

Reading sub-test

Part B – Text booklet

Sample Test

You must record your answers for **Part B** on the **multiple-choice Answer Sheet** using **2B pencil**.

Please print in **BLOCK LETTERS**

Candidate number - -

Family name _____

Other name(s) _____

City _____

Date of test _____

Candidate's signature _____

YOU MUST NOT REMOVE OET MATERIAL FROM THE TEST ROOM

Instructions

TIME LIMIT: 45 MINUTES

There are **TWO** reading texts in Part B. After each of the texts you will find a number of questions or unfinished statements about the text, each with four suggested answers or ways of finishing.

You must choose the **ONE** which you think fits best. For each question, 1-20, indicate on your answer sheet the letter A, B, C or D against the number of the question.

Answer **ALL** questions. Marks are **NOT** deducted for incorrect answers.

NOTE: You must complete your Answer Sheet for Part B within the **45 minutes** allowed for this part of the sub-test.

NOW TURN TO THE NEXT PAGE FOR TEXTS AND QUESTIONS

Text B1: Animal testing

Paragraph 1

The use of living animals in research and teaching, while first documented around 2000 years ago, became prominent in the second half of the 19th century as part of the development of the emerging sciences of physiology and anatomy. In the mid 1900s, the rapid expansion of the pharmaceutical and chemical industries gave rise to an enormous increase in the use of animals in research. Today it is a multi-billion dollar industry, involving not only the pharmaceutical and chemical industries, but also university and government bodies. There is, additionally, a sizeable industry providing support services in relation to animal research, including animal breeding, food supply and cage manufacture, among many others.

Paragraph 2

The types of research that animals are subjected to include the traditional forms of physiological research, which typically involves the study of body function and disease, and psychological research, which often entails controlling the eating, movement or choices of animals in experimental contexts. Other more recent forms of research include agricultural research directed towards intensive farming methods and increasing the efficiency of animals kept for food or food products. The genetic engineering of species used in agriculture is common amongst sheep and cattle, for example, in an attempt to increase the production of wool or milk, or to alter the characteristics of the end product (finer wool, for instance). Safety testing, or toxicology testing, is another common type of research where medicines, agricultural chemicals and various other chemical products, such as shampoos and cosmetics, are assessed for safe human use by testing the products on animals.

Paragraph 3

While accurate global figures for animal testing are extremely difficult to obtain, estimates indicate that anywhere from 50 to 100 million vertebrates are used in experiments every year (although this figure does not include the many more invertebrates, such as worms and flies, that are employed). The most commonly used vertebrates are mice, attractive to researchers for their size, low cost, ease of handling, and fast reproduction rate, as well as the fact that their genetic makeup is comparable to that of human beings. Other types of vertebrates used in the pursuit of science include fish, chickens, pigs, monkeys, cats, dogs, sheep and horses.

Paragraph 4

Perhaps one of the most widely-known examples of animals being used for the purposes of scientific research is Ivan Pavlov's 'conditioned reflex' experiments in the late 19th early 20th centuries. Pavlov and his researchers were investigating the gastric functions of dogs and the chemical composition of their saliva under changing conditions, when Pavlov noticed that the animals began salivating before food was delivered. Pavlov's team then changed the focus of their experiments and embarked on a series of experiments on conditional reflexes that earned Pavlov the 1904 Nobel Prize in Physiology and Medicine for his work on the physiology of digestion. What is less well-known about Pavlov's research is that these experiments included surgically implanting fistulas in animals' stomachs, which enabled him to study organs and take samples of body fluids from animals while they continued to function normally. Also, further work on reflex actions involved involuntary reactions to extreme stress and pain.

Paragraph 5

Supporters of animal testing argue that virtually every medical achievement in the 20th century relied on the use of animals in some way and that alternatives to animal testing, such as computer modelling, are inadequate and fail to model the complex interactions between molecules, cells, tissues, organs, organisms and the environment. Opponents argue that such testing is cruel to animals and is poor scientific practice, that results are an unreliable indicator of the effects in humans, and that it is poorly regulated. They also point to the fact that many alternatives to using animals have been developed, particularly in the area of toxicity testing, and that these developments have occurred most rapidly and effectively in countries where the use of animals is prohibited.

Paragraph 6

Although animal rights groups have made slow **headway**, there are signs that the issues they are concerned about are being heard. Most scientists and governments state, publicly at least, that animal testing should cause as little suffering to animals as possible, and that animal tests should only be performed where necessary. The '**three Rs**' of **replacement**, reduction and refinement are the guiding principles for the use of animals in research in most countries. They are designed to minimise the use of animals in scientific research by using other types of research where possible, by reducing the number of animals used in research, and by refining research techniques to minimise the animals' pain and distress.

Part B -Text B1: Questions 1-11

1 According to paragraph 1, research using animals

- A was non-existent before 1850.
- B is most common in the medical industry.
- C generates trade for offshoot industries.
- D is on the rise.

