

**CONCOURS COMMUNS  
POLYTECHNIQUES****EPREUVE COMMUNE - FILIERES MP - PC - PSI - TSI - TPC****LANGUE VIVANTE B :****ALLEMAND - ANGLAIS - ARABE - ESPAGNOL - ITALIEN - PORTUGAIS - RUSSE****Epreuve obligatoire pour l'EEIGM Nancy (filières PC et PSI)****Durée : 1 heure**

*N.B. : si un candidat croit repérer ce qui paraît être une erreur d'énoncé, il le signalera par écrit :*  
*- en cochant la case 40 A (1<sup>re</sup> ligne) ;*  
*- en expliquant au verso de la grille réponse les raisons des initiatives qu'il a été amené à prendre et poursuivra normalement son épreuve.*

**L'usage de toute machine (calculatrice, traductrice, etc.) est strictement interdit.**

**INSTRUCTIONS GENERALES****Définition et barème :**

QCM en trois parties avec quatre propositions de réponse par item.

- I. Compréhension : 12 questions (10 points sur 20)  
II. Lexique : 12 questions (5 points sur 20)  
III. Compétence grammaticale : 15 questions (5 points sur 20)

Réponse juste : +3

Pas de réponse : 0

Réponse fausse ou réponses multiples : -1

**Instructions :**

Lisez le texte et répondez ensuite aux questions.

Choisissez parmi les quatre propositions de réponse (A, B, C ou D) celle qui vous paraît la mieux adaptée. Il n'y a qu'une seule réponse possible pour chaque item.

Reportez votre choix sur la feuille de réponse.

**Index "alphabétique" :**

Allemand : pages 2 à 5

Anglais : pages 6 à 10

Arabe : pages 11 à 15

Espagnol : pages 16 à 20

Italien : pages 21 à 25

Portugais : pages 26 à 30

Russe : pages 31 à 35

## ANGLAIS

### DRONES: THE TECH BEHIND OUR FRIENDLY FLYING COMPANIONS

Drones aren't just for the CIA anymore. While Predators and Reapers still patrol the skies of the Middle East and South Asia, automated flight technology has burst into the consumer realm in a big way. Brands, scientists, government services and regular people are taking advantage of cheap and easy to control compact flight systems with decent lift capacity for cargo or equipment. Even former editor of Wired magazine Chris Anderson foresaw the drone trend and left Wired to become CEO<sup>1</sup> of 3D Robotics, a DIY<sup>2</sup> drone-building company. Soon enough drones may be ubiquitous, zipping around the skies on errands, surveillance tasks or even as artistic tools.

Flying delivery robots have been increasingly experimented with by DIY drone enthusiasts and major brands looking to revolutionize small parcel delivery. Via an app that taps into the user's GPS location, drone systems can zero in on a particular location and deploy cargo by parachute or manual extraction while hovering. Some developers use straight-flying robots, like the Burrito Bomber that releases a burrito in a parachute-controlled parabola. Others, such as the beer-delivering drone of South Africa, hover high over the target and parachute the cargo directly down. As parachutes are not very accurate, these would only really work outside with lots of open space and cooperative crowds.

Enter the big brand. Perhaps the most efficient drone delivery system, and the one most likely to see implementation in cramped urban environments, is manual extraction from a hovering platform, as experimented with the DomiCopter. While currently only capable of short trips, the pizza magnate – Domino's – is seriously testing drone delivery and it's rumored that a Domino's Flight Academy might be in the works. With longer range drones, a central warehouse could quickly serve a large urban area without being hindered by traffic – and this doesn't apply to just pizza. Any small parcel could be drone delivered in a city, if the recipients were willing to go up to a roof or down to the sidewalk to receive it. But this would require major legislative approval in addition to improved drone safety, automation and carrying capacity so in the meanwhile some restaurants are serving burgers with hovering delivery trays.

There are so many applications for drones, from simple surveillance to search and rescue, wildlife monitoring and geological 3D mapping. Some very creative uses are popping up in the art world, with arrays of synchronized drones programmed to move together in very precise formations. One of the most stunning examples was the 'Meet Your Creator' troupe of 16 quadrotors that danced and manipulated sound and light at the Saatchi & Saatchi New Directors' Showcase 2012. Created by Marshmallow Laser Feast, the show used quadrotor drones with mounted LEDs and motorized mirrors that reflected and diverted light to create floating light sculptures. [...]

