

Note: Place one tick only for each question. You may leave the test occasion only 20 minutes after starting at the earliest. Approval of the test is gained with a score of minimum 34/40 points. Please, write your answers using a ballpoint pen (not black) or similar writing means ensuring permanency of test results and quality for archiving.

**PLEASE FILL IN PERSONAL DATA BELOW, WRITE DISTINCTLY AND LEGIBLE, OR USE BLOCK LETTERS, THANK YOU**

Name of participant <b>Elli Esimerkki</b>	Date of birth/dd.mm.yyyy	Profession	
Name of examiner <b>Tero Testaja</b>	Examiner's code <b>X 12345</b>		Examination date

**FOR EACH STATEMENT BELOW, FOR THE ALTERNATIVE YOU CONSIDER THE CORRECT ONE; PLACE A TICK IN THE RELEVANT CORRECT / WRONG COLUM.**

Question	CORRECT	WRONG
<p>1. Vacuum-packaged food may contain harmful microbes that cause food poisoning.</p> <p>Correct. The air has been exhausted from vacuum package. Some harmful microbes are able to reproduce without oxygen from the air. For example, the bacterium <i>Listeria monocytogenes</i> also thrives in anoxic conditions and therefore particularly in vacuum packaged food. Some harmful microbes such as <i>Clostridium botulinum</i>, which excretes a dangerous toxin, specifically require anoxic conditions. Food may also have been contaminated before being packaged in vacuum. Microbes do not necessarily immediately die when the oxygen is depleted. If the original contamination is sufficient to cause food poisoning the microbes need not even reproduce in vacuum packaged food. It suffices that they stay alive until the food is being used. When using vacuum packages one must remember that vacuuming is no true process that kills microbes. Vacuuming particularly is intended to dampen the reproduction of microbes thriving during oxic conditions.</p>	X	
<p>2. Temperature does not affect the reproduction of microbes.</p> <p>Wrong. Temperature is one of the factors affecting the reproduction of microbes. The reproduction of microbes becomes more effective when the temperature is favourable for them.</p>		X
<p>3. Cooked rice of room temperature is a good growth substrate for microbes.</p> <p>Correct. Moisture is one factor affecting the growth of microbes. The higher the moisture, the better the microbes reproduce. Water activity, i.e., the volume of free water available to microbes is high in cooked rice. Thus, rice is a good growth substrate for microbes if the rice is not stored sufficiently hot or cold.</p>	X	
<p>4. Berries may collect viruses if the irrigation water is contaminated by, e.g., faeces.</p> <p>Correct. One cause of berries becoming contaminated is using virus-contaminated water for irrigation. The usual cause of water being contaminated is contamination by faeces. Contaminated water also may reach the berries, for example, when using pesticides. Even the berry picker themselves may be the source of the berries being contaminated, if the berry picker's hand hygiene is insufficient. Norovirus and hepatitis A virus are the most important viruses infecting via food and water.</p>	X	

