ACT Exam A Passage 4 – Natural Science (Test ID 6858)

This passage, from a publication titled "The Health Effects of Caffeine," discusses the complexities of governing the use of caffeine in food and beverages.

1

The use of beverages that contain caffeine has been debated for centuries. In almost every part of the world where coffee and tea have been available, religious or government leaders have tried to ban or restrict its use. All such attempts, until the present time, lacked scientific credibility.

2

New studies linking caffeine use to central nervous system problems and birth defects in test animals have prompted scientists and policy makers in the U.S. to reconsider caffeine's regulatory status. This is a complex task, however, because caffeine is regulated under three different sections of the Federal Food, Drug, and Cosmetic Act. It is a natural ingredient in coffee and tea, a food additive in soft drinks, and an added ingredient in over-the-counter drugs.

3

Foods containing any poisonous or hazardous substance are defined as adulterated and prohibited by the Food and Drug Act. However, foods which naturally contain harmful substances may be permitted if the amount of the substance does not ordinarily injure health. Thus, foods containing caffeine, like coffee and tea, are approved despite caffeine's adverse health effects at high dose levels.

4

As a food additive, caffeine is regulated as a "generally recognized as safe" (GRAS) substance. Because of this regulatory status, food processors are not products. Instead, caffeine's long and widespread history required to prove caffeine's safety before adding it to their of use is considered sufficient proof of safety. The Food and Drug Administration (FDA) has published rules which limit the amount of caffeine that can be added to foods.

5

Caffeine is also an ingredient in many over-the-counter drug preparations. The Food and Drug Act specifies that all drug ingredients must be safe and effective for their intended use. Caffeine is an effective stimulant which is why it is added to pain relievers and cold remedies. When used as directed in these medicines, caffeine is safe and presents no health hazards to the vast majority of consumers.

6

Recently, a committee of the Federation of American Societies for Experimental Biology reviewed all the scientific evidence on caffeine. Based on caffeine's stimulant properties, this advisory group recommended to the FDA that caffeine be removed from the so-called GRAS list of food chemicals. As a result of this and petitions from other groups, the FDA proposed new regulations for caffeine use. If these proposals are adopted, caffeine will be removed from the GRAS list. The FDA will also amend the current rule which governs the mandatory use of caffeine in certain soft drinks.

6

Removing caffeine from the GRAS list would have little immediate impact on consumers. This action would require food processors to gather additional scientific evidence to prove caffeine is safe. During the time needed to conduct proper studies, caffeine would still be available for use. However, if food processors fail to provide this required information, or find additional evidence that caffeine is harmful, the FDA could take action to ban the use of caffeine as a food additive.

7

Current regulations state that caffeine must be an ingredient in "cola" and "pepper" flavored soft drinks. About 10 percent of the caffeine in these products is obtained naturally from cola nuts, the chief flavoring agent. The remaining 90 percent is added caffeine.

8

Current rules do not require added caffeine other than that naturally present in cola nuts. Added caffeine is an optional ingredient which must be listed on the product label. The caffeine derived from cola nuts does not have to be listed among the product ingredients.

10

Under the new FDA proposal, both natural and added caffeine would become optional ingredients in cola and pepper soft drinks. Thus, manufacturers could make an essentially caffeine-free product by decaffeinating cola nuts and avoiding added caffeine. The new proposal would also require that any caffeine, whether added or natural, be listed on the ingredient label.

11

These proposed regulations would not affect the use of caffeine in non-cola soft drinks or in over-the-counter drugs.

American Council on Science and Health,
"The Health Effects of Caffeine"

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1. Based on information in the passage, the main function of the Food and Drug Administration is to:
   (A) make the rules governing the use of caffeine in food products.
   (B) force soft-drink manufacturers to keep caffeine in colas and pepper-flavored drinks to a minimum.
   (C) make laws that must be followed by food manufacturers.
   (D) control caffeine in food products and in over-the-counter drugs:

2. As used in line 17, the word *adulterated* means:
   (F) prohibited.
   (G) unlawful.
   (H) lethal.
   (J) dangerous.

3. Despite its apparent hazards, caffeine has not been banned from food products because:
   (A) it has a long and honorable history of use.
   (B) consumers can avoid caffeine by reading ingredient labels.
   (C) small quantities have never been proved harmful.
   (D) food manufacturers claim that the caffeine controversy has been exaggerated.

4. "Generally recognized as safe" (lines 24-25) is:
   (F) a description of caffeine used by manufacturers of food products.
   (G) an official government designation applied to any number of food products.
   (H) a phrase called "misleading" by the Federation of American Societies for Experimental Biology.
   (J) the FDA's stamp of approval that appears on pain relievers and cold remedies containing caffeine.

5. According to the passage, which of the following is most likely to occur if caffeine is taken off the GRAS list?
   (A) All soft drinks will be caffeine-free.
   (B) Manufacturers will stop adding caffeine to food products.
   (C) All food products containing caffeine will be labeled with a warning to consumers.
   (D) Manufacturers of food products will be required to prove that caffeine is harmless.

6. Based on the passage, when changes are planned in federal food and drug laws, the government must consider the interests of all of the following groups EXCEPT:
   (F) pharmacists who dispense over-the-counter drugs.
   (G) manufacturers of food products.
   (H) consumer groups.
   (J) scientists and other researchers.

7. Soft drink manufacturers prefer to use the natural caffeine found in cola nuts in their products because:
   (A) caffeine makes drinks more flavorful.
   (B) consumers enjoy the lift they get from caffeine.
   (C) caffeine helps to keep the drink from spoiling.
   (D) it is one of the least expensive food additives.

8. According to the passage, past attempts to ban drinks containing caffeine have failed because:
   (F) people refused to change their habits.
   (G) the tea, coffee, and soft drink industries were too strong.
   (H) opponents of caffeine lacked scientific data to back up their objections.
   (J) lawmakers could not agree on how to enforce anti-caffeine regulations.

9. Which of the following properties of caffeine is not indicated by information in the passage?
   (A) It is addictive.
   (B) It has been shown to be hazardous to laboratory animals.
   (C) It is found in nature.
   (D) It makes sick people feel better.

10. The author of the passage seems primarily concerned with:
   (F) procedures for amending the Federal Food, Drug, and Cosmetic Act.
   (G) the future of caffeine in foods.
   (H) warning readers about the hazards of caffeine.
   (J) the need for more scientific investigation of the effects of caffeine.