

Practice Questions from Previous Years' Question Papers

ANSWERS AND EXPLANATIONS

1. (c) Appeal to authority fallacy is the misunderstood belief that something is true just because an authoritative individual said it. The authoritative individual can be a teacher, public icon/figure, parent, author etc.

Slippery slope fallacy asserts that a single event or action will set off a chain reaction that will fructify in an extremely uncomfortable outcome without providing any supporting evidence.

Begging the question is a type of logical fallacy that depends more on supposition instead of actual data. It is also referred by the title of '*petitio principii*'. In this the conclusion is assumed to be true in the argument's premises. As it is referred in the statement of the question: "Critics of Freudian theory should get themselves psychoanalyzed because opposition to the theory is itself caused by unconscious resistance arising from the Oedipal complex."

Hasty generalization is called as the overgeneralization fallacy, it is an informal fallacy in which a claim is asserted on a sample size that is too small to ascertain the assertion. Therefore, option c is correct.

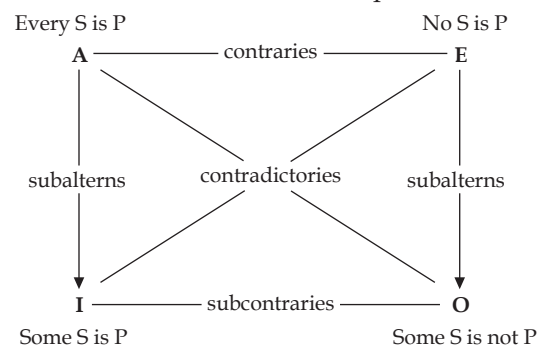
2. (c) The reference 'conversion' is the one in which the subject and predicate are inter placed. It is only applicable for propositions E (No) and I (Some) as per modern logic. The table given below displays the 'Principle of Conversion'.

| ORIGINAL | CONVERSE | VALIDITY |
|------------------|------------------|----------|
| All A are B | All B are A | No |
| No A are B | No B are A | Yes |
| Some A are B | Some B are A | Yes |
| Some A are not B | Some B are not A | No |

So, the statement "Some attorneys are logicians" can be logically written as "Some logicians are attorneys". Therefore, option c is correct.

3. 3.(b) The rule of contradictions opposition states that when one statement is true, the other statement proves to be false. Contradictory Opposition happens between a universal and a particular statement (A and O; E and I). For example, if A (All) is true, O (Some) automatically turns to be false and when E (No) is true, I (Some) turn to be false and vice versa.

In the statement "No frogs are amphibians" is False. Therefore, "Some frogs are amphibians" can be inferred to be True. Therefore, option b is correct.



Hence, Option (b) is correct.

4. (b) The square of opposition is also called classical or Aristotelian categorical logic.

The four corners of the chart shown below represent the four basic types of propositions recognized in classical logic:

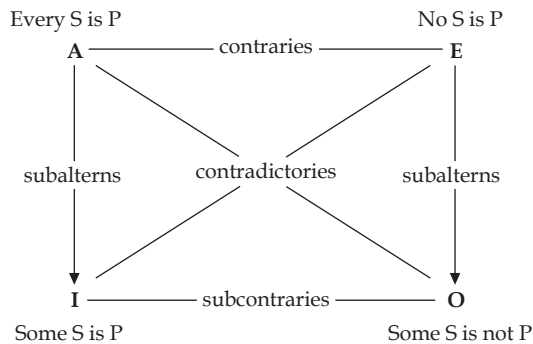
Universal affirmatives (A) take the form: *All S are P*. For example: All animals are mammals.

Universal negatives (E) take the form: *No S are P*. For example: No animals are mammals.

Particular affirmatives (I) take the form: *Some S are P*. For example: Some animals are mammals.

Particular negatives (O) take the form: *Some S are not P*. For example: Some animals are not mammals.

In the question if 'All camels are herbivorous' is true then 'Some camels are not herbivorous' will prove to be false and vice versa. Similarly, if 'No Camels are herbivorous' is supposed to be true, 'Some camels are herbivorous' will automatically be false and vice versa. Therefore, option b is correct.



5. (c) Asiddha literally means 'unproved'. In 'hetvābhāsa' or fallacy of inference, the Nyāya system (Logical Theism of Gautama) lists five kinds of material fallacies of which 'asiddha' is the fourth.

According to Asiddha, certain things need to be established first, and only after they have been accepted a meaning can be inferred from them. Asiddha also states that Vyapti should be proven.

Asiddha is categorised into three types:

- Asiddha: It is the unproved hetu that results in this fallacy. [Paksadharmata]
- Ashrayasiddha: If Paksha [minor term] itself is unreal, then there cannot be locus of the hetu. e.g. The sky-lotus is fragrant, because it is a lotus like any other lotus.
- Svarupasiddha: Hetu cannot exist in paksa at all. E.g. Sound is a quality, because it is visible

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Svarupasiddha: Hetu cannot exist in paksa at all. E.g. Sound is a quality, because it is visible.

Vyapyatvasiddha: Conditional hetu. 'Wherever there is fire, there is smoke'. The presence of smoke is due to fuel. Therefore, option c is correct.

6. (a) The logical fallacies in the question are detailed below:

- Post hoc fallacy: It makes an attitude, type of thought that 'after this therefore because of this'. Here, one event seems to be the cause of a later event just because of fact that it had occurred earlier.
- Hasty Generalisation fallacy: It is said to occur when one makes a claim about the total population based on attribute of a very small sample.
- Red herring fallacy: It tries to create a distraction from the actual subject so as to divert the actual/original issue
- False alternative fallacy: It shows only two options that are mutually exclusive as an 'either-or' representation while not considering the other relevant aspects.

"Although I am very happy to win the lottery, I am also a little worried. The last time I had won a lottery, my pocket was picked up the next morning."

This statement clearly indicates that there is a strong tendency that an event will re occur the way it did previously with the associative cause of the events. Thus, it is Post hoc fallacy. Therefore, option a is correct

7. (d) From the concept of Square of we know that the main quantifiers are:

- Universal affirmative is denoted as A
- Universal negative is denoted as E
- Particular affirmative is known as I
- Particular Negative is denoted as O.
- And then the four combinations of statements are as follows:
 - Contradictories – A and O, E and I
 - Contraries – A and E.
 - Sub-Contraries- I and O
 - Subaltern-A and I, E and O.

Thus the logically equivalent statements are:

All aeroplanes are polluting vehicles.

All non-polluting vehicles are non-aeroplanes.

No aeroplanes are non-polluting vehicles.

Therefore, Option d is the correct answer.

8. (b) Refer to the concept and diagram of 'The Square of Opposition', as discussed in the previous question's solution the following cases can be formed:

- If A is true, then E is false, I is true, and O is false;
- If E is true, then A is false, I is false, and O is true;
- If I is true, then E is false, and A and O are indeterminate;

