Natural resources
3rd semester/paper code-302

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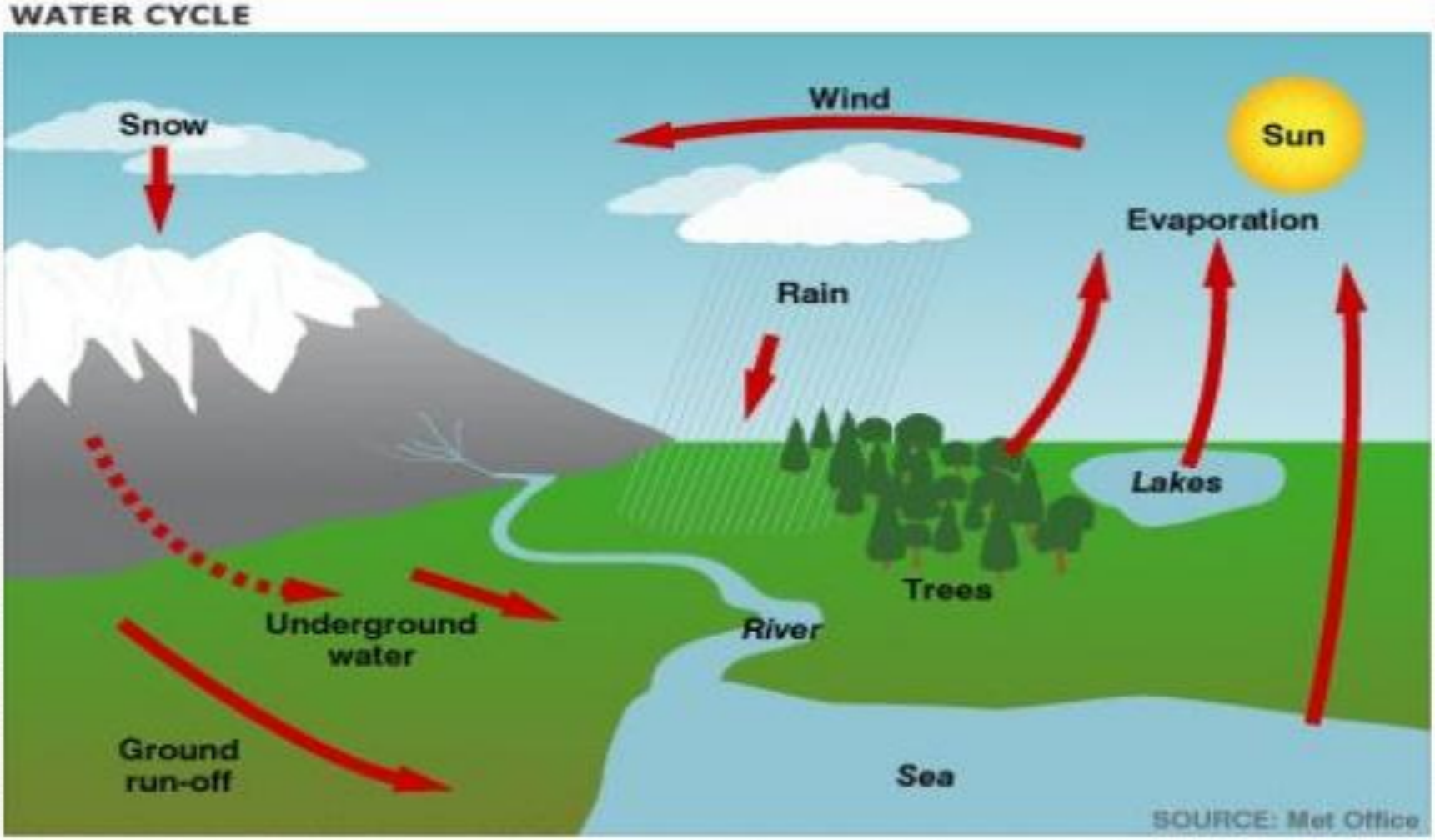
Water Resources

