單選題（請依下列各文所述，選出最合適的答案。共7篇文章，每篇5或10題，每題2分，每題答錯倒扣0.5分，各篇扣完爲止。）

※ 注意：請於試卷上「選擇題作答區」依序作答。

Article #1. Processing Breakfast Cereals to Deliver Nutrition

(J. Peter Clark, Food Technology 60(3): 89-90, 94, 2006.)

Ready-to-eat breakfast cereals were among the first deliberately conceived "health foods", developed at sanitariums in Battle Creek, Mich., to make more palatable the diets based on whole grains that were advocated then. Some of the processes and products developed in the early days of the industry are still in use.

Early products included flakes made from corn grits and wheat berries, shredded-wheat biscuits, and nuggets of barley and other ingredients baked in loaves and then milled and dried. Today, RTE cereals are profitable and diverse segments of major food companies, including General Mills, Kellogg, Kraft (Post), and PepsiCo (Quaker). The early cereals had separate mixing, cooking, forming, drying, and coating steps. Typically, many of these process steps were, and often still are, batch operations. For example, whole wheat berries or corn grits would be cooked in pressure vessels with added malt, salt, and other ingredients, using direct steam injection. The objective is to gelatinize the starch and temper the grains with enough moisture to make them plastic without turning them to soft mush.

After cooking, the grain is cooled and slightly dried before forming by passing between polished steel rolls to form flakes. Whole-grain rice is also cooked and then lightly "bumped" between rolls before forming by toasting in an oven to make a crisp rice cereal. Modern extrusion technology, which can combine the operations of mixing, cooking, forming, and expansion in one machine, has allowed manufacture of a credible imitation by direct extrusion.

1. The word of "sanitarium" means (A) a small town (B) a health resort (C) prospective era (D) a big plant.
2. (A) wheat (B) corn (C) barley (D) soy bean is generally not used for making breakfast cereals.
3. The reason of using pressure vessel to cook corn grits is due to (A) large volume (B) more water (C) higher cooking temperature (D) more air.
4. To gelatinize starch is to cook the grains with water and make it to be (A) gruel (B) porridge (C) wheat flour dough-like material (D) bread.
5. The batch operations can be used (A) in any time (B) only in the past (C) only for the time being (D) only in the future.
6. After cooking, the grain is cooled and slightly dried before forming by passing between polished steel rolls to form flakes. The purpose of being cooled and slightly dried is to (A) reduce pressure (B) minimize stickiness (C) stop gelatinization (D) enlarge the volume.
7. "Toasting in an oven" is an essential step for making a crisp rice cereal. It is to (A) expand (B) humidify (C) flatten (D) pressurize the cooked whole-grain rice.
8. The feature of extrusion is (A) batch (B) continuous (C) low temperature (D) very high water operation.
9. Ready-to-eat breakfast cereals were deliberately conceived "health foods" based on (A) whole grains (B) germ in the kernel (C) starch in the endosperm (D) protein.
10. "Palatable diet" means (A) diet with cereals (B) diet with essential nutrients (C) diet with good taste (D) diet with water.

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Article #2. A summary of the World Cancer Research Fund report

(Cited from Paul Appleby, "Diet and Cancer - A summary of the World Cancer Research Fund Report", European Vegetarian Union News, Issue 4 /1997.)

The first global report on diet and cancer, published in September 1997 by the World Cancer Research Fund in association with the American Institute for Cancer Research, is a hugely impressive document. Food, Nutrition and the Prevention of Cancer: a global perspective is a 650 page report prepared by an international panel of 15 scientists from nine countries, supported by over 100 reviewers, who assessed more than 4,000 studies of diet and cancer.

The report estimates that dietary change could reduce global cancer incidence by 30 to 40 per cent, equivalent to three to four million cases per year worldwide. Together with a cessation of smoking this means that 60 to 70 per cent of cancers are preventable.