While the next step may be to bring such exhibitions outside, there is a big legal gray area around the commercial and personal use of drones in public. As more and more people get their hands on this technology and put cameras on them, a serious debate has arisen between protecting freedom of speech and the right to privacy. Some call for less regulation, but that hasn't prevented a few states from banning drone photography. What this means for the budding industry and its artistic side remains to be seen, but there will be surely some degree of flexibility since many drone activities require a mounted camera.

45 Fortunately there are no such regulations in the wild, where National Geographic photographer Michael Nichols went to get an unprecedented view of lions in the Serengeti. Using a hardy multi-prop camera drone, Nichols's photos will shed new light on the lives of lions and their prey, as well as many other of the skittish denizens of the Serengeti. His project will be published sometime this year in National Geographic, so we'll just have to wait to see the latest high-quality drone nature photography.

50 What does the future hold for everyday drone use? Well it largely depends on what governments around the world will allow. If they crack down on drone use, the only escape may be further up – a notorious file-sharing site revealed plans to host servers in low-orbit to escape capture and jurisdiction. But if all goes well, perhaps swarms of drones will fill the skies after disasters to provide an instant communications and monitoring network. Fully automated, a drone swarm might operate like a flock of birds or a school of fish, performing emergent complex tasks from only a few operational rules.

<sup>1</sup>CEO : Chief Executive Officer

<sup>2</sup>DIY : Do It Yourself

*iQ by Intel, July 15, 2013*  
(Abridged and adapted)

### I. COMPREHENSION

*Choisissez la réponse qui vous paraît la plus adéquate en fonction du sens du texte.*

- |   |   |
|---|---|
| <p>1. From line 1 to line 8, it should be understood that:</p> <ul style="list-style-type: none"><li>(A) There is still a long way before drones become widely used.</li><li>(B) Only the military and governments are allowed to use drones.</li><li>(C) Drones are still too complicated to monitor.</li><li>(D) The use of drones is being widespread in many domains.</li></ul> <p>2. From line 9 to line 16, it should be understood that:</p> <ul style="list-style-type: none"><li>(A) GPS systems are embedded in flying delivery robots.</li><li>(B) Flying delivery robots don't need any GPS system to work.</li><li>(C) Flying delivery robots are necessarily linked to a GPS.</li><li>(D) GPS systems are sent in the air to control flying delivery robots.</li></ul> <p>3. From line 9 to line 16, it should be understood that:</p> <ul style="list-style-type: none"><li>(A) Beer-delivery drones deliver their cargo with extreme precision.</li><li>(B) Beer-delivery drones have been abandoned because of their lack of efficiency.</li><li>(C) Beer-delivery drones are not really efficient in narrow spaces.</li><li>(D) Beer-delivery drones do not require large spaces to be effective.</li></ul> | <p>4. From line 17 to 26, it should be understood that in busy urban areas:</p> <ul style="list-style-type: none"><li>(A) All drone delivery systems have the same efficiency.</li><li>(B) The cargo is conveniently extracted by hand from the platform.</li><li>(C) The DomiCopter system cannot be used.</li><li>(D) No drone system can be used.</li></ul> <p>5. From line 17 to line 26, it should be understood that in small urban areas:</p> <ul style="list-style-type: none"><li>(A) Drones will never be used.</li><li>(B) Local authorities have banned the use of drones.</li><li>(C) Only pizza could be delivered with drones.</li><li>(D) Drones could be used provided some specific measures are respected.</li></ul> <p>6. From line 27 to line 34, it should be understood that 'Meet Your Creator':</p> <ul style="list-style-type: none"><li>(A) is especially used in surveillance.</li><li>(B) was created by Domino's.</li><li>(C) uses five-footed drones.</li><li>(D) uses mirrors to reflect light.</li></ul> |
|---|---|

7. From line 35 to line 41, it should be understood that:
- (A) There is no debate about the private use of drones.
  - (B) The personal use of drones may infringe on other people's privacy.
  - (C) Freedom of expression must prevail over the right to privacy.
  - (D) Few people seem interested in drones.
8. From line 35 to 41, it should be understood that:
- (A) The federal government has prevented some states from banning drone photography.
  - (B) Many US states have prohibited drone photography.
  - (C) Drone photography has been forbidden in some states.
  - (D) Some states have fought against the prohibition of drone photography.
9. From line 42 to 47, it should be understood that:
- (A) Only scientists will be enabled to use camera drones in the wilderness.
  - (B) Photographers from National Geographic are the only people allowed to use drones in the wild.
  - (C) You don't need any permit to use drones in wild spaces.
  - (D) In some wild areas, you are not allowed to use drones.