Water

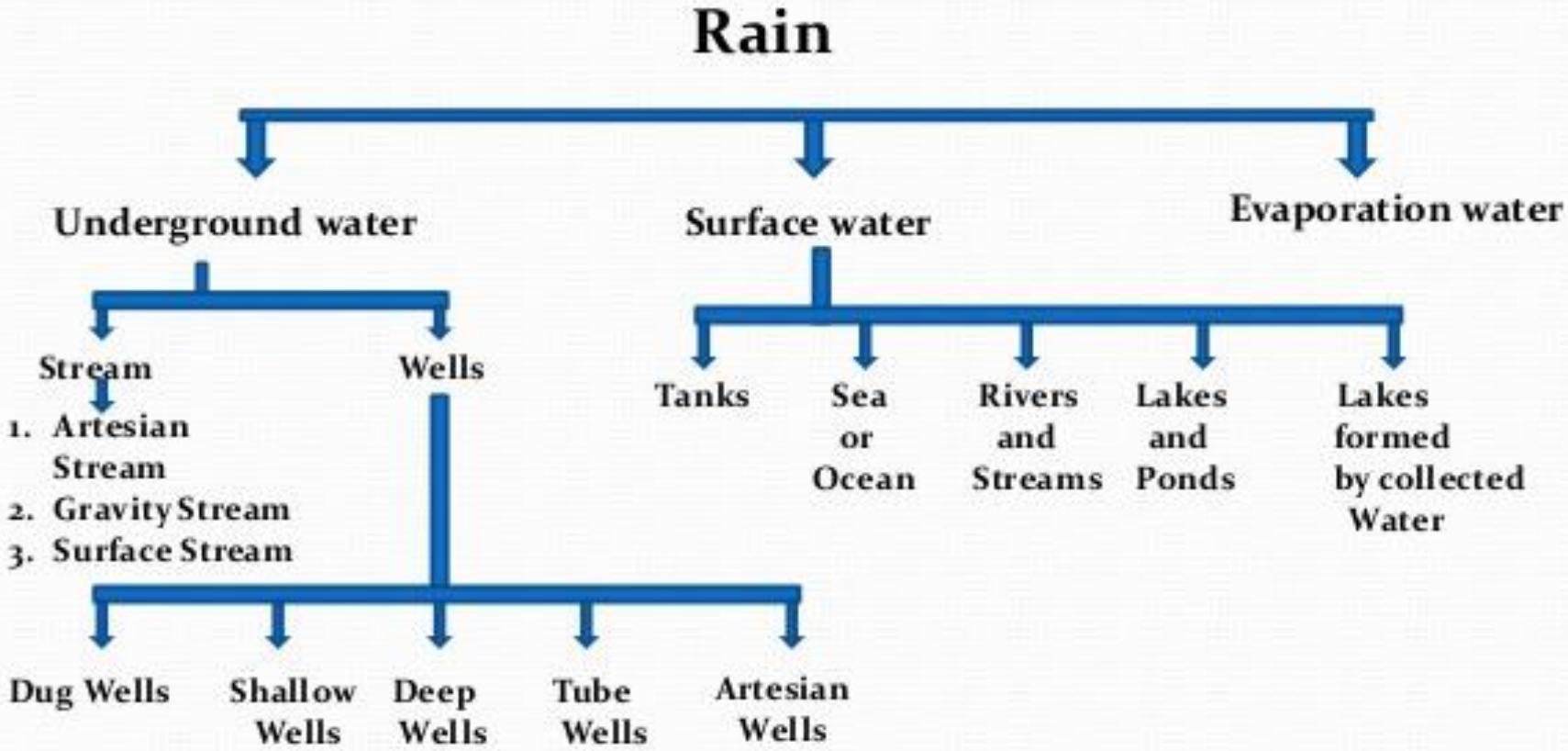
Uses of Water:

1. Use of water in Agricultural and Industrial activities.
2. Drinking and Washing purposes.
3. Vital for Fishing Industry.
4. Marine transportation.
5. Electricity generation.

