BRITISH COLUMBIA
Ministry of Education

Technical and Professional Communications 12

Examination Booklet
June 2006

Form A

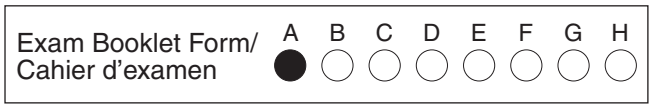
DO NOT OPEN ANY EXAMINATION MATERIALS UNTIL INSTRUCTED TO DO SO.

FOR FURTHER INSTRUCTIONS REFER TO THE RESPONSE BOOKLET.

Contents: 16 pages
21 multiple-choice questions (maximum of 21 marks)
3 written-response questions (maximum of 60 marks)

Examination: 2 hours
Additional Time Permitted: 60 minutes

You have **Examination Booklet Form A**. In the box above #1 on your **Answer Sheet**, fill in the bubble as follows.

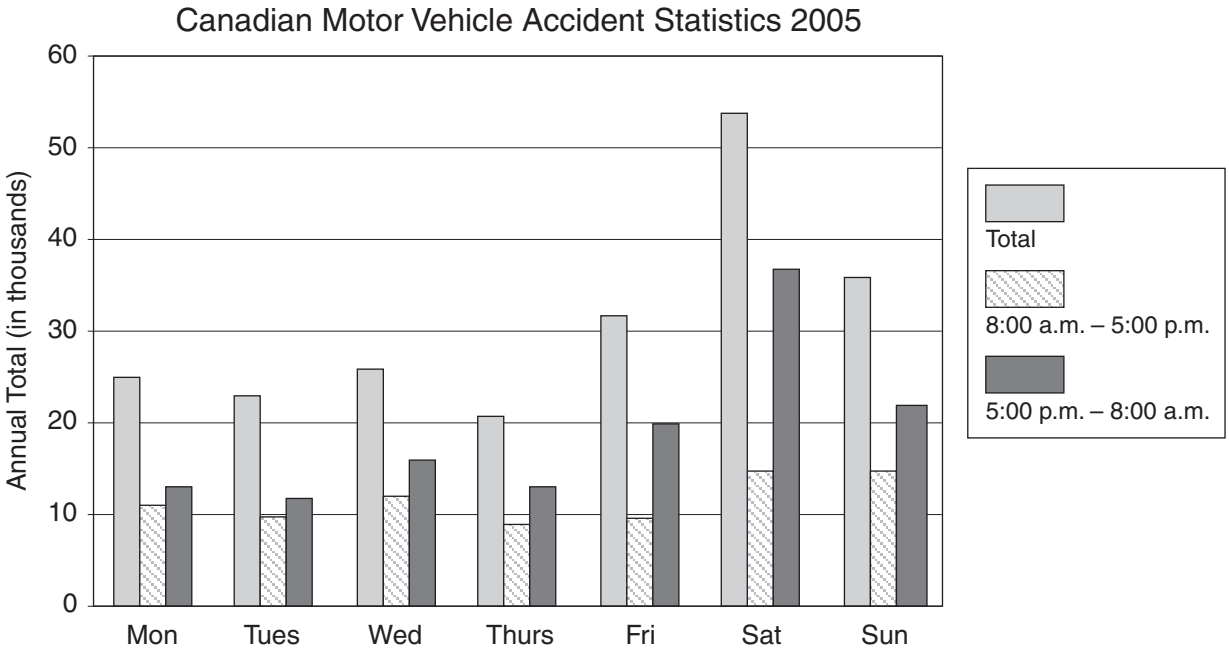


PART A: INTERPRETING VISUAL INFORMATION

Value: 12 marks **Suggested Time: 15 minutes**

INSTRUCTIONS: For each multiple-choice question, select the **best** answer and record your choice on the **Answer Sheet** provided. Using an HB pencil, completely fill in the bubble that has the letter corresponding to your answer.

Use the following information to answer questions 1 to 4.