- If O is true, then A is false, and E and I are indeterminate;
 - If A is false, then O is true, and E and I are indeterminate;
 - If E is false, then I is true, and A and O are indeterminate;
 - If I is false, then A is false, E is true, O is true;
 - If O is false, then A is true, E is false, I is true.
- In this question:
If Universal Positive (A): All aeroplanes are polluting vehicles, is true, then Particular Positive (I): "Some aeroplanes are polluting vehicles", will be true.
- Therefore, Option b is the correct answer.
9. (b) Refer to the concept of Statement-Conclusion and Square of Opposition as discussed in the solutions of previous questions.
The given statements in the question are:
Particular Positive- Some cars are polluting vehicles. (I)
Particular Negative- Some cars are not polluting vehicles. (O)
Universal Positive- All cars are polluting vehicles. (A)
Universal Negative- No cars are polluting vehicles. (E)
Here, Sub-Contraries are: I and O, cannot both be false, although they may both be true.
Therefore, Option b is the correct answer.
10. (a) In âshrayasiddha the minor term is the locus of the middle term.
- If the minor term is found to be unreal then the middle term cannot be present.
 - The sky-lotus is fragrant, because it is a lotus, like the lotus of a lake, given in the statement, but sky lotus does not exist. It is unreal.
 - Therefore, according to Nyaya school of Indian logic, this argument involves the fallacy of ashaya siddha.
- Hence, Option A is the correct answer.
11. (d)
- If the statement "all cricketers are rich persons" is given as false, it means that there is at least one counter example where a cricketer is not a rich person. Therefore, the statement "some cricketers are not rich persons" (option 1) remains undetermined.
 - Whereas we cannot determine whether the statement "no cricketers are rich persons" (option 2) is true or false based on the given information. It is quite possible that there are cricketers who are not rich people but could also be cricketers who are rich.
- In the same way, we cannot determine if the statement "some cricketers are rich persons" (option 3) is true or false based on the provided information. It is quite possible that there could be both rich and non-rich cricketers.
Therefore, option D is the correct answer.
12. (d) Going by the question, the propositions that are so related that they cannot both be false, although they may both be true, are propositions 3 and 4:
- Some cricketers are not cheerful persons.
 - Some cricketers are cheerful persons.
- These propositions are related in such a way that if proposition 3 is false (i.e. that all cricketers are cheerful persons), then proposition 4 must be true (i.e. there must be at least some cricketers who are cheerful persons). In the same manner, if proposition 4 is false (i.e., that no cricketers are cheerful persons), then proposition 3 must be true (i.e. there must be at least some cricketers who are not cheerful persons).
Therefore, option D is the correct answer.
13. (d) The logically equivalent statements are:
- Some cats are aggressive animals.
 - Some aggressive animals are cats.
 - Some cats are not non-aggressive animals.
- All of these statements convey the same meaning, that there are cats that are aggressive animals. Statement 4, states that "All cats are aggressive animals," is not logically equal to the other statements because it makes a stronger assertion by stating that all cats, without any exception, are aggressive animals. Therefore, Option d is the correct answer.
14. (d) Both Statements are true.
- Statement I asserts that Classical Indian Logicians (Naiyāyikas) give a psychological account of Inferential cognition. This is true because Naiyāyikas focus on the psychological processes and mechanisms involved in inference.
 - Statement II asserts that according to Naiyāyikas, the logical structure of inference represents not how we ought to infer, but how, as a matter of fact, we do infer. This is also true as Naiyāyikas describes the actual process of inference as it happens in human cognition, instead of prescribing how inference should be conducted.
Therefore, option A is the correct answer.
15. (a) The statement, "No one can criticize Freudian psychoanalysis unless the one who criticizes himself has been psychoanalysed," represents the 'Ad Hominem' logical fallacy. Ad Hominem occurs when, instead of addressing someone's

argument or position, one irrelevantly attacks the person who is making the argument.

In this question, the statement asserts that only individuals who have undergone psychoanalysis are qualified to criticize Freudian psychoanalysis. Herein, by focusing on the personal characteristics of the critic instead of engaging with the actual criticism, the argument attempts to dismiss any potential critiques without addressing their matter. Therefore, option A is the correct answer.

16. (b) The proposition "All frogs are amphibians" can be logically equivalent to the proposition "No frogs are non-amphibians." Both propositions are presenting the same information,

Therefore, option B is the correct answer.

17. (c) If the proposition "some fishes are not amphibians" is given as false, it implies that all fishes are amphibians. Thus, we can infer the following propositions:

- No amphibians are fishes. (This proposition cannot be inferred from the given information, so it is not true.)
- All fishes are amphibians. (This proposition can be inferred and is true.)
- No fishes are amphibians. (This proposition cannot be inferred from the given information, so it is not true.)
- Some fishes are amphibians. (This proposition cannot be inferred from the given statement, so it is not true.)

Therefore, option C is the correct answer.

18. (d) The propositions "All frogs are amphibians" (A) and "No frogs are amphibians" (D) are so related that they cannot both be true, possibly they could both be false. If all frogs are amphibians (A), then it is not possible for no frogs to be amphibians (D), as this would contradict the main statement. In the same manner, if no frogs are amphibians (D), then it is not possible for all frogs to be amphibians (A), as that would also be contradictory. Therefore, option D is the correct answer.

19. (b) Savyabhicara Hetvabhasa is also known as anaikantika. It is also referred as the fallacy of irregular middle term. It is of three types: Sadharna, Asadharna and Anupasamhari.

The fallacy of a sādharana (narrow middle term) in Nyāya logic implies an argument in which the middle term (the term that connects the major term and the minor term) is too narrow to establish a valid connection between the major and minor terms. It fails to provide a solid link.

In option B, the argument states that sound is eternal because it is audible. The middle term is "audible." This argument commits the fallacy of a sādharana because being audible is just a "limited characteristic" of sound. While sound is indeed audible, it does not necessarily mean it is eternal. This argument is devoid of a solid middle term that connects the major term (eternal) and the minor term (sound).

Therefore, option B is the correct answer.

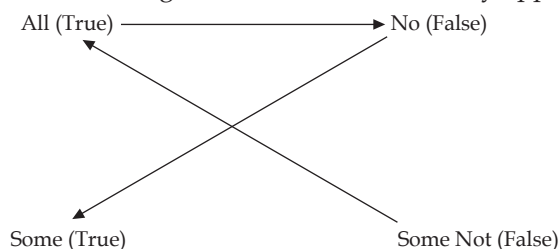
20. (c) Equivocation is a type of informal logical fallacy, in which the argument's content, not its structure, is flawed. Due to the ambiguous word's changing meaning midway through the argument, the conclusion is invalid because it does not logically flow from the premise. From the statement, we can figure out that the content of the statement is not valid. Therefore, Option C is the correct answer.

21. (b) Statement A, B and C all three statements convey the same meaning i.e. 'No women are arrogant human beings' or 'No arrogant human beings are women' or 'All women are non-arrogant human beings'.

Whereas statement D indicates that 'All arrogant human beings are women' which is wrong. Therefore, option B is the correct answer.

22. (d) Going by the rule of square of opposition, Two propositions are contradictory if they cannot both be true and they cannot both be false (AO & EI). The rule of contradictions opposition states that when one statement is true, the other statement automatically proves to be untrue. Contradictory Opposition is between a universal and a particular statement (A and O; E and I). Suppose if A (All) is true, O (Some Not) automatically turns to be false and when E (No) is true, I (Some) turn to be false and vice versa.

In this question, the statement 'Some cricketers are not bowlers' is given as false. So, according to the rule of contradiction 'All cricketers are bowlers' will be true and 'No cricketers are bowlers' will be false according to the rule of contraries while 'Some cricketers are bowlers' will turn to be True according to the rule of contradictory opposition.



Hence, Option (d) is correct.

23. (d) The rule of contradictions opposition asserts that when one statement is true, the other one automatically proves to be untrue. Contradictory Opposition is between a universal and a particular statement (A and O; E and I). Suppose if A (All) is true, O (Some Not) automatically turns to be false and when E (No) is true, I (Some) turns to be false and vice versa.
- So, in this question statements A and C i.e., 'Some women are multitaskers' and 'Some women are not multitaskers' cannot both be false, although they may both be true together.
- Therefore, option D is correct.
24. (d) According to Nyaya Shastra, to come to a conclusion, for instance, we need three things: paksha, sadhya, and hetu:
- Paksha is the base from which something must be inferred or inferentially predicted," which is equivalent to a minor premise.
 - Sadhya is the thing that is sought to be inferred or inferentially predicted with reference to paksha, which corresponds to the major premise.
 - Hetu or sadhana, is equivalent to the middle word in Western logic, refers to the basis or explanation that is invariably consistent with the conclusion sought and whose understanding facilitates the conclusion.
- These can be found in the statement Heraclitus is a man who is invariably a mortal.
- Therefore, Option d is correct.
25. (b) The argument assumes that the lack of evidence for the non-existence of God is evidence for the existence of God. This is fallacious because the absence of evidence for something does not necessarily prove its existence. To add, the burden of proof lies with the person making the claim, so it is not the responsibility of atheists to prove that God does not exist.
- Therefore, Option B is correct.
26. (a) The formal fallacy committed in the argument is Undistributed middle. The argument assumes that all competent people are professors, which is not necessarily true. It also assumes that no underpaid people are competent, which is also not necessarily true. The middle term, "competent people," is not distributed in the premises, so the conclusion cannot be logically inferred.
- Therefore, option a is correct.
27. (a) Statements a, b, and c are logically equivalent because they all make the same claim but in different ways. They all assert that there is no overlapping between the philosophers and underpaid scholars.
- However, Statement d, on the other hand, is not logically equivalent to the other three statements. When it asserts a relationship between non-underpaid scholars and philosophers, it does not exclude the possibility that there could be non-philosopher scholars who are underpaid. Therefore, statement d is not equivalent to the other three statements.
- Therefore, Option A is correct.
28. (b) Statements a and c cannot both be true, because if "all bread is nutritious" (statement a), then it cannot be possible that "some bread is not nutritious" (statement c).
- Statements c and d cannot both be false, because if "some bread is not nutritious" (statement c), then it is not possible that "no bread is nutritious" (statement d).
- Statements a and b can both be true (if we assume that all bread is nutritious, then it follows that some bread is also nutritious), and they can also both be proven false (if we discover that no bread is actually nutritious).
- Therefore, the only option that justifies the given condition is B, which includes the pair of statements that cannot both be true and cannot both be false: a and c.
- Therefore, Option B is correct.
29. (a) The fallacy of viruddha, also known as the fallacy of contradiction, occurs when two contradictory statements are both accepted as true. In statement A, it is claimed that sound is eternal because it is produced. However, the production of sound implies a beginning, and therefore, sound cannot be eternal. These two statements contradict each other, and therefore, statement A commits the fallacy of viruddha.
- Therefore, Option a is correct.
30. (b) • **The statements B and C are contradictory to each other i.e. "No human beings are mortal" and "Some human beings are mortal."**
- Statement B denies that any human beings are mortal, while statement C asserts that at least some human beings are mortal. These statements cannot both be true at the same time, so they are contradictory to each other.
- Therefore, option b is correct.
31. (c) Upamāna is a Sanskrit term used in the Classical Indian school of logic, which roughly corresponds to analogy or comparison.
- Therefore, option c is correct.
32. (c) The fallacy of accident (also called destroying the exception or a dicto simpliciter ad dictum secundum quid) is an informal fallacy and but

