**Answers**

1. WeDriveAnywhere is a taxi company in a major city. At present their taxis are available at the railway station and at large retail centres. Customers can also book a taxi by phone.  
  
Ali, the owner and manager, are investigating the introduction of new technology to make booking and paying for a taxi more efficient and easier for the customer.

(a) Explain **three** ways in which technology could be used to improve booking   
and payment. [6]

The company could use a website (1) where users could request a taxi /   
see availability (1).

Payments (for fixed-rate trips) could be made through the website (1) which   
would be more convenient than cash for some passengers (1).

The company could create a mobile app (1) so customers could book taxis   
using smartphones/tablets (1).

The GPS location of taxis could be fed back to users (1) so that they can see   
how close a taxi is to arriving / so that family members can see where they are   
for safety (1).

Answers such as Uber do not help the taxi company as they act as a taxi company themselves.

(b) Many of the drivers are concerned that new, emerging technologies could lead   
to them being made redundant.

Discuss the implications of emerging technologies such as driverless cars on jobs. [6]

Effects of driverless cars

* Driverless cars would remove the need for taxi drivers.
* As driverless cars are able to find fastest routes and the computer will work   
  for free they would be able to undercut any competitors.
* Driverless cars may be safer as they can ultimately perform calculations   
  faster and will not get tired.

Implications

* It is likely that driverless cars will lead to a reduction in taxi driving jobs.
* Some taxi drivers may keep their jobs if they can offer a superior service – e.g. chauffeurs, wedding car drivers.
* Alternative jobs could be made available in maintenance and cleaning of the cars and programming the driverless cars.
* If the price is cheaper, people will have more disposable income, so they may spend this money on other services which the drivers can provide.
* If the drivers do not find alternative employment there may be issues of poverty and physical or mental illness.

| **Level** | **Mark** | **Descriptor** |
| --- | --- | --- |
| Level 0 | 0 | No rewardable material. |
| Level 1 | 1-2 | Technical vocabulary is used but it is not used appropriately to support arguments, in relation to the issues of the question.  Issues are identified but chains of reasoning are not made, leading to a superficial understanding. |
| Level 2 | 3-4 | Accurate technical vocabulary is used to support arguments but not all arguments are relevant to the issues of the question.  There is consideration of relevant issues using logical chains of reasoning.  Considers the various elements of the question. |
| Level 3 | 5-6 | Fluent and accurate technical vocabulary is used to support arguments that are relevant to the issues of the question.  There is a balanced and wide-ranging consideration of relevant issues, using coherent and logical chains of reasoning that shows a full awareness.  Carefully considers the various elements of the question. |

2. YourHealth is a private medical company providing a range of healthcare for patients.  
  
The company makes use of modern technologies not only for diagnosis and operations,   
but also for administration and hospital services.  
  
Discuss the ways in which modern and emerging technologies could be used by YourHealth to improve patient care and administration. [8]  
  
Some suggested areas for the discussion.

Diagnosis, operations and aftercare

MRI and CT scanners for diagnosis

Digital X-ray machines allow x-rays to send to doctors digitally

AI could be used to help with diagnosis or to provide useful support to patients with particular illnesses

Computers can be trained to check scans and identify abnormalities – this can often be more accurate than humans

Robotic arms to carry out keyhole surgery

Remote robots that allow a specialist surgeon to perform an operation on someone in a different country.

Administration and hospital services

Use of email or secure websites to send patients test results and appointments

Online booking systems

Video consultations

Remote training with video

Text/email reminders sent so appointments aren’t forgotten

Online payments

| **Level** | **Mark** | **Descriptor** |
| --- | --- | --- |
| Level 0 | 0 | No rewardable material. |
| Level 1 | 1-2 | Technical vocabulary is used but it is not used appropriately to support arguments, in relation to the issues of the question.  Issues are identified but chains of reasoning are not made, leading to a superficial understanding. |
| Level 2 | 3-5 | Accurate technical vocabulary is used to support arguments but not all arguments are relevant to the issues of the question.  There is consideration of relevant issues using logical chains of reasoning.  Considers the various elements of the question. |
| Level 3 | 6-8 | Fluent and accurate technical vocabulary is used to support arguments that are relevant to the issues of the question.  There is a balanced and wide-ranging consideration of relevant issues, using coherent and logical chains of reasoning that shows a full awareness.  Carefully considers the various elements of the question. |

[Total 20 Marks]