1. How many accidents occurred during the daytime on Wednesdays?

   A. 12 000
   B. 15 000
   C. 21 000
   D. 25 000

2. Based on the chart, when is the safest time to drive?

   A. Sunday between 5 p.m. and 8 a.m.
   B. Monday between 5 p.m. and 8 a.m.
   C. Saturday between 8 a.m. and 5 p.m.
   D. Thursday between 8 a.m. and 5 p.m.

3. Which conclusion is supported by the graph?

   A. More accidents occur at night.
   B. More people drive on Saturdays.
   C. Fewer people drive on weekdays.
   D. Fewer accidents occur on Sundays.

4. Which information would best be represented in a line graph added to this chart?

   A. the breakdown of drivers by age
   B. the daily total of accidents in BC
   C. the breakdown of drivers by gender
   D. the average number of people involved in accidents

Use the following advertisement to answer questions 5 to 8.

No sagging springs. No leaking air. No pooling water. NO MYTH!

With BodyForm, Sleeping is Believing.

Our superior BodyForm bed symbolizes an entirely new sleep technology. It's widely acclaimed by the media. Moreover, our highly-advanced, space-age bed is preferred by astronauts and many athletes—people who demand the best. It's the only one recommended globally by more than 50,000 medical professionals.

Our scientists have invented an amazingly resilient super-elastic surface. It reacts to your body's shape, weight, and heat. Nothing mechanical or electrical. Yet it molds precisely to your every curve.

BodyForm's pressure-relieving material brings you the most relaxing, energizing quality of sleep you've ever experienced. That's why 96% of our owners recommend us to their family and friends.

Call us (with absolutely no obligation) for a free demonstration kit!

It could change your life!

Free Sample / Free Video / Free Info
FREE IN-HOME TRYOUT CERTIFICATE
YOURS FOR THE ASKING

888-242-3885
Call toll-free or fax 866-795-9367
www.bodyformbeds.com

5. Which device is used in the title of the advertisement?

   A. passive voice
   B. onomatopoeia
   C. personification
   D. parallel structure

6. Which persuasive technique is used in this advertisement?

   A. expert opinion
   B. emotional appeal
   C. traditional appeal
   D. celebrity endorsement

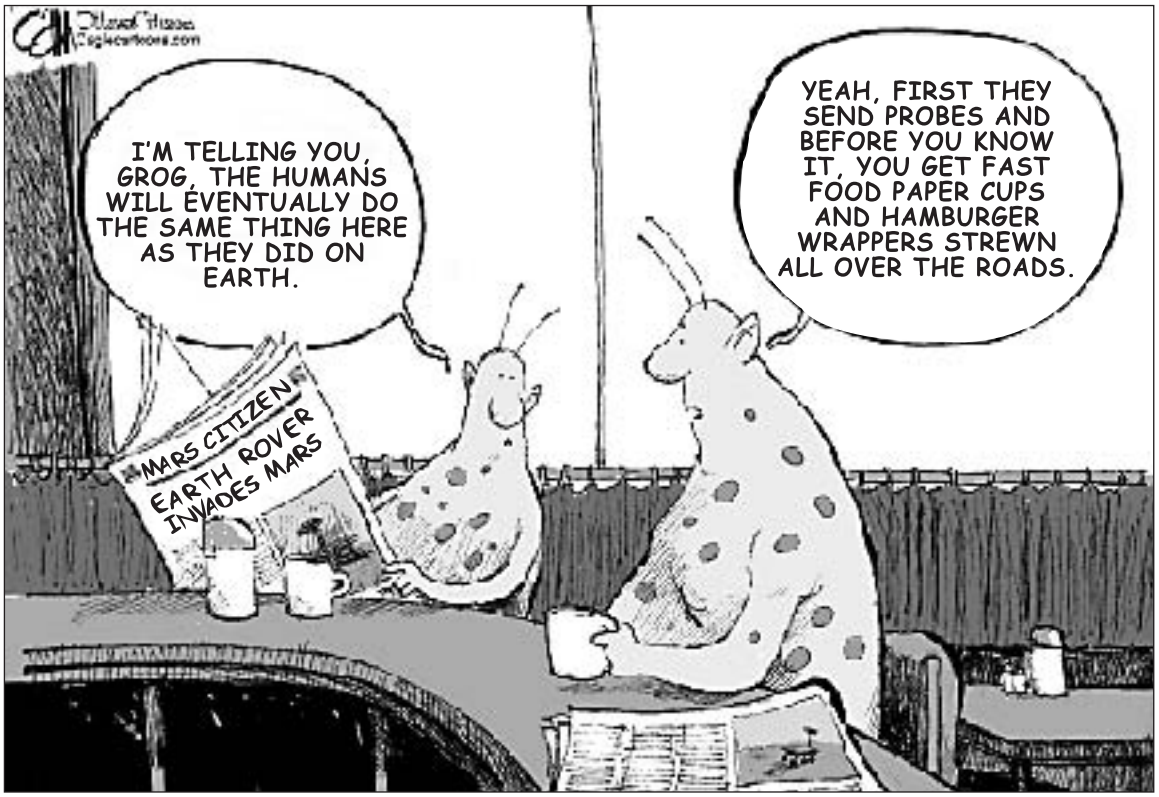
7. Which statement about BodyForm beds is supported by the advertisement?

