Punctuation

I.

1. b) 2. b) 3. c) 4. a) 5. b) 6. c) 7.a) 8. b) 9.a)/b) 10. c) 11. c) 12. b)/c)

II.

1. Some students prefer the theoretical subjects, others like doing experiments and making measurements in the laboratory.
2. There was some funding available in the Free Mover Programme, so we decided to go to that conference in London.
3. As there was some funding available in the Free Mover Programme, we decided to go to that conference in London.
4. There was funding available in the Free Mover programme; therefore (,) we decided to go to that conference in London.
5. It was, after all, an interesting lecture.
6. Well, it makes sense, doesn´t it?
7. At our Department (,) the meetings are usually long, so we had better start early.
8. Havel, the writer and former president of this country, is known worldwide.
9. The man who spoke to me is my former teacher.
10. Their new approach is interesting, indeed.
11. I am not against their participation in the project; indeed, I think it would be very useful.
12. I hope that the rise in salary will be welcome.
13. The rise in salary, I hope, will be welcome.
14. The rise in salary will be welcome, I think.
15. A friend of mine who has just returned from his Erasmus study stay in Denmark says that in Denmark everybody speaks English.
16. My friend Karel, who has just returned from his Erasmus study stay in Germany, speaks German very well now.
17. The IEEE journals, many of which are available in our library, provide information on the latest developments in different areas of engineering.
18. The journal I lent you yesterday has to be returned to the library in a week.
19. Students working in the laboratory must observe the safety rules.
20. Having concentrated on one single detail, he lost the ability to see things in proportion.
21. You can hardly write a paper while listening to a football match report.
22. You should understand that deadlines must be kept.
23. I´m afraid I can´t tell where to go and what to do next.
24. If I were you, I´d definitely apply for that job.
25. Kate said she would be on time (,) but I didn´t believe her.
26. Kate said she would be on time; however, I didn´t believe her.
27. Come and see me as soon as you have finished the experiment.
28. When you have finished the experiment, come back to my office.
29. Professor Brown was in favour of our idea; Dr White, on the other hand, was against it.
30. Dr White, on the other hand, did not agree with us.
31. Three young participants attended the conference: Jan Novák from the University of West Bohemia, Pilsen, Czech Republic,/; Michal Veselý from the Czech Technical University in Prague,/; and Mary Rees from Brunel University, Uxbridge.
32. Professor Alexander, the invited speaker, could not come to the conference because he was ill.
33. As he is ill, he cannot come to the conference.

34. Professor Alexander could not come to the conference because of ill health.
35. That the situation will change is not very probable.
36. I am not sure why he didn´t turn up.
37. I was surprised to see him at the workshop (,) because I had not expected him to come.
38. Because I had not expected him to come to the workshop, I was surprised to see him.
39. We can discuss it on Monday, when everybody is back at work.
40. Since his arrival there has been no change.
41. Since there are no other questions, we can close the session.
42. Professors are supposed to be absent-minded; I can confirm that this is true.
43. Sweden is my favourite country; in fact, I am seeking a work placement there.
44. The computer can perform millions of operations in a split second; however, it cannot think.
45. I have to hand in the assignment by Friday; otherwise, I cannot register for the examination.
46. The Prime Minister pledged to allot more money to research; the academic community welcomed this announcement.
47. I have read all Ernest Hemingway´s books but none by John Updike.
48. Students who earn an A or B grade for all weekly tests need not take the examination.
49. That position requires a Master´s degree in electrical engineering, readiness to learn new things, team spirit, and good communication and organization skills.
50. Three of the students who have applied for admission to the PhD course have the best chance, if they work hard enough, to complete the course in four years.
51. He is looking for a job where he could apply his technical expertise.
52. He chose a Master of Engineering Management degree at Dartmouth College, where he is now in his second year.
53. Oliver and his two friends, sitting in the rear of the lecture hall, could not hear the professor.
54. The students sitting in the rear of the lecture hall could not hear the professor.
55. His doctoral thesis, written in English, will be published in a respected journal.
56. Not all doctoral theses written in English are suitable for publishing in a respected journal.

III.

1. In political discourse, public debates (,) and the mass media, engineering is often a synonym for science.
2. He has written a number of papers and presented them at conferences.
3. A close correlation between the computed and experimental results was found, which verifies the validity of the proposed analysis.
4. However, with the present computer facilities, obtaining a conclusive proof is still quite a luxury, and not practical.
5. Paper substrates expand when they are exposed to humidity.
6. In fact, a 3% voltage unbalance increases the effect of filter asymmetry from 19 to 36%.
7. Based on this analysis, several observations have been made.
8. An engineer generally works for a few years before going for an MBA, but some students are fresh out of an engineering school.
9. Furthermore, in many approaches it is difficult, if not impossible, to identify the surface loss components.
10. Over the past half-a-century, advances in the design of electric machinery have been relatively modest when compared to those made in the design of semiconductors.
11. In order to answer this question, a detailed analysis was necessary.
12. As partial discharges are a symptom of deterioration in the simulation system, PD measurements are being increasingly used to directly detect the damaged parts of the stator

winding.

