generating apparatus in a Formula One car, the drivers would _____
- A Formula One car without any apparatus affecting aerodynamics would act like an aeroplane
 - Need to slow their car down to make turns.
 - Need to gain a lot of weight (or add weight to the car) to keep the car on the ground.
 - All the above
21. Assume that an object enters into free-fall if the force attracting it towards the earth is less than the force pushing it away from the earth. Further assume that all objects on earth are pushed away from it with a force equal to 1G. A Formula One car, therefore, _____?
- Is in free-fall at all times during a race.
 - Is not in free-fall at any time during a race.
 - Is in free-fall at some (but not all) times during a race.
 - Cannot be determined.
22. Downforce generated by the wings of a Formula One car creates force towards the floor of the car thereby keeping the floor of the car closer to the surface it is being driven on. As mentioned in the passage, this downforce can be around 5 times the gravitational force exerted by the earth on the car. This implies that _____
- A Formula One car, if driven at a high enough speed, can drive upside-down in a tunnel (i.e., on the roof of the tunnel) without falling down.
 - A Formula One car cannot drive upside-down in a tunnel (i.e., on the roof of the tunnel) at all.
 - Gravity and downforce always act in the same direction.
 - Both b) and c)
23. In a race among ten drivers (A, B, C, D, E, F, G, H, I and J, who started in this order, i.e. A started 1st and J started 10th), D, E and F made 2, 2, and 5 overtakes, respectively. No one else made any overtakes. What are the new respective positions of D, E and F ?
- 2nd, 3rd and 1st
 - 3rd, 2nd and 1st
 - 1st, 2nd and 3rd
 - Cannot be determined
24. How many overtakes does a person starting 10th in a race need to make to get to 1st position, assuming no other person makes any overtakes ?
- 9
 - 10
 - 11
 - 8

- III. Wesley Hohfeld, a Harvard law professor in the early part of the 20th Century, developed an analytical framework for understanding interests in property. Hohfeld's eight terms are arranged in two tables of 'correlatives' and 'opposites' that structure the internal relationships among the different fundamental legal rights.

Jural Opposites :

Right	Privilege	Power	Immunity
No-right	Duty	Disability	Liability

A privilege is the opposite of a duty ; a no-right is the opposite of a right. A disability is the opposite of a power ; an immunity is the opposite of a liability.

Jural Correlatives :

Right	Privilege	Power	Immunity
Duty	No-right	Liability	Disability

"Correlatives" signifies that these interests exist on opposing sides of a pair of persons involved in a legal relationship. If someone has a right, it exists with respect to someone else who has a duty. If someone has a privilege, it exists with respect to someone else who has no-right. If someone has a power, it exists with respect to someone else who has a liability. If someone has an immunity, it exists with respect to someone else who has a disability.

A right can be enforced by a lawsuit against the person who has the correlative duty. A privilege negates that right and duty, and typically would be asserted as an affirmative defense in the lawsuit. A power is the capacity to create or change a legal relationship. For example, when someone makes an offer of a contract, that gives the offeree the power to create a contract by accepting the offer (or not). If the power to create the contract is exercised, then both parties have rights and duties with respect to each other. Courts have power, only if plaintiffs or prosecutors exercise their power to commence a lawsuit. Sovereign states are immune because courts lack power over them, in which case courts are said to have a disability with respect to sovereigns.

If I "own" property, it means that I have various rights with respect to the thing constituting my property--the "bundle" of sticks or rights. I probably have the right to exclude and everyone else in the world has a correlative duty not to use my property. Some people may have a privilege, however, as to fly over it. I also have power with respect to my property because I can create rights in others, as by transferring some or all of the property to them, as by creating an easement, which gives the grantee certain rights *vis-a-vis* others and certain rights and privileges *vis-a-vis* me.



33. In the facts of the question above, the owner of the road has _____ *vis-à-vis* everyone else.
a) A right b) A privilege c) An immunity d) None of the above
34. If A has a right to claim damages from B, then B has _____ to pay damages to A.
a) Duty b) Liability c) Immunity d) Disability
35. The owner of land can lease the property to any other person. Under that lease, the owner can allow sub-leasing. The owner of the land has _____ *vis-à-vis* the property.
a) Right b) Power c) Immunity d) Liability
36. If X infringes Y's copyright, Y can sue X. Y has _____ *vis-à-vis* X.
a) Right b) Power c) No-duty d) Immunity

IV. The compass is one of the oldest navigational tools we have. Since mankind began to understand more about navigation, compasses have been crucial to the achievement of major feats such as the first transoceanic voyages and the circumnavigation of the globe. None of this would have been possible without the aid of the compass in performing navigation calculations over long distances.

Early explorers had to use local landmarks and the stars to navigate. This made it very difficult to travel to far or unknown destinations. Compasses were one of the key breakthroughs that made such voyages possible. So how exactly does a compass work ?

A compass works by detecting and responding to the Earth's natural magnetic fields. The Earth has an iron core that is part liquid and part solid crystal, due to gravitational pressure. It is believed that movement in the liquid outer core is what produces the Earth's magnetic field. Like all such fields, the Earth's magnetic field has two poles - North and South. These magnetic poles are slightly off from the Earth's axis of rotation, which is used as the basis of the geographic poles - however the magnetic and geographic poles are close enough to allow a compass to serve as a valuable navigation tool, especially when adjustments are made for the polar differences - such adjustments being referred to as declination.

In September 2019, for the first time in over 360 years, compasses at Greenwich pointed true north. Most of the time, however, compasses don't actually point precisely towards the North Pole.

True north is the direction that points directly towards the geographic North Pole. This is a fixed point on the Earth's globe. Magnetic north is quite different : it is the direction that a compass needle points to as it aligns with the Earth's magnetic field.

The magnetic North Pole shifts and changes over time in response to changes in the Earth's magnetic core : it isn't a fixed point.

This difference between true North and the North heading on a compass forms an angle, referred to as declination. Declination varies from place to place because the Earth's magnetic field is not uniform - it dips and undulates.

**Section – A : English**

37. Select the option that corresponds to a 'feat'.
- a) The diversion of traffic
b) A student's tribute to the mentor
~~c) An acrobatic performance~~
d) The cancellation of a flight booking
38. The writer refers to the compass as a "key" breakthrough, to highlight its _____.
- ~~a) importance~~
b) scientific nature
c) ease of use
d) novelty
39. Select the option that can be used, both as a noun as well as a verb, in the given form.
- a) uniform, magnetic, point
b) Only uniform
c) uniform and core
d) point, iron and core
40. Identify the meaning of the adjective in the given line from the text.
- '..... compasses at Greenwich pointed true north.'
- ~~a) aimed~~ b) precise c) topmost d) sharp
41. Which action suitably corresponds with 'undulates' ?
- a) praying
b) walking a dog
c) sharing a secret
~~d) dancing~~

Section – B : Logical Reasoning**For Questions 42 – 45 :**

5 towers made by civilisation X were declared to be protected heritage building. Uniquely, four of them are placed geographically such that they are the vertices of a square. The fifth is placed at the point of intersection of the two diagonals of the square. Let the towers be named A, B, C, D and E. The following information is given to you about the five towers :

- C, A and B are in a straight line (in no particular order) that runs from south-east to north-west.
- If one looks directly east from B, no tower is visible. This is not true for A and D.
- If one looks directly north from D, a tower is visible.

42. Based on the above information, which tower is in the centre ?
- a) A
~~c) C~~
b) B
~~d) Insufficient information~~
43. If one seeks to travel to D from A, one has to go
- a) East b) South-east c) West ~~d) South~~
44. If one seeks to travel to B from A, one has to go
- a) East
c) West
~~b) South-east~~
d) Cannot be determined
45. At sunset, A's shadow points _____
- a) Towards B b) Towards C c) Towards D ~~d) Towards E~~



That data can range from personal or corporate email address and password, to financial data such as credit card details or online banking credentials or even personal data such as date of birth, address and a social security number.

How does a phishing attack work ?

A basic phishing attack attempts to trick a user into entering personal details or other confidential information, and email is the most common method of performing these attacks.

The sheer number of emails sent every single day means that it's an obvious attack vector for cyber criminals. It's estimated that 3.7 billion people send around 269 billion emails every single day.

Researchers at Symantec suggest that almost one in every 2,000 of these emails is a phishing email, meaning around 135 million phishing attacks are attempted every day.

Most people simply don't have the time to carefully analyse every message that lands in their inbox – and it's this that phishers look to exploit in a number of ways.

Scams vary in their targets – some are aiming at unwary consumers. Here, their email subject line will be designed to catch the victim's eye – common phishing campaign techniques include offers of prizes won in fake competitions such as lotteries or contests by retailers offering a 'winning voucher'.

In this example, in order to 'win' the prize, the victims are asked to enter their details such as name, date of birth, address and bank details in order to claim. Obviously, there's no prize and all they've done is put their personal details into the hands of hackers.

Section – A : English

49. Select the option that correctly completes the following.
Doctors : cardiologist :: _____
a) lotteries : victims b) malware : victims
c) social media : scam d) criminals : hackers
50. Select the appropriate option to complete the sentence.
This text is most likely to be published as a _____
a) news item b) personal narrative
c) speech draft d) magazine article
51. Select the appropriate option to complete the sentence.
The purpose of the prolonged phishing game is to _____.
a) develop believable profiles b) research the victims
c) gain in-depth information d) establish faith

O

52. What about the victims often works favourably for phishers using emails ?
 a) They face language issues b) They remain very busy
 c) They lack tech savviness d) They have delayed access
53. Replace the underlined word with its correct meaning from the given options.
 'Phishers scam people.'
 a) loot b) dupe c) harm d) betray

Section – B : Logical Reasoning

54. Which of the following logical relations is/are correct ?
 a) Scamming is a superset of which phishing, vishing and smishing are mutually-exclusive subsets.
 b) Scamming and phishing are mutually exclusive sets; vishing and smishing are subsets of phishing.
 c) Vishing and smishing are subsets of scamming.
 d) None of the above.

