English

T.I.M.

Contrôle S2

INTERNATIONAL

March 2019

Note pour les surveillants:

- Durée 1h30
- 1 feuille QCM par élève (S=01, M=023)
- **Aucun document et pas de dictionnaire.**
- Brouillon recommandé

- **Ne rendre que la feuille réponse**
- **Pas de point négatif**

Smart Energy

1. The next few decades will see great changes in the way energy is supplied and used. In some major oil producing nations, 'peak oil' has already been reached, and there are increasing fears of global warming. Consequently, many countries are focusing on the switch to a low carbon economy. This transition will lead to major changes in the supply and use of electricity. **[A]** Firstly, there will be an increase in overall demand, as consumers switch from oil and gas to electricity to power their homes and vehicles. **[B]** Secondly, there will be an increase in power generation, not only in terms of how much is generated, but also how it is generated, as there is growing electricity generation from renewable sources. **[C]** To meet these challenges, countries are investing in Smart Grid technology. **[D]** This system aims to provide the electricity industry with a better understanding of power generation and demand, and to use this information to create a more efficient power network.

2. Smart Grid technology basically involves the application of a computer system to the electricity network. The computer system can be used to collect information about supply and demand and improve engineer's ability to manage the system. With better information about electricity demand, the network will be able to increase the amount of electricity delivered per unit generated, leading to potential reductions in fuel needs and carbon emissions. Moreover, the computer system will assist in reducing operational and maintenance costs.

3. Smart Grid technology offers benefits to the consumer too. They will be able to collect real-time information on their energy use for each appliance. Varying tariffs throughout the day will give customers the incentive to use appliances at times when supply greatly exceeds demand, leading to great reductions in bills. For example, they may use their washing machines at night. Smart meters can also be connected to the internet or telephone system, allowing customers to switch appliances on or off remotely. Furthermore, if houses are fitted with the apparatus to generate their own power, appliances can be set to run directly from the on-site power source, and any excess can be sold to the grid.

4. With these changes comes a range of challenges. The first involves managing the supply and demand. Sources of renewable energy, such as wind, wave and solar, are notoriously unpredictable, and nuclear power, which is also set to increase as nations switch to alternative energy sources, is inflexible. With oil and gas, it is relatively simple to increase the supply of energy to match the increasing demand during peak times of the day or year. With alternative sources, this is far more difficult, and may lead to blackouts or system collapse. Potential solutions include investigating new and efficient ways to store energy and encouraging consumers to use electricity at off-peak times.

5. A second problem is the fact that many renewable power generation sources are located in **remote** areas, such as windy uplands and coastal regions, where there is currently a lack of electrical infrastructure. New infrastructures therefore must be built. Thankfully, with improved smart technology, this can be done more efficiently by reducing the reinforcement or construction costs.

6. Although Smart Technology is still in its infancy, pilot schemes to promote and test it are already **underway**. Consumers are currently testing the new smart meters which can be used in their homes to manage electricity use. There are also a number of demonstrations being planned to show how the smart technology could practically work, and trials are in place to test the new electrical infrastructure. It is likely that technology will be added in 'layers', starting with 'quick win' methods which will provide initial carbon savings, to be followed by more advanced systems at a later date. Cities are prime candidates for investment into smart energy, due to the high population density and high energy use. It is here where Smart Technology is likely to be promoted first, utilizing a range of sustainable power sources, transport solutions and an infrastructure for charging electrically powered vehicles. The infrastructure is already changing fast. By the year 2050, changes in the energy supply will have transformed our homes, our roads and our behavior.

All answers should be written on the MCQ sheet.

1. **According to paragraph 1, what has happened in some oil producing countries?**
   a. They are unwilling to sell their oil any more.
   b. They are not producing as much oil as they used to.
   c. The supply of oil is unpredictable.
   d. Global warming is more severe here than in other countries.

2. **Where in paragraph 1 can the following sentence be placed?**
   There will also likely be more electricity generation centers, as households and communities take up the opportunity to install photovoltaic cells and small scale wind turbines.
   a. A
   b. B
   c. C
   d. D

3. **Which of the following is NOT a benefit of Smart Grid technology to consumers?**
   a. It can reduce their electricity bills.
   b. It can tell them how much energy each appliance is using.
   c. It can allow them to turn appliances on and off when they are not at home.
   d. It can reduce the amount of energy needed to power appliances.