unsound argument occurring in an argument based on a generalization when an exception to a rule of thumb is ignored.

Thus, the statement, Elephants live in tropical climates where there is plenty of vegetation. So, we probably would not see any at the Chicago Zoo. This is an example of the Fallacy of accidents. Therefore, option C is correct.

33. (a) Two statement forms are logically equivalent if, and only if, their resulting truth tables are identical for each variation of statement. Thus, the logical equivalent to the statement "No frogs are mammals" is "No mammals are frogs."

Therefore, option A is correct.

34. (c) Going by the Square of Opposition:

If O is false, then A is true, E is false, and I is true.

If the proposition- 'Some frogs are not mammals.' is given as false, 'No frogs are mammals' proposition can be immediately inferred to be false. Therefore, option C is correct.

35. (a) Two propositions are said to be sub-contraries if they can't both be false although both may be true.

- I and O type of propositions are sub-contrary.
- "Some tigers are man-eaters" and "Some tigers are not man-eaters" and are sub-contrary.

Therefore, option A is correct.

36. (d) Vyapayatvasidha is the fallacy of universality of concomitance which occurs when one assumes that a property must always accompany its characteristic concomitant and vice versa. This argument assumes that wherever there is fire, smoke must always be present, without considering any exceptions. There can be incidents when fire can exist without producing smoke. The fallacy lies in making universal claims without considering exceptions.

Therefore, option d is correct.

37. (a) The informal fallacy in the argument is "Appeal to Ignorance." Appeal to Ignorance is a type of informal fallacy in which an argument is based on the absence/unavailability of evidence against a certain claim. It assumes that since there is no evidence against a particular claim, the claim must be true or false.

Therefore, Option A is correct answer.

38. (c) In the traditional square of opposition, subalternate propositions are the pairs of propositions that share the same subject and predicate terms but differ in their quality (i.e., affirmative or negative) or their quantity (i.e., universal or particular).

In this question, propositions B and C are subalternate, because they have the same subject "plants" and predicate "oxygen producers," but they differ in quantity (B is universal negative, while C is particular negative).

Therefore, Option C is the correct answer.

39. (c) Statement A directly asserts that some animals are not carnivorous organisms.

Statement B uses a double negative to express a similar idea. By saying "not non-carnivorous organisms," it means "carnivorous organisms."

Statement C uses a combination of negative terms and includes a broader category of non-animals. It can be rephrased as "Some things that are not animals are also not carnivorous organisms."

Statement D is similar to Statement B, but it uses the term "non-carnivorous organisms" in place of "carnivorous organisms." It can be rephrased as "Some animals are not non-carnivorous," which is equivalent to Statement A.

Therefore, Option C is correct.

40. (b) If the statement "No lions are herbivorous animals" is considered to be true, then statement A, "All lions are herbivorous animals," should be false. The reason that fits here is that the word "all" conveys that every single lion is an herbivore, which contradicts the original statement that "no lions" are herbivores. Coming to Statement B, "Some lions are herbivorous animals," it may or may not be true, as it is quite possible to have no herbivorous lions at all. Statement C, "Some lions are not herbivorous animals," is definitely true, as the original statement conveys that there are at least some lions that are not herbivores. Therefore, the correct answer is option B.

41. (b) Sāmānyatodṛṣṭa (सामान्यतोद्दृष्ट) refers to one of the three divisions of *anumāna* (inference), according to Gautama's Nyāyasūtra. This inference is based on the relationship of coexistence rather than knowledge of a causal relationship. The presence of one can be assumed from the presence of the other based on the relationship of coexistence. Therefore, option b is correct.

42. (b) An appeal to inappropriate authority occurs when a person **appeals** to a **false authority** as evidence for a claim. (also known as an appeal to false or unqualified authority) It's like someone is telling us "accept this because some authority said it. In his statement, the speaker is using the authority of their uncle, who is a philosophy teacher (not appropriate authority), to convince someone to try out for a basketball team, which is an area outside of the uncle's expertise.

Therefore, Option b is correct.

43. (a)

- Statement A “All human beings are mortal” is true and implies that statement D “No humans are mortal” is false.
- Statement C “Some human beings are not mortal” contradicts statement A, so if statement A is true, then statement C must be false and vice versa.
- Statement B “Some human beings are mortal” is compatible with both statement A and statement C. It does not contradict either one of them. Hence, statement B is not related to statement A and statement C.
- Statement D “No human beings are mortal” is false and contradicts statement A. Therefore, if statement A is true, then statement D must be false and vice versa. However, statement D is not related to statement C as depicted in the question.

Therefore, Option a is correct.

44. (b) Option B “No murderers are plants” is logically equivalent to the statement “No plants are murderers” as both statements mean the same thing but are worded differently. Therefore, option B is the correct answer.

45. (b) The fallacy of begging the question occurs when an argument’s premises assume the truth of the conclusion, instead of supporting it. In other words, one assumes without proof the stand/position, or a significant part of the stand, that is depicted in question. This fallacy is also called arguing in a circle. Therefore, option B is the correct answer.

46. (b) *Anumana* is one of the *pramanas* (sources of knowledge) in Indian Logic that means “inference” or “knowledge that follows.” *Anumana* is using observation, previous truths and reason to reach a new conclusion and truth. *Anumana* consists of five steps: a hypothesis (*pratijna*), reason (*hetu*), an example (*udaharana*), reaffirmation (*upanaya*) and conclusion (*nigamana*). Therefore, Option B is the correct answer.

47. (d)

- The Fallacy of Division happens when one assumes that if something is true in whole then it is automatically holds true for the individual parts of that whole.
- Hasty Generalisation tends to happen when one makes a claim about the total population based on a very small sample size’s attribute.
- Slippery Slope is an argument which prompts that one initial action could lead to a chain of events and further result in an extreme result.
- The fallacy of begging the question occurs when an argument’s premises assume the truth of the

conclusion, instead of supporting it. In other words, one assumes without proof the stand/position, or a significant part of the stand, that is depicted in question.

In the question, the statement is trying to convey that the ‘soft drink sector (whole)’ has made a profit therefore each individual soft-drinks company (parts) has also definitely made a profit as well. But this can’t be held correct as this is not guaranteed. This fallacy is called ‘The Fallacy of Division’.

Therefore, Option d is correct.

48. (b) The logically equivalent statements are A “No aeroplanes are electric vehicles” and C “No electric vehicles are aeroplanes”.

Statement B “All non electric vehicles are non aeroplanes” is not equivalent to statements A, C, or D.

Statement D “All aeroplanes are non electric vehicles” is the contrapositive of statement A, so they are logically equivalent.

Therefore, the correct answer is option B.

49. (c) If the statement “No aeroplanes are electric vehicles” is true, then the following assumptions can be inferred:

Some aeroplanes are not electric vehicles.

Option 1 “All aeroplanes are electric vehicles” cannot be true because it contradicts the given statement.

Option 2 “Some aeroplanes are electric vehicles” cannot be determined from the given statement because it is possible that some aeroplanes are electric vehicles, but not necessary that all of them are.

Option 4 “Some aeroplanes are not nonpolluting vehicles” is not directly related to the given statement and cannot be inferred.

Therefore, the correct statement that can be immediately inferred to be true is Option C i.e. “Some aeroplanes are not electric vehicles”.

Therefore, Option C is the correct answer.

50. (d) The statements that are contraries of each other are statement A and B.