Most of the report consists of an assessment of the links between a wide range of foods and drinks, nutrients, methods of food processing and storage, body size and level of physical activity, and each of eighteen common cancers. For factors judged to either increase or decrease the risk of a given cancer the strength of the association is classified as "convincing", "probable" or "possible". In general, plant foods reduce the risk of cancer. For example, vegetables reduce the risk of cancer of the mouth and pharynx, oesophagus, lung, stomach, colon and rectum (convincing), larynx, pancreas, breast and bladder (probable), liver, ovary, endometrium, cervix, prostate, thyroid and kidney (possible). Similarly, fruits reduce the risk of cancer of the mouth and pharynx, oesophagus, lung and stomach (convincing), larynx, pancreas, breast and bladder (probable), ovary, endometrium, cervix and thyroid (possible). In contrast, alcohol, meat, dietary fats and obesity increase the risk of various cancers. Meat, for example, probably increases the risk of colorectal cancer, and possibly increases the risk of cancers of the pancreas, breast, prostate and kidney.

Studies of vegetarians show that they have a decreased incidence of cancer in general and at several specific sites after allowing for the effects of other lifestyle factors such as smoking and amount of exercise. These benefits are due not only to the exclusion of meat, but also to the inclusion of a greater quantity and variety of plant foods containing a wide range of cancer preventive substances.

The panel make a total of fourteen dietary recommendations aimed at both policymakers and individuals. For example, individuals are advised to:

-- Choose predominantly plant based diets rich in a variety of vegetables and fruits, pulses (legumes) and minimally processed starchy staple foods.

-- Maintain a reasonable body weight (body mass index, a measure of relative weight calculated by dividing your weight in kilograms by the square of your height in metres, should be between 18.5 and 25 kg/m2).

-- Take an hour of brisk walk or similar exercise daily, and also exercise vigourously for at least one hour per week if occupational activity is low or moderate.

-- Eat 400-800 grams (15-30 ounces) or five or more portions (servings) a day of a variety of vegetables and fruits, all year round.

-- Eat 600-800 grams (20-30 ounces) or more than seven portions (servings) a day of a variety of cereals (grains), pulses (legumes), roots, tubers and plantains. Prefer minimally processed foods. Limit consumption of refined sugar.

-- Limit alcoholic drinks, if consumed at all, to less than two drinks a day for men and one for women.

-- Limit intake of red meat, if consumed at all, to less than 80 grams (3 ounces)

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daily.

-- Limit consumption of fatty foods, particularly those of animal origin.

-- Limit consumption of salted foods and the use of cooking and table salt.

Other recommendations relate to the storage and preservation of food, the monitoring and enforcement of safety limits for food additives, pesticide residues and other chemical contaminants in food, the avoidance of charred food, and the use of dietary supplements which are judged to be probably unnecessary, and possibly unhelpful, for reducing cancer risk. Individuals are also advised to neither smoke nor chew tobacco.

The report is not a vegetarian manifesto, but it clearly identifies a diet based on plant foods as the best for cancer prevention. A low fat vegetarian or vegan diet, allied to physical exercise, maintenance of a reasonable body weight and the avoidance of tobacco, represents a lifestyle perfectly in line with the recommendations of this landmark publication.

11. Who is the author of this article? (A) the World Cancer Research Fund (B) the American Institute for Cancer Research (C) Paul Appleby (D) European Vegetarian Union.
12. How many alcoholic drinks should a man consume in a day? (A) 0 (B) 1 (C) 2 (D) 3.
13. Changing diet could reduce global cancer incidence by (A) 35 %, (B) 45 % (C) 65% (D) none of the above.
14. Which of the followings could decrease the risk of cancers? (A) wine (B) legumes (C) pickles (D) hamburger.
15. What is a reasonable body mass index? (A) 18 (B) 22 (C) 26 (D) all of the above.
16. Vegetables are less likely to reduce the risk of cancer of the (A) pancreas (B) kidney (C) bladder (D) lung.
17. How many serving of vegetables and fruits should we eat everyday? (A) 2 (B) 3 (C) 4 (D) 5.
18. How many grams of red meat should we eat in a day? (A) 60 (B) 80 (C) all of the above (D) none of the above.
19. Which of the followings need not be limited? (A) barbecue (B) bacon (C) donut (D) yogurt.
20. Fruits are more probable of reducing the risk of cancer of the (A) breast (B) larynx (C) pharynx (D) thyroid.

