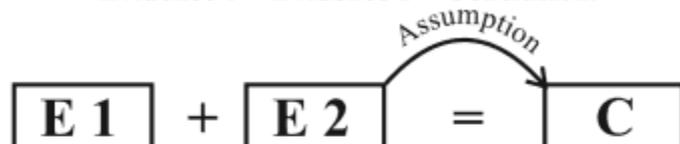


# Critical Reasoning

**Critical Reasoning (CR)** is ability to reason clearly to evaluate and judge arguments. You are using this skill a lot during your everyday life while reading newspapers or watching movies. Critical Reasoning questions will ask you to manipulate the argument to weaken/strengthen it, find the conclusion, assumption, explanation, do an inference or supplement a statement, etc. Whatever it is that you have to do, you will need 2 things to succeed: know the basic structure of arguments and clearly understand the argument.

In general, most of them, arguments consist of evidence, usually 2 pieces, a conclusion - the main point of an argument, and an assumption - the bridge between the evidence and conclusion. The majority of the arguments you encounter on the test will be 3 step arguments:

**Evidence 1 + Evidence 2 = Conclusion.**



**Example 1.** Last week Mike was detained for shoplifting at a groceries store near his house, but he has been a Christian for 10 years, therefore, the police must have been wrong accusing him in stealing.

## Note

There are two pieces of evidence: 'Mike was accused of stealing' and that 'he is a Christian'. The conclusion is that **'the police are wrong'**. Therefore, our huge assumption here is that 'a Christian could not have stolen anything.'

**Example 2.** There are a lot of mosquitoes outside today, please do not turn on the light in the room because a lot of them will fly in.

## Note

Here the evidences are 'there are a lot of mosquitoes outside today' and 'do not turn on the light'. The conclusion is that **'Many will fly in'** and the assumption is 'mosquitoes will approach the light.'

There is no set scheme for structure in CR, but since the majority of the arguments are only a few sentences long, the conclusion usually comes in the first or the last sentence. However, some of the arguments encountered will not have a conclusion at all or will have just an implied one.

## STRATEGY TO CRACK CRITICAL REASONING QUESTIONS

This strategy is not the easiest way to do CR (the easiest would be read-and-answer), but it lets you get the most questions right spending less time per correct answer.

1. Read the questions first; this is needed so that you would know what to look for and what to do: find an assumption, strengthen/weaken, infer something or else. Do not worry about the details in the question, read for keywords, such as strengthen, deny, or explain. [Use symbols for convenience, e.g. + for strengthen or - for weaken].
2. Read the passage very attentively because in contrast to Reading Comprehension, there is very little text here and mostly everything is important; try to read only once. Reread if required.  
As you read, look for the problem in the passage (evaluate how convincing it is)
3. Paraphrase (reword) the passage. It is a very important step because when you do a paraphrase, you check whether you understood the passage and at the same time you extract the skeleton of the argument, making it easier to identify the conclusion and the assumption. Very often, the paraphrase of the passage will be pretty close to the conclusion. It is not surprising, since the conclusion is the main point and evidence just supports it. Your paraphrase should be as close to the text and as simple as possible so that you would understand it easily and at the same time could fully trust it. Do not make it too general nor too detail oriented. When you do a paraphrase, do it in three steps: Evidence1, Evidence2, and Conclusion. Put "therefore" word before you start your conclusion, this will help you to set it off.
4. Read the question again (now with more understanding of what is being asked. Read the question 2 times, it will help you to make sure your answer exactly)
5. Answer before reading the answer choices. There are two reasons for this :
  - (i) if you can think of the correct answer or at least the general direction that the answer choice needs to be, you will identify it among the wrong choices much faster, thus spend less time reading the answers, which usually take 30 seconds to cover.
  - (ii) Often students are seduced by the author's wording. One reads a few words that were used in the passage and the brain identifies this choice with the passage, thus making it seem more right that it needs to be. The more problems you practice with, the more chance is you will guess the right answer even before reading it.
6. Go through the answers, first time scan them for YOUR answer choice (usually you will guess correctly in 60-70% of cases), if you did not find it, reread them more attentively.
7. Draw a grid to eliminate the wrong answers easier. Use "✓" for a sure answer, "✗" for a definitely wrong answer choice, and "?" for an answer that may be right or questionable. This will help to concentrate only on a few

answer choices and will prevent you from reading same answers several times if you get confused or keep having troubles locating the right answer.