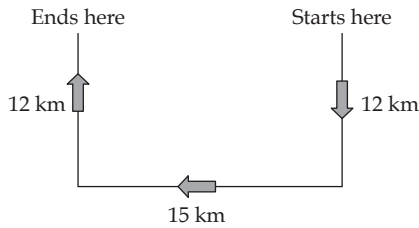
Statement A asserts that all aeroplanes are polluting vehicles, which implies that every aeroplane pollutes the environment. On the other hand Statement B asserts that no aeroplanes are polluting vehicles, which implies that no aeroplanes pollute the environment. Thus, these two statements are opposite to each other.

Statements C “Some aeroplanes are polluting vehicles” and D “Some aeroplanes are not polluting vehicles” are not negatvive of each

- other as they both allow for the possibility that some aeroplanes are polluting vehicles while others are not.
Therefore, Option D is the correct answer.
51. (c) Fallacy of *Sadharana* occurs when the middle term is too wide/ irregular in nature. As a result, it is present in both positive and negative instances. The statement "The hill has fire because it is knowable" constitutes of an irregular middle term.
Therefore, Option C is the correct answer.
52. (a) The fallacy of begging the question occurs when an argument's premises assume the truth of the conclusion, instead of supporting it. In other words, one assumes without proof the stand/ position, or a significant part of the stand, that is depicted in question.
In this statement The fallacy begging the question is committed because it fails to explain why there should be an obligation to support the needy and assumes the conclusion is true.
Therefore, option A is the correct answer.
53. (c) The logical equivalent of the given statements are:
No fishes are mammals ---- No mammals are fishes.
All fishes are mammals ---- No fishes are non-mammals.
Some fishes are mammals --- Some mammals are fishes.
Some mammals are not fish --- Some mammals are non-fishes.
Therefore, option C is the correct answer.
54. (d) Going by the rule of square of opposition, Two propositions are contradictory if they cannot both be true and they cannot both be false (AO & EI).
'Some animals are birds' is an I-type statement. If I is false then A is false, E is true, O is true.
So, No animals are birds (E-type) and Some animals are not birds(O-type) are true. Therefore, option D is the correct answer.
55. (b) When two propositions are related in a way that they cannot both be true, at the same they can both be false it is referred as Contrary.
As discussed in previous solutions also, A (All) and E (No) propositions are contrary.
So, statement A "All trees have roots" and Statement B "No tree has roots" are related in such a way that they cannot both be true, although they can both be false. Therefore, option B is correct.
56. (d) Badhita is a hetvabhava that occurs when the middle term is contradicted by some other pramana, other than inference, for example like, perception(pratyaksha).
The statement "fire is cold because it is a substance" is an example of badhita as the term "fire is cold" is a fallacy, because the middle term is not compatible with the minor term.
Therefore, option D is the correct answer.
57. (a) As discussed above also, the classical square of opposition delineated:
If A is true, then E is false, I is true, and O is false;
If E is true, then A is false, I is false, and O is true;
If I is true, then E is false, and A and O are indeterminate;
If O is true, then A is false, and E and I are indeterminate;
If A is false, then O is true, and E and I are indeterminate;
If E is false, then I is true, and A and O are indeterminate;
If I is false, then A is false, E is true, and O is true;
If O is false, then A is true, E is false, and I is true.
All S is P is a universal positive (A-type) proposition. So, E-type(Universal negative), and O-type (Particular negative) propositions will be false and I-type (Particular positive) will be true.
Thus we can infer from All S is P that:
'Some S is not P' is false (O-type)
'Some S is P' is true (I-type)
'No S is P' is false (E-type)
Therefore, option A is the correct answer.
58. (d) The red herring fallacy is an attempt to change the subject and divert attention from the original issue. Thus, a seemingly solid but ultimately irrelevant argument is introduced into the discussion, either on purpose or by mistake to obscure an opponent's position.
Therefore, option D is the correct answer.
59. (c) Arguments from analogy declare **that just because two items are the same in one respect they are the same in another**. It is mostly inductive in nature.
Therefore, Statement I is correct but Statement II is incorrect.
Therefore, option C is the correct answer.
60. (a) The Nyaya school did not give a separate treatment of the inductive methods.
It appeals to extraordinary perception and may take repeated experiences for people to notice the ever-present connection between cause and effect.

- According to this school of thought, universal propositions are derived from perception itself. Therefore, option A is the correct answer.
61. (C) *Arthapatti* is a form of *Pramana* "sources of knowledge" meaning "presumption" or "implication." *Arthapatti* refers to the way in which knowledge is derived from a set of circumstances. It is analogous in contemporary logic to the concept of circumstantial implication. In this argument that the fat saint must be eating secretly at night, although he does not eat during the day and claims not to eat at all is based on presumption/ *Arthapatti* as per Indian Logic. Therefore, option C is the correct answer.
62. (b) The statement B "No women are honest" is contrary to the Proposition "All women are honest" Therefore, option B is the correct answer.
63. (b) In syllogistic logic, a categorical proposition is any claim that can be understood as asserting a complete or partial relationship of inclusion or exclusion between two classes. A simple statement with a subject (S) and a predicate (P)—in which the predicate is either affirmed or denied of the subject is known as a categorical proposition. In this question statement "Some S is P", "No S is P" and "All S is P" fall under categorical proposition. Therefore, option B is the correct answer.
64. (b) The appeal to ignorance fallacy is an informal fallacy which occurs when you argue that your conclusion must be true, because there is no evidence against it. This fallacy wrongly shifts the burden of proof away from the one making the claim. The argument in the question makes the assumption that "since there is no proof or evidence that aliens did not build crop circles, it must be true that they build it". Therefore, the argument comes under appeal to ignorance and thus option B is correct.
65. (c) The syllogism of Aristotle is only deductive and formal. It consists of three claims: the major term, the minor term and the middle term. In Nyaya Syllogism contains three terms: Middle term, Major term, and Minor term. In Nyaya Philosophy, the phrases *sadhya*, *paksa*, and *hetu* are used interchangeably to refer to major, minor, and medium terms. Therefore, option C is the correct answer.
66. (a) The fact that something is knowable does not necessarily imply that it is non-eternal. The statement has undelivered middle fallacy, which happens when the middle term—in this case, "knowable"—is not related to either the subject or the predicate of the conclusion. In simple terms, just because something is knowable does not always mean that it is non-eternal. Therefore, option A is the correct answer.
67. (c) Appeal to force fallacy, also referred as *Argumentum Ad Baculum* or the "Might-Makes-Right" Fallacy uses force, the threat of force, or some other unpleasant backlash to make the audience accept a conclusion. In this question the speaker is using a threat to force the listener to accept the argument. He is using a form of coercion to persuade the listener to agree with their point of view. Thus, this will fall under appeal to force fallacy. Therefore, Option C is the correct answer.
68. (d) Refer to detailed explanation of Square of Opposition in the previous questions. Relating that A (Every S is P) and E (No S is P) are Contraries. So, in this question, All men are mortal & No men are mortal are contraries. Therefore, Option D is the correct answer.
69. (a) Logical equivalent statements convey similar meanings. In the question the logically equivalent statements are:
Some animals are birds.
Some birds are animals.
Some animals are not non-birds.
Therefore, Option A is the correct answer.
70. (c)
- *Svārtha anumana* according to Indian Logic means 'inference for oneself' It does not require the formal statement of the different members of inference. It is a self-evident inference in which an individual draws a conclusion for oneself based on his/her own observations, experiences, and knowledge and does not require external evidence or testimony. It is a cognitive process of drawing a conclusion or making an inference and does not necessarily be presented in language. Therefore, Option C is the correct answer.
71. (d) The principle of universal concomitance states that whenever two things are invariably associated with each other, the presence of one thing implies the presence of the other. In this question, smoke and fire are invariably associated with each other, so the presence of smoke implies the presence of fire. Therefore, Option D is the correct answer.

72. (d)



He is 15 Km from the starting point.

Hence, Option (d) is correct.

73. (c) In this sequence, the number is subtracted from its cube.

$$1^3 - 0 = 0$$

$$2^3 - 6 = 2$$

$$3^3 - 24 = 3$$

$$4^3 - 60 = 4$$

$$5^3 - 120 = 5$$

$$6^3 - 210 = 6$$

$$7^3 - 336 = 7$$

Therefore, Option C is the correct answer.

74. (c) Let the third number be x .

Then the second number = $3x$.

$$\text{First number} = \frac{3x}{2}$$

$$\frac{x + 3x + 3x}{2} = 44 \times 3 = 132$$

Solving for x , we get $x = 24$

Third Number = 24

Second Number = $3 \times 24 = 72$

$$\text{First Number} = \frac{72}{2} = 36$$

So, the largest number is 72

Hence, Option (c) is correct.

