Coal and Petroleum

Very Short Q&A:

Q1: What are the two types of Natural Resources?

Ans: Inexhaustible and Exhaustible Natural Resources

Q2: Define fossil fuels

Ans: Coal petroleum and natural gas are called fossil fuels because they are formed from dead remains of living organisms.

Q3: Give examples of the two types of natural resource.

Ans: Exhaustible resources: coal, petroleum, wildlife, minerals, natural gas etc.
Inexhaustible resources: sunlight, air etc.

Q4: What is Carbonisation?

Ans: The slow process of conversion of dead vegetation in to coal is called Carbonisation.

Q5: Coal is also called as _____.

Ans: Fossil Fuel

Q6: Name the natural resource from which Petrol and Diesel can be obtained?

Ans: Petroleum

Q7: Which Natural Resource was used first time for street Lightning?

Ans: Coal Gas

Q8: Where was the first oil well drilled?

Ans: Pennsylvania in USA

Q9: Which Gas is used in the production of Fertilizers

Ans: Hydrogen

Q10: Which Natural resources is also called as Black Gold?

Ans: Petroleum

Q11: Which was the first Natural resource used to produce the steam to run the Engine?

Ans: Coal

Q12: When heated in Air, Coal burns and produces _____ gas?

Ans: Hydrogen

Q13: Which Natural resource is used in the manufacturing of Steel?

Ans: Coke

Q14: Now a days which petroleum Product has replaced Coal Tar for melting the roads?

Ans: Bitumen

Q15: From which natural resource Naphthalene balls can be obtained?

Ans: Coal Tar

Q16: From which natural Resource Petrochemical products are obtained?

Ans: Petroleum

Q17: What is Refining?

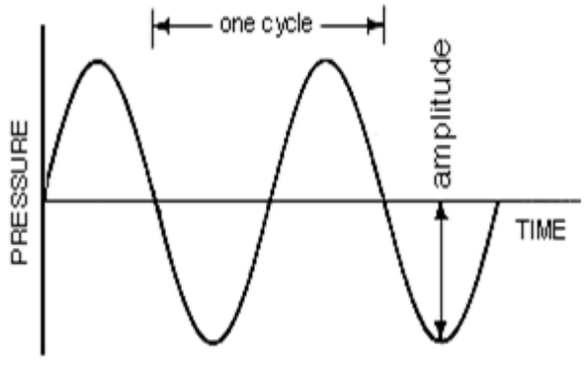
Ans: The process of separating the various constituents/fractions of petroleum is known as Refining.

Q18: Natural Gas is stored under High pressure as_____

Ans: CNG

Q19: In which year the First oil was drilled in the United States?

Ans: 1859



Two cycles of a sine wave showing the amplitude of the pressure variation.The variation of (maximum) amplitude over time is called the envelope of the sound.

Q20: Which one is not a Fossil Fuel

a. **Coke**
b. **Coal**
c. **Wood**

Ans: Wood

Q21: Which one of these Human activities contributes the most to Global Warming?

a. **Riding scooters**
b. **Cutting down Trees**
c. **Using Fossil Fuels for Energy**

Ans: Using Fossil Fuels for Energy

Q22: What is Coal made from?

a. **Dead Plants**
b. **Animal Fossils**
c. **A whole bunch of Chemicals mixed together**

Ans: Dead Plants

Q23: Which Fossil fuel creates the lowest amount of Carbon dioxide?

Ans: Natural Gas

Q24: Which one of the following is not a non-renewable energy resource?

a. **Coal**
b. **Petroleum**
c. **Solar energy**

Ans: Solar energy

Q25: Which one is least polluting Fuel?

a. **Petrol**
b. **Diesel**
c. **CNG**

Ans: CNG

Q26: Can we make fossil fuels in the laboratory?

Ans: No, this is not possible

Q27: Coal is ---- in colour?

Ans: Black

Q28: State the constituent of coal.

Ans: Carbon

Q29: Heavy motor vehicles run on_____.

Ans: Diesel

Q30: Can we mix petrol in water?

Ans: No

Q31: Which constituent of Petroleum is used in Paints?

Ans: Bitumen

Q32: What does PCRA stand for?

Ans: Petroleum conservation Research Associations

Q33: What is coke?

Ans: Coke is a product of coal. It is tough, porous, black in colour and almost pure form of carbon.

Q34: What is coal tar?

Ans: Coal tar is the product of coal which is the mixture of various substances. Products obtained from coal tar is used for manufacturing a variety of products like dyes, drugs, perfumes, explosives, paints, photographic materials, roofing materials etc.

Q35: Name the product being used today in place of coal tar for metalling the roads.