## TYPES OF CRITICAL REASONING QUESTIONS

Critical reasoning questions will ask you to:

- (i) Identify the inference / Must be true question
- (ii) Identify the assumption.
- (iii) Strengthen an argument.
- (iv) Weaken an argument.
- (v) Select the best conclusion/Main Point
- (vi) Identify the paradox
- (vii) Evaluation/ Reasoning
- (viii) Identify a parallel argument/Structure.

### (i). Identify the Inference / Must be True Question

These type of questions are extremely common. An **Inference** means the same thing as “must be true”. **Conclusions** differ from **inferences** in that conclusions are the result of premises and inferences are something that must be true. The following are the typical Inference (Must be true) based Questions:

- If the statements above are true, which of the following must also be true?
- Which of the following is [implied, must be true, implicit, most reasonably drawn] in the passage above?
- Which of the following inferences is best supported by the statement made above?

#### **Shortcut Approach –1**

**How to tackle “Identify the inference / Must be true questions”:**

- Read the stimulus and look for the argument.
- Note that Must Be True questions may not contain an argument. They may just be a series of facts. Nevertheless, try to find the argument.
- Avoid choices which contain absolute statements - never, always, none, only etc. Although these words might appear in some correct choice, you should be very sure about them.
- Some of the options can be eliminated as they go beyond the scope of the passage. Note that an inference can be based on only some of the information provided and not the complete passage.

#### **Example** **1. Stimulus Argument**

Increases in funding for police patrols often lower the rate of crimes of opportunity such as petty theft and vandalism by providing visual deterrence in high-crime neighborhoods. Levels of funding for police patrols in some communities are increased when federal matching grants are made available.

**Question :** Which of the following can be correctly inferred from the statements above?

#### **Options**

- (a) Areas with little vandalism can never benefit from visual deterrence.
- (b) Communities that do not increase their police patrols are at higher risk for crimes of opportunity late at night.
- (c) Federal matching grants for police patrols lower the rate of crimes of opportunity in some communities.

- (d) Only federal matching grants are necessary to reduce crime in most neighborhoods.
- (e) None of these

**Sol. (c)** is a summary of the information provided; it is the logical end of a chain of reasoning started in the stimulus argument. The sequence of events goes like this :

Increased funding → Increased visual deterrence → Lower crime

The last statement could be mapped as follows:

Federal grants → Increased patrol funds

(c) makes the chain complete by correctly stating that federal grants can lead to lower crime in some communities. Now the logical chain becomes:

Federal grants → Increased funding → Increased visual deterrence → Lower crime

The other answer choices may not be correctly inferred because they go beyond the scope of the argument.

They may be objectively, factually correct, or they may be statements that you would tend to agree with.

However, you are limited to the argument presented when choosing a correct answer.

### (ii) Identify the Assumption

An assumption is an unstated premise that supports the author’s conclusion. It’s the connection between the stated premises and the conclusion., which together forms the passage. An assumption is something that the author’s conclusion depends upon. Assumption questions are extremely common and have types that look like this:

- Which of the following most accurately states a hidden assumption that the author must make in order to advance the argument above?
- Which of the following is an assumption that, if true, would support the conclusion in the passage above?

#### **Shortcut Approach –2**

**How to approach “Identify the assumption Questions”**

- Look for gaps between the premises and the conclusion. Ask yourself why the conclusion is true. Before you progress to the answer choices, try to get feel of what assumption is necessary to fill that gap between the premises.
- Beware of extreme language in the answer choices of assumption questions. Assumptions usually are not extreme. “Extreme” answer choices usually contain phrases such as always, never, or totally.

#### **Example** **2. Stimulus Argument**

Traditionally, decision making by doctors that is carefully, deductively reasoned has been considered preferable to intuitive decision making. However, a recent study found that senior surgeons used intuition significantly more than did most residents or mid-level doctors. This confirms the alternative view that intuition is actually more effective than careful, methodical reasoning.

**Question :** The conclusion above is based on which of the following assumptions?

#### **Options :**

- (a) Senior surgeons are more effective at decision making than are mid-level doctors.