4. **According to paragraph 4, what is the problem with using renewable sources of power?**
   a. They do not provide much energy.
   b. They often cause system failure and blackouts.
   c. They do not supply a continuous flow of energy.
   d. They can't be used at off-peak times.

5. **In paragraph 5, what can be inferred about cities in the future?**
   a. More people will be living in cities in the future than nowadays.
   b. People in cities will be using cars and buses powered by electricity.
   c. All buildings will generate their own electricity.
   d. Smart Grid technology will only be available in cities.

6. **The word 'remote' in paragraph 5 could be best replace by:**
   a. isolated
   b. crowded
   c. attractive
   d. alone

7. **The word 'underway' in paragraph 6 is closest in meaning to:**
   a. permanent
   b. complete
   c. beneficial
   d. in progress

8. **What is the main idea of paragraph 6?**
   a. To describe who will benefit from Smart Grid technology first.
   b. To outline the advantages of Smart Grid technology.
   c. To summarize the main ideas in the previous paragraphs.
   d. To describe how, where and when Smart Technology will be introduced.

9. **In paragraph 6, what can be inferred about the introduction of Smart Grid Technology?**
   a. The technologies which produce most benefits will be introduced first.
   b. The cheapest technologies will be introduced first.
   c. The technologies which are most difficult to put into place will be introduced first.
   d. Technologically advanced systems will be introduced first.

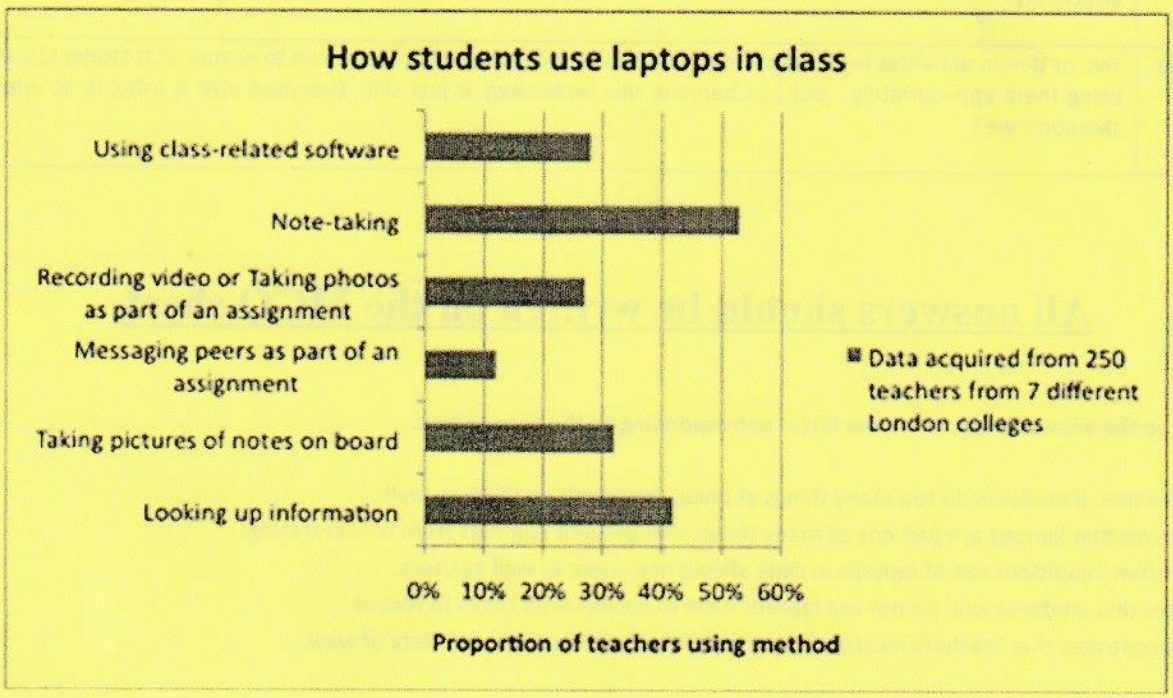
10. **Which THREE of the aspects below are answered in the passage?**
   a. How consumers are likely to respond to Smart Grid technology.
   b. The problems which will have to be overcome in switching to Smart Grid technology.
   c. The reasons why Smart Grid technology will be needed in the future.
   d. A comparison between Smart Grid technology and the present electrical distribution system.
   e. The ways Smart Grid technology will affect the way consumers use energy.