<p>5. Even short heating of food in a microwave oven kills all the microbes in the food.</p> <p>Wrong. When heating food in a microwave oven the food is heated unevenly if it repeatedly is not stirred during heating. The microwaves only heat the food and besides heating have no other effect killing microbes. If you wish to kill microbes in food by using a microwave oven the food must throughout and sufficiently long be heated in the oven to a sufficiently hot temperature. If the temperature in some part of the food remains low and heating sufficiently is not prolonged harmful microbes in that part may remain alive.</p>		X
<p>6. Preservative kills all the microbes in food.</p> <p>Wrong. Preservatives reduce the microbes' growth prospects but do not kill them. Preservatives are, for example, sodium nitrite and substances that lower the pH value, for example citric acid. For example, sugar and salt improve the shelf life and they also have an effect that prohibits microbe growth. Sugar and salt can affect the foods' water activity, i.e., the volume of free water available to microbes. Sugar and salt in the food binds water molecules. The microbes' growth prospects deteriorate when water activity decreases.</p>		X
<p>7. Only a large amount of harmful bacteria can cause food poisoning.</p> <p>Wrong. Some food poisonings can be caused by very tiny amounts of bacteria in the food.</p>		X
<p>8. Deep-frozen berries may contain microbes that cause food poisoning.</p> <p>Correct. Deep freezing only kills a few of the microbes in food. Deep freezing keeps viruses alive and retains their ability to cause infections. If berries are being used as such after unfreezing or minor heating, the viruses are not killed. For example, norovirus and hepatitis A virus have been found to cause food poisonings in Finland via such foreign frozen berries that have not been heated prior to using. The consumers are recommended throughout to heat frozen berries of foreign origin for at least 5 minutes in +90 degrees centigrade or to cook the berries for 2 minutes to ensure that norovirus and hepatitis A virus are killed. In the industry, where processes are standardised and normally under more meticulous control, it suffices with 2 minutes of heating throughout in +90 degrees centigrade. In Finland, they normally use clean water for irrigation and in other plant production, which reduces the risk of food poisoning.</p>	X	
<p>9. Food poisonings caused by the bacterium <i>Bacillus cereus</i> often are a consequence of cooling prepared food too slowly.</p> <p>Correct. <i>B. cereus</i> bacteria reproduce under oxic as well as anoxic conditions and produce bacterium spores. As spores, they resist high temperature, draught and lacking nutrients. Spores having entered food resist heating and are able to reproduce in the food when it cools. Food poisoning epidemics most usually are related to situations where the food is prepared beforehand, commonly the previous day, and cooling has been too slow. After preparation the food must be cooled within four hours to +6 degrees centigrade or lower.</p>	X	
<p>10. From a tartar steak, i.e., a steak of raw meat, one may contract food poisoning caused by the bacterium EHEC (enterohemorrhagic <i>E. coli</i>).</p> <p>Correct. A person can become infected by EHEC bacteria through eating food prepared from contaminated raw materials, for example, meat, as raw or insufficiently heated. Most microbes in meat reside on the surface of meat pieces, for example, steaks. Grinding mixes microbes into the meat. Microbes reproduce very fast in minced meat, which is a favourable growth substrate. For a tartar steak, the raw material preferable should be minced from the inner sections of whole meat immediately prior to serving and eating the steak.</p>	X	