- (b) Senior surgeons have the ability to use either intuitive reasoning or deductive, methodical reasoning in making decisions.
- (c) The decisions that are made by mid-level and entry-level doctors can be made as easily by using methodical reasoning as by using intuitive reasoning.
- (d) Senior surgeons use intuitive reasoning in making the majority of their decisions.
- (e) None of these

**Sol. (a)** The correct answer is (a), which provides a missing link in the author's reasoning by making a connection from the evidence: that intuition is used more by senior surgeons than other, less-experienced doctors, and the conclusion: that, therefore, intuition is more effective. None of the other choices helps bridge this gap in the chain of reasoning. Although some of the other statements may be true, they are not responsive to the question. In fact, they mostly focus on irrelevant factors such as appropriateness, ease of application, ability, etc.

### (iii) Strengthen an Argument

Assumptions connect premises to conclusions. An argument is strengthened by strengthening the assumptions. Here are some examples of Strengthen question types :

- The conclusion would be more properly drawn if it were made clear that...
- Which of the following, if true, would most strengthen the conclusion drawn in the passage above?

### **Shortcut Approach -3**

#### How to approach "Strengthen an argument"

Once you have identified the argument of the passage, i.e. the evidence(s) + conclusion, try putting in each option with the argument. Check if the assumption(s) you have drawn is (are) strengthened if you accept the content of the option as true.

#### **Example** **3. Stimulus Argument**

Three years after the Bhakra Nangal Dam was built, none of the six fish species native to the area was still reproducing adequately

in the river below the dam. Because the dam reduced the average temperature range of the water from approximately 40° to approximately 10°, biologists have hypothesized that sharp increases in water temperature must be involved in signaling the affected species to begin their reproduction activities.

**Question :** Which of the following statements, if true, would most strengthen the scientists' hypothesis?

#### **Options :**

- (a) The native fish species were still able to reproduce in nearby streams where the annual temperature range remains approximately 40°.
- (b) Before the dam was built, the river annually overflowed its banks, creating temporary backwaters that were used as breeding areas for the local fish population.
- (c) The lowest temperature ever recorded in the river prior to dam construction was 30°; whereas the lowest recorded river temperature after construction was completed has been 40°.
- (d) Non-native fish species, introduced after the dam was completed, have begun competing with the native species for food.
- (e) None of these

**Sol. (a)** most strengthens the conclusion that the scientists reached. It does so a similar population, not subjected to the same change as the population near the dam, did not experience the same type of result. Here the basic assumption about the conclusion that scientists reached is 'because of the reduction of average temperature range of the water, the reproduction of the native fish species has reduced drastically'. Option (a) clearly strengthens the assumption.

### (iv) Weaken an Argument

Assumptions connect premises to conclusions. An argument is weakened by weakening the assumptions. Here are some examples of Weaken question types:

- Which of the following, if true, would weaken the conclusion drawn in the passage above?
- The argument as it is presented in the passage above would be weakened, if which of the following were true?

# EXERCISE

**DIRECTIONS (Qs. 1-3):** Study the following information carefully and answer the questions given below :

The centre reportedly wants to continue providing subsidy to consumers for cooking gas and kerosene for five more years. This is not good news from the point of view of reining in the fiscal deficit. Mounting subventions for subsidies means diversion of savings by the government from investment to consumption, raising the cost of capital in the process. The government must cut expenditure on subsidies to create more fiscal space for investments in both physical and social infrastructure. It should outline a plan for comprehensive reform in major subsidies including petroleum, food and fertilizers and set goal posts.

1. Which of the following is a **conclusion** which can be drawn from the facts stated in the above paragraph ?

- (a) Subsidy provided by the government under various heads to the citizen increases the cost of capital
  - (b) Government is unable to withdraw subsidies provided to various items.
  - (c) Government subsidy on kerosene is purely a political decision.
  - (d) Govt. does not have enough resources to continue providing subsidy on petroleum products.
  - (e) None of these
2. Which of the following is an inference which can be made from the facts stated in the above paragraph ?
- (a) India's fiscal deficit is negligible in comparison to other emerging economies in the world.
  - (b) Subsidy on food and fertilizers are essential for growth of Indian economy.