   A. They are an excellent value.
   B. They are widely recommended.
   C. They will outlast conventional beds.
   D. They can be customized for individuals.

8. Which design element is used in the advertisement?

   A. italics
   B. columns
   C. reverse text
   D. full justified text

Use the following graphic to answer questions 9 to 12.



For questions 9 to 12, do not select D on the examination Answer Sheet.

9. The Martians are concerned about the impact of humans on their planet.

    A. The statement is supported by the graphic.
    B. The statement is refuted by the graphic.
    C. The statement is neither supported nor refuted by the graphic.

10. The Martians believe they have control over their fate.

    A. The statement is supported by the graphic.
    B. The statement is refuted by the graphic.
    C. The statement is neither supported nor refuted by the graphic.

11. The cartoon implies that humans will take better care of Mars.

    A. The statement is supported by the graphic.
    B. The statement is refuted by the graphic.
    C. The statement is neither supported nor refuted by the graphic.

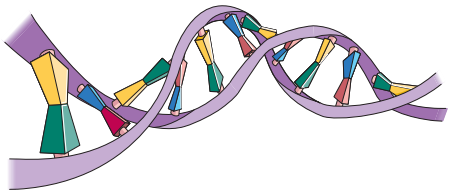
12. The personification of the Martians is intended to be humorous.

    A. The statement is supported by the graphic.
    B. The statement is refuted by the graphic.
    C. The statement is neither supported nor refuted by the graphic.

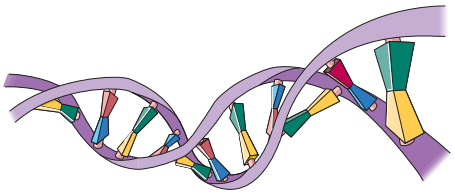
PART B: INFORMATIONAL TEXT

Value: 21 marks **Suggested Time: 30 minutes**

INSTRUCTIONS: Read the following article carefully. For questions 13 to 21, select the **best** answer and record your choice on the **Answer Sheet** provided.



DNA's Detective Story
(adapted)



1 The analysis of genetic material to create DNA fingerprints and profiles has revolutionized forensic science. But, as this case history explains, having overcome initial doubts over its accuracy, the proponents of DNA analysis now face new and more challenging ethical questions.