Ans: Bitumen (a petroleum product)

Short Q&A:

Q1: What is Inexhaustible Natural Resource?

Ans: The resources which are present in unlimited quantity in nature and are not likely to be exhausted by human activities are known as Inexhaustible Resources. For Example: Sunlight, air

Q2: Define Exhaustible resources with few examples?

Ans: All resources which are found in a limited quantity in nature are known as Exhaustible resources. They can be exhausted by human activities. Example of these resources is Forests, Minerals, Coal, Petroleum, Naturals Gas etc.

Q3: Differentiate between exhaustible and inexhaustible resources.

Ans: The resources which are present in unlimited quantity in nature and are not likely to be exhausted by human activities are known as Inexhaustible Resources. For Example: Sunlight, air All resources which are found in a limited quantity in nature are known as Exhaustible resources. They can be exhausted by human activities. Example of these resources is Forests, Minerals, Coal, Petroleum, Naturals Gas etc.

Q4: How Coal was formed?

Ans: About 300 years ago the earth had dense forests in low lying wetland areas. Due to natural processes, like flooding these forests got buried under the soil. They get sank deeper and deeper and temperature gets increasing day by day, under high pressure and high temperature dead plants slowly got converted to coal.

Q5: Define coke and its importance.

Ans: Coke is a tough, Porous and black substance. It is almost pure form of Carbon. Coke is used in the manufacture of steel and on the extraction of many metals.

Q6: What do you mean by coal Tar? Name few products which can be obtained from the same?

Ans: It is a black thick liquid with unpleasant smell. It is a mixture of about 200 substances. Products obtained from Coal tar are used as starting materials for manufacturing various substances used in everyday life and in industry. It is used in manufacturing products like Synthetic dyes, drugs, explosives, perfumes, plastics, paints, photographic materials etc.

Q7: How was Petroleum formed?

Ans: Petroleum was formed from organisms living in the sea. As these organisms died, their bodies settled at the bottom of the sea and got covered with layers of sand and clay. Over Millions of years in absence of air and under high temperature and high pressure the dead organisms get transformed into Petroleum and natural Gas.

Q8: Define Refining of Petroleum?

Ans: Petroleum is a dark oily liquid. It has an unpleasant odour. It is a mixture of various constituents such as Petrol, Diesel, etc. and the process of separating these constituents from crude oil is called Refining.

Q9: What do you understand by Petrochemical products?.

Ans: Petroleum and natural gas provide many useful substances. These are termed as 'Petrochemicals'. These are used in manufacturing of detergents, fibres, polythene and other man made plastics

Q10: Name various constituents of Petroleum and their uses?

Ans:

Constituents of Petroleum	Uses
1. Petroleum Gas in Liquid form 2. Petrol 3. Kerosene 4. Diesel 5. Lubricating oil 6. Paraffin wax 7. Bitumen	1. Fuel for home and Industry 2. Motor fuel, Aviation fuel, solvent for dry cleaning 3. Fuel for stoves, lamps and for jet aircrafts 4. Fuel for heavy motor vehicles, electric generators 5. Lubrication 6. ointments, candles, Vaseline etc. 7. Paints, Road surfacing

Q11: Name few places where Natural Gas has been found in India?

Ans: In our country Natural Gas has been found in Tripura, Rajasthan, and Maharashtra and in the Krishna Godavari Delta.

Q12: Why should we use some resources like coal and petroleum in limit?

Ans: As we know Coal and petroleum are fossil fuels. The dead organisms takes millions of years to get converted into these fuels, On the other hand the known reserves of these will last almost a few hundred years. A part from this since these products are not environmental friendly as burning of these fuels is a major cause of air pollution and their use is also linked to global warming therefore we should use these resources only when it is actually required.

Q13: What are the advices of PCRA to save petrol/diesel while driving?

Ans:

a. Drive at a constant and moderate speed as far as possible
b. Switch off the engine at traffic lights or at a place where you have to wait
c. Ensure correct type pressure
d. Ensure regular maintenance of the vehicle.

Q14: What does CNG stand for and what are the benefits of using CNG as fuels?

Ans: CNG stands for Compressed Natural gas. In CNG compressed gas (which is mainly methane gas) is stored under high pressure as compressed natural Gas. Advantages of CNG:

- CNG is a very important fossil fuel because it is easy to transport through pipes.
- CNG is also used for power generation and now used as fuel for transport vehicles because it is less polluting.
- It is a cleaner fuel.
- Due to the absence of any lead or benzene content in CNG, the lead fouling of spark plugs is eliminated.
- CNG-powered vehicles have lower maintenance costs when compared with other fossil fuel-powered vehicles.
- CNG fuel systems are sealed, which prevents any spill or evaporation losses.
- CNG mixes easily and evenly in air being a gaseous fuel.
- CNG is less likely to auto-ignite on hot surfaces, since it has a high auto-ignition temperature (540 °C) and a narrow range (5%-15%) of flammability. That is it is less polluting and more efficient.