For Questions 55 – 60 :

A company has designed a bot to filter scam emails. The method used by the filter is to convert emails to a code using a proprietary software, and then to check the code to see if it meets the following conditions. If the converted code meets each of the said conditions, then it is filtered out as scam.

- i. The code should not contain special characters (i.e. non-alphanumeric characters)
 - ii. The code should not contain any character appearing twice consecutively
 - iii. The code should not contain any character appearing thrice consecutively
 - iv. The code should not contain any string that contains a numeric character followed by an alphabetical character
55. Which of the following emails (converted to code) is scam according to the filter ?
 a) 55923423 b) ersfjtncjlx c) 243434p123 d) 3454xxx`
56. Which of the following emails (converted to code) is scam according to the filter ?
 a) Thisemailisscam b) Thisemailisnotscam.
 c) Thisemaillikelyisscam d) None of the above
57. Which of the following statements is correct about the conditions used in the filter ?
 a) Condition (ii) is redundant in light of Condition (iii)
 b) Condition (iii) is redundant in light of Condition (ii)
 c) Condition (i) is redundant because no codes have special characters in them in any event
 d) Both a) and b)



58. Can this bot be used to filter phishing emails ?
- This bot will necessarily filter some (but not all) phishing emails.
 - This bot may filter only some (but not all) phishing emails.
 - This bot will not filter any phishing emails.
 - This bot will filter all phishing emails.
59. A scammer has figured out a way to manipulate the working of the bot. However, he has not yet figured out the manner in which the bot categorizes email as scam or not-scam. The loophole works by using a certain "macro" in an email. The "macro" transforms the code of the email into a new code using the following sequential steps: first, letters t – z are transformed into numbers 1 – 7, respectively; second, numbers 1 – 9 are transformed into letters a – i, respectively; and third, number 0 is transformed into the letter j. Which of the following can be codes generated by the "macro" ?
- Abcgiiijg2s
 - Abcgiiijgzs
 - Abc0iiijgs
 - Abcoiiijgs
60. The company that created the bot reverse-engineered the scheme of the scammer. The company wants to use the following steps to transform the "macro"-generated code into the original code.
- Transform numbers 1 – 7 to letters t – z, respectively
 - Transform letters a – i to numbers 1 – 9, respectively
 - Transform letter j to number 0
- What is the order in which these steps should be undertaken to fulfil the company's aim ?
- (i) followed by (ii) followed by (iii)
 - (iii) followed by (ii) followed by (i)
 - (ii) followed by (i) followed by (iii)
 - These steps, in whichever order, cannot achieve the company's aim

VI. **Great Pacific Garbage Patch**, a zone in the Pacific Ocean between Hawaii and California that has a high concentration of plastic waste. The extent of the patch has been compared to the U.S. State of Texas or Alaska or even to the country of Afghanistan.

Garbage that reaches the ocean from the west coast of the United States and from the east coast of Japan is carried by currents – including the California Current, the North Equatorial Current, the North Pacific Current, and the Kuroshio – into the North Pacific subtropical gyre, the clockwise rotation of which draws in and traps solid matter such as plastics. Some 80 percent of the plastics in the garbage patch come from the land. It takes years for debris to travel from the coasts to the gyre, and as it is carried along, photodegradation causes the plastics to break down into tiny, nearly invisible bits. While there are some larger objects that come from ships and offshore oil rigs, the garbage patch could more accurately be described as a soup of microplastics. The dimensions and depth of the patch are continuously changing.

Scientists had been aware of the growing problem of plastic debris in the world's oceans since the late 1980s. However, the Great Pacific Garbage Patch came to public attention only after 1997, when yachtsman Charles Moore, returning home after participating in the biennial Transpacific Race, chose a route that took him through the North Pacific subtropical gyre. He found himself traversing a sea of plastics. When he returned to the area the following year, he discovered that the patch had grown in both extent and density. Moore began making speeches and writing articles – notably a 2003 essay in *Natural History* magazine – and he changed the mission of the Algalita Research Foundation, which he had founded in 1994 to improve water quality along California's coast. The organization now focuses on studying and publicizing the problem of plastics in oceans, in particular in the Great Pacific Garbage Patch. A 2006 series of articles in the *Los Angeles Times* about the garbage patch won a Pulitzer Prize and raised general awareness of the problem.

In 2015 and 2016, the Dutch-based organization Ocean Cleanup found that the density of the debris in the garbage patch was much greater than expected and that the plastics absorbed pollutants, making them poisonous to marine life. The Great Pacific Garbage Patch is the best known of several such zones, others of which exist in the Atlantic and Indian oceans.

Section – A : English

61. Select the appropriate option to complete the sentence.
The word 'Great' in the name 'Great Pacific Garbage Patch' alludes to the _____.
- a) vastness of the ocean
 - b) magnitude of the issue
 - c) uniqueness of the location of the garbage patch
 - ~~d) extent of the garbage patch~~
62. Which is the contextual clue that best helps us understand the meaning of 'gyre'?
- a) continuously changing
 - b) ~~carried along~~
 - c) clockwise rotation
 - d) invisible bits
63. Select the appropriate option to fill the blank.
The 'photo' in *photodegradation* points to the role of _____ in the degradation of the plastic.
- a) water
 - b) ~~sun~~
 - c) type of plastic
 - d) duration of plastic at coast



64. Which of the given literary devices does the writer use in the line, 'He found himself traversing a sea of plastics.' ?
 a) pun b) symbolism c) irony d) imagery
65. Select the option that displays a title likely to belong to an article of the 2006 series.
 a) Marine Life Conservation b) Trash to Infiltrate the Food Chain
 c) Marine Debris and Trash d) Ocean Cleanups Around the World

Section – B : Logical Reasoning

66. Which of the following assumptions is/are necessary to conclude that plastic waste emerging from land would be the smallest in size as it accumulates in the Great Pacific Garbage Patch ?
 a) Extent of photodegradation is inversely related to time spent by plastic in oceanic water.
 b) Plastic waste emerging from land and other sources are of somewhat equivalent sizes at the source of origin.
 c) Both a) and b)
 d) Neither a) nor b)
67. A researcher showed that for every thousand kilometres a piece of plastic travels through oceanic water, it breaks down into 100 pieces. Each of those pieces would then also break down into 100 more pieces upon traveling a thousand kilometres. This phenomenon is analogically equivalent to _____
 a) Reproduction of amoeba – each amoeba splits into two in a certain period of time; which then again split into two in the same period of time.
 b) A train locomotive accumulating two coaches at each station it crosses.
 c) Case-load of a Court increasing as a result of more fresh cases being filed every day compared to cases being disposed in the same day.
 d) All the above
68. It was found that between two pieces of plastic, the lighter one travels at twice the speed of the heavier one. If there are ten pieces of plastic (each with a different weight) that start from the same geographical location, the speed of the fastest piece would X times the speed of the slowest piece. X is
 a) 10 b) $2 \times 10 = 20$ c) $2 \times 9 = 18$ d) $2^9 = 512$



69. Theoretically, filtering out all plastics from water bodies flowing into the sea and preventing direct disposal of any plastic from land into sea would
- Eliminate the Great Pacific Garbage Patch over a sufficiently long time period.
 - Stop the growth of the size and depth of the Great Pacific Garbage Patch over a sufficiently long time period.
 - Stop the speed of growth of the size and depth of the Great Pacific Garbage Patch over a sufficiently long time period.
 - All the above
70. A teacher wants to demonstrate the futility of Ocean Cleanup. She believes that unless plastic-removal is faster than plastic-accrual, the overall size and depth of the Great Pacific Garbage Patch would stay stagnant or may even increase. Which of the following analogies can she draw to drive home her argument ?
- A filled bucket eventually empties as a result of an open outlet at the bottom of the bucket.
 - Water level in a partially filled bucket with an outlet at its bottom rises if the amount of water coming through the inlet is faster than the amount of water that goes out through the outlet.
 - Water level in a partially filled bucket with an outlet at its bottom goes down if the amount of water coming through the inlet is slower than the amount of water that goes out through the outlet.
 - Both b) and c)
71. From the passage, it is clear that both plastic accumulation and oceanic pollution are negatively affecting marine life. As a scientist, you conduct a series of experiments to determine the extent (if any) of their contribution to degradation of marine life. The details of the experiments and their results are below :
- Check if plastic accumulation in sterile, non-polluting conditions affects marine life. It turns out that marine life is negatively affected. The measurement of the effect is X units.
 - Separately, check if any kind of pollution in some non-plastic environment affects marine life. It turns out that marine life is not affected at all.
 - Separately, check if pollution absorbed by accumulated plastic affects marine life. It turns out that marine life is negatively affected. The measurement of the effect is 2X units.

What, if anything, can be concluded from the experiment ?

- Pollution is always dangerous to marine life.
- Pollution is dangerous for marine life only if it takes place in an environment where plastic has accumulated.
- Plastic accumulation poses no threat in a non-polluted environment.
- None of the above conclusions can be drawn.