<p>11. Salmonella may spread to other food via working surfaces on which raw poultry meat has been handled.</p> <p>Correct. Raw or insufficiently cooked poultry meat is one of the most common spreaders of salmonella. Such contamination where the microbes via direct contact or working tools or surfaces, or because of poor hand hygiene are transported from one food to another is called cross-contamination. A common cause of food poisonings is cross-contamination in kitchens. To avoid cross-contamination, particularly food of animal origin (raw meat, raw poultry meat, raw fish etc.) must be kept apart from food that is intended to be eaten as such without heating or other preparations that kills microbes (salads, cold cuts, smoked fish etc.). It should also be observed that raw food and food eaten as such must not be handled with the same working tools, and that one observes proper hand hygiene.</p>	X	
<p>12. Norovirus is killed when heating food to +60 degrees centigrade.</p> <p>Wrong. Heating to +60 degrees centigrade does not kill all microbes, not even close. Norovirus, which causes food poisonings, is killed by heat processing but resists extremely high temperatures. Two minutes in over +90 degrees centigrade is enough to kill norovirus in food. After proper heating of food, storing it in at least +60 degrees centigrade during serving prohibits the reproduction of microbes.</p>		X
<p>13. Slow heating of food from +6 to +60 degrees centigrade increases the risk of food poisoning.</p> <p>Correct. The temperature range +6 – +60 degrees centigrade is a danger zone where many microbes thrive and fast reproduce. One risk by food preparation is insufficient heat processing, i.e., the combination of temperature and time. For the heating temperatures of food, there are no regulations in the legislation. For food containing meat, particularly poultry meat, a reasonably safe limit is considered to be that the food throughout is heated to at least +75 degrees centigrade during preparation. For example, the bacterium <i>Yersinia enterocolitica</i> is spread via insufficiently heated or raw pork meat, and salmonella via poorly heated or raw poultry meat. Sufficient heating kills both bacteria. It is regulated that the temperature for the transporting, storing and selling or serving of food sold or served hot must be at least +60 degrees centigrade, which does not kill microbes but prohibits their reproduction.</p>	X	
<p>14. The dirty ice-cream scoop may convey harmful microbes into the unpackaged ice cream.</p> <p>Correct. When portioning unpackaged ice cream you must take care that the ice-cream scoop for serving is not dirty. Microbes reproduce on dirty ice-cream scoop and contaminate the unpackaged ice cream via the scoop. The temperature of ice cream does not kill microbes entering the ice cream.</p>	X	
<p>15. Proper use of disposable gloves reduces the risk of food poisoning when handling unpackaged easily perishable food.</p> <p>Correct. Disposable gloves are being used to protect unpackaged food against microbes possibly still present on the hands despite having been washed. By nature and from contamination there are abundant microbes on the skin and particularly on the hands. Microbes thrive particularly well in wounds and rashes. Besides carefully washing the hands, one should always also use protective gloves if the skin of the hands is wounded. If using gloves, these should be used hygienically and exchanged sufficiently often and at least always if they have come into contact with dirty surfaces, working tools, money or other possible sources of contamination. Thus one avoids cross-contamination to food via the gloves. Despite using gloves, one shall regularly wash one's hands, for example, because of it being often warm and moist within the gloves, which increases the reproduction of microbes on the hands.</p>	X	

<p>16. Jam, which is slightly moulded on the surface, can be eaten when the mouldy surface layer is peeled off.</p> <p>Wrong. Mould also grows well in sour food, for example, in fruit and berry juices as well as jams, because the most favourable pH value for the growth of mould is in the range from 3 to 5. Although visible mould is present only on the surface of jam, some of the mould flora, or mould poisons i.e., mould toxins, may have spread elsewhere in the jam, which necessarily cannot be seen with the naked eye.</p>		X
<p>17. Food may get contaminated through sneezing and coughing.</p> <p>Correct. Though not necessarily visible to the naked eye, very small drops are spread in the surrounding air when coughing and sneezing. These drops always contain microbes. The drops may contaminate food but also devices, working tools and other employees, who further may transport harmful microbes to food.</p>	X	
<p>18. The load of goods with milk, meat or fish products can for two to three hours in room temperature safely wait for transfer to cold store.</p> <p>Wrong. The cold chain for easily perishable food must not fail at any stage. The food must as soon as possible be transported to storing in temperatures as required by each food item. The safety and shelf life of food is secured at all stages by avoiding the temperature range +6 – +60 degrees centigrade of the danger zone. When the cold chain fails the product's shelf life deteriorates or at least significantly becomes shorter.</p>		X
<p>19. Ultra-pasteurization (UHT) and pasteurization of milk are the same thing.</p> <p>Wrong. Pasteurization implies heating the food during 15 seconds to +72 degrees centigrade internal temperature, and then immediately cooling the food. Most microbes are killed during pasteurization, but, for example, possible spores stay alive. Ultra-high temperature (UHT) pasteurization is stronger heat processing where food is heated to at least +135 degrees centigrade internal temperature during a few seconds. This treatment kills all microorganisms.</p>		X
<p>20. The raw materials for the pizzas can be kept at room temperature as the pizza is baked in the hot oven.</p> <p>Wrong. Most raw materials being used in pizzas are unpackaged easily perishable food. For example, chopped vegetables, slivered ham, shrimps, fried minced meat and tuna fish are pizza raw materials, which must be cold-stored. You may not use putrefied raw materials for preparing pizza. If the raw materials are stored at room temperature the microbes may reproduce or excrete toxins in the raw materials before the pizza is being baked. Not all microbes or possible toxins excreted by microbes are destroyed when the pizza is being baked.</p>		X
<p>21. The slicing, cutting and mincing of the raw materials and food cause them easily perishable.</p> <p>Correct. Raw materials and food deteriorate faster if you slice, mince or chop them, for example, slice sausages, mince meat or chop vegetables. The handling surface of the food increases, improving the microbes' chances for reproduction. Microbes often reside on the surface sections of food. Chopping and grinding carries the microbes further into the food where they find new nutrients and space for reproduction. The probability of microbe contamination and the total amount microbes are reduced by handling the food with clean hands, using clean utensils and handling tools, avoiding unnecessary touching of the food, as well as by keeping the work environment cleaned and keeping the food protected at correct temperature.</p>	X	