- (c) Reform in financial sector will weaken India's position in the international arena.
  - (d) Gradual withdrawal of subsidy is essential for effectively managing fiscal deficit in India.
  - (e) None of these
3. Which of the following is an **assumption** which is implicit in the facts stated in the above paragraph?
- (a) People in India may not be able to pay more for petroleum products.
  - (b) Many people in India are rich enough to buy petroleum products at market cost.
  - (c) Government may not be able to create more infrastructural facilities if the present level of subsidy continues for a longer time.
  - (d) Government of India has sought assistance from international financial organizations for its infrastructural projects
  - (e) None of these

**DIRECTIONS (Qs. 4-6):** Study the following Information carefully and answer the questions given below:

Poverty measurement is an unsettled issue, both conceptually and methodologically. Since poverty is a process as well as an outcome; many come out of it while others may be falling into it. The net effect of these two parallel processes is a proportion commonly identified as the 'head count ratio', but these ratios hide the fundamental dynamism that characterises poverty in practice. The most recent poverty reestimates by an expert group has also missed the crucial dynamism. In a study conducted on 13,000 households which represented the entire country in 1993-94 and again on 2004-05, it was found that in the ten-year period 18.2% rural population moved out of poverty whereas another 22.1% fell into it over this period. This net increase of about four percentage points was seen to have a considerable variation across states and regions.

4. Which of the following is a **conclusion** which can be drawn from the facts stated in the above paragraph ?
- (a) Accurate estimates of number of people living below poverty line in India is possible to be made.
  - (b) Many expert groups in India are not interested to measure poverty objectively.
  - (c) Process of poverty measurement needs to take into account various factors to tackle its dynamic nature.
  - (d) People living below poverty line remain in that position for a very long time.
  - (e) None of these
5. Which of the following is an **assumption** which is implicit in the facts stated in the above paragraph?
- (a) It may not be possible to have an accurate poverty measurement in India.
  - (b) Level of poverty in India is static over the years.
  - (c) Researchers avoid making conclusions on poverty measurement data in India.
  - (d) Government of India has a mechanism to measure level of poverty effectively and accurately.
  - (e) None of these

6. Which of the following is an **inference** which can be made from the facts stated in the above paragraph ?
- (a) Poverty measurement tools in India are outdated.
  - (b) Increase in number of persons falling into poverty varies considerably across the country over a period of time.
  - (c) Government of India has stopped measuring poverty related studies.
  - (d) People living in rural areas are more susceptible to fall into poverty over the time.
  - (e) None of these

**DIRECTIONS (Qs. 7-8):** Read the following information carefully and answer the questions which follow:

Supermarkets are growing at a fast pace than Kirana Stores. Kirana Stores are such places where customer go to purchase their necessities. In place of five Kirana stores one or two supermarkets are being established. It has been found that customers' requirements are looked after by trained staff. It has been found that food products are low life products which are manufactured from local manufacturers. These products are typically purchased by the customer on the assurance. The markets is appealing to supermarkets and retail outlet owners are setting up their business in other areas where there are less Kirana stores.

7. Which of the following can be a good argument in favour of shopping, from Kirana stores instead of supermarkets?
- (a) People prefer supermarkets because they offer a larger range of products. i.e., products other than FMCG and they can buy everything under one roof.
  - (b) People end-up buying other irrelevant things along with those on their shopping lists in Supermarkets and then they have to stand in long queues at the billing counters.
  - (c) Most Kirana stores are closed atleast one day in a week whereas supermarkets are open 365 days a year.
  - (d) Kirana stores do not accept debit and credit cards.
  - (e) Very few Kirana stores sell products at a bargained price.
8. Which of the following can be inferred from the given information? (An inference is something that is not directly stated but can inferred from the given information).
- (a) Most supermarkets and retail outlet owners choose to set up businesses in areas that have very few Kirana stores.
  - (b) People tend to trust retail outlets and supermarkets when it comes to buying high value products as opposed to buying them from local shops.
  - (c) If there are two or more Kirana stores in a typical residential area the competition among them is very high.
  - (d) Kirana stores owners are buying to acquire franchisee of supermarkets as the local shops have lost their charm and business.
  - (e) Kirana stores do not sell the products which consumers on their regular shopping lists, so they have to depend on supermarkets.