Q15: What does LPG Stand for and its uses?

Ans: LPG stands for "Liquefied Petroleum Gas", it is used as fuel for home and industry as it is less polluting and easy to transport and to use.

Q16: Why Coal is called Fossil fuels?

Ans: Coal is called Fossil fuels because it is made up of remains of dead animals and dead plants which also formed fossils.

Q17: Explain how some fossil fuels like Coal, Oil and Naturals Gas are formed?

Ans: Petroleum: Petroleum was formed from organisms living in the sea. As these organisms died, their bodies settled at the bottom of the sea and got covered with layers of sand and clay. Over Millions of years in absence of air and under high temperature and high pressure the dead organisms get transformed into Petroleum and natural Gas.

coal: About 300 years ago the earth had dense forests in low lying wetland areas. Due to natural processes, like flooding these forests got buried under the soil. They get sank deeper and deeper and temperature gets increasing day by day, under high pressure and high temperature dead plants slowly got converted to coal.

Q18: Why the layer containing petroleum and Gas is above the water?

Ans: The layer containing petroleum and Gas is above water because oil and Gas are lighter than water and can't get mix with it.

Q19: Why Coal, Petroleum and Natural Gas can't be prepared in Laboratory?

Ans: These natural resources can't be prepared in laboratory because their formation is a very slow process and it is not possible to create the conditions for their formation in the laboratory.

Q20: Explain the uses of coal?

Ans: Coal's primary use is for the generation of electricity. It is also used in the industrial and retail sector as fuel for heating and powering foundries, cement plants and other industrial and manufacturing facilities.>

Q21: What is the main reason for coal to be used to generate electricity?

Ans: Coal is used to generate the electricity because it is reliable and low cost energy source.

Q22: Explain few advantages and disadvantages of using petroleum?

Ans: Few advantage of using Petroleum as fuel and as raw materials are:

- Storage and transportation are simple
- Spills and leaks are controllable using existing technology
- As raw material in chemical synthesis it is extremely flexible

Disadvantages:

- Over use can create local and global problems
- It is limited resource which can be used up by wasteful procedures

Q23: What could be the potential risk using oil as fuel or source of energy?

Ans: Burning oil for energy can release large amounts of carbon dioxide, which can contribute to global warming. In addition the risk of dependence on oil as energy source is that supplies are eventually going to be depleted.

Q24: Why is Petroleum known as Black old?

Ans: Petroleum and its products are very important for us, and because of its great commercial importance, it is named as "Black gold"

Q25: Name the material by which Plastics are made?

Ans: Petroleum

Q26: What is Coal gas?

Ans: Coal gas is obtained during the processing of Coal to get coke. It is used as a fuel in many industries situated near the coal processing plants.

Q27: What is PCRA?

Ans: PCRA stands for Petroleum Conservation Research Association, it advices people how to save petrol and diesel while driving by giving following tips:

- Drive at a constant and moderate speed as far as possible
- Switch off the engine at traffic lights or at a place where you have to wait
- Ensure correct tyre pressure
- Ensure regular maintenance of the vehicle

Q28: State some of the tips of PCRA to conserve petrol and diesel.

Ans:

- Drive at a constant and moderate speed as far as possible
- Switch off the engine at traffic lights or at a place where you have to wait
- Ensure correct tyre pressure
- Ensure regular maintenance of the vehicle

Q29: How burning of fossil fuels causes air pollution?

Ans: Pollutants that come from the combustion of fossil fuels include sulphur dioxide (SO2),nitrogen oxides (NOx), ground-level ozone, particulate matter (PM), carbon monoxide(CO), carbon dioxide (CO2), volatile organic compounds (VOC) including benzene, some heavy metals and a number of other pollutants which contribute to smog, acid rain, climate change, and health, environmental and economic concerns.

Q30: Name and describe the products obtained by refining of petroleum.

Ans: Products obtained by refining of petroleum are petroleum gas, petrol, diesel, kerosene, paraffin wax and lubricating oil.

Constituents of Petroleum	Uses
1. Petroleum Gas in Liquid form 2. Petrol 3. Kerosene 4. Diesel 5. Lubricating oil 6. Paraffin wax 7. Bitumen	1. Fuel for home and Industry 2. Motor fuel, Aviation fuel, solvent for dry cleaning 3. Fuel for stoves, lamps and for jet aircrafts 4. Fuel for heavy motor vehicles, electric generators 5. Lubrication 6. ointments, candles, Vaseline etc. 7. Paints, Road surfacing

Long Q&A:

Q1: Discuss importance of natural gas in our daily life.