72. It is found in a series of experiments that big pieces of plastic (defined as being larger than 100cm^2 in size) take T amount of time to break into halves due to photodegradation, and smaller pieces of plastic (defined as being smaller than 10cm^2 in size) take $T/3$ amount of time to break into halves due to photodegradation, which of the following is correct ?
- Rate of photodegradation is inversely related to size of original piece of plastic.
 - Rate of photodegradation is directly related to size of original piece of plastic.
 - Rate of photodegradation is independent of size of original piece of plastic.
 - Rate of photodegradation is not dependent on any factor other than size of original piece of plastic.

VII. Aristotle, an ancient philosopher, was one of the first to discuss syllogisms. In *Prior Analytics*, published around 350 BCE, Aristotle outlined the basic form of syllogism which represented the earliest branch of formal logic. For Aristotle, logic revolved around deduction : “*speech in which certain things having been supposed something different from those supposed results of necessity because of their being so.*”

If that sounds confusing – that’s ancient philosophy for you! Let’s break it down. “The things that have been supposed” are what we now call “premises”. “What results necessarily” from those premises being true is a conclusion.

To Aristotle, if an argument was valid, it would be impossible for premises X and Y to be true and for conclusion Z to be false. Aristotle named this method of proving validity “*reductio ad impossibile*” : a syllogism is valid when the denial of the conclusion but acceptance of the premises would lead to a contradiction.

Aristotle divided syllogistic propositions into four different categories : universal affirmative, particular affirmative, universal negative and particular negative.

- A universal affirmative syllogistic sentence : All humans need food.
- A particular affirmative syllogistic sentence : Some birds can fly.
- A universal negative syllogistic sentence : No dogs are cats.
- A particular negative syllogistic sentence : Not all cars have four doors.

During the rise of modern formal logic, German philosopher Gottlob Frege refined Aristotle’s syllogistic theory through the addition of non-categorical syllogisms. These are syllogisms that rely on premises and can be hypothetical, or which include disjunctions like ‘or’. The hypothetical form of syllogisms can be traced back to Stoic philosophy, but modern philosophers tend to attribute the theory to Frege. In the 19th century, British philosopher and economist John Neville Keynes also helped make non-categorical syllogisms popular.

Here’s an example of a hypothetical syllogism :

- If it is sunny tomorrow, I can go running.
- It is sunny.
- Therefore, I can go running.



Here's an example of a disjunctive syllogism :

1. Patrick studies English or Linguistics.
2. Patrick is not studying Linguistics.
3. Therefore, he is studying English.

In the *Begriffsschrift* (German for "Concept-Script"), he refined Aristotle's system by developing a logical system that explained how quantifiers (words like "all" and "some") work. His system also became the basis for modern computer science.

Section – A : English

73. Select the appropriate option to fill the blank.
In the line, 'Aristotle outlined the basic form of syllogism...' in paragraph 1, the writer means that Aristotle _____ the topic.
- a) shared an introductory insight on
 - b) paraphrased features of
 - c) wrote a detailed discussion on
 - d) presented the main aspects of
74. The writer's use of an exclamation mark in the line '... that's ancient philosophy for you!', from paragraph 2. What is the most likely tone this indicates ?
- a) derogatory
 - b) humorous
 - c) sarcastic
 - d) provocative
75. Select the option that is true for both (1) and (2) below, according to paragraph 3.
- (1) A conclusion is the main feature of a premise.
 - (2) Premises need to be proven true for a conclusion to occur.
- a) (1) is true but (2) is false.
 - b) Both (1) and (2) are true.
 - c) (2) is true but (1) cannot be inferred from the text.
 - d) (1) is true but (2) cannot be inferred from the text.
76. Select the option that substitutes the underlined word correctly in the given line.
'These are syllogisms that rely on premises being hypothetical...'
- a) conjectural
 - b) climatic
 - c) conciliatory
 - d) corroborative
77. Select the option that uses a 'quantifier', as mentioned in the last paragraph.
- a) We saw a lot of birds at the sanctuary.
 - b) The sanctuary is located beyond the city walls.
 - c) The birds migrate to the sanctuary in March.
 - d) We planned the trips to the bird sanctuary.



CF

LLB

Section – B : Logical Reasoning

78. Let the following premises be true : "If it is ^esunny on any given day, I can go ^Arunning.", and "It is not sunny today." Which of the following must be true ?
- a) I cannot go running today. b) I can go running today.
c) I can go walking today. d) ~~None of the above~~
79. If a majority of spoons are forks, then which of the following *could be true* ?
- a) A majority of forks are spoons b) A minority of forks are spoons
c) All forks are spoons d) ~~All the above~~
80. Assume that (A) a majority of blankets are sheets, (B) a majority of blankets are tablecloths, and (C) no non-blanket sheet (i.e., a sheet that is not a blanket) is a non-blanket tablecloth (i.e., a tablecloth that is not a blanket). Which of the following is true ?
- a) No sheets are tablecloths b) ~~Some sheets are tablecloths~~
c) All sheets are tablecloths d) Cannot be determined
81. A minority of wallets are purses. A majority of wallets are perfumes. Which of the following could be true ?
- a) No purses are perfumes b) All purses are perfumes
c) ~~Both a) and b)~~ d) Neither a) nor b)
82. A majority of Formula 1 cars are race-cars. All race-cars drive on four wheels. All four-wheeled cars are twenty times as fast as cars that drive on any other number of wheels. Speed is the only determining factor for winning a race that involves cars. Which of the following is/are correct ?
- a) In a Formula 1 race, a non-four-wheeled car (i.e., a car that does not drive on four wheels) will never be able to win.
b) In a Formula 1 race, the winner of a race among 20 cars can be predicted using only the number of wheels that a car drives on.
c) In an Indy500 race, where all participating cars are race-cars, the winner of a race among 50 cars can be predicted.
d) Both a) and b).
83. A minority of folders are documents. Which of the following is not true ?
- a) If there are folders, there are documents.
b) ~~If there are documents, there are at least 2 folders.~~
c) If there are no documents, there are no folders.
d) All of the above are true.
84. All moons are asteroids. All planets are celestial bodies. Some planets are moons. Therefore,
- a) All asteroids are celestial bodies. b) All asteroids are planets.
c) ~~Some asteroids are planets.~~ d) None of the above

O



VIII. During her grandfather's reign, Elizabeth was third in the line of succession to the British throne, behind her uncle Edward and her father. Her younger and only sister Margaret was next in the line of succession. When her grandfather died in 1936 and her uncle succeeded as Edward VIII, she became second in line to the throne, after her father. Later that year, Edward abdicated without any issue (i.e., child), after his proposed marriage to divorced socialite Wallis Simpson provoked a constitutional crisis. Consequently, Elizabeth's father became king, taking the regnal name George VI. Since Elizabeth had no brothers, she became heir presumptive. If her parents had subsequently had a son, he would have been heir apparent and above her in the line of succession, which was determined by the male-preference primogeniture (as against female-preference primogeniture or primogeniture *simpliciter*) in effect at the time.

George VI's health declined during 1951, and Elizabeth frequently stood in for him at public events. When she toured Canada and visited President Harry S. Truman in Washington, D.C., in October 1951, her private secretary, Martin Charteris, carried a draft accession declaration in case of the King's death while she was on tour. In early 1952, Elizabeth and Philip set out for a tour of Australia and New Zealand by way of the British colony of Kenya. On 6 February 1952, they had just returned to their Kenyan home, Sagana Lodge, after a night spent at Treetops Hotel, when word arrived of the death of George VI and Elizabeth's consequent accession to the throne with immediate effect. Philip broke the news to the new queen. She chose to retain Elizabeth as her regnal name; thus she was called Elizabeth II, which offended many Scots, as she was the first Elizabeth to rule in Scotland. She was proclaimed queen throughout her realms and the royal party hastily returned to the United Kingdom. Elizabeth and Philip moved into Buckingham Palace.

Section – A : English

85. Elizabeth's father had to ascend the throne because Edward had to step down. Select the correct reason he had to step down.
- Edward was a king without an heir.
 - Edward was involved in a controversy.
 - Edward objected to the line of succession.
 - Edward wished to marry the same year as his father's death.
86. The word 'provoked' in the line 'provoked a constitutional crisis', refers to _____.
- deliberately rousing anger
 - giving rise to a reaction
 - pressuring for a response
 - denying responsibility
87. What can be inferred as common between the understanding of *heir apparent* and *heir presumptive* ?
- brothers
 - parental support
 - age
 - birth of another

93. Which of the following can be deduced from the passage ?
- a) Elizabeth II ruled over Scotland. b) Elizabeth I did not rule over Scotland.
 c) Both a) and b) d) Neither a) nor b)
94. X and Y were married. They had three children: P, Q and R (in increasing order of ages). P had three children with her husband Q : A, B and C (in increasing order of ages). R had one child with her husband W : J. A, B, C and J do not have any children of their own. Which of the following is the correct line of succession after the death of X (the current monarch) assuming that the law regulating succession follows the rule of primogeniture?
- a) R, J, Q, A, B, C, P b) R, J, Q, C, B, A, P
 c) P, A, B, C, Q, R, J d) Q, A, B, C, P, R, J
95. Viserys is the current monarch of a country that follows the law of primogeniture. The laws of the country also prevent children born out of wedlock from being in the line of succession. Viserys' family is as follows : his brother Daemon, his daughter Rhaenyra from his marriage with Aemma (who died while giving birth to a stillborn child, Baelon), his sons Aegon and Aemond, and his daughter Halaena (the three of them being born from his marriage with Alicent, who is currently the queen-consort). Rhaenyra, Aegon, Aemond and Halaena are unmarried and do not have any children. Alicent wants to make her eldest son, Aegon, the heir presumptive. Which of the following options would help her succeed in her plan ? [for the purpose of this question, assume that heir presumptive and heir apparent are conceptually the same]
- a) Kill Rhaenyra b) Kill Viserys c) Both a) and b) d) Neither a) nor b)
96. In the facts of the question above, assume that Rhaenyra had the following children out of wedlock : Jacaerys, Lucerys and Joffrey (in decreasing order of ages). None of them have any children of their own. What would be the place of Daemon in the line of succession during Viserys' lifetime ?
- a) Fourth b) Fifth c) Eighth d) Ninth



- IX. Mining cryptocurrency was a great way to use your best graphics card to make a little money on the side. Being able to use an idle GPU to crunch numbers when not playing games allows you to make the most of the performance available. Unfortunately, since we originally created this guide, the crypto markets have crashed and Ethereum has moved to a proof of stake.