**DIRECTIONS (Qs. 9-10):** Read the following statements carefully and answer the questions given below:

Mobile technology has played great role in growth and development of society. Earlier cellphone was used as a medium of conversation only. Now mobile phones also support a wide variety of other services, such as, texting, email, internet access etc. The price of mobile phones is also decreasing and people are being encouraged to buy a mobile phone set at a cheaper rate. The mobile technology and smartphones have the capabilities of handling video calls, sharing large files. Mobile technology had made it more efficient to conduct business. Video calls and taking photographs have become possible as mobile phone has in built camera. Therefore, there is no need to carry around a camera everywhere you go.

9. Which of the following cannot be inferred from the given information? (An inference is something that is not directly stated but can be inferred from the given information)
- (a) One can share photos and videos via mobile phones provided that the other person has a similar device.
  - (b) Many features are being added to mobile phones now-a-days
  - (c) The other features of mobile phones are used as useful as the built in camera
  - (d) Mobile phones can be used for purposes other than making calls
  - (e) Technological advances are taking place in fields other than cellphones as well.
10. Which of the following can be concluded from the given information?
- (a) Buying a phone with a camera is more convenient than buying two different devices.
  - (b) Mobile phones that are basic last longer than the ones with added features
  - (c) Not many people are interested in clicking pictures with mobile phones
  - (d) It is possible to share pictures with someone having a similar camera
  - (e) No one will buy camera now onwards.
11. **Statement**  
There was a slow decline in number of patients with flu like symptoms visiting various health facilities in the city during the last fortnight.  
Which of the following substantiates the facts mentioned in the above statement?
- (a) Majority of the people suffering from flu visit the health facilities in the city
  - (b) There has been a continuous increase in the sale of medicines for curing flu in the city limits
  - (c) People have started visiting the crowded places like malls and cinema halls during the last fortnight after cautioned gap of one month.
  - (d) There is a sudden increase in the number of deaths caused by flu like symptoms followed by respiratory complications.
  - (e) None of the above

12. **Statement-** India is buying over 1,000 new planes. However unprecedented expansion will place immense pressure on the aviation system. The industry currently appears to be underestimating the challenges ahead.  
Which of the following could be the reason for the concerns about “challenges ahead” in the above statement?
- (i) The buying frenzy, led by budget airlines like SpiceJet and IndiGo, is not without reason. Around 220 million Indians flew last year -- an annual increase of 20%.
  - (ii) The country is on track to overtake the U.K. as the world's third-largest aviation market by 2026.
  - (iii) Only 75 out of 400 airports are currently operational in India and even the biggest hubs like Mumbai, New Delhi and Chennai are bursting at the seams.
- (a) Only (i)
  - (b) Both (i) and (ii)
  - (c) Only (iii)
  - (d) Both (ii) and (iii)
  - (e) None of these
13. **Statement-** More than 9 million high-school students across China are taking the biggest exam of their lives known as the gaokao, this week. For millions of teenagers, it's a big source of stress. For many businesses, it's a great chance to make money.  
Which of the following statements/facts substantiates the importance of this test for Chinese people?
- (i) The grueling test determines where the students can go to university and what they'll study.
  - (ii) Parents are willing to loosen the purse strings to try to ensure success, splashing out on private tutors, good luck charms and even luxury hotels.
  - (iii) Chinese students have also begun spending more on drugs and dietary supplements that they believe will improve their memory and attention.
- (a) Only (i)
  - (b) Both (i) and (ii)
  - (c) Only (iii)
  - (d) Both (ii) and (iii)
  - (e) All (i), (ii) and (iii)
14. **Statement-** Drinking in moderation can help our health, some research has showed. Many doctors recommend a glass of wine or beer a night as part of diet plans such as the Mediterranean diet and the DASH diet, which have been proven to keep your heart and brain healthy. However, a new study suggests that even moderate drinking may not be great for your brain.  
Which of the following can be deduced from the above statement?
- (i) Scientific researches can contradict at times.
  - (ii) Moderate intake of wine is less harmful than cigarette.
  - (iii) Something which is not good for brain does not mean it cannot be healthy.
- (a) Only (i)
  - (b) Both (i) and (ii)
  - (c) Only (iii)
  - (d) Both (ii) and (iii)
  - (e) None of these.
15. **Statement-** Promos Marketing is a kind of marketing in which people used to buy those products again and again with the one they are more familiar with as compared to the newly introduced one.  
Which among the following is most similar type of Marketing?