75. (a) Let the capital be x

According to the given conditions, we have

$$\left(\frac{x}{3} \times \frac{7}{100} \times 1\right) + \left(\frac{x}{4} \times \frac{8}{100}\right) + \left(\frac{5x}{12} \times \frac{10}{100} \times 1\right) = 561$$

$$\frac{(14x + 12x + 25x)}{600} = 561$$

Solving for x , we get x as Rs 6,600

Hence, Option (a) is correct.

76. To find out the equivalent single discount rate for a series of discounts, we can use the following formula:

$$D = 1 - (1 - d_1)(1 - d_2)(1 - d_3)$$

where d_1 , d_2 , and d_3 are the decimal equivalents of the individual discounts, and D is the decimal equivalent of the single discount.

Using this formula for the given series of discounts:

$$d_1 = 0.10$$

$$d_2 = 0.15$$

$$d_3 = 0.25$$

$$D = 1 - (1 - 0.10)(1 - 0.15)(1 - 0.25)$$

$$D = 1 - 0.9 \times 0.85 \times 0.75$$

$$D = 1 - 0.57375$$

$$D = 0.42625$$

So, the single discount equivalent to a series discount of 10%, 15%, and 25% is 42.63%

Therefore, Option A is the correct answer.

77. (b) Refer to the explanation of Square of Opposition as given in previous solutions. Applying that If $\langle \text{Some } S \text{ is not } P \rangle$ is true, then $\langle \text{All } S \text{ is } P \rangle$ is false, $\langle \text{No } S \text{ is } P \rangle$ is undetermined, and $\langle \text{Some } S \text{ is } P \rangle$ is undetermined following could be immediately inferred from it.

Therefore, Option B is the correct answer.

78. (b) False cause fallacy arises from defective induction, where a causal connection is inferred between two events or phenomena based on insufficient evidence.

Therefore, Option B is the correct answer.

79. (d) To slow a beast, you break its limbs. To slow a nation you break its people" - is an example of nonargumentative use of analogy. It implies that it is not being used to make an argument or draw a conclusion, but rather to illustrate a point or create a vivid image.

Therefore, Option D is the correct answer.

80. (c) Classical Indian logicians (Naiyāyikas) define Upamāna (Comparison) as the obtaining knowledge about a phenomenon/ concept through similarity with another concept/ phenomenon. It is a type of Pramana (means of getting knowledge). Upamana is not considered a type of inductive reasoning by Naiyāyikas, but rather a distinct and separate means of knowledge.

Therefore, Option C is the correct answer.

81. (b) The Nyaya school considers deduction and induction as inseparably related, as two aspects of the same process. Therefore, option B is the correct answer

82. (a) Aristotle classified propositions into four types, universal affirmative (A); universal negative (E); particular affirmative (I); and particular negative (O).

'All women are honest' is an example of a universal affirmative. The statements that can be inferred from it are:

- No women is honest is false.
 - Some women are honest is true.
 - Some women are not honest is false
- Therefore, Option A is the correct answer.
83. (c) It is correct that in order to form the contrapositive of a given proposition "we replace its subject term with the complement of its predicate term and we replace its predicate term with the complement of its subject term".
Contraposition is invalid for A- and O-propositions. Contraposition is never valid for I-propositions and has limitation for E proposition.
Therefore, option C is the correct answer.
84. (c) The fallacy of equivocation occurs when a key term or phrase in an argument is used in an ambiguous way, with one meaning in one portion of the argument and then another meaning in another portion of the argument.
Thus, in this question Mr. X used abusive language toward the child who threw a stone at his car. Since child abuse is a crime. He should be reported to the authorities."
Therefore, Option C is the correct answer.
85. (d) Aristotelian syllogism is only deductive and formal. It is verbalistic, the major and the minor terms stand apart in the premises though they are connected by the middle term with each other.
The Nyaya school considers deduction and induction as two sides of the same process that are linked with each other.
Therefore, Option D is the correct answer.
86. (C) The three terms in the Nyaya syllogism are synthesized with the application (Upanaya) steps of the inferential process.
Therefore, Option C is the correct answer.
87. (c) In a valid categorical syllogism, a term is distributed in the conclusion, it must be distributed in the premises. And when a term is used in the conclusion, it also needs to be used in the premise.
Therefore, Option A is the correct answer.
88. (c) The fallacy of the undistributed middle is a formal fallacy that occurs when the middle term in a categorical syllogism is not distributed in either the minor premise or the major premise. In the question, the middle term 'human beings' should appear as a subject or predicate of a categorical proposition in both premises but not in the conclusion. In both arguments, we can observe that it is distributed in the predicate. Thus, it is fallacy of undistributed middle term.
Therefore, Option C is the correct answer.
89. (d) The fallacy of equivocation occurs when a significant term or phrase in an argument is used in an unclear/ambiguous way, with one meaning in one place of the argument and then another meaning in another portion of the argument. Just as it happens in the statement "An elephant is an animal; therefore, a small elephant is a small animal".
Therefore, Option D is the correct answer.
90. (b) The Nyāya school accepts Arthāpatti as an independent source of valid knowledge and asserts that it is irreducible, that is, it cannot be reduced to inference or other epistemic source.
Therefore, Option B is the correct answer.
91. (d) The sāmānyatodṛṣṭa inference is understood in two ways:
(a) based upon analogy and
(b) inferring a characteristic in other cases after observing it in one case.
So assertion is false.
Sāmānyatodṛṣṭa inference also states that the middle term is related to the major term neither as a cause nor as an effect is correct.
Therefore, Option D is the correct answer.
92. (d) Obversion is a type of immediate inference. Its premises and results are referred to as "obvertend" and "obverse," respectively.
A positive equivalent of a negative proposition or a negative equivalent of an positive proposition is what we find in obversion.
Thus, referring to question the proposition "All umpires are non-partisans" is opposite and logically equivalent to the proposition "No umpires are partisans." Therefore, Option D is the correct answer.
93. (C) Conversion is the immediate inference that proceeds by change of position of the terms i.e., interchanging the subject and the predicate terms of a proposition. The conversion of I and E is valid. The conversion of O propositions is not valid. Therefore, Option C is the correct answer.
94. (a) The appeal to authority (Majority) fallacy is the mistaken belief that something is true just because an authoritative person said it.
Therefore, Option A is the correct answer.
95. (b) The following statements are true about logic:
The syllogism used by Aristotle is deductive.
The syllogism used by Aristotle is formal.
The Nyaya syllogism is a formal argument.
Nyaya syllogism is an inductive one.
Therefore, Option B is the correct answer.

96. (c) Upamana is a kind of Pramana (means of knowledge) according to the Nyaya school. It is knowledge derived from comparison or analogy. While doing so it may convey a word/ concept and its denotation as well.
Therefore, Option C is the correct answer.
97. (a) If 'some men are violent' is given as false, then 'Some men are not violent' is true, 'No men are violent' is true, and 'All men are violent' is false.
Therefore, Option A is the correct answer.
98. (b) A fallacy of composition involves *assuming that parts or members of a whole will have the same properties* as the whole. This fallacy can be directly located in the given statement.
Therefore, Option B is the correct answer.
99. (c) In classical logic, the universal proposition implies the truth of its corresponding particular proposition is true.
- Two propositions are not contradictory if they cannot both be true and they cannot both be false.
- Therefore, option C is the correct answer.
100. (c) In Sartha anumana there is "No formal statement of the different members of inference"
- Pararth anumana is "presented in language and is done only to convince others".
 - In Kevalanvayi anumana "the terms agree only in presence there is no instance of their agreement in the absence".
 - In Kevalavyatireki anumana "the Middle term is always and only negatively related to the Major term".
- Therefore, Option C is the correct answer.
101. (c) Essential characteristics of the middle term according to classical Indian Logicians is that "it must be present in minor term", "present in all positive instances in which the major term is present" and "It must be absent in all negative instances in which the major term is absent".
Therefore, Option C is the correct answer.
102. (b) Refer to the concept of Statement-Conclusion and Square of Opposition as discussed in related previous solutions.
In the above given question:
Universal Positive/A - All men are honest. (If A is False).
Universal Negative/E-No men are honest. (Then E is undetermined).
Particular Positive/I-Some men are honest. (Then I is undetermined).
Particular Negative/O-Some men are not honest. (Then O is True).
Therefore, Option B is the correct answer.
103. (a) From the concept of Square of Opposition in Logical Reasoning:
Universal Positive is denoted as A,
Universal Negative is denoted as E,
Particular Positive is known as I
Particular Negative is denoted as O.
The four combinations of statements are:
Contradictories - A and O, E and I
Contraries - A and E
Sub-Contraries- I and O
Subaltern-A and I, E and O.
So, it is concluded from the above rules that the opposition between a universal proposition and its corresponding particular proposition is known as subalternation.
The opposition between No S is P (universal negative E) and 'Some S is not P (particular negative O) is called subalternation.
Therefore, both the given statements are true.
Therefore, Option A is the correct answer.
104. (b) The fallacy of *begging the question* occurs when an argument's premises assume the truth of the conclusion, instead of supporting it. It is also known as 'circular argument' or 'petitio principii'.
Therefore, Option B is the correct answer.
105. (b) The hill has fire (Pratijna-proposition, / statement to be proved)
Because it has smoke (Hetu-reason)
This hill has fire (Udaharna-example)
The hill has smoke which is invariably associated with fire (Upanaya -application of concomitance)
Therefore, Option B is the correct answer.
106. (d) Indian Logic does not differentiate between deduction from induction.
Indian Logic rejects the verbalist view of logic.
Therefore, Option D is the correct answer.
107. (d) Refer to cases proposed by the Square of Opposition as mentioned in previous solutions. Applying that If the statement 'some plants are carnivorous' is given as true then, 'All plants are carnivorous' is undetermined, 'Some plants are not carnivorous' is undetermined, and 'No plants are carnivorous' is false.
Therefore, option D is the correct answer.
108. (b) *Ad populum fallacy* is said to occur when an argument is claimed to be true because most people think so or a large number of people share the same opinion about it.
Therefore, option B is the correct answer.