While it's not as easy to make a tidy earning with your GPU mining cryptocurrencies as before, there may be some other coins that may be worth it if you're mindful of energy use and initial cost. The absolute best gaming graphics card does not equal the best value and returns for mining using your PC. We've got a recommendation for everyone here.

What is the best GPU for crypto mining ?

Choosing the best graphics card for crypto mining isn't as simple as picking the absolute most expensive card you can locate and calling it a day. There are various factors to consider when shopping around for a new GPU to (hopefully) make some money with. The most important factor of any GPU for crypto mining is efficiency — you want a high hash rate for as little electricity as possible.

Take our highest recommendation here, for example. It's the NVIDIA GeForce 3060 Ti, an incredible GPU for gaming, but it's also excellent for crypto mining. It won't win awards for the highest hash rate, but for the more affordable price, it'll get you up and running without issue. If you wanted something a little cheaper without sacrificing too much in performance, the NVIDIA GeForce RTX 2070 is your guy.

But there are countless other GPUs that are worth considering and not only from NVIDIA. The AMD Radeon RX 5700 XT is our favorite GPU for value, offering an impressive hash rate for the asking price. Then there's the AMD Radeon RX 580, which is perfect for those on a tight budget who wish to save a few Bitcoins or Ethereum to weather a financial storm.

You don't have to spend much at all to make money mining cryptocurrency. So long as the hash rate will pull in coins for you to sell and make enough to cover electricity costs, you're already in the green. Once you factor in a few months to pay off the GPU, you're in profit — and that's not taking into account the resale value of the card itself.

When deciding on a GPU for crypto mining, you need to bear in mind a few factors. Do you want to pay more upfront now and potentially earn higher returns ? Or do you feel as though the mining scene will dissipate slightly with lower returns and wish to spend only a small amount on a GPU to make a little extra on the side ?

The cryptocurrency market is a financial one, and that means it's extremely susceptible to media coverage and human emotion. Take the damning environmental reports about Bitcoin that coincided with the Chinese crackdown to send the price spiraling. If you're about to spend \$2,000 on a GPU to mine cryptocurrencies, you best be sure you can at least recuperate the initial purchase cost.

This is why we're not recommending only the most powerful (and expensive) GPUs available today. That doesn't make sense in the current climate, but it's also outright bad advice for those new to the wonderful world of mining digital currency. Unlike gaming, where only the best GPU you can afford will do, choosing one for crypto mining is a little more challenging.

What about all other GPUs for crypto mining ?

There are plenty of GPUs out there, and many of them offer considerably high hashrates, making them ideal for cryptocurrency mining. We couldn't include every graphics card here, and so this collection only includes handpicked recommendations that cover multiple price ranges.

So long as the GPU you consider buying will make more money than the electrical cost to run the PC, you're good to go. Leave it running for a few months, and you'll have accumulated enough to pay off the card. You could stop here and sell the card to recuperate some of the initial cost or continue with passive income.

Section – A : English

97. Select the appropriate option to complete the sentence.
The writer uses the word 'crunch numbers' in the first paragraph to communicate that it involves _____.
- generating unique algorithms to develop recreation products
 - solving algorithms that help solve money-matters
 - large-scale processing of numerical data
 - gathering numerical data for financial research
98. Select the option that correctly reflects what the idiom in the given sentence means.
'Choosing the best graphics card isn't as simple as picking the absolute most expensive card, you can locate and calling it a day.'
- not compromising on quality
 - making informed choices
 - getting confused
 - ceasing work
99. Select the option that displays what aspect the text titled 'What is best GPU for crypto mining' DOES NOT present.
- information
 - prediction
 - suggestion
 - precaution
 - introduction
- a) i, ii and iv ~~b) ii and v~~ c) Only iii d) i and iii



100. What is the writer's most likely intent of using question headings in this text ?
- retain a certain measure of deniability
 - compel the reader to agree with explanation that follows
 - create an atmosphere of uncertainty and suspense
 - ~~d) present information in a systematic chronology~~
101. Select the option that displays words similar in meaning to 'recuperate', from the last line of the text.
- represent, remove, regain
 - renew, return, represent
 - remove, retain, reinstall
 - ~~d) regain, recover, retrieve~~

Section – B : Logical Reasoning

102. On the basis of this article, a rational person decided that X was a better GPU for crypto mining than Y. He found that the initial cost of X was much lower than Y. It therefore follows that :
- X's hashrates were higher than Y's
 - X's hashrates were lower than Y's
 - X's hashrates were the same as Y's
 - ~~d) Cannot be determined~~
103. If total cost of mining N bitcoins using GPU X was lower than the total cost of mining the same number of bitcoins using GPU Y, then it follows that :
- ~~a) X's per-unit-time electricity consumption is lower than Y's per-unit-time electricity consumption~~
 - X's per-unit-time electricity consumption is more than Y's per-unit-time electricity consumption
 - X's cost price is lower than Y's cost price
 - Cannot be determined
104. What is the relationship between profits made using crypto-mining and hashrates ?
- High hashrates necessarily lead to high profits
 - High hashrates necessarily lead to some profits
 - Low hashrates cannot lead to profits
 - None of the above
105. Assuming that the cost price and hashrates of two GPUs are identical, which of the following statements is true ?
- The profits made by crypto-mining using the GPUs in different time-periods and thereafter selling the GPUs would be identical.
 - The profits made by crypto-mining using the GPUs in the same time-period and thereafter selling the GPUs would be identical.
 - The profits made by crypto-mining using the GPUs in the same time-period and thereafter selling the GPUs could be different.
 - None of the above



106. GPUs are made of infinitesimally small chips made out of semiconductors. Due to the pandemic, companies manufacturing these chips had to shut down. Assuming that the prices of cryptocurrencies and electricity remained constant, this would lead to
- Higher cost prices of GPUs
 - Lower profits made by people mining cryptocurrency
 - Lesser hashrates of GPUs
 - Losses for people mining cryptocurrency
- a) i, iii, iv b) i, ii c) i, iv d) i only
107. A certain extremely expensive GPU has the best hashrates among all GPUs. This GPU would
- Have high resale value
 - Have high electricity consumption
 - Give less profit in crypto-mining
 - None of the above
108. A goes to a shop. At the shop are two salesmen – X and Y. X always says the truth. Y always speaks falsehoods. X and Y are aware of each other's tendencies. A does not know which salesman is X and which salesman is Y. Both salesmen say to A, "If you asked the other salesman, he would tell you that GPU G1 is better than GPU G2." What can be said about G1 and G2 ?
- G2 is better than G1
 - G1 is better than G2
 - G1 is the same as G2
 - Cannot be determined

X. Who are your first cousins ?

Family members who are considered first cousins share grandparents with you. If your mom or dad have siblings, and those siblings have children, the kids are your first cousins! To your mom and dad, they're nephews and nieces, but to you, they're first cousins. Often these are the relatives people mean when they say, "she's my cousin." If they're not adopted, you share about 1/8 of your DNA with your first cousins!

So what are second cousins ?

Second cousins have the same great-grandparents as you. Think of it this way : your mom's first cousin's child is your second cousin. Or, your grandpa's brother's grandchild (your dad's aunt's grandchild) is your second cousin. You're in the same generation, they're just not as closely related.

What about a second cousin once removed ?

A cousin once removed means they're from the generation immediately above or below you. So your first cousin once removed would be your first cousin's child or your parent's first cousin. Your second cousin once removed is your second cousin's child or your parent's second cousin.

So a cousin twice removed is... ?

"Twice removed" means that there's a two generation gap : this cousin is from either your grandparents' generation, or your grandchild's generation. So your first cousin twice removed would be your grandparent's first cousin or your first cousin's grandchild. Your second cousin twice removed is your second cousin's grandchild or your grandparents' second cousin.



And what about third cousins ?

Third cousins share the same great-great-grandparents! Your third cousin is your mom's great aunt's great-grandkid. OK, that's a little confusing. How about this: your great-great-uncle's great-grandchild is your third cousin. You might need another look at the chart. Or you can just call them "cousin."

There's a knack to remember which cousin is which. First, second, and third cousins (and so on unto infinity cousins) are an equal number of generations removed from the common ancestor. First cousins are both the second generation removed from their shared grandparents. Second cousins are the third generation removed from shared great-grandparents. So : cousin plus one is the number of generations back.

So "grand" doesn't mean cousins ?

The word "grand" means that there's a two-generation gap between the people : your brother's grandchild is your grand-niece, and your mom's father is your grandfather. There is an exception : Your parents' sibling is your aunt or uncle, but your parents' aunt or uncle is usually referred to as a great-aunt or -uncle, despite the two-generation gap rule. Grand-aunt just sounds a bit weird.