Article #3. Garlic (from http://www.garlic-central.com/garlic-health.html)

Garlic health benefits and medicinal properties have long been known. Garlic has long been considered a herbal "wonder drug", with a reputation for preventing everything from the common cold and flu to the Plague! It has been used extensively in herbal medicine (phytotherapy, sometimes spelt phitotherapy). Raw garlic can assist in managing high cholesterol levels. It can even be effective as a natural mosquito repellent. In general, a stronger tasting clove of garlic has more sulphur content and hence more medicinal value. Some people prefer to take garlic supplements. These pills and capsules have the advantage of avoiding garlic breath. Modern science has shown that garlic is a powerful antibiotic. The body does not appear to build up resistance to the garlic, so its positive health benefits continue over time. Studies have shown that garlic - especially aged garlic - can have a powerful

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antioxidant effect. Antioxidants help to protect the body against damaging "free radicals".

· The medicinal properties and benefits of garlic are strongest when it is raw and crushed or very finely chopped
· Don't overdo it - too much can irritate the digestive tract
· Raw, crushed garlic is an anti-fungal, however it can produce skin blistering
· Raw, crushed garlic is a powerful antibiotic
· Cooked prepared garlic is less powerful but still reputedly of benefit to the cardiovascular system
· Garlic cloves cooked whole have very little medicinal value
· If buying garlic pills, check the ingredients
· Always consult your doctor regarding any medical matter

Garlic makes a wonderful health supplement but the garlic cure is no substitute for the basics: sensible eating and appropriate exercise. Garlic should be seen as part of a healthy lifestyle - not as an alternative to it. There are two main medical ingredients which produce the garlic health benefits: allicin and diallyl sulphides. Raw garlic is very strong, so eating too much could produce problems, for example irritation of or even damage to the digestive tract. There are a few people who are allergic to garlic. Symptoms of garlic allergy include skin rash, temperature and headaches. Also, garlic could potentially disrupt anti-coagulants, so it's best avoided before surgery. As with any medicine, always check with your doctor first and tell your doctor if you are using it.

21. According to the article stated above, which of the following statements is not correct? (A) Some people prefer to take garlic supplements. These pills and capsules can not avoid garlic breath. (B) Garlic cloves cooked whole has very little medicinal value. (C) Eating a lot of raw garlic could produce problems, for example irritation of or even damage to the digestive tract. (D) Antioxidants help to protect the body from the damage of "free radicals".
22. According to the article stated above, which of the following statements is correct? (A) There are a few people who are not allergic to garlic. (B) Symptoms of garlic allergy include skin rash, fever and headaches. (C) Modern science has shown that garlic is a weak antibiotic. (D) Garlic could potentially disrupt anti-coagulants, so it's suggested to be taken before surgery.
23. How many main medical ingredients which produce the garlic health benefits stated in this article? (A) one (B) two (C) three (D) four.
24. According to the article stated above, which kind of garlic can have a powerful antioxidant effect? (A) raw garlic (B) cooked garlic (C) crushed garlic (D) aged garlic.
25. According to the article stated above, which of the following statements is incorrect? (A) Garlic makes a wonderful health supplement and the garlic cure is a substitute for the basics of human life. (B) Garlic should be seen as part of a healthy lifestyle - not as an alternative to it. (C) Eating well and appropriate exercise are very important to the human life. (D) Garlic is a very important dietary supplement of human life.