Multi-text reading. Read the four texts and answer the questions below.

Text A

My laptop had developed some kind of glitch and so I'd had to send it off to be repaired. That meant that when it came to my psychology class at college, I had to resort to the more traditional approach of note-taking – pen and paper. I was expecting the experience to be a rather frustrating one, but as a matter of fact, I found it quite the opposite. I seemed to get a lot more from the lecture that day, as if writing things down by hand allowed me to process and consider what I was hearing more than typing did.
As it happens, I'm not the only one to think so. A recent study has found that people remember lectures better when they've taken handwritten notes rather than typed ones. The reason? Well, the students using laptops tended to transcribe the speakers' speech word for word, as many could generally type fast enough to do. By hand, it just wasn't possible to capture every word. They had to be judicious with regards to what they chose to record, that is, they had to go through a second mental process. That selectivity, it seemed, led to long-term comprehension.

Text B



Text C

I interviewed Tom Wheeler, a maths professor at Harfield College, about what he thinks of the college's new ban on using laptops in class.

"Well, actually, I restricted the use of laptops in my lessons long before the ban came in. Because of the subject I teach, which involves lots of graphs and symbols, any advantage that might be gained from having a machine at the ready for taking notes is negligible at best. There isn't really any basic software out there that aids students to type out these notation-laden sentences. Meanwhile, the temptation for distraction is high. Later on, when I read a study from Cornell University, I knew I had taken the right approach. In this study, half of a class were allowed unfettered access to their computers during a lecture while the other half was not. After the lecture, the students had to take part in a quiz, and the disconnected students did better, across the board. It proved what I'd always suspected anyway - that multitasking decreases task performance."

Text D

Mike	Our school has banned all students from using Smartphones and laptops in class! It's absolutely ridiculous!
Lily	What's so ridiculous about that? Students can concentrate far better without them.
Mike	I don't agree. I can type far faster than I can write. And before, I could take a picture of the teacher's notes on the board and focus what he was saying. Now I spend all the time scribbling notes down frantically, which later I find are barely legible!
Lily	Well, loads of the students in my classes spend time playing games or writing messages to each other. It's very annoying. That's why my teacher always suggests the people without laptops sit at the front, where we can't see their screens.
Mike	The type of students who get distracted by laptops and Smartphones will only get distracted by something else if you take those machines away from them. Some kids just aren't interested in learning. But the rest of us shouldn't suffer because of them.
Lily	I see your point. Maybe teachers should give students more advice on how to use their laptops and phones effectively.
Mike	Yes, or devise activities in class that incorporate the technology into the lesson to ensure that students are using them appropriately. But just banning this technology is just silly. Everyone else is using it, so why shouldn't we?

All answers should be written on the MCQ sheet.

Which text: on the answer sheet write the letter corresponding to the correct text.

C **11.** notes that, if students do too many things at once, they don't do them so well.
D **12.** believes that laptops are just one of many things that prevent students from concentrating.
D **13.** says that injudicious use of laptops in class affects non-users as well as users.
A **14.** states that students who do not use laptops have to decide what notes to record.
B **15.** demonstrates that teachers incorporate laptops into their lessons in a variety of ways.

Say if the statements below are TRUE or FALSE according to the information given in the text.

A: TRUE B: FALSE

A **16.** In general, students who take notes by laptop write down exactly what the speaker says.
B **17.** The psychology student took more notes when she did not have her laptop with her.
A **18.** By choosing what we note down, we begin to understand and remember information.
B **19.** The number of teachers who create assignments that involve the use of messaging, video and photography is increasing.
A **20.** Over half of the teachers in the London survey teach lessons in which the students use laptops in the class.
B **21.** Software that enables students to note down mathematical formula easily is now freely available.
A **22.** In a study, it was found that all the students who had no access to a laptop during a lecture did better in a post-lecture quiz.
A **23.** Mike finds that technology allows him to pay more attention to the teacher.