But "great" usually goes with "grand" ?

The use of "great" is usually paired with grand, and it means that there is a three-generation gap between you and your relative. Your niece's grandchild is your great-grandniece or -nephew, and your grandkid's kid is your great-grandchild! Of course, there's another exception for aunts and uncles : Your mom's uncle is your great-uncle, but your mom's great-uncle is your great-great-uncle.

Section – A : English

109. What does the writer convey via the use of exclamation marks in the first paragraph of the text ?
- | | |
|--------------------|---------------|
| a) dramatic effect | b) ambiguity |
| c) astonishment | d) conviction |
110. Which aspect of the text indicates that the writer is engaging with the reader ?
- | | |
|---------------------|---------------------|
| a) The paragraphing | b) The punctuations |
| c) The conclusion | d) The headlines |
111. In the text titled, 'And what about third cousins ?', what does the word 'chart' allude to ?
- | | |
|----------------------------|-------------------------|
| a) pictures or photographs | b) anecdotes |
| c) pedigree | d) family communication |
112. The confusing relationships in the text can be best applied to _____.
- | | |
|-------------|--------------------|
| a) ted talk | b) stand up show |
| c) debate | d) awareness rally |



113. Select the appropriate option to fill the blank.
When the writer offers a 'knack' to remember which cousin in which, she recognises the fact that the information can be _____ will be welcome.
- dense and a method to paraphrase it
 - mind-boggling and a tip to simplify it
 - irrelevant and a reminder suggesting otherwise
 - mundane and a digression

Section – B : Logical Reasoning

114. Talking about the woman in a picture, X says, "Oh, I do miss my great-aunt! Doesn't she look awesome in this picture? You know, her daughter and my mother taught me how to play cricket." Which of the following assumptions would need to be made to determine that the woman in the picture was X's great-aunt on the maternal side?
- The woman in the picture was X's mother's aunt
 - The woman in the picture was X's grandmother's aunt
 - X's great-aunt's daughter and X's mother were siblings
 - None of the above
115. X's grandson's paternal grandson's sister's father's father's father is X's
- Son
 - Daughter
 - One of a) or b)
 - Grandson
116. X and Y are sisters. A is X's grandson's niece. Y is A's
- Great-grand-aunt
 - Great-great-aunt
 - Great-great-niece
 - Great-grand-niece
117. Who among the following would be X's second cousin, once removed?
- X's father's father's brother's grandchild
 - X's father's father's brother's son
 - X's father's father's sister's granddaughter
 - None of the above
118. X is A's first cousin. Y is X's first cousin. Z is Y's first cousin. What is the closest relationship possible between X and Z?
- Sibling
 - First cousin
 - Second cousin
 - Third cousin
119. Who is the common ancestor between X and Y, who is X's first cousin twice removed?
- X's grandparent's grandparent and Y's grandparent
 - X's grandparent and Y's grandparent's grandparent
 - Either a) or b)
 - Neither a) nor b)
120. X's father's aunt is X's
- Great-aunt
 - Grand-aunt
 - Great-great-aunt
 - None of the above

PART – 2

General Knowledge and Current Affairs

121. Which among the following states admitted more foreign tourists in 2021 ?
a) Goa b) Karnataka c) Maharashtra d) Kerala
122. Recently the IMF approved a loan of US\$ 2.9 billion to
a) Myanmar b) Sri Lanka c) India d) Nepal
123. The Foreign Universities can set up their institutions in
a) GIFT city b) Metropolitan Cities
c) District Headquarters d) Municipal Towns
124. The name of the privately built rocket that was launched from Sriharikota in November 2022 is
a) Skyroot b) Vikram – S c) Arya – B d) Chand – I
125. The Voters Day in India is celebrated on
a) 26th January b) 26th November
c) 25th January d) 25th November
126. Human Rights Day is celebrated on
a) 26 January b) 10 December
c) 1 March d) None of the above
127. How many Youth World Titles in Chess have been won by Grand Master Praggnanandhaa ?
a) None b) One c) Two d) Three
128. The first Indian to have won a Medal in Asian Cup Table Tennis is
a) Sreeja Akula b) Archana Kamat
c) Manika Batra d) S. Gnanasekaran
129. After winning Gold Medal in Olympics, Neeraj Chopra has also won the Javelin throw in
a) Commonwealth b) Diamond League
c) Both a) and b) d) None
130. The first Indian to win a Medal in Olympics Badminton is
a) P. V. Sindhu b) Prakash Padukone
c) Saina Nehwal d) Gopichand Pullela
131. The new Election Commissioner who joined in November 2022 is
a) Rajiv Kumar b) Arun Goel
c) Sushil Chandra d) Justice Kuldeep Singh



132. How many World Heritage sites are there in India ?
 a) 12 b) 28 c) 40 d) 52
133. India's rank in the Global Hunger Index out of 121 countries is
 a) 89 b) 107 c) 98 d) 112
134. The 2022 G20 Meeting was held in November 2022 in
 a) Bali b) Rome c) Beijing d) New Delhi
135. The National Education Policy, 2020, excluded the following disciplines from its ambit
 a) Law b) Medicine c) Technical d) Both a) and b)
136. Before adopting Riyal as its currency, Qatar's currency was equivalent to which foreign (to Qatar) currency ?
 a) US Dollars b) Canadian Dollars
 c) Indian Rupee d) UAE Dirham
137. As a result of air pollution and nearby sewage, the _____ is reported to be turning yellow. Built in the 17th century, it is one of the seven wonders of the world.
 a) Taj Mahal b) Statue of Liberty
 c) Christ the Redeemer (statue) d) The White House
138. Who among the following rely on medicines to cure mental illnesses ?
 a) Psychologists b) Psychiatrists
 c) Both a) and b) d) Neither a) nor b)
139. Twitter, a social media platform, was recently acquired by Elon Musk. Which of the following entities is not owned/ controlled by Elon Musk ?
 a) Solar City b) Neuralink
 c) Waymo d) The Boring Company
140. Which of the following statements is correct about Fundamental Duties in the Constitution of India ?
 a) Fundamental Duties were part of the original Constitution
 b) A person can be sued merely for failure to abide by Fundamental Duties
 c) Both a) and b)
 d) Neither a) nor b)
141. The first Indian to have won the All England Badminton Championship is
 a) Gopichand Pullela b) Prakash Padukone
 c) P. V. Sindhu d) Saina Nehwal



142. The Prime Minister of which country was in news for dancing in a 'wild party' ?
 a) Finland
 b) New Zealand
 c) Canada
 d) None
143. The present Chairman of the National Human Rights Commission is
 a) Justice Arun Kumar Mishra
 b) Justice H. L. Dattu
 c) Justice Pinaki Chandra Ghose
 d) Justice P. C. Pant
144. How many Amendments have been made to the Indian Constitution so far ?
 a) 103
 b) 104
 c) 105
 d) 106
145. The Supreme Court in _____ upheld the constitutional validity of the EWS reservation.
 a) State of Tamil Nadu v. Union of India
 b) EWS Association v. Union of India
 c) Janhit Abiyan v. Union of India
 d) State of Maharashtra v. Union of India
146. Who won the Nobel Peace Prize, 2022 ?
 a) Ales Bialiatski
 b) Annie Ernaux
 c) Svante Paabo
 d) John Clauser
147. In order to reduce plastic waste in India, the Indian government in July, 2022 banned _____
 a) All plastic bags
 b) Single-use plastic
 c) Only polyethene bags
 d) Only toothbrushes
148. There is a fear that certain nanoplastics would become a part of human food, thereby causing severe harm to the human body. What is the size of one nanometre ?
 a) 10^{-9} m
 b) 10^{-6} m
 c) 10^{-12} m
 d) 10^{-3} m
149. X water body connects the Pacific Ocean to the Atlantic Ocean. Identify X.
 a) Panama Canal
 b) Strait of Magellan
 c) Both a) and b)
 d) Neither a) nor b)
150. The following Indian driver is currently participating in Formula Two series :
 a) Narain Karthikeyan
 b) Jehan Daruvala
 c) Jack Doohan
 d) Karun Chandhok

SOLUTIONS

1. **(d)** The text is an example of an informative text. The author has provided details of Wesley Hohfeld's ideas on interests in property. This is not a literary text nor an argumentative one. A descriptive text is a text which says what a person or a thing is like. Its purpose is to describe and reveal a particular person, place, or thing.
2. **(d)** Exemption refers to the process of freeing or state of being free from an obligation or liability imposed on others. Immunity is its synonym. Accountability refers to responsibility or liability.
3. **(c)** Vis-à-vis is a loanword from French, and its literal meaning is "face-to-face." In English, vis-à-vis is used as an adverb, adjective, and noun with its literal meaning. As a preposition, vis-à-vis is used to compare things, or as synonyms for "opposite" or "facing."
4. **(c)** The passage is primarily concerned with the description of certain legal terms and what they mean in the context of property. Hence, the third option would act as an apt title for the passage. The other options don't have anything to do with the ideas presented.
5. **(c)** The passage describes certain legal terms and what they mean in terms of rights and responsibilities. Hence, the third statement would be aligned with the information provided. The reference to the various thinkers is not relevant contextually. Similarly, the discussions around human rights and discrimination laws go beyond the scope of the passage.
6. **(a)** X would have no-right as against Y as 'no-right' is the jural co-relative of privilege.
7. **(c)** A has POWER vis-à-vis X and Y as power has been defined as the capacity to change the legal relationship which A hold in the given case.
8. **(d)** Every person has a disability against the owner of that road as the right to the owner prevents them (disables them) from using the road.