13. In our opinion, the main contributions of this paper are twofold.
14. Graphene has many remarkable qualities, which, its proponents say, could make it a successor to silicon as a basis for electronics.
15. A memristor is a two-terminal device whose resistance changes depending on the amount, direction, and duration of voltage that is applied to it.
16. For this reason, such calculation errors may cause significant financial losses.
17. While they do not, strictly speaking, function as sensors, atomic clocks share many properties with more typical atomic sensors.
18. The most straightforward way to discourage electricity use is, of course, to charge a lot for it.
19. Hence, the authors sought a method that could be easily used on a computer.
20. In order to justify the experimentally and computationally chosen value of *k,* one can do the following reasoning.
21. When the manual switch *Sw* is closed, the inductor *L* is connected to the source *E,* and the flux builds up.
22. In the late 70s, field solution software became available to many users.
23. These stresses impose, individually and in a collective manner, degradation of the rotor winding insulation.
24. If, however, the filter presents any degree of asymmetry, its harmful effects will be reinforced by the system voltage unbalance.
25. There are(,) still(,) a few practical problems that will have to be overcome before transceivers can be fabricated in bulk.

IV.

1. Being unaware/Unaware of the mistake he made, he continued his calculations.
2. Encouraged by the audience, the speaker gave further details of his proposal.
3. Having exhausted all possibilities of retaking the exam, he left the University.
4. Hoping to pass his finals soon, he started making plans for the near future.
5. Not having received any reply, Peter thought his application got lost.
6. Being an active participant in each project, the principal researcher was able to observe the participants´ day-to-day performance.
7. In the 18th century, the Czech Technical University, known to be the first engineering school in Central Europe, was called the Polytechnical Institute.
8. Founded as a branch of The Czech Technical University, the Faculty of Electrical and Mechanical Engineering became an independent institution in 1953.
9. Having completed their academic duties, students can register for the state examination.
10. When applying for admission to a PhD programme, graduates in the US have to submit their dossier.
11. The PhD programme takes 4 years, the deadline for the rigorous examination not having been exactly fixed.
12. Although open to guests, the rigorous examination is seldom attended by the public.
13. Hoping to get a place at MIT, students work hard for this privilege.
14. Not knowing the rules and regulations of the University, many foreign students run into difficulties.
15. As indicated in the previous section, the solution required a completely new approach.
16. Not having sufficient knowledge of either business or technology, it is not surprising that these staff members are not included in major decision-making.

17. As previously argued, this method is particularly suitable for finding a solution to the problem.
18. Using the above-described approach, we obtained the results presented below.
19. Based on this analysis, several observations have been made.
20. As presented in Fig. 4, the importance of this transformer effect depends on the value of the asymmetry factor.

V.

1. Engineers at XY University have proposed a radical solution to the problem: huge artificial clouds that would float over the stadium, providing shade.
   Engineers at XY University have proposed a radical solution to the problem - huge artficial clouds that would float over the stadium, providing shade.
2. Two of the companies - namely the clearing bank and the insurance company - were explicitly using the introduction of data warehouses to empower their staff.
   Two of the companies, namely the clearing bank and the insurance company, were explicitly using the introduction of data warehouses to empower their staff.
3. It is hot in Qatar; temperatures in the summer average more than 100° F.
   It is hot in Qatar.Temperatures in the summer average more than 100° F.
4. The “that” that I left out in sentence No. 25. may make understanding the sentence difficult.
5. The PD test may be divided into two categories: offline conventional and online.
   The PD test may be divided into two categories - offline conventional and online.
6. Decision-making should not be intuitive; it should be goal-centred, systematic, and analytical.
   Decision-making should not be intuitive. It should be goal-centred, systematic, and analytical.
7. In modelling and analysing this kind of filter, the fact that - for reasons of economy – they consist of a single block is often neglected.
8. He stated that “the end of the European dream of integration would be the end of the free world as we have known it”.
9. The form of this razor serves its function: to provide customers with a close shave and a very durable shaving device.
   The form of this razor serves its function - to provide customers with a close shave and a very durable shaving device.
10. Many researchers do not like the traditional method; personally, I find it still very useful.
    Many researchers do not like the traditional method. Personally, I find it still very useful.

VI.

1. a 28-year-old German researcher 2. real-world data 3. power loss computation 4. computer-aided design 5. a UK-based company 6. it´s a matter of fact 7. a matter-of-fact approach 8. a short- term solution 9. a remote-controlled engine 10. motor failure analysis 11. a three-stage process 12. energy-saving measures 13. solar-powered engines 14. computer control console 15. a user-friendly programme 16. to pick up signals 17. a new pick-up 18. car engine design 19 powder-metallurgy industry 20. state-owned enterprises 21. the above-mentioned drawbacks 22. high-tech industries 23. high-quality iron ore 24. calculation error analysis 25. the state of the art 26. a state-of-the-art lecture

VII.