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Article #4. Reishi (ex. *Ganoderma lucidum*)
(from http://www.kroger.com/hn/Herb/Reishi.htm)

Reishi mushrooms grow wild on decaying logs and tree stumps in the coastal provinces of China. The fruiting body of the mushroom is employed medicinally. Reishi grows in six different colors, but the red variety is most commonly used and commercially cultivated in North America, China, Taiwan, Japan, and Korea. Reishi has been used in Traditional Chinese Medicine for at least 2,000 years. The Chinese name *ling zhi* translates as the "herb of spiritual potency" and was highly prized as an elixir of immortality. Its Traditional Chinese Medicine indications include treatment of general fatigue and weakness, asthma, insomnia, and cough.

Reishi may lower blood pressure as well as decrease LDL ("bad") cholesterol and also help reduce blood platelets from sticking together—an important factor in lowering the risk for coronary artery disease. While human research has been reported that demonstrates some efficacy for the herb in treating altitude sickness and chronic hepatitis B, these uses still need to be confirmed in well-designed human trials. Animal studies and some very preliminary trials in humans suggest reishi may have some beneficial action in people with diabetes mellitus and cancer. Two controlled clinical trials have investigated the effects of reishi on high blood pressure in humans and both found it could lower blood pressure significantly compared to a placebo or controls. Reishi can be taken either as 1.5–9 grams per day of the crude dried mushroom, 1–1.5 grams per day in powdered form, 1 ml per day of tincture, or as a tea. Reishi contains several major constituents, including sterols, coumarin, mannitol, polysaccharides, and triterpenoids called ganoderic acids. Side effects from reishi can include dizziness, dry mouth and throat, nosebleeds, and abdominal upset. These rare effects may develop with continuous use over three to six months. Pregnant or breast-feeding women should consult a physician before taking reishi.

26. According to the article stated above, which of the following statements is incorrect? (A) The Chinese name *ling zhi* translates as the "herb of spiritual potency" and was highly prized as an elixir of mortality. (B) The fruiting body of the reishi is used medicinally. (C) Reishi commercially cultivated in North America, China, Taiwan, and Japan. (D) Reishi contains a couple of major constituents.
27. According to the article stated above, which of the following statements is correct? (A) Reishi can be taken either as 1.5–9 ml per day of the crude dried mushroom. (B) Reishi grows in six different colors, but the brown variety is most commonly used. (C) Reishi mushrooms grow wild on healthy logs. (D) Reishi could lower blood pressure and decrease LDL cholesterol.
28. According to the article stated above, which of the following statement is not correct? (A) Reishi has been used in Traditional Chinese Medicine for over 2,000 years. (B) The side effects of reishi may occur with continuous use over three to six months. (C) Reishi may lower the risk for coronary artery disease. (D) Reishi's Traditional Chinese Medicine indications include treatment of general fatigue and weakness, asthma, hypertension, insomnia, and cough.
29. Which of the following one is not the side effect of reishi according to the article stated above? (A) runnig nose (B) abdominal uncomfortable (C) dry mouth and throat (D) giddiness.
30. Which of the following one is not the major components of reishi according to the article stated above? (A) ganoderic acids (B) mannose (C) triterpenoids (D) polysaccharides.

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Article #5. Avian influenza
(Adapted from CDC Flu site)