- 9. (a)** The owner of the road would have a right as against every person as he could prevent them from using the road.
- 10. (a)** B would be under a duty to pay the damages as rights and duty are jural correlatives of each other.
- 11. (b)** The owner of the land would have power as against the property as he has capacity to change the legal relationship vis-à-vis his property
- 12. (a)** Y has a right as against X and he can enforce the imposition of duty which X has as to not infringe the copyright.
- 13. (c)** A feat is an achievement that requires great courage, skill, or strength. Of the choices given, only an acrobatic performance includes these elements.
- 14. (a)** Something is termed a 'key' event or phenomenon to indicate its crucial, critical or extreme significance.
- 15. (d)** Point Noun-Example: you missed the whole point of the joke. Verb-Example: point the way home Iron Noun a silver-white malleable ductile magnetic heavy metallic element that readily rusts in moist air, occurs in pure form in meteorites and combined in most igneous rocks, is the most abundant element on Earth by mass, and is vital to biological processes. Verb-to smooth with or as if with a heated iron a shirt Core Noun a central and often foundational part usually distinct from the enveloping part by a difference in nature the core of the city Verb to remove a core from core an apple
- 16. (b)** The adjective in this sentence is 'true' Here, it means exact, precise.
- 17. (d)** Undulates refers to moving or going with a smooth up-and-down motion, Dancing is the only action that would involve undulation.
- 18. (d)** Information is insufficient as either B or C could be in the centre.
- 19. (d)** If one seeks to travel to D from A, one has to go South.
- 20. (b)** If one seeks to travel to B from A, one has to go South East.
- 21. (d)** At sunset the rays of the sun will fall on A from west, which is towards its left, so A's shadow points towards E.
- 22. (a)** If, somehow, the piece of paper rotates a quarter-circle counter-clockwise, the needle points towards approximately east.

23. (b) A is holding a compass at the time of sunrise. He points it towards the direction of the sunrise and sees that it reads "SW". This means that the compass has rotated 135 degrees clockwise or 225 degrees counter-clockwise.

24. (b) In the facts of the question above, "NW" on the compass pointing towards South.

25. (d) To outline something to the present its salient features, main aspects.

26. (b) The author is expressing amusement in these lines. Therefore, he/she is being humorous.

27. (c) Refer the following lines from the third paragraph: "Aristotle, if an argument was valid, it would be impossible for premises X and Y to be true and for conclusion Z to be false." Thus, the second statement can be inferred from this. The first statement finds no support in the text.

28. (a) The meaning of hypothetical is involving or being based on a suggested idea or theory being or involving a hypothesis: conjectural.

29. (a) Quantifiers are words like 'all' or 'some'. The use of 'a lot' in the first sentence is an example of a quantifier.

30. (d) The premises given are in the form of an 'if-then' condition. In this, if the cause occurs, the effect will occur. Thus, if it is sunny today, I can go running. Also, if the effect did not occur, the cause did not occur. Thus, if I can't go running today, then it is not sunny. The negation of cause does not automatically result in negation of effect. Hence, none of the options given are correct.

31. (d) Let's read this as 'Some A is B'. Then, all the conclusions are possible - some B is A (this will include both majority and minority) and all B is A.

32. (b)

33. (c)

34. (a) If all race-cars drive on four wheels and cars that drive on four wheels are 20 times faster than cars that drive on any other number of wheels then it follows that in a Formula 1 race, a non-four-wheeled car (i.e., a car that does not drive on four wheels) will never be able to win.

35. (a) One cannot conclude no A is B from some A is B.

36. (c)

37.(b) Refer to these lines from the passage: 'Edward abdicated without any issue (i.e., child), after his proposed marriage to divorced socialite Wallis Simpson provoked a constitutional crisis. Therefore, option (b) is the correct answer.

38. (b) Provoking means giving rise to a reaction.

39. (d) Heir apparent and heir presumptive both Indicate the next person in the line of succession, I.e. the birth of another.

40. (c) 'Double minded" is not a phrasal verb.

41. (a) Option (b) challenges the facts that build the arguments. Thus, It is not really weakening. Options (c) and (d) bear no effect on the argument. Option (a) challenges the given argument. Therefore, it weakens the argument.

42. (d) Refer to these lines of the passage: 'During her grandfather's reign, Elizabeth was third in the line of succession to the British throne, behind her uncle Edward and her father. Her younger and only sister Margaret was next in the line of succession." As per these lines, only option (d) is correct.

43. (b) Refer to these lines of the passage: 'Since Elizabeth had no brothers, she became heir resumptive. If her parents had subsequently had a son, he would have been heir apparent and above her in the line of succession, which was determined by the male-preference primogeniture (as against female preference primogeniture or primogeniture simpliciter) in effect at the time.' From these lines, it can be concluded that had George VI and his queen- consort given birth to a boy child, the boy would have been the heir presumptive.

44. (a) Given X is the reigning monarch of a country (following primogeniture), who said, "He is the son of my mother's daughter." X's mother's daughter is X's sister. It means that the person in the picture is his sister's son. Hence, X is married to his sister.

45. (c) Refer to these lines of the passage: 'She chose to retain Elizabeth as her regnal name; thus, she was called Elizabeth II, which offended many Scots, as she was the first Elizabeth to rule in Scotland. From these lines it can be concluded that Elizabeth I did not rule over Scotland, and Elizabeth II ruled over Scotland.

- 46. (b)** The correct line of succession in case of primogeniture will be: R, J, Q, C, B, A, P. R is the eldest among X's children (P, Q and R). R's successor will be his only child, J. After J the throne will go to Q, who is the second child of X. After Q it will pass on to his three children in order of their ages (C, B and A) and after A it will pass on to P.
- 47. (c)** To make her son A geon the heir presumptive Alicent will have to kill Rhaenyra or kill Viserys. So, both the plans will make Ageon the heir presumptive.
- 48. (b)** During the lifetime of Viserys, his brother Daemon will be fifth in line after Rhaenyra, Ageon Aemond and Haelena.
- 49. (c)** 'Crunch numbers' refers to large-scale processing of numerical data, i.e. computation of numerical data.
- 50. (d)** 'Calling it a day' means ceasing a work. Thus, option (d) is the correct answer.
- 51. (b)** Text titled 'what is best GPU for crypto mining' presents a precaution, suggestion and information regarding the act of selecting the right graphic card for crypto mining.
- 52. (a)** In the passage, the author has presented arguments that defy the existence of some ideal graphic card. Thus, the question headings in this text alluded towards a certain measure of deniability.
- 53. (d)** 'Recuperate' means to recover or retrieve or regain. Thus, option (d) is the correct answer.
- 54. (d)** The reason for X being a better GPU for crypto mining than Y in spite of the initial cost of X being much lower than Y cannot be determined as the passage does not give any relationship between the two.
- 55. (d)** The reason for the total cost of mining N bitcoins using GPU X being lower than the total cost of mining the same number of bitcoins using GPU Y cannot be determined as the passage does not give any information regarding the same,
- 56. (d)** No definite relationship between profits made using crypto-mining and hashrates has been stated or implied in the passage. Therefore, none of the given options can be inferred. The correct answer is option (d)
- 57. (c)** The passage states various factors, apart from the graphic card being used, that decide the total expense of mining crypto coins, Thus, profit earned by

crypto-mining during a certain period will be decided by all those factors. Therefore, options (a) and (b) are incorrect inferences as they assert about the profits with certainty without incorporating the effect of the electricity consumption. So, option (c) is correct as it states a possibility, not a definite outcome.

58. (d) Given that GPUs are made of small semiconductor chips and companies manufacturing these chips had to shut down during the pandemic. If the prices of cryptocurrencies and electricity remained constant, scarcity of chips would lead to higher cost prices of GPUs.

59. (d) Given that a certain extremely expensive GPU has the best hash rates among all GPUs. From the passage it is not clear if this GPU would have high resale value or have high electricity consumption or give less profit in crypto-mining. Hence, none of the above is true.

60. (a) Given that X always says the truth and Y always lies. If both salesmen say to A, "If you asked the other salesman, he would tell you that GPU G1 is better than GPU G2." X says the truth that Y will say that G1 is better than G2, whereas Y lies while saying that, X will say that G1 is better than G2. Hence, we can conclude that G2 is better than G1.

61. (c) Exclamation mark is used to either express any extreme emotional response or a state of astonishment. Therefore, option (c) is correct.

62. (d) The headlines that are presented as questions indicate that the author is engaging with the reader.

63. (c) Pedigree means the recorded ancestry or lineage of a person or family. Therefore, option (c) is correct.

64. (b) In the passage, the author tries to explain the complex nomenclature related to the different generations of cousins. And the author himself asserts that it can be very confusing and also adds some traces of humour at several instants in the passage. Therefore, the overall passage can be a part of a humorous act or a stand-up act.

65. (b) As the author offers simplified ways to understand the nuances of the confusing nomenclature of the different kinds of cousins in a lineage, it does become obvious that the author believes that some information can be

mind-boggling yet comprehensible through certain hacks and simplifications. Therefore, option (b) is the correct option.

66. (a) The assumption required is that the woman in the picture was X's mother's aunt. If not, then she could be X's father's aunt too.

67. (a) X's grandson's paternal grandson is 4 generations down and his sister's father's father's father is 3 generations up, which means he is X's son.

68. (b) X and Y are sisters. A is X's grandson's niece. Y is A's Great-great-aunt.