10. From line 48 to 54, it should be understood that:
- (A) All governments have agreed on specific legislation concerning drones.
  - (B) How governments around the world will legislate on drones is still unknown.
  - (C) There will soon be an international agreement about drones.
  - (D) In the future, most governments will ban drones.
11. From line 48 to 54, it should be understood that:
- (A) It is possible to escape government regulation.
  - (B) Some servers have been created to enforce the law in some countries.
  - (C) Some governments have already captured some law-offenders.
  - (D) A file-sharing site enables drone users to exchange ideas.
12. From line 48 to 54, it should be understood that in the future:
- (A) Drones may be confused with birds in the sky.
  - (B) Drones may be very useful in some situations.
  - (C) Drones will be used to capture fish.
  - (D) Drones will be used even at school.

## II. LEXIQUE

*Choisissez la réponse qui vous paraît la plus appropriée en fonction du contexte.*

13. "ubiquitous" (line 7) means:
- (A) visible
  - (B) sent into the air
  - (C) omnipresent
  - (D) performing
14. "zero in" (line 11) means:
- (A) focus
  - (B) eliminate
  - (C) avoid
  - (D) bring down to zero
15. "hovering" (line 12) means:
- (A) landing
  - (B) taking off
  - (C) flying
  - (D) stopping

16. "accurate" (line 15) means:
- (A) safe
  - (B) appropriate
  - (C) resistant
  - (D) precise
17. "hindered" (line 22) means:
- (A) hidden
  - (B) blocked
  - (C) moved
  - (D) lifted
18. "in the meanwhile" (line 25) means:
- (A) at the same time
  - (B) in the middle
  - (C) that is why
  - (D) in the area

19. "stunning" (line 30) means:

- (A) beautiful
- (B) unknown
- (C) well-known
- (D) striking

20. "budding" (line 39) means:

- (A) growing
- (B) successful
- (C) specialized
- (D) selling buds

21. "hardy" (line 43) means:

- (A) difficult to use
- (B) easy to use
- (C) robust
- (D) very big

22. "skittish" (line 45) means:

- (A) very skinny
- (B) easily frightened
- (C) very big
- (D) peaceful

23. "denizens" (line 45) means:

- (A) numbers
- (B) inhabitants
- (C) specimens
- (D) examples

24. "crack down on" (line 49) means:

- (A) hacker
- (B) slow down
- (C) examine
- (D) take action against

### III. COMPETENCE GRAMMATICALE

*Parmi les quatre solutions proposées, choisissez, pour chacun des énoncés lacunaires suivants, celle qui vous paraît le compléter correctement.*

25. They ... developing them several years ago.

- (A) started
- (B) have started
- (C) start
- (D) are starting

26. These drones are ... in wild spaces.

- (A) mostly used
- (B) the most used
- (C) the mostly used
- (D) used the mostly

27. You can take it ... you know how to use it.

- (A) provided if
- (B) provided that
- (C) providing so
- (D) if providing

28. It's easy to use, you ... read the instructions.

- (A) do not need
- (B) needn't
- (C) needn't to
- (D) don't need

29. ... the use of drones in this area.

- (A) They are said to have banned
- (B) They said to have banned
- (C) They are told to have banned
- (D) They told to have banned

30. It is ... this zone is dangerous.

- (A) all the more useful that
- (B) all the more useful as
- (C) all useful that
- (D) all useful as

31. ... because of the tough legislation.

- (A) They don't dare use it
- (B) They don't dare using
- (C) They daren't to use it
- (D) They daren't use it

32. ... developing it, they will market it.

- (A) When they will finish
- (B) When they finished
- (C) When they had finished
- (D) When they have finished

33. ... them, they carry out several tests.

- (A) Before commercialise
- (B) Before to commercialise
- (C) Before commercialising
- (D) Before to commercialising

34. Do drones need ... space to be used?

- (A) a lot
- (B) much
- (C) lots
- (D) many

35. If they wanted to buy one, ... the neighbours before.

- (A) they ought warn
- (B) they ought have warned
- (C) they ought warned
- (D) they ought to warn

36. There's one button ... in this box.

- (A) too many
- (B) too much
- (C) too a lot
- (D) too extra

*Parmi les quatre phrases proposées, choisissez celle qui est grammaticalement correcte.*

37.

- (A) The more you use it, the more you like it.
- (B) More you use it, more you like it.
- (C) The most you use it, the most you like it.
- (D) Most you use it, most you like it

38.

- (A) I wish I can use this drone someday.
- (B) I wish I could use this drone someday.
- (C) I wish I use this drone someday.
- (D) I wish I will use this drone someday.

39.

- (A) How long have you had this device?
- (B) How long have you this device?
- (C) How long do you have this device?
- (D) How long had you this device?

**Fin de l'énoncé**