

Critical reasoning

Concept**Argument**

● Premise

The PREMISE is a piece of information that is stated in the question.

● Assumption

The ASSUMPTION is an unstated part of the argument that is highly necessary to reach the conclusion.

● Conclusion

The CONCLUSION is the most vital part which is 'logically derived' from the assumption and premise.

Conclusion = Premise + Assumption

Question

The major question types that come up in Critical Reasoning are the following.

1. Deduce the assumption:

Assumption is the unspecified part of an argument, but is very essential in order to arrive at the conclusion. It should in the same line of reasoning as that of the argument, thus helping to prove the conclusion right.

2. Find the strengthening statement:

This type involves finding a statement which strengthens the conclusion. In other words, the statement chosen from the answer options should provide support to the conclusion.

3. Find the weakening statement:

A weakening statement is one which proves the conclusion to be wrong, thus exposing a 'weakness' in the argument.

4. Deduce the conclusion:

In this type of question, the conclusion will not be provided in the argument. The argument given by the author thus contains only the premise. When finding a conclusion, look for an option that is well supported by the information provided.

5. Mimic the reasoning pattern:

This type of question requires you to look for an answer option which has the SAME reasoning pattern as that of the given argument.

Drill**Identify the premise and conclusion of the following:**

1. No one under eighteen years of age can vote.

Jen is under eighteen years of age.

Therefore, Jen cannot vote.

Premise:

Conclusion:

2. Research universities also must aggressively support teaching.

After all, a significant percentage of their students are undergraduates, and such institutions are clearly obligated to provide them quality education.

Premise:

Conclusion:

Read the given argument carefully and answer for

Deduce an assumption that strengthens the argument:

Deduce an assumption that weakens the argument:

Derive a conclusion:

Frame an argument which mimics the pattern of the given statements:

1. "Jenny got 5 parking tickets. She is a terrible driver."

2. "Samsung has the best smart phones in the market because they use the android operating system in their smart phones."

Concept review questions

- If a psychologist gives a patient only a few options to overcome suicidal depression, the patient is more likely to adhere to the psychologist's advice than if the psychologist gives the patient many options. Which one of the following most accurately expresses the principle illustrated above?
 - People are especially likely to ignore the advice they get from psychologists if they are confused about that advice.
 - People dislike calculating the best of a variety of choices unless they can see a clear difference among the benefits that would result from each choice.
 - The tendency of people to alter their behavior varies inversely with the number of alternatives available to them for overcoming suicidal depression.
 - Most people are unlikely to follow their psychologist's advice unless they can vividly imagine the consequences of not following the advice.
- To acquire a better understanding of the structure and development of the human brain, some doctors study the brains of animals. Each of the following, if true, contributes to an explanation of the practice mentioned above EXCEPT:
 - The brain of humans and animals are believed to be motivated by similar instincts, but these instincts are easier to discern in animals.
 - The law forbids certain experiments on humans but permits them on animals.
 - It is generally less expensive to perform experiments on animals than it is to perform them on humans.
 - Proper understanding of human brain is thought to provide a model for better understanding the brain of animals.
- A survey of alumni of class of 1960 at Allahabad University yielded puzzling results. When asked to indicate their academic rank, half of the respondents reported that they were in the top quarter of the graduating class in 1960. Which one of the following most helps account for the apparent contradiction above?
 - A disproportionately large number of high-ranking alumni responded to the survey.
 - Few respondents were mistaken about their class rank.
 - Not all the alumni who were actually in the top quarter responded to the survey.
 - Almost all of the alumni who graduated in 1960 responded to the survey.
- A group of 1,000 girl students was randomly selected from four elementary schools in a medium-sized city and asked the question, "Do you plan to finish your elementary school

education?" More than 90 percent answered "Yes." This shows that the overwhelming majority of girl students want to finish their elementary school, and that if the national dropout rate among elementary school going girl students is high, it cannot be due to a lack of desire on the part of the girls. The reasoning of the argument above is questionable because the argument

- a. fails to justify its presumption that 90 percent is an overwhelming majority
 - b. attempts to draw two conflicting conclusions from the results of one survey
 - c. overlooks the possibility that there may in fact not be an elementary school dropout rate among elementary school going girl students
 - d. treats elementary school going girls from a particular medium-sized city as if they are representative of elementary school going girls nationwide
5. Gandhiji: People are not intellectually well suited to live in large, bureaucratic societies. Therefore, people can find happiness, if at all, only in smaller political units such as villages. The reasoning in Gandhiji's argument is flawed because the argument takes for granted that
- a. no one can ever be happy living in a society in which she or he is not intellectually well suited to live
 - b. the primary purpose of small political units such as villages is to make people happy
 - c. all societies that are plagued by excessive bureaucracy are large
 - d. anyone who lives in a village or other small political unit that is not excessively bureaucratic can find happiness

Directions for questions 6 and 7: Answer the questions based on the paragraph below.