<p>22. The catering service may use the food served on the buffet as raw material for evening meals.</p> <p>Wrong. Food such as unpackaged easily perishable food that once has been offered at a buffet may only once be offered for serving. The food starts to perish immediately after cooking. You may slow contamination by obeying regulated serving temperatures and serving times, using hygienic working methods, and using clean serving tools, lines and utensils. For microbe reproduction, the conditions while the food is being offered for serving often are more favourable than storing condition. The prerequisites for food contamination particularly are most favourable on a buffet visited by many persons. Then, the hygiene of food handling is more difficult to control.</p>		X
<p>23. Unpackaged smoked fish and fresh fish must not contact each other on a sales counter.</p> <p>Correct. Unpackaged prepared fish products such as smoked fish and unpackaged unprepared fish products such as fresh fish must be kept apart from each other to prohibit cross-contamination. Smoked fish often is consumed as such, when possible microbes in the fish or that have entered it via cross-contamination, no longer is killed, because prior to using there no longer are any processes (e.g., heating) that kills microbes.</p>	X	
<p>24. Raw milk stored sufficiently cold cannot contain pathogenic bacteria.</p> <p>Wrong. During, for example, milking contamination may cause microbes to enter the milk and generate food poisoning in the milk, and the microbes are not killed or they even may reproduce during cold storing. You ensure the safety of milk through heating, for example pasteurization or Ultra-pasteurization (UHT).</p>		X
<p>25. One may bring pets to the restaurant's customer premises or terrace if the operator has given their permission.</p> <p>Correct. You may bring pets such as, for example, dogs into customer premises such as, e.g., restaurant, cafeteria and pub provided the food business operator has given their approval. The customers must be informed on such approvals at the entrance to the serving premises. However, you may not allow animals to enter food-handling premises. Also, you are not allowed to bring animals into food shops, but blind people's dogs, the assistant dogs of mobility-impaired persons and the hearing dogs of hearing-impaired people are allowed.</p>	X	
<p>26. The person handling the unpackaged easily perishable food must wear sufficient protective clothing that only is being used in the food premises.</p> <p>Correct. The food-hygienic risks are greater when handling unpackaged, easily perishable food. The purpose of protective clothing is to prevent unpackaged, easily perishable food from becoming contaminated. Protective clothing comprises appropriate work wear, headgear and shoes.</p>	X	