- (a) A well-known brand has not changed its logo from past 10 years and still making profit from its product.
- (b) 'Wister' Company has launched a new product and advertised it with old theme songs so that everyone is aware of it and also making profit from it.
- (c) Arista Company used to launch its new products with the name of famous action movies so that it became popular among people.
- (d) A famous toothpaste brand used to add a new ingredient with the existing one time to time without changing its packaging so that it remains popular among people.
- (e) All are similar types of marketing.

**16. Statement-** A car company 'Aristo' was famous car manufacturing company 7 years ago but company's production has been declining from past 5 years. So, after all these mis happenings the company is forced to shut down now.

Which of the following could be the most possible reason for the above-mentioned statement?

- (a) The company did not have enough funds to buy raw material which was required for the product.
- (b) The employees of the company are not satisfied in their job.
- (c) The machinery was too old and was not in proper working condition.
- (d) The demand of the product has been declining from past 5 years.
- (e) The rival company's car are fully automatic and is composed with all new features.

**17. Statement-** As the festive season is round the corner, the country is on high alert due to rise in the level of pollution. So, Government has given the orders to use green crackers in place of conventional crackers just few days before Diwali. These green crackers are environment friendly and cost effective fire-crackers and produces 20-30% less pollution over conventional one.

Which of the following is incorrect with respect to the given statement?

- (I) Fire crackers release pollutant which in turn mixed with air and cause pollution.
  - (II) In festive season the level of pollution gets increased.
  - (III) The government is taking various steps to decline the level of pollution.
  - (IV) The green fire crackers are quite expensive, so the shopkeepers will have to bear loss.
- (a) I and II
  - (b) II and III
  - (c) I and IV
  - (d) only IV
  - (e) only III

**18. Statement-** There is a company in which there are three different groups of employees in which each of the employee gets salary in three different ways. In the first group, each employee gets complete salary in an envelope. In second group, each of the employee gets salary in two equal parts in two envelopes. In third group, each employee gets salary in an envelop having their child's name on it.

All the employees of third group spend least among all and employees of second group spend less than the first one.

What may be the thought process of the company behind this step?

- (I) It is a policy of the company as the employees are categorized in three groups based on their performance.
- (II) It is human psychology as those who get salary in two parts spend less. Because they would think before spending the second envelop. And third group spend least as it contained their child's name which itself has some emotional quotient. So, it will promote the saving habits among employees.
- (III) Company divided the employees in three groups according to their saving habits as those who are in second group are more saving oriented as compared to the first one.

What could be the reason behind the less spending of second group as compared to the first one?

- (a) I and II
- (b) II and III
- (c) I and III
- (d) only II
- (e) only III

**19.** Delhi metro commuters may face tough time from Saturday as Metro's 9,000-odd non-executive employees have threatened to go on a strike from June 30 after little headway during talks between the management and the workers. The non-executive workforce including train operators, station controllers, technicians, operations staff, maintenance staff, have been protesting since June 19 at various depots and control rooms of the Delhi Metro for revision of salaries and other issues.

The workforce play a critical role in running the Metro network and the strike may totally cripple the services. Last year too, Metro services had come to the brink of a shutdown when the non-executive staff had threatened to go on strike on similar demands. The crisis was, however, averted at the last moment after the DMRC management and staff council came to an agreement following a series of meetings. The employees are demanding pay hike, payment of arrears, right to form a union and fixed guidelines for sacking an employee only in extreme conditions.

- (a) Both Bold statement and Underlined statement are cause and Italic is the effect
- (b) Bold statement is the effect while Italic statement is cause
- (c) Underlined statement is effect while Bold statement is cause
- (d) Italic Statement is effect while Underlined statement is cause.
- (e) Both Bold statement and Underlined statement are effect while Italic is cause

**20.** Disaster management systems can safeguard India's heritage from climate changes. India is a signatory to the 2015 Sendai Framework for Disaster Risk Reduction, which recognizes that the State has the primary role in reducing disaster risk, terrorism related issues and identifies heritage as a priority area.