2 According to paragraph 1, the use of living animals in research and teaching

- A has taken place for at least two millennia.
- B rose to prominence around 2,000 years ago.
- C emerged in the second half of the 19th century.
- D originated in the pharmaceutical and chemical industries.

3 According to paragraph 2, one of the new applications of animal testing is concerned with

- A combining the traditions of physiological and psychological research.
- B finding ways to improve farm animals' productive capacity.
- C controlling the eating, movement or choices of animals.
- D revisiting the age-old study of body function and disease.

QUESTIONS

- 4** According to paragraph 3, global figures for animal testing are
- A subsiding.
 - B elusive.
 - C confronting.
 - D extreme.
- 5** According to paragraph 3, which one of the following statements about mice is TRUE?
- A They are much more popular with researchers than invertebrates.
 - B They have a genetic make-up which is at odds with that of humans.
 - C They are very attractive to researchers because of their speed and aptitude.
 - D They pose fewer constraints than other vertebrates in terms of care and expense.
- 6** According to paragraph 4, Pavlov's research
- A was unethical at the time.
 - B involved hurting animals deliberately.
 - C was conducted solely on dogs.
 - D did not focus on dogs initially.
- 7** According to paragraph 4, Pavlov's groundbreaking research into conditional reflexes
- A was prompted by the observation that dogs salivated when they were hungry.
 - B came about by accident while he was investigating something else.
 - C was triggered by his noticing chemical changes in the dogs' saliva.
 - D led to a larger-scale investigation of the gastric functions of dogs.
- 8** According to paragraph 5, animal testing proponents argue that
- A many of the alternative methods still rely on the use of animals in some way.
 - B it was crucial in the 20th century before viable alternatives became available.
 - C computer modelling requires improvement before it can replace animal testing.
 - D medical advancement in the 20th century would have been hindered without it.
- 9** According to paragraph 5, opponents of animal testing argue that
- A countries who prohibit it are developing rapidly.
 - B its results are unreliable due to poor regulation.
 - C there are insufficient rules and restrictions.
 - D it is only justifiable in the area of toxicity testing.

QUESTIONS

- 10** The word headway in paragraph 6 could best be replaced by
- A progress.
 - B improvements.
 - C impact.
 - D developments.
- 11** Replacement in the three Rs described in paragraph 6 refers to the substitution of
- A animal species.
 - B research methods.
 - C painful techniques.
 - D animal numbers.

END OF PART B - Text 1
TURN OVER FOR PART B - TEXT 2

Text B2: Oral health and systemic disease

Paragraph 1

The relationship between oral health and diabetes (Types 1 and 2) is well known and documented. In the last decade, however, an increasing body of evidence has given support to the existence of an association between oral health problems, specifically periodontal disease, and other systemic diseases, such as those of the cardiovascular system. Adding further layers of complexity to the problem is the lack of awareness in much of the population of periodontal disease, relative to their knowledge of more observable dental problems, as well as the decreasing accessibility and affordability of dental treatment in Australia. While epidemiological studies have confirmed links between periodontal disease and systemic diseases, from diabetes to autoimmune conditions, osteoporosis, heart attacks and stroke, in the case of the last two the findings remain cautious and qualified regarding the mechanics or biological rationale of the relationship.

Paragraph 2

Periodontal diseases, the most severe form of which is periodontitis, are inflammatory bacterial infections that attack and destroy the attachment tissue and supporting bone of the jaw. Periodontitis occurs when gingivitis is untreated or treatment is delayed. Bacteria in plaque that has spread below the gum line release toxins which irritate the gums. These toxins stimulate a chronic inflammatory response in which the body, in essence, turns on itself, and the tissues and bone that support the teeth are broken down and destroyed. Gums separate from the teeth, forming pockets (spaces between the teeth and gums) that become infected. As the disease progresses, the pockets deepen and more gum tissue and bone are destroyed. Often, this destructive process only has very mild symptoms. Eventually, however, teeth can become loose and may have to be removed.

Paragraph 3

The current interest in the relationship between periodontal disease and systemic disease may best be attributed to a report by Kimmo Mattila and his colleagues. In 1989, in Finland, they conducted a case-control study on patients who had experienced an acute myocardial infarction and compared them to control subjects selected from the community. A dental examination was performed on all of the subjects studied, and a dental index was computed. The dental index used was the sum of scores from the number of carious lesions, missing teeth, and periapical lesions and probing depth measures to indicate periodontitis and the presence or absence of pericoronitis (a red swelling of the soft tissues that surround the crown of a tooth which has partially grown in). The researchers reported a highly significant association between poor dental health, as measured by the dental index, and acute myocardial infarction. The association was independent of other risk factors for heart attack, such as age, total cholesterol, high-density lipoprotein triglycerides, C peptide, hypertension, diabetes, and smoking.