2 In 1985, a Ghanaian boy, who had arrived in Britain to join his mother on what looked like a forged passport, was in danger of being deported. The family's lawyer asked Alec Jeffreys, a geneticist at Leicester University, if there were ways to establish maternity genetically. A few months earlier, Dr. Jeffreys had identified regions in the human genome that differed from person to person which, he reckoned, could be used in parentage testing and forensic analysis. Trying out his theory, Dr. Jeffreys compared the mother's DNA with that of both the disputed son and her other children. The result made history. The family's DNA fingerprints showed not only that the boy was indeed her son, but also that all of her children shared the same father. The case was dropped, and the boy was allowed to stay.

3 Since this first application, DNA fingerprinting and its cousin, DNA profiling, have taken paternity disputes and forensics by storm. In 2001, American labs alone performed more than 300,000 paternity tests, and many countries have compiled large DNA databases. Two decades after its discovery, forensic DNA analysis has become an invaluable crime-fighting tool.

4 But DNA profiling did not have an altogether easy ride. Because of its power to aid convictions (including those carrying the death penalty) and cumbersome early technology that could potentially produce ambiguous results, the early 1990s saw a massive effort to impede the use of DNA evidence in court. In the end, the challenges did not undermine the technology, but improved it, by helping to set much-needed standards for collecting, storing, processing, and interpreting DNA profiles. At the same time, the popularity of books and TV dramas about forensic detective-work introduced millions to genetic analysis.

Spot the Difference

5 The origins of DNA fingerprinting go back to the early 1980s, when Dr. Jeffreys was searching for sites in human DNA that differ from one individual to the next. Such variation between people is minimal. Over 99% of the human genome—a sequence of over 3 billion genetic "letters"—is common to everyone. The tiny variations that do exist are what make people unique, define their appearance, and predispose them to disease. Back then, variations of a single genetic letter (or "base"), known as single-nucleotide polymorphisms (SNPs), were hard to track down. The problem is akin to spotting single-letter variations in two almost identical books. So Dr. Jeffreys began to look for larger, more variable areas.

6 A few such regions, known as mini-satellites, had been discovered by accident. They were made up of a sequence of bases that was repeated or "stuttered" tens or even hundreds of times. And while the "stutters" were more or less identical, the number of times each was repeated, and hence the length of the repeating DNA region, varied greatly.

7 The "Eureka!" moment occurred on September 15, 1984, at 9 a.m. Using a radioactive probe, Dr. Jeffreys and his team had

analyzed DNA from a human family, a baboon, a cow, a mouse, and even a tobacco plant. They found that the resulting patterns, consisting of 15 to 20 highly variable bands, were specific to individuals. (Only identical twins share the same pattern.) When they looked at the human family group, they could see that the parents had different patterns, while their offspring had a composite of both. While searching for genetic markers, Dr. Jeffreys had stumbled on a technology that could be used for identity testing, establishing familial relationships, and conducting ecological studies. Dr. Jeffreys dubbed his discovery "DNA fingerprinting."

Criminal Intent

8 After solving his first immigration dispute successfully the following year, Dr. Jeffreys was bombarded with other inquiries. In 1986, he received a phone call from the local Leicestershire Constabulary, with a special request. Would he be able to help solve a double-murder case?

9 Dr. Jeffreys knew that his original DNA-fingerprinting technique was unsuitable for use in criminal cases, for a number of reasons. For one thing, a reasonable amount of DNA was needed to make the method work, something not often available at a crime scene. Next, since the radioactive probe attached itself to numerous different mini-satellite regions, there was no way to tell which of the 15 to 20 bands corresponded to a particular region. Also, repeating his procedure with the same DNA on a different day in a different laboratory could cause fainter bands to come and go. All of this could lead to confusing results and provide ammunition for defence lawyers.

10 In the mid-1990s, as DNA profiling became ever more powerful and easy to conduct, Britain started to compile a national DNA database. The chance of two unrelated people sharing the same profile is one in a billion. Similarly, the FBI Laboratory's Combined DNA Index System, which links databases from America's local, state, and national law-enforcement agencies, stores profiles and boasts a random-match probability of one in trillions.