Dr. Karthik: The new technology dubbed "medical outsourcing" will provide sustained improvement in at least rural patient care since it allows rural physicians to outsource medical examinations to specialists who live at great distances—specialists will thus be able to provide advice to the rural patients who would otherwise not receive it.

Dr. Divya: Not so. Medical outsourcing might help rural patient care initially. However, small hospitals will soon realize that they can minimize expenses by replacing physicians with technicians who can use medical outsourcing to transmit examinations to large medical centers, resulting in fewer patients being able to receive traditional, direct medical examinations. Eventually, it will be the rare individual whoever gets truly personal attention. Hence, rural as well as urban patient care will suffer.

6. Which one of the following is a point at issue between Dr. Karthik and Dr. Divya?
- a. whether medical specialists in general offer better advice than rural physicians
 - b. whether medical outsourcing technology will be installed only in rural hospitals and rural medical centers
 - c. whether medical outsourcing is likely to be widely adopted in rural areas in future years

- d. whether the technology of medical outsourcing will benefit rural patients in the long run

7. Dr. Divya uses which one of the following strategies in responding to Dr. Karthik?
- a. listing a set of considerations to show that a prescribed treatment that seems to be benefiting a patient in fact harms that patient
 - b. describing the application of the technology discussed by Dr. Karthik as one step that initiates a process that leads to an undesirable end
 - c. citing evidence that Dr. Karthik lacks the professional training to judge the case at issue
 - d. invoking medical statistics that cast doubt on the premises used in Dr. Karthik's argument
8. When a region is in a drought, the water level of rivers and streams is seriously reduced. When water levels are down, food is also scarce for wildlife. Therefore, if food is not scarce for wildlife, then the region is not in a drought. In which one of the following selections does the reasoning most closely follow the reasoning in the above passage?
- a. If the dirty clothes hamper is full, the sock drawer is empty, and if the sock drawer is empty, the dirty clothes hamper is full, so, if the sock drawer is not empty, the clothes hamper is not full.
 - b. If the temperature falls below freezing, the petunias will die, and if the petunias die, they will not flower anymore, so, if the petunias still produce flowers, the temperature is not below freezing.
 - c. If raccoons bear live young, they must be mammals, so, if they are amphibians, they must lay eggs to reproduce, if they reproduce at all.
 - d. If earth scientists are correct, global temperatures are warming, and if the earth's temperature increases, ocean levels will rise, so, if ocean levels rise, earth scientists were correct.
9. Every year, new reports appear concerning the health risks posed by certain substances, such as milk and sugar. One year an article claimed that milk is dangerous to one's health. The next year, another article argued that milk has some benefits for one's health. From these contradictory opinions, we see that experts are useless for guiding one's decisions about one's health. Which one of the following most accurately describes a flaw in the argument above?
- a. The argument takes for granted that milk is dangerous to one's health.
 - b. The argument presumes, without providing warrant, that one always wants expert guidance in making decisions about one's health.
 - c. The argument fails to consider the nature of expert opinion in areas other than health.
 - d. The argument fails to consider that milk may be harmful to one's health in some respects and beneficial in others.

10. Vijay Mallya: The only airline providing service for our town announces that because the service is unprofitable, it will discontinue this service next year. Town officials have urged the community to use the airline's service more frequently so that the airline will change its decision. There is no reason to comply with their recommendation, however, for just last week these same officials drove to an out-of-town conference instead of flying.

Mr. Mallya's reasoning is most vulnerable to criticism on the grounds that it presumes, without providing justification, that

- a. increasing the number of tickets sold without increasing ticket prices will be sufficient to make continued air service economically feasible.
- b. suspending service and losing money by continuing service are the airline's only options.
- c. the town officials paid for their trip with tax payers' money rather than their own money.
- d. if the town officials did not follow their own advice, then that advice is not worth following.

11. Some scientists believe that 60 million years ago an asteroid struck what is now a big Peninsula, thereby causing extinction of the dinosaurs. These scientists have established that such a strike could have hurled enough debris into the atmosphere to block sunlight and cool the atmosphere.

Without adequate sunlight, food sources for herbivorous dinosaurs would have disappeared, and no dinosaurs could have survived a prolonged period of low temperatures. These same scientists, however, have also established that most debris launched by the asteroid would have settled to the ground within six months, too soon for the plants to disappear or the dinosaurs to freeze.

Which one of the following, if true, most helps to resolve the apparent discrepancy between the scientists' beliefs and the scientists' results, as described above?

- a. Loss of the herbivorous dinosaurs would have deprived the carnivorous dinosaurs of their food source.
- b. Dinosaurs inhabited most land masses on the planet but were not specially abundant in the area of the asteroid strike.
- c. A cloud of debris capable of diminishing sunlight by 25 percent would have cooled the earth's surface by 8 to 12 degrees Celsius.
- d. Dinosaurs were susceptible to fatal respiratory problems caused by contamination of the air by asteroid debris.

12. HR manager: Technology now changes so rapidly that workers need periodic retraining. Such retraining can be efficient only if it allows individual companies to meet their own short-term needs. Hence, large governmental job retraining programs are no longer a viable option in the effort to retrain workers efficiently. Which one of the following is an assumption required by the HR's argument?