High-tech crime-fighting tools

1. Crime-fighting technology is getting more sophisticated and rightly so. The police need to be equipped for the 21st century. In Britain we've already got the world's biggest DNA database. By next year the state will have access to the genetic data of 4.25m people: one British-based person in 14. Hundreds of thousands of those on the database will never have been charged with a crime.

2. Britain is also reported to have more than £4 million CCTV (closed circuit television) cameras. There is a continuing debate about the effectiveness of CCTV. Some evidence suggests that it is helpful in reducing shoplifting and car crime. It has also been used to successfully identify terrorists and murderers. However, many claim that better lighting is just as effective to prevent crime and that cameras could displace crime. An internal police report said that only one crime was solved for every 1,000 cameras in London in 2007. In short, there is conflicting evidence about the effectiveness of cameras, so it is likely that the debate will continue.

3. Professor Mike Press, who has spent the past decade studying how design can contribute to crime reduction, said that, in order for CCTV to have any effect, it must be used in a targeted way. For example, a scheme in Manchester records every licence plate at the entrance of a shopping complex and alerts police when one is found to belong to an untaxed or stolen car. This is an effective example of monitoring, he said. Most schemes that simply record city centers continually — often not being watched - do not produce results. CCTV can also have the opposite effect of that intended, by giving citizens a false sense of security and encouraging them to be careless with property and personal safety. Professor Press said: All the evidence suggests that CCTV alone makes no positive impact on crime reduction and prevention at all The weight of evidence would suggest the investment is more or less a waste of money unless you have lots of other things in place.' He believes that much of the increase is driven by the marketing efforts of security companies who promote the crime-reducing benefits of their products. He described it as a lazy approach to crime prevention' and said that authorities should instead be focusing on how to alter the environment to reduce crime.

4. But in reality, this is not what is happening. Instead, police are considering using more technology. Police forces have recently begun experimenting with cameras in their helmets. The footage will be stored on police computers, along with the footage from thousands of CCTV cameras and millions of pictures from numberplate recognition cameras used increasingly to check up on motorists.

5. And now another type of technology is being introduced. It's called the Microdrone and it's a toy-sized remote-control craft that hovers above streets or crowds to film what's going on beneath. The Microdrone has already been used to monitor rock festivals, but its supplier has also been in discussions to supply it to the Metropolitan Police, and Soca, the Serious Organized Crime Agency. The drones are small enough to be unnoticed by people on the ground when they are flying at 350ft. They contain high-resolution video surveillance equipment and an infrared night vision capability, so even in darkness they give their operators a bird's-eye view of locations while remaining virtually undetectable.

6. The worrying thing is, who will get access to this technology? Merseyside police are already employing two of the devices as part of a pilot scheme to watch football crowds and city parks looking for antisocial behavior. It is not just about crime detection: West Midlands fire brigade is about to lease a drone, for example, to get a better view of fire and flood scenes and aid rescue attempts; the Environment Agency is considering their use for monitoring of illegal fly tipping and oil spills. The company that makes the drone says it has no plans to license the equipment to individuals or private companies, which hopefully will prevent private security firms from getting their hands on them. But what about local authorities? In theory, this technology could be used against motorists. And where will the surveillance society end? Already there are plans to introduce smart water' containing a unique DNA code identifier that when sprayed on a suspect will cling to their clothes and skin and allow officers to identify them later. As long as high-tech tools are being used in the fight against crime and terrorism, fine. But if it's another weapon to be used to invade our privacy then we don't want it.

All answers should be written on the MCQ sheet.

According to the text:

24. Britain has already got

a. four million CCTV cameras.
b. more data about DNA than any other country.
c. the most sophisticated crime-fighting technology.
→ d. access to the genetic data of one in fourteen people living in Britain.

25. Professor Press

a. works at the University of Manchester.
b. studies car-related crime.
c. is concerned about the negative impact of the use of CCTV.
→ d. feels that some marketing departments lie about the crime-reducing benefits of CCTV.