Paragraph 4

Since then, researchers have sought to understand the association between oral health, specifically periodontal disease, and cardiovascular disease (CVD) – the missing link explaining the abnormally high blood levels of some inflammatory markers or endotoxins and the presence of periodontal pathogens in the atherosclerotic plaques of patients with periodontal disease. Two biological mechanisms have been suggested. One is that periodontal bacteria may enter the circulatory system and contribute directly to atheromatous and thrombotic processes. The other is that systemic factors may alter the immunoflammatory process involved in both periodontal disease and CVD. It has also been suggested that some of these illnesses may in turn increase the incidence and severity of periodontal disease by modifying the body's immune response to the bacteria involved, in a bi-directional relationship.

Paragraph 5

However, not only is **'the jury out'** on the actual mechanism of the relationship, it also remains impossible to say whether treating gum disease can reduce the risk of cardiovascular disease and improve health outcomes for those who are already sufferers. Additional research is needed to evaluate disease pathogenesis. Should the contributing mechanisms be identified, however, it will confirm the role of oral health in overall well-being, with some implications of this being the desirability of closer ties between the medical and the dental professions, and improved public health education, not to mention greater access to preventive and curative dental treatment. In time, periodontal disease may be added to other preventable risk factors for CVD, such as smoking, high blood cholesterol, obesity and diabetes.

Part B -Text B2: Questions 12-20

12 According to paragraph 1, oral health problems have recently been linked to

- A periodontal disease.
- B heart conditions.
- C diabetes.
- D economic factors.

13 According to paragraph 1, periodontal disease is unknown to many Australians because

- A dental treatment is no longer affordable.
- B the problem has a high degree of complexity.
- C information on dental problems is inaccessible.
- D it is not as prominent as other dental issues.

14 The most suitable heading for paragraph 2 is

- A 'Types of periodontal disease'.
- B 'The treatment of gingivitis'.
- C 'The body's response to toxins'.
- D 'The process of periodontitis'.

15 According to paragraph 3, the 1989 study in Finland

- A prompted further interest in the link between oral health and systemic disease.
- B did not take into account a number of important risk factors for heart attacks.
- C concluded that people with oral health problems were likely to have heart attacks.
- D was not considered significant when it was first reported but is now.

QUESTIONS

- 16** The research study described in paragraph 3 found that the relationship between poor dental health and heart attacks was
- A inconclusive.
 - B coincidental.
 - C evident.
 - D inconsequential.
- 17** According to paragraph 3, the dental index was used to
- A indicate whether periodontitis was present.
 - B assess the overall oral health of patients.
 - C establish whether pericoronitis was present.
 - D predict the likelihood of acute myocardial infarction.
- 18** According to paragraph 4, it has been proposed that
- A cardiovascular disease could actually exacerbate periodontal disease.
 - B periodontal disease could modify the body's immune response.
 - C there is a bi-directional relationship between periodontal disease and bacteria.
 - D systemic factors may contribute directly to atheromatous and thrombotic processes.
- 19** According to paragraph 5, if the processes by which gum disease contributes to CVD can be discovered there will be
- A less need for doctors and dentists to work in conjunction.
 - B a reduced emphasis on other preventable risk factors for CVD.
 - C a concomitant link between smoking and periodontal disease.
 - D more support for dental care in the public health system.
- 20** The expression the jury [is] out in paragraph 5 means that a definitive conclusion is
- A imminent.
 - B impossible.
 - C without empirical basis.
 - D yet to be attained.

END OF PART B - Text 2

END OF READING TEST



Reading sub-test

Part B – Answer key

Animal testing

Sample Test

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Reading Sub-test

Text B1: Animal Testing

Answer Key

Total of 11 questions

- 1 C generates trade for offshoot industries.
- 2 A has taken place for at least two millennia.
- 3 B finding ways to improve farm animals' productive capacity.
- 4 B elusive.
- 5 D They pose fewer constraints than other vertebrates in terms of care and expense.
- 6 B involved hurting animals deliberately.
- 7 B came about by accident while he was investigating something else.
- 8 D medical advancement in the 20th century would have been hindered without it.
- 9 C there are insufficient rules and restrictions.
- 10 A progress.
- 11 B research methods.

END OF KEY

Reading sub-test

Part B – Answer key

Oral health and systemic disease

Sample Test

Reading Sub-test

Text B2: Oral health and systemic disease

Answer Key

Total of 9 questions

- 12 B heart conditions.
- 13 D it is not as prominent as other dental issues.
- 14 D 'The process of periodontitis'.
- 15 A prompted further interest in the link between oral health and systemic disease.
- 16 C evident.
- 17 B assess the overall oral health of patients.
- 18 A cardiovascular disease could actually exacerbate periodontal disease.
- 19 D more support for dental care in the public health system.
- 20 D yet to be attained.

END OF KEY