109. (c) Refer to the classical square of opposition, contraries are those propositions that cannot be true together. However, they may be false together.
The propositions of universal positive (A-type) and universal negative (E-type) are contraries.
So, 'No S is P' is contrary to 'All S is P'.
Therefore, option C is the correct answer.
110. (c) Upanaya is the application of universal concomitance to the present case. For example the Aristotelian syllogism "the hill has smoke which is invariable associated with fire". Upanaya is the fourth of five stages of the syllogism (parathanumana) also referred as anumana (inference) intended for another.
1. Pratigya is the logical statement to be proved.
2. Hetu is the reason for the establishment of the proposition.
3. Udharana is the universal concomitance with an example.
4. Upanaya.
5. Nigmana implies the conclusion is drawn from the preceding proposition.
Thus, in this question option A "the hill has smoke which is invariable associated with fire" is the correct answer
111. (c) Indian logic rejects the verbalist view of logic. It studies thought as such and not the forms of thought alone. Deduction and induction are not considered separated in Indian logic. The best inference is made by inductive reasoning from a set of observations. The deduction is the process by which logically sound conclusions are inferred from premises. The formal and material logic are blended in Indian Logic. Verbal form is not regarded as an integral part of the inference.
Therefore, option C is the correct answer.
112. (c) If the statement "All women are honest" is regarded true, the following can be immediately inferred:
- 'No women are honest' is false
 - 'Some women are not honest' is false
 - 'Some women are honest' is true
- Therefore, Option C is the correct answer.
113. (d) Fallacy of Equivocation occurs when a word or phrase is used in multiple senses within an argument, leading to ambiguity and confusion.
Therefore, Option D is the correct answer.
114. (B) Going by the square of opposition "Some S is not P" is contradictory of 'All S is P'. Therefore, Option B is the correct answer.
115. (b) The Naiyayaikas (Indian logicians) admit the Inference of the effect from the cause, Inference of the cause from the effect and Inference from observation for general inseparability as kinds of Inferences.
Therefore, Option B is the correct answer.
116. (a) Anumāna (inference) can be of two types: inference for oneself and inference for others. Inference for oneself (Svarthanumana) is where one does not need any formal procedure and requires only three steps whereas inference for others (Parathanumana) requires a systematic methodology of 5 steps).
Therefore, Option A is the correct answer.
117. (b) Following the Square of Opposition'.
In the above-given question, If All S is P is false (universal positive-A-type), then 'Some S is not P' is true, 'No S is P' is undetermined, 'Some S is P' is undetermined.
Therefore option B is the correct answer.
118. (a) Fallacies of relevance are a group of *fallacies that occur in arguments share a common characteristic and when the premises are logically irrelevant to the conclusion*. Fallacies of relevance are of various types: Ad Hominem, Appeal to authority, appeal to force, appeal to emotion, red herring and strawman fallacy. Therefore, option A is the correct answer.
119. (a) In the arguments, the conclusion "d probably has the attribute of R" is based on the analogical relation between the premise and conclusion. So, it follows an inductive and analogical argument.
Therefore, option A is the correct answer.
120. (c) According to Nyaya philosophy the following statements are true regarding the relationship between the middle and major terms: It can be causal relation; It can be species-genus relation and It can be member-class relation.
Therefore, option C is the correct answer.
121. (a) The argument 'Anamika must be elsewhere since she is known to be alive and not to be seen at her house', is postulation (Arthapatti). Arthāpatti is a kind of Pramana, which involves an observation and postulation based on facts in order to arrive at the conclusion.
Therefore, option A is the correct answer.
122. (a) The fallacy of converse accident (also called reverse accident,) is an informal fallacy. Wherein a rule that applies only to exceptional cases is wrongly applied to all the cases in general. The inductive version of this fallacy is called hasty generalization
Therefore, Option A is the correct answer.

123. (a) An analogical argument is a type of inductive argument. Inductive arguments are arguments where the premises provide some evidence for the conclusion but do not guarantee it to be true. In an analogical argument, it is concluded that two entities alike in some respects are therefore alike in some other respects. Analogical arguments are based on the idea that if two entities are similar in some ways, they are likely to be similar in other ways as well. Therefore, Option A is the correct answer.
124. (c) In the Classical Indian School of Logic does use syllogisms as a form of proof for statements. However, the Classical Indian School of Logic does not require the thesis to be mentioned thrice as a hypothesis, second as an example, and third as a conclusion. Therefore, Option C is the correct answer.
125. (d) "The means of knowledge in which we accept a fact or principle for explaining an undeniable fact, which otherwise cannot be explained" is called Postulation or Arthapatti. Therefore, Option D is the correct answer.
126. (a) Refer to the rules of classical square of opposition: Following them:
Some animals are ferocious is an O-type of statement. When O is true, then A is false, and E&I cannot be determined. It can be inferred that, "All animals are ferocious" is false.
Some animals are ferocious and 'No animals are ferocious' are undetermined.
Therefore, option A is the correct answer.
127. (C) In the question, Miss World is not the appropriate authority to preach about vegetarians or social behaviors. Thus, appeal to inappropriate authority is the fallacy committed in this. Therefore, option C is the correct answer.
128. (d) Contrary propositions occur which both propositions can be false but they cannot be true at the same time. Propositions 'A and E' are contrary, they differ in quality. Thus, statement I is false.
Sub contrary propositions are so related that they cannot both be false together, although they may be true together. I & O propositions are subcontraries. Thus, statement II is true.
Therefore, option D is the correct answer.
129. (D) According to classical Indian Logicians (Naiyayikas), all fallacies are not material fallacies. Material fallacies arise due content of an argument. So, Statement I is false.
According to Classical Indian Logicians, fallacies could be purely formal as well as purely informal. They recognize 22 types of fallacies which could be formal as well as informal. Thus, statement II is true. Therefore, option D is the correct answer.
130. (b) According to Nyaya school, the Inference is
- It is a cognition that presupposes some other cognition
 - It is mediate or indirect
 - It arises through a mark (linga or hetu)
 - That mark is invariably connected with the object of inference (sadhya)
- Therefore, option B is the correct answer.
131. (b) Applying the rule of classical square of opposition, If the statement 'No birds are mammals' is given as true, we can infer that:
'All birds are mammals' is false
'Some birds are mammals' is false
'Some birds are not mammals' is true
Therefore, Option B is the correct answer.
132. (a) The fallacy committed here is Ad Populum (Latin for «appeal to the people»). It is a fallacious argument that is based on claiming truth or affirming something is good because the majority thinks so.
Therefore, Option A is the correct answer.
133. (d) Applying the rule of classical square of opposition, we can infer that
'Some S is P' & 'Some S is not P' are subcontraries.
• 'Some S is not P' is contradictory to 'All S is P'.
Therefore, Option D is the correct answer.
134. (a) For Indian thinkers, inference (anumana) means only a syllogistic inference based on the relation of invariable concomitance between the middle term and the major term. There should be the absence of the middle term wherever there is an absence of the major term. Thus, Both Statement I and Statement II are true
Therefore, Option A is the correct answer.
135. (c) According to Classical Indian Logicians (Naiyayikas) the inference from the effect of the cause is called Purvavat. And that the inference of cause from the effect is possible. So, Statement I is true, but Statement II is false
Therefore, Option C is the correct answer.
136. (b) Referring to the ' Classical Square of Opposition',
In the question, 'Some S is not P' is O (Particular negative).
So, Some S is P is true and All S is P is also true.
Therefore, Option B is the correct answer.