- a. Workers did not need to be retrained when the pace of technological change was slower than it is currently.

- b. Large job retraining programs will be less efficient than smaller programs if the pace of technological change slows.
- c. No single type of retraining program is most efficient at retraining technological workers.
- d. Large governmental job retraining programs do not meet the short term needs of different individual companies.

13. Recent research indicates that increased consumption of fruits and vegetables by middle-aged people reduces their susceptibility to heart attacks in later years. The researchers speculate that this may be because fruits and vegetables are rich in folic acid. Low levels of folic acid are associated with high levels of homocysteine, an amino acid that contributes to blocked arteries. Which one of the following statements is most strongly supported by the information above?

- a. An increased risk of heart attacks is correlated with low levels of homocysteine.
- b. A decreased risk of heart attack is correlated with increased levels of folic acid.
- c. An increased propensity for blocked arteries is correlated with decreased levels of homocysteine.
- d. A decreased propensity for blocked arteries is correlated with low levels of folic acid.

14. Twenty years ago, the percentage of Indians who vacationed in foreign countries was very small compared with the large percentage of the Indians who travel abroad for vacations now. Foreign travel is, and always has been, expensive from India. Therefore, Indians must have, on an average, more money to spend on vacations now than they did 20 years ago.

The argument requires assuming which one of the following?

- a. If foreign travel had been less expensive 20 years ago, Indians would still not have had enough money to take vacation abroad.
- b. If travel to India were less expensive, more people of other countries would travel to India for their vacations.
- c. If the percentage of Indians vacationing abroad was lower 20 years ago, then the Indians of 20 years ago must have spent more money on domestic vacations.
- d. If more of the Indians 20 years ago had had enough money to vacation abroad, more would have done so.

15. Light bulbs that emit lower intensity light save energy by requiring less electricity. Therefore, if home-owners use only low-intensity light bulbs, their electric bills will decrease.

Which of the following represents a necessary assumption for the argument?

- a. Homeowners are always concerned with lowering their utility bills.
- b. By lowering electricity use, home-owners can help to decrease pollution levels in their communities.
- c. Low intensity light bulbs are less expensive than more standard light bulbs.

- d. The low intensity light bulbs are as effective in providing light as standard light bulbs.
16. Today is Tuesday & yesterday was Monday. Therefore, Tomorrow will be Wednesday. This speaker's conclusion depends on which of the following assumption?
- Wednesday is the day that precedes Thursday.
 - Tuesday always follows Monday.
 - If, in any given week, Tuesday follows Monday; then Wednesday will follow Tuesday.
 - Every week consist of 7 days arranged in a particular order.
17. Authors of detective fiction, more often than not, create a very clever investigator and a rival (a rather incompetent investigator) who choose to adopt separate paths / strategies to solve a crime. The individual adventures of both in their attempts to solve the same crime frequently project the incompetent investigator getting misled as the criminals had planned and, of course, the competent detective solving the case after aviolent confrontation. Many literary analysts believe that writers often adopt this style of narration so that it lends additional complexity and challenge in solving the investigation.
- Which of the following most logically follows from the statements above?
- A well-written detective story consists of an investigation being undertaken by a competent and incompetent investigator.
 - Some authors use an incompetent investigator to show the complexities of an investigation.
 - Authors never write stories with incompetent investigators who solve a case correctly.
 - Authors can use the separate investigative accounts to make predicting the correct outcome of the investigation more difficult.
18. Mr. Dinesh: Mrs. Sharma's qualifications are ideal for the position. She is intelligent, forceful, determined and trust worthy. I suggest hiring her immediately. Which one of the following, if true, would most weaken Mr. Dinesh's statement?
- Mrs. Sharma is not interested in being hired.
 - There are two other applicants whose qualifications are identical to Mrs. Sharma's.
 - Mrs. Sharma is currently working for a rival company.
 - Mr. Dinesh is not speaking directly to the hiring committee.
19. John always leaves the office before sunset unless the sun sets before 6.
- David does not leave the office before John does if John leaves before sunset.
- On a day when the sunsets at 5.30 which of the following must be true?
- John will leave the office at 6.
 - David will not leave the office until 7.
 - David will not leave the office before John.
 - John will not leave the office before sunset.
20. A group of researchers compared the concentration power of a random sample of 1024 individuals who had been smoking every day at least for 3 years with that of a random sample of another 1024 individuals who had never smoked. They concluded that habitual smoking increased difficulties in concentrating. Which of the following, if true, most severely weakens the researchers' conclusion?
- The addiction to smoking and the cravings this addiction engenders is often on the mind of habitual smokers.
 - Some non-smokers with attention deficit disorder (ADD), which causes an inability to concentrate, display even less ability to concentrate than some smokers.
 - A separate research study found that smokers and non-smokers exhibited statistically significant differences in their incarceration rates.
 - A separate research study found that individuals with pre-existing attention and concentration disorders exhibited significantly higher rates of trying cigarettes and subsequently becoming addicted to smoking.