

### Part One: Reading Comprehension

(Score: 11/20)

Read the following selection that highlights the controversial issue of bee disappearance, as a mystery that requires to be solved. When you are through with the reading, answer the questions that follow.

#### Bee Disappearance is a Honey of a Mystery

1 Where have all the bees gone? The mystery of vanishing bee colonies in America, Europe and elsewhere may not seem to matter much. For those of us whose main contact with bees is swatting them away from a summer picnic table, or wincing from an occasional sting, the disappearance of whole colonies of bees may almost be a blessing. But that is not so.

2 The honeybee's disappearance is, in fact, a significant threat. **It** not only raises the prospect of another wildlife species going extinct, it also endangers the livelihoods of beekeepers and farmers and even the cost and availability of many foods.

3 Since last fall, at least a fourth of the 2.4 million bee colonies in the U.S. have gone missing, according to the Apiary Inspectors of America. Some beekeepers – especially itinerant ones who move their bees cross-country to provide pollination services – reported that what is being called colony collapse disorder (CCD) has climbed up to 90% of their bees. And the scientists do not have many clues about what is killing these creatures.

4 Crops that make up a third of the U.S. diet depend on honeybees for production. That is \$15 billion worth of fruits, vegetables and tree nuts. Roughly 11% of all U.S. crops, measured by value, requires the bees to do their ancient job of aiding propagation by spreading pollen from one plant to another. And honeybees contribute to the pollination of many other crops, including major U.S. field crops soybeans, sunflowers and cotton. In California alone, about a fourth of all farm productions – \$6 billion in fruits, including grapes, nuts, vegetables, alfalfa and other crops – rely on honeybees.

5 For farmers **there** and elsewhere, CCD spells much higher production costs. Almond growers in California, for example, for years paid beekeepers \$30-\$50 per hive to pollinate their almond orchards each spring. Last year, fees for the bee's services rose to over \$100, largely because hive populations had been reduced by infestations of a deadly mite. "This year, with hives further devastated by CCD, the cost for desperate orchard owners climbed to between \$130 and \$150," says Gene Brandi, a spokesman for the California State Beekeepers Association. "Some even imported colony starter kits, which have a queen and a few thousand worker bees from Australia to do the job," he says.

6 Eventually, consumers will pay the price for the pollinators' disappearance. Poor pollination will shrink yields, driving up the tab for putting fruits, vegetables and other foods on the dinner table. Already, the price of honey is pushing higher. Producers got an average of 14% more last year for the golden sweetener than they did the year before.

7 Unless bee experts solve the mystery and come up with a remedy soon, millions more bees are bound to be wiped out next fall and winter. Making matters worse, populations of other pollinators, such as wasps and other bees have been vastly reduced by pesticide use, loss of habitat or other diseases. Wild honeybees, for example, are being ravaged by the same deadly varroa mite, an external parasitic bug that attacks honey bees, that beekeepers see attacking their hives.

8 What entomologists know about CCD now is fairly elementary. According to Professor Diane Cox Foster at Penn State University, it apparently involves a loss of navigation ability for bees since they leave the hive and do not return, leaving only the queen and a few young. Additionally, high levels of bacteria and, particularly, fungi are typically found in dead bees, suggesting something is suppressing their immune

systems. The leading suspects are pathogens, perhaps imported from another continent, and pesticides, including the *Bacillus thuringiensis*, naturally occurring bacteria in soil, that genetically engineered corn and cotton produce themselves. But scientists are casting a wide net in their search for the cause. Even the possible effects of radio waves – from cell phones, for example – on bees' homing ability are being checked. Their efforts are aided by the recent sequencing of the honeybee genome at Baylor University. **That** will allow them to quickly isolate and identify genes tied to traits that may resist CCD.

9 “Meanwhile, beekeepers are playing defense with hive hygiene, mite control and extra feed to strengthen bees,” says Daniel Weaver, president of the American Beekeeping Federation. They are being more cautious in blending new bees with theirs and asking farmers to help by taking great care with the use of pesticides. Some pesticides can hurt queens and young bees even though they are safe for adult bees. Beekeepers now want anyone applying pesticides within a three-mile radius of the beehives to communicate with the bees' managers.

### Questions

- A.** Answer each of the following questions in 1-4 complete sentence(s) of your own.
1. Why is bee disappearance considered a mystery in the selection above? (Score: 0.5pt)
  2. Explain how the absence of bees affects crops. (Score: 01pt)
  3. Explain why the reasons behind CCD are still not conclusive. (Score: 01pt)
  4. Deduce whether beekeepers will succeed in their attempts to save their bees. (Score: 01pt)
- B.** Answer the following questions in complete sentences.
1. Identify the ironical situation in Paragraphs 1 and 2. Justify your answer. (Score: 01pt)
  2. What two functions does the use of statistical figures and numbers in Paragraph 3 serve? Explain. (Score: 01pt)
  3. What two adjectives best describe the writer’s tone in Paragraph 7? Justify your answer. (Score: 01pt)
  4. Identify two types of audience, other than the general reader, that might be interested in the reading selection above. State the interest each type might have. (Score: 01pt)
- C.** Scan Paragraphs 3, 5 and 6 to fill in the table below as indicated. Copy the table in your booklet, and use phrases. (Score: 1.5pts.)