137. (c) "Fallacy in which a proposition is held to be true just because it has not been proven false, or false just because it has not been proven true" is called an Argument from Ignorance. Lack of proof, evidence, and knowledge leads to this mode of fallacy.
Therefore, Option C is the correct answer.
138. (d) Analogy is the sort of technique of comparison between two things which asserts some similarity between them. The argument of Analogy is a similarity between two systems to support the conclusion that some similarity exists between the two things. It is a false analogy and is a particular type of inductive argument. To argue by analogy means to argue that just because two things are similar. So, what is true for one is also regarded as true for the other.
Therefore, Option D is the correct answer.
139. (c) Naiyyayikas (the classical Indian logicians) recommend the use of negative modal or tarka i.e. counterfactual conditions to confirm the major premise. This implies that correct knowledge and understanding deviate from simple, reflexive cognition. Tarka is indirect proof. Nyayikas do not accord to Tarka as an independent source of knowledge. So, Statement I is true but Statement II is false.
Therefore, Option C is the correct answer.
140. (a) "Any object if thrown upwards starts to come down after reaching a particular height. Therefore, there must be some force that must be pulling that object toward the Earth's surface". It is a kind of Postulation/ Arthapatti, which is a valid method of knowledge and is one of the pramanas according to Indian Logic. Therefore Option A is the correct answer.
141. (a) The Appeal to Emotion is an informal fallacy which is an appeal to emotion, or argumentum and involves manipulating the other person's/ listener's emotions for the purpose of winning an argument, especially in the absence of factual proof. It bases a claim on emotions rather than justification or reasoning. Therefore, Option A is the correct answer.
142. (a) Analogical inference deals with observing the similarities between two or more items and drawing conclusions about them that how similar they are. "Every analogical inference works by connecting the similarities between two or more entities in one or more aspects to those similarities in some further respect". Thus, statements I and II are true.
Therefore, Option A is the correct answer.
143. (c) "Anumana" refers to inference in Indian logic, thus statement I is true
Unlike Aristotelian Syllogism, anumāna involves three steps and not four which are Conversion, Aversion and Contraposition. Thus, statement II is false
Therefore, Option C is the correct answer.
144. (b) Arthāpatti refers to postulation, i.e. derivation from circumstances. It is a method of Pramana (source of knowledge) that entails positing something in order to render any cognitive unit self-sufficient. Therefore, Option B is the correct answer.
145. (d) Inference is the process by which the truth/ conclusion of one proposition is affirmed on the basis of the truth of one or more other propositions that makes for its premise. Aristotelian syllogism is a method of reasoning wherein conclusion is drawn from two premises. The conclusion is derived from the first premise through the mediation of the second premise. Therefore Option D is the correct answer.
146. (b) Comparison (Upamāna) is a source of knowledge (one of the Pramana) which is derived from the similarity between two things/ objects. It is a source of knowledge of the relation between a word and its denotation (what the word refers to). Therefore, Option B is the correct answer.
147. (c) Anumana is referred as anvaya-vyatireki when its middle term is both positively and negatively related to the major term. Therefore, Option C is the correct answer.
148. (c) Nyāya means the right thinking with valid arguments and reasoning. The inferences in the options which match up to it are "Inferring future rain from the dark clouds" and "inferring past rain from the swift muddy water in the river". Therefore, Option C is the correct answer.
149. (c) Obversion is a type of immediate inference in which premises and results are called obvertend and obverse.
A positive equivalent of a negative proposition or a negative equivalent of an affirmative proposition is what we get to see in obversion. Applying that in the question, "All S is P" goes with "No S is non P"; "No S is P" goes with "All S is non P"; "Some S is P" goes with "Some S is not non P" and "Some S is not P" goes with "Some S is non P". Therefore, Option C is the correct answer.
150. (d) The fallacy of accident is a type of informal fallacy which happens when a generalization is given in a context where it actually doesn't apply.

It is also referred as “the sweeping generalization” and the “fallacy of the general rule.”

Therefore, Option D is the correct answer.

151. (b) Obversion alters the quality (i.e., the affirmation/ positive or negative) of the statement and the predicate term. The obverse of “Some S is P” is “Some S is not non-P”. The obverse of the proposition “Some men are honest” is “Some men are not honest.” Therefore, Option B is the correct answer.

152. (a) The premises and results of obversion are referred to as “obvertend” and “obverse,”. In obversion we get An affirmative equivalent of a negative proposition or a negative equivalent of an affirmative proposition.

We alter the quality of statement and swap the predicate term for its complement. Applying that to the question, Option A is the correct answer.

153. (c) The appeal to ignorance fallacy implies the logical fallacy of claiming that a statement must be true because there’s no evidence against it. This is exactly what is reflected the argument “ No one has proved that global warming is actually occurring, so there is no reason to believe that it is actually occurring”

Therefore, Option C is the correct answer.

154. (c) The argument that “sound is eternal because it is produced” is fallacious as the middle term ‘produced’, does not **prove** the eternity of sound rather disproves the original proposition.

Therefore, Option C is the correct answer.

155. (b) Anumāna (inference) is a kind of Pramāna which is differentiated into Svartha (for oneself) and Parartha (for others).

Therefore, Option B is the correct answer.

156. (a) A valid deductive argument with all true premises leads to a true conclusion. And Since it is valid, the conclusion follows from the premises with absolute necessity. It is compared to a circular argument.

Therefore, option A is the correct answer.

157. (d) Applying the rule of classical square of opposition:

If A is true, then E is false, I is true, O is false;

If E is true, then A is false, I is false, O is true;

If I is true, then E is false, A and O are undetermined;

If O is true, then A is false, E and I are undetermined.

Therefore, option D is the correct answer.

158. (b) The argument commits the formal fallacy of illicit process of the minor term. The conclusion

doesn’t necessarily follow from the premises, even if the premises are true. Just because “some snakes are poisonous creatures” and “all snakes are reptiles”, it doesn’t mean that “all poisonous creatures are reptiles”. We can’t rule out that there could be other poisonous creatures that are not reptiles. Therefore option B is the correct answer.

159. (C) In Kevalanvayi’s syllogism, inference occurs when the middle term is always positively related to the major term. The two terms agree only in presence and there are no negative instances of their argument in absence. Here vyapti between middle and minor term is derived from a uniform agreement in presence alone. And hetu is positive/ affirmative concomitant with Sadhya only. Thus. statement I is true and statement II proves to be false.

Therefore, option C is the correct answer.

160. (a) In Satpratipaksha, the hetu is contradicted by another hetu. Applying it here, if both have equal force, then nothing follows. Here “audible” is contrasted by “produced” and both have equal force. Coming to reasoning, the word “caused” in the middle does not ensure the non-eternality of sound. Thus we can say that assertion and reasoning are correct and reasoning is justified.

Therefore, option A is the correct answer.

161. (d) Upanaya refers to the application of the universal concomitance (vyapti) to the specific case or instance being analyzed. Vyapti is the universal relation between the middle term and the major term in a syllogistic argument. It establishes the connection or invariable concomitance between these terms. Applying this to the statements we can conclude that statement D “Socrates is a man who is invariably a mortal” fits right.

Therefore, Option D is the correct answer.

162. (a) A deductive argument can be either valid or invalid.

- If it is valid and its premises are true, we say that the argument is sound. An argument is unsound if the argument is invalid and it has a false premise. So, statement I stands true.

An inductive argument can be either classified as strong or weak. A Strong inductive argument with true premises can be either cogent or uncogent. So, statement II also stands true.

Therefore, Option A is the correct answer.

163. (a) In the principle of conversion, the statement’s subject and predicate are switched around. It involves changing the subject to the predicate phrase.

Applying that in statement A: "No dishonest human beings are women" signifies that "No women are dishonest human being" stands correct.

In statement B, "All women are non-dishonest human beings" also stands correct as both these statements convey that "No women are dishonest human beings."

In statements C "No women are non-dishonest human beings" and statement D "All non-women are non-dishonest" convey that no women are honest human being and that All women are dishonest". Thus, they are not logically equivalent to the proposition mentioned in the question.