According to the late Jim Gray, computer scientist (lost at sea in 2007), until recently science was largely the product of three interraletd paradigms: experimental, theoretical, and computational. However, the computational paradigm is now generating so much data that a fourth is emerging, one that requires new tools and techniques to store, organize, filter, share, and analyse these massive amounts of data. Gray called this new paradigm **eScience** and

characterized it as “IT meets scientists.” Whether you are a scientist or a technologist, this new **data-intensive-science** is fascinating stuff, and for the neologist, this new field is generating a flood of new words.

In the past, most scientific disciplines could be described as **small data**, or even **data poor.** Most experiments or studies had to contend with just a few hundred or a few thousand data points. Now, thanks to massively complex new instruments and simulators, many disciplines are generating correspondingly massive data sets that are described as **big data** or **data rich.** Consider the Large Hadron Collider, which will eventually generate about 15 *petabytes* of data per year. A petabyte is about a million gigabytes, so that qualifies as full-fledged **data deluge**.

The massive data sets require **massive computation**, and so workaday scientists will have to become **data scientists** who use the latest software and database tools for *data mining,* which is the extraction of patterns and knowledge from large and complex data sets.

Perhaps the biggest data set of all is the collection of actions, choices, and preferences that each person performs throughout the day, which is called his or her **data exhaust.** Using such data for scientific purposes is called **citizen science.** This is **noisy data** in that most of it is irrelevant or even misleading.

VIII.

a) The Digital Assistant

This is Siri. You may have met. Siri is the latest feature on Apple´s IPhone 4S and the intelligent personal assistant you´ve always wanted. Ask Siri to send a text message or find the best burger joint nearby – done. She can also remind you to pick up your laundry on your way home, and she takes dictation. Siri goes beyond the voice recognition of the past: she understands natural speech without requiring you to use special words or without a learning curve. And Siri is still in beta, which means she could keep getting better.

b) The Next Wi-FI

Here´s the situation: our 5 billion mobile phones transmit 6 petabytes of data every month. That´s 6 with 17 zeros. We´re running out of the radio frequencies that are used for wi-fi and cellular networks. Enter Dr. Harald Haas of the University of Edinburgh, inventor of li-fi. Like many other great inventors, Haas developed a solution using things we have in abundance: chiefly the world´s 14 billion light bulbs. His system implants electronics in ordinary light bulbs and uses subtle changes in light intensity to transmit data. It´s fast, and since light doesn´t go through walls, it´s secure. What could possibly be more illuminating?

c) Better Batteries

Lithium is an amazing element – not much else can be used for both batteries and antidepressants – but it has an unfortunate habit of bursting into flames when exposed to oxygen, even in water. That´s too bad, because a battery that could harness lithium in air or even water would provide more energy than the standard lithium-ion battery found in your phone. That´s exactly what Steve Visco and his colleagues at PolyPlus created: a working lithium-water battery. PolyPlus made a membrane that encloses the lithium, sealing it from the water – and preventing combustion – while still enabling electrical charge. The result is a battery that can last far longer than a conventional lithium-ion cell.

d) Pre-Emptive Policing

Police officers in Santa Cruz, Calif., are getting ahead of the bad guys by figuring out where crimes will be committed before they take place. Using a computer program developed by mathematicians, an anthropologist and a criminologist, officers are able to predict what areas of the city are most at risk for future crimes and the time the crimes are most likely to occur, so they can have a member of the force at the ready.

IX.

a) The Magic Mirror

You´re not crazy for talking to your mirror in the morning – especially if it´s serving you the day´s news. The New York Times Co. Research and Development Lab invented a mirror that uses Microsoft´s Kinect motion sensor to recognize and interact with you. Step up to the mirror and it reflects who you are; beside your visage you´ll see your health history and daily agenda. This magic mirror can do everything your morning routine requires: serve you news, tell you about the weather, and rattle off your calendar. Put your morning medication on the sill and it will give you dosage details. It can even alert your doctor when you need a refill. Just don´t ask this mirror who´s the fairest of them all. Its camera might scan your outfit and offer you a better choice of tie.

b) Watson

"I, for one, welcome our new computer overlords." Those were the words of 74-time *Jeopardy!* champion Ken Jennings after IBM´s Watson computing system dismantled him and another top *Jeopardy!* player in a man-vs.-machine challenge last February. Though the publicity stunt may have secured Watson its notoriety, the computing system, which is the size of 10 refrigerators and performs 80 trillion operations per second, has higher aspirations. The machine is not simply Google version 2.0. Rather than gathering countless pieces of data, Watson aims to relay only one – the necessary one.

X.

The Built-in Breathalyzer

Nearly 9,000 deaths in the U.S. could be prevented each year if alcohol-detection devices were used in all vehicles, according to the Insurance Institute for Highway Safety. Which is why QinetiQ North America, a research-and-development facility in Waltham, Mass., is working with the National Traffic Safety Administration and the auto industry to develop touch- and breath-based sensors that could be strategically placed on steering wheels and ignition push buttons to instantly measure drivers´ blood-alcohol concentration. The sensors would automatically analyze a driver´s breath or skin to determine whether or not he or she was fit to drive. If the blood-alcohol level was at or above the legal limit of 0.08%, the car would start but not move. The devices are in testing now and will be embedded into a research vehicle by the end of 2013. If all goes as planned, they could be on the road in eight to ten years.