11 These days, there is no longer much discussion about the discriminatory power of current DNA typing systems. Nonetheless, a new controversy is brewing, this time about ethics. Unlike medical DNA testing, forensic DNA profiling reveals nothing about a person's physical features or genetic predisposition to disease. However, as new technologies are developed to investigate genetic differences for medical purposes, they may be appropriated to provide clues about criminal suspects.

Big Brother is Watching Your DNA

12 The benefits for criminal casework are obvious. A suspect's genetic material might provide information about his or her skin, hair, or eye colour. Britain's Forensic Science Service already offers an "ethnic inference service" and a red-hair test. DNAPrint Genomics, of Sarasota, Florida, recently helped police in Louisiana track down a suspected serial killer with a genetic test that identifies an individual's ethnic mix. The firm has also devised a test to predict eye colour. Other researchers are even looking for links between genetic traits and facial features.

13 Dr. Jeffreys strongly opposes this sort of thing, since it blurs the boundaries between forensic and medical analysis. "If you were to look at genes involved in facial features, you can bet your bottom dollar that you'd also access information about serious congenital defects," he says. "Police have absolutely no right to that information. I believe forensics and medicine should forever remain separate." But the existence of laws that allow the police to collect such genetic information in Britain, the Netherlands, and Japan suggests that lawmakers think otherwise.

14 DNA analysis, with its power to reveal intimate personal details, is just one of many technologies that have ominous, Big Brotherish uses. It is more difficult to criticize innovations that have legitimate uses in fighting crime. Such technologies deserve special public scrutiny, since their abuse could make possible unacceptable discriminatory practices and lead to invasions of privacy on a massive scale. It seems that unlike the technical challenges that forensic scientists quarreled over during the early 1990s, the ethical disagreements that are now arising from the use of DNA analysis could prove far more difficult to resolve.

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13. In paragraph 4, which term best describes “easy ride”?

    A. pun
    B. jargon
    C. paradox
    D. colloquial

14. In paragraph 4, what does “impede” mean?

    A. restrict
    B. promote
    C. eliminate
    D. strengthen

15. What was ironic about the attempt to challenge the use of DNA in the courts in the early 1990s?

    A. It was already being used in criminal convictions.
    B. It popularized forensic detective work in the media.
    C. It improved DNA profiling techniques and technology.
    D. It led to the development of cumbersome DNA technology.

16. What prompted Dr. Jeffreys to look for larger, more variable areas of DNA?

    A. He wanted to aid disease research.
    B. The differences in a single base were difficult to find.
    C. He wanted to increase the accuracy of DNA profiling for use in court.
    D. The public was concerned with the ethics of current DNA research techniques.

17. In paragraph 7, why is “Eureka” in quotation marks?

    A. to indicate dialogue
    B. to indicate emphasis
    C. to indicate a foreign term
    D. to indicate an understatement

18. Why was Dr. Jeffreys' original technique unsuitable for use in criminal cases?

    A. Results could be open to interpretation.
    B. The technology required was unavailable.
    C. Traditional fingerprints were more reliable.
    D. Standards for DNA testing were not yet defined.

19. Which is a true statement about current forensic DNA profiling?

    A. It has a high random-match probability.
    B. It reveals information about physical features.
    C. It is a strong discriminator for determining identity.
    D. It reveals information about predisposition to disease.

20. The term "Big Brother" is an example of which device?

    A. allusion
    B. hyperbole
    C. oxymoron
    D. personification

21. With which statement would Dr. Jeffreys most likely agree?

    A. Public scrutiny has hampered DNA technology.
    B. Police should not be allowed access to genetic information.
    C. Current laws regulating DNA testing should remain the same.
    D. Law makers and medical professionals should work more closely together.

PART B: INFORMATIONAL TEXT
WRITTEN-RESPONSE QUESTION

INSTRUCTIONS: Using approximately 125–150 words, answer question 1 in the **Response Booklet**. Write in **ink**. The mark for your answer will be based on the appropriateness of the example(s) you use as well as the adequacy of your explanation.

