had little effect on the overall structure of the network. But removing weak links first split the network into a series of unconnected islands, with individual users linked to a small collection of other phone users.

Thus the researchers have hypothesized that the weak links (the more tenuous connections between individuals from different social groups) might be very important in maintaining wider social cohesion. If you lose contact with casual acquaintances you may fragment your social circle, but if you stop talking to your brother there might be less visible impact on the structure of your social network.

1. The passage offers support for which of the following positions?

- A. 'Weak' links are more important than 'strong' links
- B. Links between family members would be likely to be disrupted by terminating 'weak' links
- C. Some people believe that phone-network patterns could be useful to social scientists
- D. Information transmission through phone networks is essentially the same as information transmission through face-to-face contact
- E. The 'strong' links are between geographically close individuals

2. In the last sentence the author apparently intends to

- A. make the ideas more specific to enhance the reader's understanding
- B. reinforce the researchers' conclusions
- C. provide a practical illustration of the meaning of a strong link
- D. generalize the argument to make it more appealing
- E. concretize an argument about the usefulness of the current research

3. Which of the following can be inferred from the passage?
(Select ALL answer choices that apply)

- A. The researchers had not anticipated the specific effects of removing weak links
- B. The phone-network studied had the same number of users throughout the study
- C. The phone users were unaware of the study

The standard methods of science proceed from observations to hypotheses to testing these hypotheses in controlled experiments. However, it would be a mistake to suppose that every hypothesis that comes out of observation lends itself to rigorous scientific scrutiny. **There are, in fact, many questions that can be asked of science that science is not in a position, for one reason or another, to answer.** (Such unanswerable questions cannot strictly be termed hypotheses, since a hypothesis must be testable.)

The recent debate over melanoma (skin cancer) screening provides an interesting example of this area of 'science that is not scientific' or 'trans-science' as a few eminent thinkers have termed it. Let's start with the observations. There has been an increase in the number of early-stage melanoma cases over the last twenty years. The incidence, measured in cases per thousand people, in the United States has doubled since 1896. As a result of the reported numbers, some physicians recommend screening for melanoma. The **'hypothesis'** that is implied here is that screening for melanoma will decrease the death rate from the disease. But how do we test it?

The conventional way to evaluate the effectiveness of a medical technique is the double blind trial. In this case we would have to assign some people to receive screening and some control people would not be screened. Then we would look at the death rate for melanoma in the two groups. The problems are logistic and ethical. If the answers are to reach statistical significance we need very large numbers and we need to follow people over whole lifetimes, neither of which is practical. And how do we decide who is to receive what might be a life-saving screening and who will be denied its potential benefits?

The data collected thus far on the effectiveness of screening is, not surprisingly, equivocal.

4. The author would apparently agree with which of the following?
(Select ALL answer choices that apply)

- [ ] A. The effectiveness of screening for melanoma is not proven
- [ ] B. Double blind trials are the best method to evaluate
- [ ] C. The death rate from melanoma is rising rapidly

5. The word in bold-face in paragraph 2 is placed in inverted commas to

- ( ) A. Suggest that the contention in the same sentence cannot be tested scientifically
- ( ) B. Emphasize the importance of framing hypotheses correctly
- ( ) C. Draw attention to the main word in the sentence
- ( ) D. Indicate that the author is using someone else's view
- ( ) E. Add weight to the author's view of the correct way to evaluate melanoma screening

6. Which of the following does the author mention as an example / examples of the 'reasons' mentioned in the highlighted sentence?

- [ ] A. Insufficiency of sample size
- [ ] B. Ethical considerations
- [ ] C. Ambiguous data

7. Answer this question based on the information in the paragraph below.

French cuisine is highly regarded all over the world. Yet in Paris there are more American restaurants selling burgers and fries (which many people now class as 'junk food') than there are in any other European capital city. Obviously the French are very fond of 'junk food', and are not too proud to eat it.

Which of the following, if true, would most weaken the author's contention?

- ( ) A. There are also a larger number of Lebanese restaurants in Paris than there are in other European capital cities
- ( ) B. French Cordon Bleu cuisine is very expensive
- ( ) C. The number of French tourists eating in New York burger restaurants is very low
- ( ) D. Junk food is actually has high nutritional value when eaten in moderation
- ( ) E. There are an unusually large number of American tourists in Paris who eat at burger joints

8. Answer this question based on the information in the paragraph below.

It is not unusual to see the ball fall into a black slot on a roulette wheel four times in a row. But for it to fall five or six times in a row into the same color is very unusual. Therefore you can win money by waiting for a run of five of the same color and then betting against that color.

If the roulette wheel in question is a fair wheel, which of the following observations or facts, if it were true, would best reveal a fallacy in the logic?

- ( ) A. If there were a reliable way to win at roulette it would be well-known by now.
- ( ) B. It is hard for a player to keep track of what went before for the time required.
- ( ) C. The probability of getting a particular color decreases with the number of times the color has appeared.
- ( ) D. The probability of getting a particular color is always the same no matter what has gone before.
- ( ) E. A person who makes money this way once or twice, will carry on to lose that money after a few more times.

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Answer Key

1. C

2. A

3. A

4. A

5. A

6. AB

7. E

8. D