26. The Microdrone is

a. a type of toy in the shape of a plane.
b. being used by the Metropolitan Police.
c. being used by the government.
→ d. able to film in the dark.

Do the following statements agree with the views of the writer in the Reading Passage?

A: YES
B: NO
C: NOT GIVEN

A **27.** The British authorities use too much technology to monitor their citizens.
C **28.** Microdrone is currently not used to check drivers.
A **29.** Technology should not be used to check on people's private affairs.

All answers should be written on the MCQ sheet.

The following questions are based on the Unit 6, 7, 8 and 9 of the MOOC: "Video Game Design History"

30. Who are the lecturer(s) of the MOOC?

a. Stephen Jacobs and Jon-Paul Dyson
b. Stephen Jacobs and Steve Frank
c. Max Testemale and Steve Frank (sure---)
d. Steve Frank and Jon-Paul Dyson

31. What was the first arcade game

a. Pong
b. Space war
c. Sapcewar!
d. Computer Space

32. What was the primary reason Pong became such a success?

a. Storyline
b. Simple learning curve
c. Music
d. B and C

33. Which earlier game type is Pac-Mac most related to?

a. Chase Games
b. War Games
c. Card Games
d. None of the above

34. What was one of the first arcade games to use LaserDisc technology?

a. Donkey Kong
b. Ms. Pac-Man
c. Dragon's Lair
d. None of the above

35. Which attributes do casual mobile games share with early arcade games? (check all that apply)

a. Stimulating graphics
b. Fast gameplay
c. Simple learning curve
d. Long form storylines

36. Why did the first public prototype Pong arcade cabinet stop working?

a. Faulty wiring
b. The coin box overflowed
c. A player spilled beer on it
d. None of the above

37. Which early feature contributed to console games gaining popularity?

a. Ease of installation
b. Depth of game worlds
c. Ability to store game progress
d. A and C

38. **What was used to change the gameplay in the first version of the Magnavox Odyssey?**
    a. Physical overlay
    b. Cartridges
    c. Multiple televisions
    d. None of the above

39. **What does the term Easter Egg mean?**
    a. Wireless controller
    b. Innovation in game mechanics
    c. Hidden game features
    d. None of the above

40. **What reasons were behind the arcade game crash in the early 80s?**
    a. Lack of players
    b. Downturn in the economy
    c. An abundance of games, designers, and consoles
    d. None of the above

41. **Game cartridges allowed the console to do what?**
    a. Have a smaller physical profile
    b. Enhance ease of use
    c. Process data faster
    d. None of the above

42. **Pitfall is known for using what innovation?**
    a. Sound effects
    b. Side-scrolling action
    c. Bonus levels
    d. None of the above

43. **What was one of the first game genres to transition over to the PC game environment?**
    a. Strategy
    b. Adventure
    c. Role-playing
    d. Sports

44. **What factors made Myst one of the best-selling games for so long?**
    a. It offered a rich environment and complex gameplay.
    b. It was a multiplayer game.
    c. It was the first game to be available on a PC.
    d. It appealed to women only.

45. **Before PC gaming became a real industry, how were PC games primarily shared and distributed among players?**
    a. Through public-access television
    b. Through print publications such as magazine articles and books
    c. On the World Wide Web
    d. At video game arcades

46. **One affordance of MUDs was that:**
    a. Administrators could generate content
    b. Players could generate content
    c. Programmers could generate content

47. **What game did CompuServe replicate online?**
    a. Pitfall
    b. Pong
    c. MegaWars
    d. None of the above

48. **Which video game console first offered a complete online experience?**
    a. Xbox
    b. Nintendo
    c. Sega
    d. Atari

49. **What is the title of the article that brought online game communities and griefing to a popular audience?**
    a. "How Do Online Game Communities Retain Gamers?"
    b. "Why Some Games Have Positive Online Communities and Others Don't"
    c. "A Rape in Cyberspace"
    d. "Gamers are doomed to solitude"

50. **What type of gatherings helped grow the popularity of Doom?**
    a. Focus groups
    b. LAN parties
    c. Role-playing sessions
    d. Online sessions

All answers should be written on the MCQ sheet.