1. Based on the article, evaluate the controversy surrounding the use of DNA fingerprinting.

(12 marks)

PART C: DESIGN

Value: 18 marks **Suggested Time: 25 minutes**

INSTRUCTIONS: Read the scenario below and create an appropriate product (complete with title) in the space for question 2 in the **Response Booklet**. Use visual representation to enhance the message.

- underline words to indicate *italics*
- (circle) words to indicate **bold**
- describe graphic — use a box to indicate the look and placement of a graphic

2. **Scenario:**

You are a member of the Preparing for Safety Committee. You have been asked to create a handout that will act as a reminder to students of procedures to follow at school in the event of an earthquake. The handout will be posted in every classroom.

Task:

Create a handout explaining procedures in case an earthquake occurs while school is in session.

Information:

When an earthquake occurs, your first warning may be a swaying sensation. Rolling vibrations may follow. It will be scary! The earthquake may last a few seconds or may go on for a few minutes. The earth won't gobble you up. Remember to stay calm. Once it seems safe, everyone must leave the building quickly and quietly using the fire exit routes and procedures. Watch for broken glass. The first thing to do is get your head and shoulders under the closest large object such as a desk. Make sure you face away from glass. Move away from areas where large objects such as bookcases, light fixtures, and TVs can fall on you. If you are in a large open area, move to an inside wall, crouch down, bend your head close to your knees, cover the sides of your head with your elbows, and clasp your hands behind your neck. Once in the duck-and-cover position, everyone must count to 60 slowly. Your teacher will lead the count. If your desk is shaking, hang on to the legs. Once outside, students are to stay with their teacher and wait for further instructions. Earthquakes can be a major destructive force. Be aware that debris may continue to fall from the building even after the shaking stops. Do not use elevators. No one is allowed back into the building unless given permission. Patience is important.

PART D: CASE STUDY

Value: 30 marks **Suggested Time: 50 minutes**

INSTRUCTIONS: Read the scenario below and write a standard business memorandum in the space for question 3 in the **Response Booklet**. Write in **ink**. Include supporting visual design elements to make the information accessible to the reader. For emphasis in your work

- underline words to indicate *italics*,
- (circle) words to indicate **bold**.

3. **Scenario:**

You are Ricky Sundher, a grade 12 student at Pearson Secondary School. Your Global Perspectives 12 class is going on a two-week trip to an impoverished village in Peru during spring break. Since September, your class has been fundraising for supplies to build a playground structure and an extra room at an orphanage.

Task:

Your teachers, Ms. Mason and Mr. Eng, are expecting you to write a project completion report outlining the details of your fundraising activities. The project completion report is due on March 7, 2006.

Information:

- Supply Zone, a local stationery supply store, donated 100 knapsacks full of school supplies.
- During December and January, the class organized a school-wide head shave event. For every $1000 raised, two staff members' heads were shaved.
- Each teacher was given a jar for his or her classroom to collect donations for the head shave event.
- The class organized a Gala Dinner that took place on November 4, 2005.
- Toy Town donated 100 teddy bears for the orphanage.
- Between September and December, students sold 635 bags of fair-trade coffee for $10 each.
- The class invited cultural dance groups to perform at the Gala Dinner.
- The Gala Dinner was held at the Sunny Slope Golf Course. The dining hall rental cost $250.
- Each student contacted local businesses to ask for donations of supplies or money.
- Community members and local businesses donated products and services for the silent auction.
- The Gala Dinner featured a silent auction and entertainment.
- Students, staff, and the community generated $6000 from the head shaving fundraiser.
- The profit from each bag of fair-trade coffee was $2.50 and the profit from the silent auction was $7500.
- Catering for the Gala Dinner cost $21 per person including gratuities and taxes.
- Tickets for the Gala Dinner were $25.
- On January 20, 2006, teachers Mr. Blake, Mr. Wells, Mrs. Hayashi, Mrs. Smythe, Ms. Solidon, Mr. Eng, Ms. Mason, Mrs. Wong, Mrs. Sam, Mrs. Warren, vice-principal Mr. Wagg, and principal Ms. Daniels had their heads shaved in the main foyer of the school.
- 200 people attended the Gala Dinner.