69. (d) X's second cousin once removed is X's second cousin's child or X's parent's second cousin. None of the options satisfy the condition.

70. (a) Given X is A's first cousin. Y is X's first cousin. Z is Y's first cousin. The closest relationship possible between X and Z is sibling.

71. (c) The common ancestor between X and Y, who is X's first cousin twice removed can be X's grandparent's grandparent and Y's grandparent or it can be X's grandparent and Y's grandparent's grandparent. Hence, option (c) is correct.

72. (a) X's father's aunt is X's great-aunt.

73. (a) Precedence and priority are synonymous. Similarly, progeny and offspring are also synonymous. Therefore, option (a) is the answer.

74. (a) The passage describes different inheritance laws. Therefore, option (a) is the most appropriate answer.

75. (c) The given sentence is conditional in nature. Therefore, option (c) is the answer.

76. (c) 'Validly' and 'justifiably' are synonyms. 'Cease' and 'desist' are also synonyms. Therefore, option (c) is the answer.

77. (b) Monkhood refers to renouncing the material world. Therefore, option (b) is the answer.

78. (c) Refer to the second paragraph of the passage for the answer.

79. (c) Refer to the first paragraph of the passage for the answer.

80. (b) Refer to the given definitions of primogeniture and ultimogeniture in the passage.

- 81. (b)** Refer to the given information related to primogeniture. Option (b) is a possible scenario.
- 82. (b)** Refer to the given information related to primogeniture. Option (b) is a possible scenario.
- 83. (d)** B is the youngest son of X whereas E is the youngest daughter of X. Given that F is younger than B, it means that E is also younger than B. Since the realm follows gender-neutral ultimogeniture, the throne passes to E after X. Also, Q is the youngest child of E. So, the throne passes to Q after E's death.
- 84. (a)** If the realm followed the rule of house seniority, the throne would pass to Z as he is the oldest child of X.
- 85. (a)** Statements iii and iv are verifiable facts while statements I and ii are opinions.
- 86. (c)** The given idiom refers to paying a great deal of attention. The given passage is a meticulous description of Formula One cars. Therefore, option (c) is appropriate.
- 87. (b)** The passage is expository because it explains the functioning of Formula One cars.
- 88. (a)** The author is trying to convey the exact or literal meaning. Therefore, option (a) is the answer.
- 89. (b)** The passage stresses on the aerodynamic design. Therefore, option (b) is the correct answer.
- 90. (c)** If the orientation of the wings in a Formula One car is reversed (and all other things remain equal), then it would behave like an aircraft's wings, so would lead to take off from the track. Hence, the effective weight pressing down on the track would be less than the weight of the car. So, X is less than 1.
- 91. (b)** Refer to the 3rd paragraph where the explanation of downforce is given.
- 92. (d)** Refer to the second and third paragraphs. All the given statements are true. Therefore, option (d) is correct.
- 93. (a)** A formula one car is built in such a way that it is in free fall at all times during the race.

- 94. (a)** Given the facts in the paragraph, the Formula One car can be driven upside down in the tunnel.
- 95. (d)** The new respective positions of D, E and F cannot be determined.
- 96. (a)** The number of overtakes that a person starting 10th in a race needs to make to get to 1st position, assuming no other person makes any overtakes is 9.
- 97. (d)** Cardiologists are doctors, similarly, hackers are criminals
- 98. (d)** This is more of a magazine article as it defines phishing and states how it is executed. It is not a speech and it is not talking about recent news and it is also not a personal narrative of the author.
- 99. (c)** The basic goal of prolonged engagement is to gain the faith of the victim, to build trust, based on which the hacker can attain personal information.
- 100. (b)** Victims who are always busy with work. Email is the best way to gain their attention
- 101. (b)** To scam is to dupe people.
- 102. (c)** Scamming is the superset here, of which vishing and smishing are subsets.
- 103. (b)** In option (a), a character appears twice. In options (c) and (d) an alphabet appears after a number. In option (b), "ersfjtnclx" satisfies the given four conditions so it is filtered out as a scam.
- 104. (d)** None of the options is a scam. We can see that in options (a) and (c) characters are repeated twice and option (b) contains a special character (.).
- 105. (b)** Condition (iii) is redundant in light of Condition (ii)
- 106. (d)** The basic purpose of the bot is to "filter scam emails." Hence, it will scan all phishing emails.
- 107. (d)** Let us go by the options. (a) Abcgilig2s: This cannot be a code as contains 2, which should have been converted to the letter b in one of the previous steps. (b) Abcgljgz: This cannot be a code as it contains z, which should have been converted to 7 and consequently to g in one of the previous steps. (c) AbcOlijgs: This cannot be a code as it contains 0, which should have been converted to j in one of the previous steps. (d) Abcolijgs: This can be a code generated by the macro.

108. (d) These steps, in whichever order, cannot and achieve the company's aim.

109. (d) Since the patch is described to extend between states and countries, (d) is the correct choice.

110. (c) The passage mentions that, 'Garbage that reaches the ocean from the west coast of the United States and from the east coast of Japan is carried by currents - including the California Current, the North Equatorial Current, the North Pacific Current, and the Kuroshio into the North Pacific subtropical gyre, the clockwise rotation of which draws in and traps solid matter such as plastics.' Thus (c) is the correct choice.

111. (b) Since it is floating under the sun and the word 'photo' is used in conjunction, B is the correct choice.

112. (d) The phrase use is an imagery. It invokes the sensation of plasti induced waste.

113. (b) Since marine life constitutes the food chain and the plastic is hampering both coastal and marine ecosystem, B is the apt choice among the given options.

114. (d) Neither of the two assumptions can be concluded from the passage.

115. (a) Given that as a piece of plastic travels through oceanic water, it breaks down into 100 pieces and each of those pieces also breaks down into 100 more pieces. This phenomenon is analogically equivalent to reproduction of amoeba - each amoeba splits into two in a certain period of time; which then again splits into two in the same period of time.

116. (d) Given that the lighter piece travels at twice the speed of the heavier one. If there are ten pieces of plastic (each with a different weight) to the diagnosis, prevention, study, and that start from the same geographical location, the speed of the fastest piece would X times the speed of the slowest piece. $X=2=512$.

117. (c) Filtering out all plastics from water bodies flowing into the sea and preventing direct disposal of any plastic from land into sea would stop the speed of growth of the size and depth of the Great Pacific Garbage Patch over a sufficiently long time period.

118. (d) We know that water level in a partially filled bucket with an outlet at its bottom rises if the amount of water coming through the inlet is faster than the

amount of water going out of the outlet. It is also true that water level in a partially filled bucket with an outlet at its bottom goes down if the amount of water coming through the inlet is slower than the amount of water that goes out through the outlet. Hence, both (b) and (c) are correct.

119. (d) None of the above conclusions can be drawn.

120. (a) Rate of photodegradation is inversely related to size of original piece of plastic. Larger the size, more the time, so we can conclude that the rate of degradation is lower for larger pieces of plastic.

121. (c) The Qatari Riyal, ISO code 'QAR' is the national currency of the State of Qatar. In 1966 Qatar replaced its former currency, the Indian Rupee, with the newly adopted Qatar and Dubai riyal, which became the Qatari Riyal in 1973. One Qatari riyal is subdivided into 100 dirhams. The currently circulating Qatari Riyal banknotes are those of the Fifth Series, issued in 2020.

122. (a) As a result of air pollution and nearby sewage, the Taj Mahal is reported to be turning yellow. Built in the 17th century, it is one of the seven wonders of the world. Due to increasing air pollution, the colour of Taj Mahal is changing from white to yellow. The gas causing the yellowing of Taj Mahal must be one that can react with a base, here calcium carbonate. Complete step by step answer: Air contains a variety of gases namely nitrogen, oxygen, carbon dioxide, etc.

123. (b) Psychiatrist is a physician who specializes in psychiatry, the branch of medicine devoted to the diagnosis, prevention, study and treatment of mental disorders. Psychiatrists are physicians and evaluate patients to determine whether their symptoms are the result of a physical illness, a combination of physical and mental ailments or strictly mental issues. Sometimes a psychiatrist works within a multi-disciplinary team, which may comprise clinical psychologists, social workers, Occupational therapists, and nursing staff. Psychiatrists have broad training in a biopsychosocial approach to the assessment and management of mental illness.

124. (c) Elon Musk is a business magnate and investor. He is the founder, CEO and chief engineer of SpaceX; angel investor, CEO and product architect of Tesla, Inc.; owner and CEO of Twitter, Inc.; founder of The Boring Company; co-founder of Neuralink and OpenAI; and president of the philanthropic Musk Foundation. With an estimated net worth of around \$164 billion as of December 13, 2022, primarily

from his ownership stakes in Tesla and SpaceX, Musk is the second-wealthiest person in the world according to both the Bloomberg Billionaires Index and Forbes's real-time billionaires list. In 1999, Zip2 was acquired by Compaq for \$307 million and Musk co-founded X.com, a direct bank. X.com merged with Confinity in 2000 to form PayPal, which eBay acquired for \$1.5 billion in 2002. In 2006, he helped create SolarCity, a solar energy company that was later acquired by Tesla and became Tesla Energy. In 2015, he co-founded OpenAI, a nonprofit artificial intelligence research company. He is not associated with Waymo Company.

125. (d) Two statements given in the questions are not Fundamental Duties mentioned in the Constitution of India.

126. (b) Prakash Padukone was the first player from India to achieve the world no. 1 spot in the game, after which Srikanth Kidambi became the second male player to make it to the top spot in April 2018. Prakash Padukone was ranked World No. 1 in 1980, the same year he became the first Indian to win the All England Open Badminton Championships.