Avian influenza is an infection caused by avian influenza viruses. These flu viruses occur naturally among birds. Wild birds worldwide carry the viruses in their intestines, but usually do not get sick from them. However, avian influenza is very contagious among birds and can make some domesticated birds, including chickens, ducks, and turkeys, very sick and kill them. Infection with avian influenza viruses in domestic poultry causes two main forms of disease that are distinguished by low and high extremes of virulence. The low pathogenic form may go undetected and usually causes only mild symptoms (such as ruffled feathers and a drop in egg production). However, the highly pathogenic form spreads more rapidly through flocks of poultry. This form may cause disease that affects multiple internal organs and has a mortality rate that can reach 90-100%, often within 48 hours. Infected birds shed influenza virus in their saliva, nasal secretions, and feces. Susceptible birds become infected when they have contact with contaminated excretions or with surfaces that are contaminated with excretions or secretions. poultry or through contact with surfaces (such as dirt or cages) or materials (such as water or feed) that have been contaminated with the virus. Bird flu viruses do not usually infect humans, but more than 100 confirmed cases of human infection with bird flu viruses have occurred since 1997. Most cases of avian influenza infection in humans have resulted from direct or close contact with infected poultry or surfaces contaminated with secretions and excretions from infected birds. The spread of avian influenza viruses from an ill person to another person has been reported very rarely, and transmission has not been observed to continue beyond one person. During an outbreak of avian influenza among poultry, there is a possible risk to people who have direct or close contact with infected birds or with surfaces that have been contaminated with secretions and excretions from infected birds.

31. Which of the following is the causative agent of bird flu?
(A) DNA viruses (B) RNA viruses (C) influenza viruses (D) avian influenza viruses

32. Which of the following animals is susceptible to bird flu viruses?
(A) monkey (B) donkey (C) turkey (D) goat

33. Which of the following is TRUE according to the passage?
(A) Avian influenza is transmissible among birds
(B) Chickens are resistant to avian influenza viruses
(C) Waterfoul carry the viruses in their mouth.
(D) Avian influenza viruses can infect all domestic animals.

34. Which of the following is TRUE according to the passage?
(A) The mild viruses usually cause the death of infected animals.
(B) The virulent viruses cause a drop in egg production.
(C) The temperate viruses cause the damage of multiple internal organs
(D) The virulent viruses cause the death of infected animal within 48 hours.

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35. The underline word **mortality** in the passage is closest in meaning to

(A) heavy injury (B) death (C) damage (D) mutagenicity

36. According to the passage, which part of infected birds will NOT hold highly amounts of viruses?

(A) saliva (B) nasal secretions (C) feces (D) feather

37. Which of the following is NOT true according to the passage?

(A) Domestic birds are mainly infected by avian influenza viruses through direct contact with sick waterfowl.

(B) Wild birds usually are not killed by avian influenza viruses.

(C) Wild birds carry the viruses in their intestine.

(D) Wild birds seldom get sick from viruses.

38. Which of the following is NOT true according to the passage?

(A) Bird flu viruses usually do not infect humans.

(B) The mild viruses cause ruffled feathers.

(C) The low pathogenic viruses cause the damage of internal organs

(D) The high pathogenic viruses cause the death of infected birds in 2 days.

39. Which of the following is NOT true according to the passage?

(A) Domestic birds become infected by contaminated dirty or feed.

(B) Bird flu viruses can survive in feed, water and environmental materials.

(C) More than 100 peoples were infected by bird flu viruses in 1997.

(D) Infected person seldom spread viruses to another person.

40. Which of the following is NOT true according to the passage?

(A) During an outbreak of bird flu among poultry, humans are not in the danger of bird flu.

(B) Close contact with sick birds give humans a risk to avian flu.

(C) Poultry contaminated with excretions from infected birds are contagious.

(D) Both secretions and excretions from infected bird are dangerous to birds and humans.

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Article #6. Pandemic and Avian Flu

(Cited from website of U.S. Food and Drug Administration, 2006)

A pandemic is a global disease outbreak. A flu pandemic occurs when a new influenza virus emerges for which people have little or no immunity and for which there is no vaccine. The disease spreads easily person-to-person, causes serious illness, and can sweep across the country and around the world in a very short time.

It is difficult to predict when the next influenza pandemic will occur or how severe it will be. In the past century pandemics occurred in 1918-1919, 1957-1958 and 1968-1969.

Wherever and whenever a pandemic starts, everyone around the world is at risk. Countries might delay arrival of the virus, through measures such as border closures and travel restrictions, but they cannot stop it.

