1. **Explain the formation of coal**

Coal is formed when the partially decomposing remains of plants from the Carboniferous period is put under large amounts of pressure created by new land and river water covering where the plants once stood. Over time, this pressure hardens the remains into coal.

1. **A) State two similarities between coal, oil and natural gas.**

They were both formed from the remains of prehistoric plants and animals and they have taken millions of years to form and accumulate to sizes which are big enough for human use

**B) In what ways are they different?**

Although they are both formed by the pressure from objects above, coal is formed by the hardening of the remains, however oil and gas is accumulated from the compression of the porous sandstone in which the pores were afore filled with little “spots” of gas and oil and therefore gets “released” due to the compression. The extraction methods are also different, and oil and gas is usually found further underground. Also, coal is solid, unlike oil and gas.

1. **A)Draw a labelled sketch to show an oil trap**

(in book)

**B) Explain why oil is trapped**

Oil is trapped because after being compressed out of the porous sandstone, the impervious sedimentary rock above e.g. shale doesn’t allow the gas to pass through and so it accumulates under the negative parabola-shaped shale rock.

**C) Describe how oil is discovered and extracted**

Oil is discovered only definitely by drilling a hole into the ground; however geologists can observe rock layers and patterns beforehand. The oil is extracted through pipes which pump out the oil, and is then transported from the drilling site via pipeline.

1. **Why are many more workers needed for extracting coal than for oil and gas?**

More workers are needed for the extraction of coal because the miners often need to enter the dangerous and deep mines to extract the coal from the rocks, or they must handle the explosives. On the other hand the extraction of oil and gas only requires a few workers because the pipes and pumps are highly mechanized and machines are capable of handling most of the extraction process.

1. **Suggest reasons why the oil trap in Figure 1.21**
2. **Was difficult to discover**

This may have been difficult to discover because the hilly relief of the land may have made the site seem inconspicuous

1. **Might have been missed by the oil company**

Because the exact site of the drilling rig actually dips **into** the land whereas one would expect that an **up**fold (negative parabola) in the rocks underneath the surface would cause the land to rise upwards into a small slope.