	Danger/Problem Faced	Result Expected
1. Beekeepers		
2. Farmers		
3. People		

- D.** Refer to Paragraphs 3, 4 and 7 to find words/phrases that have the following meanings. (Score: 01pt)
- |  |  |
|--|--|
| 1. <i>travelling or moving from one place to another</i> | 3. <i>to destroy completely; to kill</i>   |
| 2. <i>multiplication by natural reproduction</i>         | 4. <i>very great in number or quantity</i> |
- E.** What does each of the words, **bold-typed** in the selection above, refer to? (Score: 01pt)
- |                            |                            |                               |                              |
|----------------------------|----------------------------|-------------------------------|------------------------------|
| 1. <b>so</b> (Paragraph 1) | 2. <b>It</b> (Paragraph 2) | 3. <b>there</b> (Paragraph 5) | 4. <b>That</b> (Paragraph 8) |
|----------------------------|----------------------------|-------------------------------|------------------------------|

**Part Two: Writing** (Score: 09/20)

*“For the sake of development, people remove trees and vegetation, change how they use land, and keep expanding paved areas. All these not only affect the environment, but also the balance among its habitats and food chains.”* **Develop this idea in an essay of 250-300 words, showing the negative impacts of the above actions and/or showing the impacts of a green city on sustainable development.** Provide facts and real-life examples. See that, in your introduction, you put your reader in the general atmosphere of your topic and clearly provide a thesis statement, and that each of your body paragraphs starts with a topic sentence which you back up with relevant supporting details. Draft, revise and proofread your essay. Your writing will be assessed for ideas, language, style and tidiness. **[Score: 05 for ideas and organization, 03 for language and style, and 01 for tidiness and legible handwriting.]**

Part of Question	Answer Key	Mark
I-A-1	The disappearance of bees is a mystery because the main reason behind their increased extinct is still not known despite of the scientists' efforts and studies to find out accurate answers.	0.5
I-A-2	Bees are the main factor behind many crops' reproduction. They help in pollinating the flowers of many fruits and vegetables by carrying the pollen from one plant to another which results in reproduction. Thus, the absence of bees has a negative effect and will reduce reproduction and the amount of crops.	01
I-A-3	The reasons behind CCD are not conclusive because they are still under study. The loss of bees' navigation ability is an apparent reason, and the presence of bacteria in dead bees suggests ideas scientists need to investigate more about. As for the influence of radio waves, it is also an under-study factor. Thus, none of these reasons may be the accurate cause of CCD.	01
I-A-4	Beekeepers are applying many strategies in an attempt to save their bees. Each strategy followed is related to one of the suspected reasons behind CCD: providing hygiene, controlling mites, strengthening the food of bees, blending their bees with new ones, and trying to control the use of pesticides by farmers. Thus, since it is not accurate which reason is behind CCD, beekeepers might not succeed in saving their bees; it is a matter of inaccurate solutions since the reason is still not accurate.	01
I-B-1	The ironical situation is when people consider the absence of bees a blessing, for they will get rid of bees' stings and will enjoy their picnic time. However, the absence of bees is a dangerous sign due to its many negative consequences. Thus, people's beliefs are opposite to what science expects. <b>N.B: 0.5 for identifying the situation and 0.5 for explanation</b>	01
I-B-2	First, they help the writer achieve credibility because statistics and numbers are a type of evidence to back up opinions. Second, they show how serious the issue of bee disappearance is because 2.4 million bee colonies have disappeared and there is 90% of colony collapse, which are huge numbers that justify why people should worry about the whole issue. <b>N.B: 0.5 for each.</b>	01
I-B-3	The writer's tone is warning/alarming and pessimistic/worried. In the first sentence, he warns against the negative consequences that might result from keeping the mystery of bee disappearance unsolved. In the rest of the sentences, he provides	01

	gloomy future images regarding the loss of habitats by using words such as “worse”, “loss”, “diseases”, “deadly”, and “attack”. <b>N.B: 0.5 for each adjective with its justification.</b>													
<b>I-B-4</b>	The first type might be environmentalists/entomologists because the selection provides details about an expected extinction of bees and its negative influences on other habitats. The second type might be farmers/beekeepers because the selection highlights issues related to many crops production and the role bees play in reproduction. <b>N.B: 0.25 for each identification and 0.25 for each justification</b> <b>Any other logical answer is acceptable.</b>	<b>01</b>												
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