Avian flu is caused by influenza A avian viruses that occur naturally among birds. There are many different subtypes of type A influenza viruses. All known subtypes can be found in birds. The avian flu currently of concern is the H5N1 subtype. Avian H5N1 flu in humans is currently very limited and not a pandemic.

Although H5N1 probably poses the greatest current pandemic threat, other avian influenza A subtypes also have infected people in recent years. For example, in 1999, H9N2 infections were identified in Hong Kong; in 2002; and 2003, H7N7 infections occurred in the Netherlands and H7N3 infections occurred in Canada. These viruses also have the potential to give rise to the next pandemic.

41. Which of the following would be the most appropriate title for the passage? (A) What Is the Difference Between Pandemic Flu and Avian Flu? (B) The History of Pandemic Flu and Avian Flu (C) The Causes of Flu (D) Influenza is a Contagious Disease
42. Why can a pandemic flu sweep across a country in a very short time? (A) Because it is caused by virus (B) Because birds carry it and migrate around the world (C) Because there is no vaccine and most people have no immunity (D) Because it causes serious illness
43. When did the latest pandemic flu occur? (A) 1918-1919 (B) 1957-1958 (C) 1968-1969 (D) 2002-2003
44. What does H5N1 stand for? (A) An area code for avian flu studying group (B) A type of influenza virus (C) A combination code for virus and bird (D) A code for different types of birds
45. Which of the following statements about current status of avian H5N1 flu is true? (A) It is a global disease (B) It has infected many people since 1999 (C) It spreads easily person-to-person (D) It spreads easily bird-to-bird.

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Article #7. Dangerous Peanut Kisses?

(Cited from Lynn A. Kuntz, 2006, Food Product Design)

Although the recent reports of the peanut-implicated kissing death of a Canadian teen has since been attributed to other causes after a coroner's examination, such a danger might actually exist, according to a new study presented on March 8, 2006 at the 2006 Annual Meeting of the American Academy of Allergy, Asthma and Immunology (AAAAI) in Miami Beach, FL.

Jennifer M. Maloney, MD, Mount Sinai Medical Center, New York, and colleagues conducted a study to find out how much peanut allergen remained in the saliva after eating peanuts. The study also measured the level of peanut allergen in saliva after people brushed their teeth. First, 10 people ate a sandwich containing two tablespoons of peanut butter; their saliva was collected at different times after the meal. For the second phase of the test, samples were collected following peanut-butter consumption and again immediately after cleaning the teeth. Researchers found that all subjects had undetectable allergen levels within approximately four hours without any intervention, and that one hour after the meal, the level in saliva from six of the seven subjects was undetectable. However, cleaning or rinsing the teeth after eating the meal didn't immediately drop the allergen levels down to below detection.

The study concluded that practical advice for those with peanut-allergic mates may include brushing teeth, plus waiting a number of hours before kissing, but added that a larger group must be studied before issuing any recommendations.

46. According this passage, who was killed? (A) Jennifer M. Maloney (B) A colleague of Jennifer M. Maloney (C) A teenager from Canada (D) A coroner.
47. What did cause the death? (A) Eating peanuts (B) peanut allergy (C) A long kiss (D) It is not mentioned in the passage.
48. Where does Jennifer M. Maloney work? (A) Mount Sinai Medical Center (B) American Academy of Allergy, Asthma and Immunology (C) Miami Beach, Florida (D) Canada.
49. What was the purpose of Jennifer M. Maloney's study? (A) Allergic reaction in mouth (B) How much peanut allergen can we tolerate? (C) Can saliva digest peanut allergen? (D) How long peanut allergen will remain in our moth?
50. What is the conclusion of this passage? (A) We should pay more attentions to our friends who are allergic to peanut (B) Do not eat peanuts while we are kissing (C) Peanuts contain many allergens (D) Brush teeth after eating peanuts.