END OF EXAMINATION

ACKNOWLEDGEMENTS

Cartoon by Frank Cotham. *The New Yorker.* The Cartoon Bank.

"DNA's Detective Story" (adapted). *The Economist.* March 13, 2004. Economist Newspaper Limited.

MINISTRY USE ONLY

Place Personal Education Number (PEN) here.

Course Code = TPC 12
JUNE 2006

Exam Booklet Form/ Cahier d'examen A B C D E F G H

Student Instructions

1. Place your Personal Education Number (PEN) label at the top of this Booklet **AND** fill in the bubble (Form A, B, C, D, E, F, G or H) that corresponds to the letter on your Examination Booklet.
2. Use a pencil to fill in bubbles when answering questions on your Answer Sheet.
3. Use a blue- or black-ink pen when answering written-response questions in this Booklet.
4. Read the Examination Rules on the back of this Booklet.

MINISTRY USE ONLY

Question 1

0 1 2 3 4 5 6 NR

Question 2

Marker 1

0 1 2 3 4 5 6 NR

Marker 2

0 1 2 3 4 5 6 NR

Question 3

Marker 1

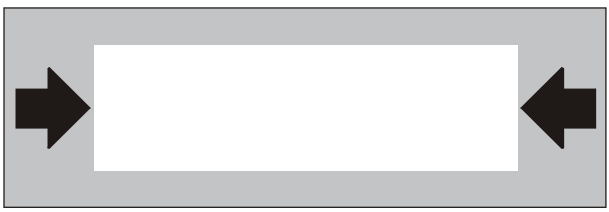
0 1 2 3 4 5 6 NR

Marker 2

0 1 2 3 4 5 6 NR

MINISTRY USE ONLY

Place Personal Education Number (PEN) here.



Course Code = TPC 12

Technical and Professional Communications 12

JUNE 2006

Response Booklet

BRITISH COLUMBIA
Ministry of Education

Organization and Planning

Use this space to plan your ideas before writing your answer.

PART B: WRITTEN-RESPONSE QUESTION

Question 1:

Organization and Planning

Use this space to plan your ideas before writing your answer.

1st	
2nd	

PART C: DESIGN

Question 2:

Organization and Planning

Use this space to plan your ideas before writing your answer.

PART D: CASE STUDY

Question 3:

PART D: CASE STUDY

PART D: CASE STUDY

PART D: CASE STUDY

PART D: CASE STUDY

1st	
2nd	

Examination Rules

1. The time allotted for this examination is two hours.
   You may, however, take up to 60 minutes of additional time to finish.
2. Answers entered in the Examination Booklet will not be marked.
3. Cheating on an examination will result in a mark of zero. The Ministry of Education considers cheating to have occurred if a student breaks any of the following rules:

   - Candidates must not give or receive assistance of any kind in answering an examination question during an examination, including allowing one's paper to be viewed by others or copying answers from another student's paper.
   - Candidates must not possess any book, paper or item that might assist in writing an examination, including a dictionary or piece of electronic equipment that is not specifically authorized for the examination by ministry policy.
   - Candidates must immediately follow the invigilator's order to stop writing at the end of the examination time and must not alter an Examination Booklet, Response Booklet or Answer Sheet after the invigilator has asked students to hand in examination papers.
   - Candidates must not communicate with another student during the examination.
   - Candidates must not remove any piece of the examination materials from the examination room, including work pages.
   - Candidates must not take or knowingly use any secure examination materials prior to the examination session.

4. The use of inappropriate language or content may result in a mark of zero being awarded.
5. Upon completion of the examination, return all examination materials to the supervising invigilator.