

8) Write a note on Chemotherapy

- ① Chemotherapy is a type of Cancer treatment that involves using powerful drugs to destroy Cancer cells.
- ② The drug used in Chemotherapy work by targeting and killing rapidly dividing cells, which include Cancer cells.
- ③ Some drugs can be taken orally. The drugs travel through the bloodstream to reach Cancer cells throughout the body.
- ④ Chemotherapy drug have some common side effects such as hair loss, mouth sores, Nausea, Vomiting.
- ⑤ Chemotherapy is also used in combination with other Cancer treatments, such as surgery or ~~a~~ radiation therapy.
- ⑥ The combination of treatments depends on the type and stage of Cancer and Patient's overall health.

9) Explain about metal toxicity with example.

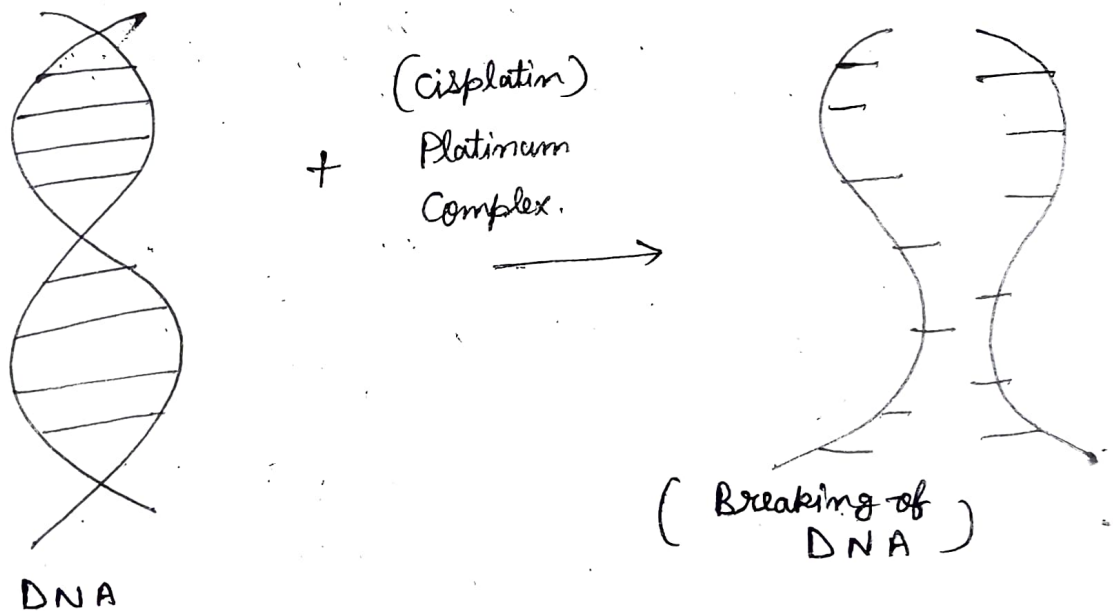
- ① Metal toxicity refers to the harmful effects that can occur when certain metals accumulate in the body in high concentrations.
- ② Some metals are essential for normal bodily functions, such as iron, Copper and Zinc. Others can be toxic such as lead, mercury and Cadmium.

Some metals mix with in the environment such as in air, water or food, through mining or metal working.

- (4) Lead is a toxic metal that can be found in many products such as old paint, toys and drinking water pipes.
- (5) Lead Poisoning can affect the body such as Anemia, Behavioral Problems and damage the kidneys.
- (6) Another example of metal toxicity is mercury poisoning. Mercury is a toxic metal that can be found in fish, dental fillings and certain industrial processes.
- (7) Mercury poisoning can affect the body such as damage Nervous system, kidneys and lungs.
- (8) Cadmium toxicity is another example. Cadmium ~~is~~ can be found in cigarette smoke, batteries and some foods.
- (9) Cadmium poisoning can affect the body such as damage kidneys, bones and lungs.

9) Discuss about the Cisplatin and its mechanism of action.