Water Cycle


WATER CYCLE
Snow
Wind
Sun
Evaporation
Rain
Lakes
Trees
Underground water
River
Ground run-off
Sea
SOURCE: Met Office

Sources of Water: (Water sheds)



Types of Wells:

1. Shallow wells:

- 2 to 6 mts. Diameter
- Half or Full Built up (brick walls)
- 7 to 15 mts. Depth
- used for household purposes

2. Deep Wells:

- made of cement pipes (format)
- 20 to 40 mts depth
- 0.6 too.9 mts diameter
- pure water ready to supply directly

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Impact of Over Utilization of Water:

1. Water scarcity specially in summer.
2. Wastage of Water may lead to blockage of drainage line, water pollution, Air pollution and Virulent disease or epidemics.
3. Economic loss due to over usage of Water.
4. It may be considered as Crime or Offence in the court of Almighty.

Recharging and Conservation of Water:

1. Construction of small Dams and artificial lakes for the water storage purpose.
2. Construction of ponds for the purpose of storing rain water.
3. Grow more trees to increase the chances of Rain.
4. Economical use of water. (avoid water wastage)
5. Try to reuse the water. E.g:
   1. Water used for bathing can be reused for vegetation in the veranda.
   2. Reuse of water by spraying it on dusty roads to prevent small particles to mix with air.
6. Use based water charges for controlling water usage.
7. After purification of Dirty water it should be used in farms or grass lands.

Mineral Resources

Mineral Resources

- A mineral is a naturally occurring substances of definite chemical composition and identifiable physical properties.
- Minerals are formed over a period of millions of years in the earths crust.
- Iron, aluminium, zinc, manganese and copper are the important raw materials for the industrial use.
- Important non-metal resources includes coal, salt, clay, cement and silica.
- Stone used for building materials, such as granite, marble, limestone, constitute another category of the minerals.
- Minerals with special properties that humans values such as diamonds, emeralds, rubies. The luster of gold, silver, and platinum are used for the ornaments.
- Minerals in the form of the oil, gas, and coal were formed when ancient plants and animals were converted into underground fossil fuels.

Mining

- The extraction of the minerals and their ores from the earths interior so that they can be used. This process is known as mining.
- Mines are of two types surface or deep or shaft mines.
- Mining is hazardous occupation, and the safety of the mine workers is an important.
- Surface mining is less hazardous than underground mining.
- Metal mining is less hazardous than coal mining.
- Mining posses several long term occupational hazards to the miners. Dust produced during mining operations is injurious to health and causes a lung disease known as black lung.
- Fumes generated by incomplete dynamite explosions are extremely poisonous.
- Radiation is hazardous in uranium mines.