<p>27. The symptomless employee carrying an infectious disease cannot spread the infection further via the food.</p> <p>Wrong. Despite being free of symptoms, a person may contaminate the food being handled by them and so spread a disease. A person carrying or suspected to carry a social infectious disease that is spread via food may not handle unpackaged easily perishable food or reside in food premises where such food is being handled if a direct or indirect risk for contamination is present. Such are, e.g., salmonella, EHEC, shigella and hepatitis A. In 20 § of the Act on Contagious Diseases (583/1986) is regulated on actions to execute when detecting a social infectious disease. If there are strong reasons to suspect that a person performing work as above is spreading an infectious disease it may be ordained that the person is to abstain from their work while there is a risk of spreading the disease. The municipal health authorities are responsible for the tasks to be executed. In a publication (5/2013) by the National Institute for Health and Welfare (THL), instructions has been published that if a person who in their work handle unpackaged easily perishable food with their hands they may not perform their work if they suffer from a stomach disease, regardless of the cause of the disease. If that person otherwise is able to work they may be arranged such tasks where the risk of infection is avoided. The person may return after having been two days free of symptom (provided no salmonella, EHEC or shigella was found in faeces cultures). Observe that a person yet may carry norovirus after symptoms have ceased, for up to a week, or may be a carrier free of symptoms without a preceding disease. As norovirus infects with extreme easily via surfaces and food one should always take care that hygiene is impeccable. Also, a child suffering from norovirus at home may present a possible risk in food work.</p>		X
<p>28. After washing one's hands, it makes no difference whether the water tap is closed with bare hands or by using disposable towel.</p> <p>Wrong. Microbes may be present on the surface of water taps as the taps are touched with dirty hands. Clean hands immediately turn dirty if they make contact with the water tap after washing. The tap should be closed with, for example, a paper towel, if not such automatic or similar taps are being used that need not be touched by hands.</p>		X
<p>29. In addition to the regular cleansing according to the cleansing plan, the cleanliness of the food premises must continuously be monitored.</p> <p>Correct. Controlling and monitoring the purity of the food premises are included in daily activities. Beside the cleansing plan, cleansing shall be performed for all activities occurring in the food premises, if cleansing is needed to ensure that food safety does not decline or is put at risk.</p>	X	
<p>30. Scratches, fissures and cracks in work surfaces and cutting boards collect dirt and make it possible for microbes to reproduce.</p> <p>Correct. Scratches, fissures and cracks easily collect dirt, which is hard to wash away, and microbes also easily reproduce in these. In food premises, all spaces, devices, working tools and surfaces being in contact with food must be flawless and kept in order so that cleansing them is possible. Thus, one may prevent that the food becomes contaminated via them.</p>	X	
<p>31. Pests are controlled for example by keeping the loading and storing areas of the food premises clean.</p> <p>Correct. Food premises shall have a pest control programme included in the plan for own-check. Controlling pest includes keeping the food premises' loading and storing areas cleansed so that pests are not provided with food and shelter. Also, well-maintained waste handling is an important part of controlling pests.</p>	X	
<p>32. Packaging labels must correspond to the composition of the raw materials in the food.</p> <p>Correct. The ingredient declaration of food is a mandatory packaging label as is also the amount of certain ingredients, when necessary. The labels are intended to provide consumers with sufficient information on the products so that they can make educated choices in purchase situations and choose products that are suitable for them.</p>	X	