Therefore, Option A is the correct answer.

164. (a) The fallacy of composition occurs when one assumes that what is true for individual parts will also be true for the whole. Just because a characteristic applies to the member of the group individually, it doesn't mean the entire system will exhibit the same characteristic. Thus, fallacy of composition occurs in the statement, "Human beings are animals because as homo sapiens we all evolved thousands of years ago"

Therefore, Option A is the correct answer.

165. (a) The inference is referred to as "anumāna" in Indian classical school of logic and is one of the pramanas i.e., reliable source of knowledge. It is a way of drawing inference from prior or existing knowledge. Thus, we can say that assertion and reasoning are correct, and the reasoning stands correct.

Therefore, option A is the correct answer.

166. (d) Argumentum ad baculum fallacy, or "fear of force occurs when one uses force or the threat to persuade someone to accept a conclusion. Thus we can connect it to the given statement that it occurs due to appeal to non-rational methods of intimidation

Argumentum ad Hominem Fallacy is a way of attacking the person or situation who makes a claim or putting forward an appeal to the character of the person.

Argumentum ad Populum, also known as an appeal to popularity or gallery or the majority, is a technique used to persuade listeners to accept an unsupported conclusion by presenting argument based on the emotions the population.

Accident fallacy results when a general rule is applied to a case in which the rule is inapplicable.

Therefore, option D is the correct answer.

167. (d) Fallacy of Ambiguity entail some confusion in the meaning, due to improper use of words.

The five ambiguity fallacies are equivocation, amphiboly, accent, composition and division, and hyponymization.

Therefore, option D is the correct answer.

168. (a) There are two main ways to understand the meanings of words: denotation and connotation.

While denotation is the precise, direct and literal dictionary definition of a word, connotation refers to the vast array of positive and negative associations of certain words. So, it is right to say that a proper name shall have only denotations.

In logic, the terms "Intension" refers to a term or concept's internal content, which serves as its formal definition or a set of adjectives, and "extension" shows the term or concept's range of applicability by naming the specific objects it denotes or its substantives.

Therefore option A is the correct answer.

169. (d) Referring to the square of opposition:

A proposition or universal affirmative take the form: All S are P.

E propositions or universal negations take the form: No S are P.

I proposition or particular affirmatives take the form: Some S are P.

O propositions or particular negations take the form: Some S are not P.

Where A and O propositions are contradictory and A and E propositions are contrary.

Thus applying these to the question 'All college professors are entertaining lecturers' is an A proposition which infers 'No college professors are entertaining lecturers' is false and 'Some college professors are entertaining lecturers' is true.

Therefore option D is the correct answer.

170. (c) Aristotelian syllogism is verbalistic. Nyāya school of Indian logic recognizes the fact that the verbal form is not the essence of inference.

Therefore, option C is the correct answer.

171. (c) Applying the rule of Square of Oppositions, If I is false, then A is false, E is true, and O is true.

Some men are vegetarians is an I-type of statement. So, E-type and O-type are true.

No men are vegetarians (E-type), Some men are not vegetarians(O-type) is true. Therefore, option C is the correct answer.

172. (b) Conversion is the inference in which the subject and predicate are interchanged. The valid conversions can be Some S is P, No S is P, and All S is P. Therefore, option B is the correct answer.

173. (a) The appeal to force fallacy is argumentation using force or the threat of force to convince others to accept an argument's conclusion. Appealing to force is considered fallacious because it uses an irrelevant basis for making an argument, such as physical force, emotional manipulation, Here in this question, the speaker is made to feel afraid of the consequences of what his father will think of his speech on atheism.
- The other informal fallacy in the argument is The appeal to authority fallacy. It is a type of informal fallacy that occurs when someone uses the authority, reputation, or expertise of a person or a source as the sole or primary reason to support their argument, without providing any other evidence or reasoning.
- Therefore, option A is the correct answer.
174. (d) Invariable concomitance (Vyapti) means state of pervasion. Nyaya accepts the Anumāna as valid sources of knowledge, cognition or knowledge which follows some other knowledge. Anumana depends on unconditional universal concomitance between the middle term and the major term. Knowledge of Vyapti is the cause of successful inference. It implies a correlation between two facts, of which one is pervaded (vyâpya), and the other pervades (vyâpaka). It is known for joint method of agreement which correspond to Mill's method of agreement and method of difference
- A vyâpti between terms of equal extension is called samavyâpti or equipollent concomitance. It is the reason's uniform and unconditional relation to the predicate. It rests on the concomitance of the negatives that wherever a material cause does not exist the product thereof does not exist.
- Applying this to the question, we can conclude that statements A,B and C match to it.
- Therefore, option D is the right answer.
175. (d) A valid argument with true premises is understood as a sound argument which implies if the premises are correct then the conclusion must also be correct.
- A deductive argument's soundness relates to both its premises and the quality of its logic. Therefore, Option D is the correct answer.
176. (c) Medhatithi Gautama founded the anviksiki school of logic. Therefore option C is the correct answer.
177. (a) Slippery slope is an informal fallacy which occurs when we assume one course of action will initiate a chain of events. As is depicted in the statement "If you give him an inch, he will take a mile" is a slippery slope.
- Therefore, option A is the correct answer.
178. (a) Converse is the proposition which results from an interchange of subject and predicate with each other. So, the converse of the statement - "All academicians are visionaries" will be "Some visionaries are academicians".
- Therefore, option A is the correct answer.
179. (c) The relation of invariable concomitance is the relation between hetu and Sādhyā which does not need qualifying term or limitation (upādhi). For example, wherever there is smoke there is fire.
- Upadhi is a syllogism which requires a ground (hetu) to prove the proposition—for example, "there is fire on the mountain is proved by the presence of smoke".
- Therefore, option C is the correct answer.
180. (b) Appeal to Ignorance fallacy occurs when you argue that your conclusion must be true, because there is no evidence against it.
- Therefore, option B is the correct answer.
181. (b) If the statement 'All children are innocent' is given as true, then the statement "Some children are innocent" can be derived and inferred as true.
- Therefore, option B is the correct answer.
182. (c) *Ignoratio elenchi*, or "ignorance of the refutation," is broadly defined as any incorrect argument which reaches an evidentially irrelevant conclusion. In this kind of fallacy, the conclusion is different from what is expected. *Ignoratio elenchi* can be related to the given statement.
- Therefore, option C is the correct answer.
183. (b) A false cause fallacy occurs when someone incorrectly assumes that a causal relation exists between two things or events. but in reality, it's not the cause. So, valuing the moon more than Sun because the Moon shines when it is dark whereas the sun shines when there is light anyway is not an acceptable cause . Therefore, option B is the correct answer.
184. (a) According to classical Indian Logicians (Naiyāikas), all fallacies are material fallacies. And according to them, deduction and induction are inseparably related as two aspects of the same process.
- Therefore, option A is the correct answer.
185. (b) The fallacy committed in the statement "No one has ever been able to prove the existence of extra sensory perception. We must therefore conclude that extra-sensory perception is a myth" is the appeal to ignorance. It is the logical fallacy of claiming that a statement must be true because there's no evidence against it.
- Therefore, option B is the correct answer.

186. (b) A sesavata inference is that in which one infers the unperceived cause from a perceived effect. Thus, we can infer rainfall on the hills from floods is a form of sesavata inference. Therefore, option B is the correct answer.
187. (a) Fallacies in Aristotlian logic after violation of some rules and regulation in the structure of the whole syllogism. This statement stands correct. According to Nyaayikas, a fallacy in logic or it can also be said that it is with an insufficient reason means that the middle term appears to be a reason, but it is not a valid reason. Therefore, option A is the correct answer.
188. (d) According to Nyaya, how the middle term (hetu) is related to a major term (Sadhya) is called lingaparamarsha. Some of the characteristics of the middle term, according to Nyaya epistemology are:
It must be present in the minor term. (pakshadharmata)
It must be present in all positive instances in which the major term is present.

It must be present in all the negative instances in which the major term is absent.

It must be compatible or non-compatible with the minor term.

It must be qualified by the absence of counteracting reasons which leads to contradictory conclusions.

Applying this to the question we can count, the causal relation, Member–class relation, and Species – genus relation are a type of relations considered by the Nyaya system as necessary relations between middle and major terms.

Therefore, option D is the correct answer.

189. (a) An inductive argument is exemplified in the given question. An inductive argument is *an assertion that uses specific premises or observations to make a broader generalization*. On the basis of three apples, generalization has been made for the entire barrel. Thus, argument is inductive in nature.

Therefore, option A is the correct answer.