Surface mining and Underground mining

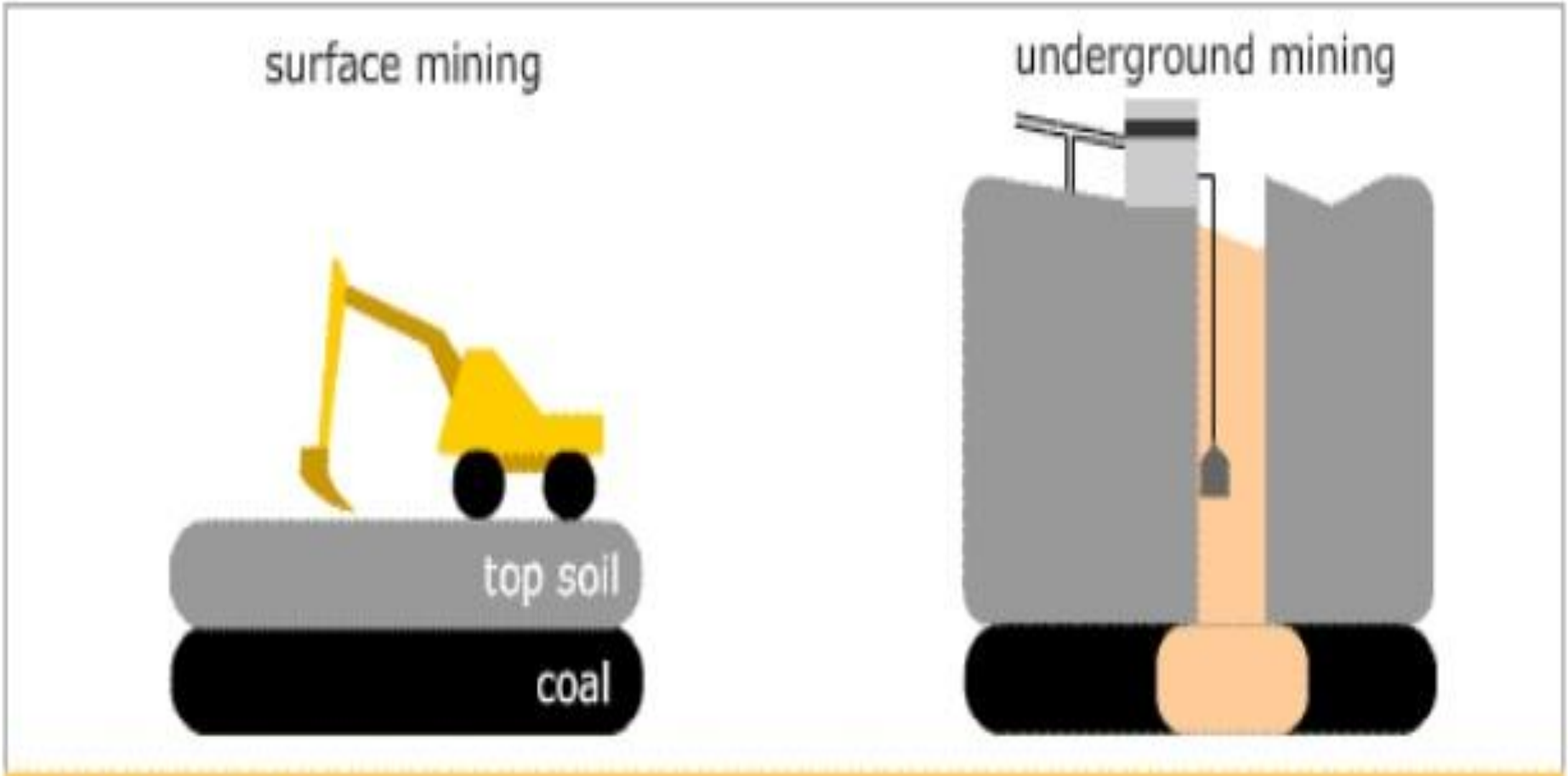

fig2. two types of coal mining

Food Resources

FOOD

- Any substance or thing which is able to satisfy appetite to meet the physiological needs for growth to maintain all body processes and to supply essential energy required for maintaining body temperature and activity.

- Chapatti, rice, bread, butter, fruits, vegetables, milk, edible oil, etc are the routine examples of food.

Functions of Food:

- It provides energy to do day to day work and maintains body temperature.
- It provides nutrients for the development and the growth of the body.
- It provides substances to replace the catabolic cells by new cells or to appropriately repair the damaged cells.
- It provides substances for the proper functioning of the reproductive system.
- It regulates body activities to ensure longitivity of life and body.

Components of Food and their Functions:

Element/ component	Daily requirement	Function	Sources
1. Carbohydrates	500 gms.	Energy and Temperature of the body is maintained	Grains, potatoes, sugar, banana, carrot, honey, etc
2. Fats	50 gms.	Important for the development of cells and building tissues.	Clarified butter, edible oil, milk, butter, eggs, etc
3. Proteins	100 gms.	Necessary for the growth and development of body tissues.	Cereals, milk, curd, cheese, meat, fishes, and eggs.
4. Water	2.5 liters	Essential for the bio-chemical process in the body.	Water

5. Salt (minerals)	0.7 gm.	Security against damage and strengthens bones.	Grains, cereals, salt
6. Vitamins	0.6 gm	Useful for bio chemical processes, health, growth	Milk, butter, vegetables, eggs and meat
7. Roughage	Rarely taken	It is useful for proper digestion and bowel's movement.	Chaff of grains.

Importance of Food Preservation:

1. Increasing the self-life of foods thus increasing the supply. So many perishable foods can be preserved for a long time.
2. Making the seasonal food available throughout the year.
3. Adding variety to the diet.
4. Saving time by reducing preparation time and energy, as the food has already been partially processed.
5. Stabilizing prices of food, as there is less scope of shortage of supply to demand.
6. Decreasing wastage of food by preventing decay or spoilage of food.
7. Improving the nutrition of the population. Preserved foods help people to bring a variety in the diet, thereby decreasing nutritional inadequacies.