127. (a) Sanna Marin, the Prime Minister of Finland, has found herself at the centre of a controversy after a video of her partying with her friends surfaced online. The video, which has gone viral on social media, shows her drinking and partying. While some social media users thought Marin's actions were cool, many others thought they were unfit for a Prime Minister.

128. a) Arun Kumar Mishra is the current and eighth Chairperson of National Human Rights Commission of India. [1] He is the former Judge of Supreme Court of India. He is former Chief Justice of Calcutta High Court and Rajasthan High Court. He has also served as Acting Chief Justice of Rajasthan High Court. He is also former Judge of Madhya Pradesh High Court.

129. (c) As of October 2021, there have been 105 amendments of the Constitution of India since it was first enacted in 1950. There are three types of amendments to the Constitution of India of which second and third type of amendments are governed by Article 368.

130. (c) The Supreme Court in *Janhit Abiyan v. Union of India* upheld the constitutional validity of the EWS reservation. Of the five judgments delivered, Justice Ravindra Bhat and CJI Lalit gave dissenting judgment. Reading out the verdict, Justice Maheshwari said that the 103rd constitutional amendment for the

EWS quota was valid and did not violate the basic structure of the Constitution. Reservation, he said, is an instrument of affirmative action to ensure an all-inclusive march towards the goals of an egalitarian society.

131. (c) Maharashtra and Tamil Nadu had the highest numbers of foreign tourist visits, with 1.26 million and 1.23 million, respectively in 2021, as per a report by Union Tourism Ministry.

132. (b) The IMF chief Kristalina Georgieva said she is pleased the Washington-based lender and the Sri Lankan government have reached a staff-level agreement to provide about USD 2.9 billion to help the bankrupt country, terming the deal as an "important step forward." The International Monetary Fund (IMF) announced that it will provide Sri Lanka a loan of about USD 2.9 billion over a four-year period to help the island nation overcome the unprecedented economic turmoil.

133. (a) The government has notified regulations for attracting foreign universities to set up off-shore campuses at GIFT City and allowed them to repatriate profits. The new regulations allow a foreign university or educational institution among the top 500 QS World Universities to come to GIFT City and give an undertaking to "place suitable infrastructure and facilities" to offer courses such as financial management, FinTech and Science, Technology, Engineering and Mathematics (STEM). The regulations were framed eight months after Finance Minister Nirmala Sitharaman in her Budget 2022 speech said that world-class foreign universities and institutions would be allowed in the GIFT City to offer courses and be free from domestic regulations to facilitate availability of high-end human resources for financial services and technology.

134. (b) India's first privately built rocket - Vikram-suborbital (VKS)- was launched by the ISRO (Indian Space Research Organisation). The rocket developed by Skyroot Aerospace- has been named after Vikram Sarabhai, hailed as the father of India's space sector. In a bid to symbolise a new start, the mission has been named 'Prarambh', which literally translates as "beginning".

135. (c) The National Voters' Day is celebrated every year on January 25 to encourage the country's voters to participate in the electoral process. This year, it is the 12th edition which is being celebrated. The theme for this year's National Voters' Day is 'Making Elections Inclusive, Accessible and Participative'. Vice President M Venkaiah Naidu was supposed to be the chief guest for this event.

However, he won't be physically attending the event after getting infected with Covid-19 and will deliver a virtual message.

136. (a) The 2022 Peace Prize is awarded to human rights advocate Ales Bialiatski from Belarus, the Russian human rights organisation Memorial and the Ukrainian human rights organisation Center for Civil Liberties.

137. (b) In line with the clarion call given by Hon'ble Prime Minister of India, Shri Narendra Modi, to phase out single use plastic items by 2022, Ministry of Environment, Forest and Climate Change, Government of India notified the Plastic Waste Management Amendment Rules, 2021, on 12 August 2021. Carrying forward the spirit of 'Azadi ka Amrit Mahotsava', a defining step to curb pollution caused by littered and unmanaged plastic waste is being taken by the country. India will ban manufacture, import, stocking, distribution, sale and use of identified single use plastic items, which have low utility and high littering potential, all across the country from July 1, 2022.

138. (a) There is a fear that certain nanoplastics would become a part of human food, thereby causing severe harm to the human body. These particles are size of 10 m. There is growing concern about the environmental and health impact of plastic pollution, especially since it breaks down into smaller pieces that begin to accumulate in the environment. Now, researchers from the University of Eastern Finland have found that small pieces of plastic called nanoplastics can travel up the human food web, through plants, insects and even fish. Nanoplastics are tiny plastic debris particles smaller than 1,000 nanometre (1 nm is equal to one billionth of a metre).

139. (c) The Panama Canal connects the Atlantic Ocean with the Pacific Ocean through the narrow Isthmus of Panama. It also divides North America and South America. With an approximate length of 65 km, it is one of the strategic waterways in the world, along with the Suez Canal. The Strait of Magellan also called the Straits of Magellan, is a navigable sea route in southern Chile separating mainland South America to the north and Tierra del Fuego to the south. The strait is considered the most important natural passage between the Atlantic and Pacific oceans.

140. (b) India's Jehan Daruvala raced to his first feature race win in the FIA Formula 2 Championship to make it a double podium for himself. Jehan Daruvala is an Indian racing driver currently serving as reserve driver for the Mahindra Racing Formula E team. He was a protégé of the Force India F1 team, after being one of three winners of a 'One in a Billion hunt organized by the team in 2011. He is currently a member of the Red Bull Junior Team.

141.(b) Commemorating the 75th Anniversary of the Universal Declaration of Human Rights. Every year on 10 December, the world celebrates Human Rights Day, the very day when, in 1948, the United Nations General Assembly adopted the Universal Declaration of Human Rights (UDHR).

142. (d) Rameshbabu Praggnanandhaa is an Indian chess grandmaster. A chess prodigy, he earned the international master title at the age of 10, the youngest at the time to do so, and the grandmaster title at age 12, the second-youngest at the time to do so. On 22 February 2022, at the age of 16, he became the youngest player till then to defeat current world champion Magnus Carlsen, when he beat Carlsen in a rapid game at the Airthings Masters Rapid Chess Tournament. Three Youth World Titles in Chess have been won by Grand Master Praggnanandhaa as of now.

143. (c) Manika Batra, the Indian Table Tennis player, became the first Indian woman to win a medal at the Asian Cup Table Tennis Tournament. Manika defeated World no.6 Hina Hayata of Japan in the Asian Cup 2022 in the women's singles bronze medal match in Bangkok, Thailand.

144. (b) Neeraj Chopra created history by becoming the second Indian to win an individual gold medal in Olympics after shooter Abhinav Bindra. Neeraj is the first Indian in over 120 years, and the first athlete from independent India, to win an Olympic medal in a track-and-field discipline. Neeraj won the gold medal in the men's javelin throw event with a throw of 87.58m in his second attempt. Olympic gold medallist javelin thrower Neeraj Chopra achieved yet another historic feat as he became the first Indian to win the prestigious Diamond League Finals title here. Chopra began with a foul but jumped to the top spot with a throw of 88.44m 'his fourth career best' in his second attempt, and that turned out to be his winning effort. He had 88.00m, 86.11m, 87.00m and 83.60m in his text next four throws.

145. (c) Saina Nehwal is the first Indian player who the first Olympic medal in Badminton. She is a professional badminton player from India. Saina Nehwal has achieved several milestones in the field of badminton for India. As one of India's most successful badminton players, Nehwal is also credited for increasing the

popularity of badminton in India in recent years. In 2016, the Government of India (GoI) conferred her the 'Padma Bhushan' which is India's third-highest civilian award.

146. (b) Retired Punjab cadre IAS officer Arun Goel assumed the office of Election Commissioner (EC), two days after President Droupadi Murmu appointed him to the post. Goel was secretary, Union Ministry of Heavy Industries, till he took voluntary retirement on November 18, a day before being appointed as EC. In a statement, the Election Commission of India (ECI) said Goel had "catalysed e-vehicle movement in India to a tipping point" as heavy industries secretary. Prior to that, he had served as secretary in the Union Ministry of Culture, vice-chairman of the Delhi Development Authority and in various capacities in the Union finance, urban development and labour & employment ministries.

147. (c) As of 2022, there are 40 World Heritage Sites located in India. Out of these, 32 are cultural, 7 are natural, and one, the Khangchendzonga National Park, is of mixed type.

148. (b) India ranks 107 out of 121 countries on the Global Hunger Index in which it fares worse than all countries in South Asia barring war-torn Afghanistan. India's score of 29.1 places it in the 'serious' category. India also ranks below Sri Lanka (64), Nepal (81), Bangladesh (84), and Pakistan (99). Afghanistan (109) is the only country in South Asia that performs worse than India on the index.

149. (a) G20 leaders met for a two-day summit, hosted by the Indonesian G20 presidency in Bali, under the theme 'Recover Together, Recover Stronger'. This G20 takes place in a very different world from our meeting last year in Rome. Russia, a permanent member of the UN Security Council and a member of G20, is attacking the free and sovereign nation of Ukraine.

150. (d) India's first Education Policy was passed and implemented in 1986. After thirty-four years, the National Education Policy (NEP) for India has been updated, revised and approved on 29 July 2020. The policy signifies a huge milestone for India's Education system, which will certainly make India an attractive destination for higher education world-wide. The regulatory system, with the National Higher Education Regulatory Council (NHERC) is set to function as one single regulator for the higher education sector, including teacher education, but excluding medical and legal education.