Ans: Natural gas is very important fossil fuel as it is very easy to transport through pipes, apart from this also it can be stored under high pressure as compressed natural gas (CNG) which is being used now a day as a fuel for transport vehicle.

CNG stands for Compressed Natural gas. In CNG compressed gas (which is mainly methane gas) is stored under high pressure as compressed natural Gas. Advantages of CNG:

- CNG is a very important fossil fuel because it is easy to transport through pipes.
- CNG is also used for power generation and now used as fuel for transport vehicles because it is less polluting.
- It is a cleaner fuel.
- Due to the absence of any lead or benzene content in CNG, the lead fouling of spark plugs is eliminated.
- CNG-powered vehicles have lower maintenance costs when compared with other fossil fuel-powered vehicles.
- CNG fuel systems are sealed, which prevents any spill or evaporation losses.
- CNG mixes easily and evenly in air being a gaseous fuel.
- CNG is less likely to auto-ignite on hot surfaces, since it has a high auto-ignition temperature (540 °C) and a narrow range (5%-15%) of flammability. That is it is less polluting and more efficient.

Also natural gas is used as starting material for the manufacture of a number of chemicals and fertilisers.

Q2: Explain fossil fuels.

Ans: Some exhaustible natural resources like coal, petroleum and natural gas are called fossil fuels as they are formed from the dead remains of living organisms (fossils). Fossil fuels are non-renewable resources because they take millions of years to form, and reserves are being depleted much faster than new ones are being made. The production and use of fossil fuels raise environmental concerns.

Coal: About 300 years ago the earth had dense forests in low lying wetland areas. Due to natural processes, like flooding these forests got buried under the soil. They get sank deeper and deeper and temperature gets increasing day by day, under high pressure and high temperature dead plants slowly got converted to coal. Coal's primary use is for the generation of electricity. It is also used in the industrial and retail sector as fuel for heating and powering foundries, cement plants and other industrial and manufacturing facilities.

Petroleum: Petroleum was formed from organisms living in the sea. As these organisms died, their bodies settled at the bottom of the sea and got covered with layers of sand and clay. Over millions of years in absence of air and under high temperature and high pressure the dead organisms get transformed into Petroleum and natural Gas. Petroleum is a dark oily liquid. It has an unpleasant odour. It is a mixture of various constituents such as Petrol, Diesel, etc. and the process of separating these constituents from crude oil is called Refining.

Q3: Describe coal and its various products along with their uses.

Ans: Coal is a hard and black coloured non-metal which is used to cook food, in the past it was also used to run railway engines, apart from this it is also used to produce electricity in thermal power plant; it is also used as fuel in various industries. Following are the products of coal:

Coke: Coke is a product of coal; it is tough, porous, and black in colour and almost pure formof carbon. It is used in making steels and in extraction of many metals

Coal tar: coal tar is the product of coal which is the mixture of various substances. Products obtained from coal tar is used for manufacturing a variety of products like dyes, drugs, perfumes, explosives, paints, photographic materials, roofing materials etc.

Coal gas: Coal gas is obtained during the processing of Coal to get coke. It is used as a fuel in many industries situated near the coal processing plants.

Q4: Describe petroleum, its refining process and products obtained by refining of petroleum.

Ans: Petroleum is a dark oily liquid. It has an unpleasant odour. It is a mixture of various constituents such as Petrol, Diesel, etc. and the process of separating these constituents from crude oil is called Refining. The refining of petroleum is done in a petroleum refinery for petroleum products.

Constituents of Petroleum	Uses
1. Petroleum Gas in Liquid form 2. Petrol 3. Kerosene 4. Diesel 5. Lubricating oil 6. Paraffin wax 7. Bitumen	1. Fuel for home and Industry 2. Motor fuel, Aviation fuel, solvent for dry cleaning 3. Fuel for stoves, lamps and for jet aircrafts 4. Fuel for heavy motor vehicles, electric generators 5. Lubrication 6. ointments, candles, Vaseline etc. 7. Paints, Road surfacing

Q5: Write notes on wide and judicious use of our exhaustible natural resource.

Ans: Exhaustible resources like coal, petroleum are formed from the dead organisms, it takes millions of years for formation of these fuels, and On the other hand the known reserves of these will last almost a few hundred years. A part from this since these products are not environmental friendly as burning of these fuels is a major cause of air pollution and their use is also linked to global warming therefore we should use these resources only when it is actually required. Wise use of natural resource will result in better environment, smaller risk of global warming and their availability for a longer period of time.