<p>33. Cold-smoked or pickled salted fish cannot contain listeria bacteria as the salt in the fish prevents the reproduction of this bacterium.</p> <p>Wrong. Listeria is common environmental bacterium appearing in soil, water, and plants, and in animal feed and the intestines of people and animals. Listeria is able to reproduce in salt concentrations up to 20 %. The salt concentrations of food consumed as such generally do not prohibit the microbes from reproducing. Sufficient heating kills listeria but the process of preparing cold-smoked or pickled salted fish does not include methods that would kill listeria. Listeria reproduces under oxic as well as anoxic conditions and at normal refrigerator temperatures. The source of infection by listeria bacteria, i.e., listeriosis, often has been vacuum-packaged cold-smoked or pickled salted fish. The risk of listeriosis increases if these risk products continuously are not stored sufficiently cold throughout the chain of production and selling. Particularly, risk groups such as elderly people, persons with reduced resistance (e.g., transplantation patients, diabetics, patients under cortisone regimen, or with cancer, AIDS, liver or kidney disease), and pregnant women rather should avoid using products with risk of listeria, or otherwise prior to using carefully heat the products so that they throughout become sufficiently hot (over +72 degrees centigrade).</p>		X
<p>34. It is not obligatory to devise an own-check plan for a food premises, but recommended.</p> <p>Wrong. It is a statutory obligation of all approved and registered food premises to set up a plan for own-check. Simplified, an own-check plan implies a description of operations, possible risk moments of the operations and how they are controlled, and correcting measures if something fails. The scope and precision of the own-check plan depend on the nature and scope of the operations.</p>		X
<p>35. The health inspector performs own-check in food companies.</p> <p>Wrong. Food business operators shall execute and maintain own-check in their companies. The health inspectors monitor that the food business operators comply with legislation in their operations. Included in this, the health inspectors evaluate the sufficiency of own-check with respect to operations so that relevant and sufficient methods of controlling risks. The health inspectors neither prepare nor correct plans for own-check and are not responsible for the safety of operations in food premises. The food business operator themselves are responsible for that the food they handle is safe for the consumers.</p>		X
<p>36. A food premise such as a cafeteria, a restaurant or a manufacturing plant can be established by anyone without education in the food business, for example, without training as restaurant chef.</p> <p>Correct. Operating in the food sector requires no particular education or examination. However, education in the sector is, of course, an advantage already at the establishing stage. While operating in the food sector requires no education, it does not mean that the operator would not be responsible for the safety of the food they produce. By the food legislation the food business operator always is responsible for the legality of their operations and that the food is safe. When prospecting to establish food premises one must search the provisions involving the operations. Safe operations demand much competence of the operator and knowledge of food safety. During establishing, worthwhile is to contact the supervisory food authority in one's municipality. They give advice and guidance with respect to the prerequisites of operations.</p>	X	
<p>37. The taking into use of food premises is reported to the municipal food authority when operations have started well.</p> <p>Wrong. If the matter concerns approved food premises, i.e., a plant (such as a plant manufacturing meat or fish products, a dairy processor), one must apply for a written approval by the supervisory food authority before starting operations. The operator of the food premises (for example, cafeteria, restaurant, food shop) to be registered shall notify the supervisory food authority about the operations at least 4 weeks before starting operations. The supervisory food authority supplies the operator with a certificate that the notification is being processed. Some low-risk operations actually not associated with business activities need not necessarily even be registered. Safest is to contact the supervisory food authority in one's own municipality. They provide advice and guidance on the prerequisites for operations.</p>		X

<p>38. Food legislation requires that a person applying for work in the food business must possess a hygiene proficiency certificate, i.e., a so-called hygiene passport.</p> <p>Wrong. The Act on food requires that a person working in food premises who in their work handles unpackaged easily perishable food shall possess a hygiene passport. Food business operators have the obligation to give guidance and to ensure that each person working in food premises is able to work hygienically with their respective work tasks. Operators/employers must at own expense ensure that each person handling unpackaged easily perishable food have a hygiene passport. Thus, it is not required through legislation that all employees in the food sector have hygiene passports. By legislation, such need not be available before three months having passed after commencing work. However, no requirements are stated in the legislation on the requirements an employer shall demand for people applying for work. Thus, some employers may demand that persons applying for work already possess a hygiene passport although that is not required by legislation.</p>		X
<p>39. One must not sell a food after the use-by date.</p> <p>Correct. "Use-by date" implies the date before which the manufacturer has intended that the product is being used and by which it is safe to use. "Use-by date" must be provided on easily perishable products, which already after short storing may cause health risks. Food that has passed the "Use-by date" may neither be sold, not used in private households. The label "Best before" is more associated with food quality than safety and many products labelled with "Best before" also may be sold and used after that date has passed.</p>	X	
<p>40. It is not possible to get food poisoning from ice cubes.</p> <p>Wrong. Deep freezing or freezing does not even nearly kill all harmful microbes in food or water even though some microbes may die. If there are harmful microbes in an ice machine or in water being used in ice cubes, they may also appear in the ice cubes and possibly cause food poisoning.</p>		X