- ① Cisplatin is a chemotherapy drug used to treat various types of cancer, including testicular, ovarian, bladder and lung cancer.
- ② Cisplatin is a platinum containing complex compound that enters cancer cells through diffusion.
- ③ Inside the cell, cisplatin forms covalent bonds with the DNA molecule and breaks the strands of DNA which leads to the cell death.



④ Cisplatin is effective at killing cancer cells, it can also cause significant side effects.

⑤ Common side effects of Cisplatin are Nausea, Vomiting, Kidney damage, ~~low~~ hearing loss, and Nerve damage.

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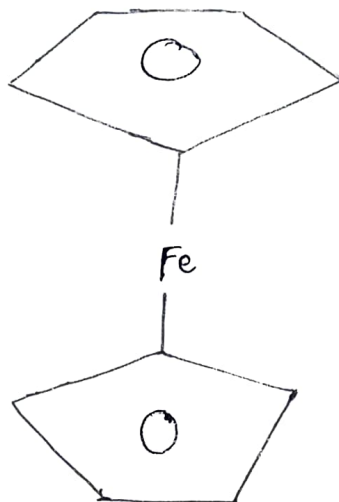
Discuss about the lithium in psychopharmacological drugs.

- ① Lithium is a chemical element that has been used for many years in psychopharmacology as a treatment for bipolar disorder.
- ② It is the lightest metal and is highly reactive, making it an effective agent for treating psychiatric conditions.
- ③ Lithium acts on the nervous system. it stabilizes the mood by decreasing depressive episodes in bipolar disorder.
- ④ It is also used to treat other psychiatric conditions such as major depressive disorder, Anxiety disorders and Schizophrenia.
- ⑤ Lithium can have some side effects such as weight gain, thyroid problems, kidney problems etc.

12) write a note on metallocene compounds.

- ① Metallocene compounds are a class of organometallic compounds consisting of a transition metal such as titanium, Zirconium or hafnium, sandwiched between two cyclopentadienyl rings.
- ② These compounds have a unique structure and provide remarkable chemical and physical properties.

Example :-



Ferrocene

- ③ Metallocene compounds are also used in the Production of Polymers and elastomers.
 - ④ They are also used as materials for the Production of high Performance organic semiconductors.
- 13) Write a note on dinitrogen Compounds and its application.
- ① Dinitrogen Compounds also known as Nitrogen Compounds, are chemical Compounds that contain nitrogen atom bonded to one another.
Example :- Ammonia (NH_3), Nitric oxide (NO), Nitrous oxide (N_2O)
 - ② A Dinitrogen Compounds have a wide range of applications in various industries.
 - ③ Ammonia and nitrate compounds are commonly used in the agricultural industry to Provide essential nutrients for Plant growth.
 - ④ Another important Application of dinitrogen Compounds is in the Production of explosives.

Dinitrogen Compounds are used in the manufacturing of dyes, plastics and other organic compounds.

(5) Dinitrogen Compounds also have applications in medicine.

Section - C.

(14) Explain the Gold Containing drug as anti-rheumatic

(1) Gold-Containing drugs, also known as gold salts, have been used as anti-rheumatic medications for many years.

(2) These drugs contain a form of gold that is suspended in a liquid or tablet form. and these are taken as orally or through injection.

(3) It is believed that they have anti-inflammatory ~~and~~ effects.

(4) These drugs help to reduce joint pain, swelling etc.

(5) Auranofin is a gold-Containing medication that is used to treat rheumatoid arthritis.

(6) Rheumatoid arthritis is an autoimmune disorder that causes inflammation in the joints.

(7) Gold-Containing medications like auranofin can have side effects, including stomach upset, skin rashes and bone disease.

(8) Accumulation of gold in the body make it toxic.

15) Explain 18 electron rule write application and limitation

- ① The 18 electron rule is used in organometallic chemistry to predict the stability and reactivity of transition metal complexes.
- ② According to this rule, transition metal complexes with 18 valence electrons are more stable and less reactive than those with fewer or more electrons.

Application :-

- ① The 18-electron rule is used in the synthesis of transition metal complexes including catalysis, energy storage and drug development.
- ② In catalysis, the 18-electron rule can be used to predict the activity of a metal catalyst.
- ③ Synthesised - The complexes synthesised by 18-electron rule is more stable and less reactive, which does not affect the body.
- ④