President :
Shri Amrishbhai R. Patel
M.L.A.

Principal :
Dr. S. B. Bari
M.Pharm. Ph.D., D.I.M.F.J.C.

Criterion 2 - Teaching learning and evaluation

Key Indicator 2.3.1 - Teaching learning process

Metric No. 2.3.3 -Assignments

Assignments

(Based on problem-solving ability)

Pharmaceutical Jurisprudence

Third Year B. Pharm (2022-2023)

Question:

1) Give the objective of the Pharmacy Act
2) Give the objective of the D and C Act
3) Write in short education regulation
4) Write in short on adulterate drug
5) Write in short on misbranded drug

Subject in charge

Mr. V. S. Bagul

OFFICE SEAL

President :
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M.Pharm. Ph.D., D.I.M.F.J.C.

Criterion 2 - Teaching learning and evaluation

Key Indicator 2.3.1 - Teaching learning process

Metric No. 2.3.3 -Assignments

Assignments

(Based on problem-solving ability)

Pharmaceutical inorganic chemistry

First Year B. Pharm (2022-2023)

Question:

1) Define gastrointestinal intestinal agents and classify them in detail with suitable examples
2) Define antacids and give ideal requirements for antacids
3) Define expectorants give properties uses of ammonium chloride
4) Define haematinics give property uses and an assay of ferrous sulfate
5) Define antidote give in detail sodium thiosulphate

Subject in charge

Mr. M. R. Mahajan

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=> 5) Misbranded drugs means any drug for which the label is in any way false or misleading.

eg:-
An "organic" supplement that contains non-organic ingredients is misbranding.

a) if it is so coloured, coated, powdered or polished that damage is concealed or if it is made to appear of better or greater therapeutic values than it really is.
b) if it is not labelled in the prescribed manner.
c) if its label or container or anything accompanying the drug bears any statement design or device which makes any false, claim for the drug or which is false & or misleading in any particular.

Characteristics:-
1) Not labelled in the prescribed manner.
2) Colored, coated and polished that damage is concealed.
3) Appears better and of greater therapeutic value than what actually.
4) labelled or container accompanying the drugs.
5) other information required by or under authority of this act.

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Continuous mode activities sheet 2022 -2023

UNIT TEST

Class	T.Y.B.Pharm	Name of Student	Krutika Rajendra Atwal
Sem.	V	Roll No. (In Figure)	04
Division	A	Roll No. (In Words)	Four
Subject	Pharmaceutical Jurisprudence (BP505-T)		
Name & Signature of Examiner: Mr. V.S. Bagul			

1) Give the objective of Pharmacy Act.
2) Give the objective of D&C act.
3) Write a short Note on Education Regulation.
4) write a short note of Adulterate drug.
5) write a short note on misbranded drug.

Answers:-
1) Pharmacy act - 1948 :-
It is an act to regulate the profession of pharmacy whereas it is expendient to make better provision & practise of pharmacy. The act was promulgated in year 1948.

Objectives:-
- Regulating and Raising the status of the profession of pharmacy in India.
- Providing uniform education and training to the persons willing to enter the profession of pharmacy.
- Maintaining control over the persons entering the profession of pharmacy.
- To provide constitution and function of 'state Pharmacy Council" for registration of pharmacists
- To regulate the activities of pharmacists.

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⇒ 2) Drug and cosmetic act objectives:-

- On April 10, 1940, the Drug & cosmetics Act was passed, with the main purpose of legalizing the import, manufacturing, distribution and sale of drugs and cosmetics.
- The act oversees medication imports into India, ensuring that no substandard or counterfeit drugs enter the country.
- The Act prohibits the production of inferior or counterfeit pharmaceuticals in the country.
- The Act requires only qualified and competent personnel to sell & distribute medicines, as well as the manufacture, sale and distribution of Ayurvedic, Siddha, Unani, and Homeopathic drugs.
- The provision of the Act control the import, manufacture, sale & distribution of cosmetics.
- To have drug inspectors visit licensed premises regularly.

⇒ 3) Education Regulation 1991 (ED) :-

The pharmacy Council of India make regulation which is known as Education Regulations 1991. It prescribed as.

a) Minimum qualification for admission to the course.
b) Nature and period of course of study.
c) Nature & period of practical training to be undertaken after the completion of the regular course.
d) The subjects of examination and the standard attained therein.
e) The equipment and facilities to be provided by the institute for the students undergoing approved courses of study.
f) Conditions to be fulfilled by institution giving practical training.
g) Conditions to be fulfilled by authorities holding approved examinations.

- central council before submitting the education Regulation or any amendment thereof, as the case may be to the central government for approval.

⇒ 4) Adulterate drug:-

The term Adulteration is define as the substituting original crude drug partially or wholly with other similar - looking substances.

1) If it consists in whole or in part of any filth, putrid or decomposed substances.
2) If it has been produced, prepared, packed, or held under insanitary conditions whery it has been contaminated with filth, or whereby it has be rendered injurious to health.
3) If it is a drug and the methods used in or the facilities or controls used for, its manufacture, processing, packing or holding do not conform to or are not operated or administered in conformity with current good manufacturing practice to assure that such drugs meets the requirements of this chapter.
4) If it is a drug and its container is composed, in whole or in part, of any poisonous or deleterious substance which may render the contents.

⇒ 5) Misbranded drugs Means any drug for which the label is in any way false or misleading

example:-

An "organic" supplement that contains non-organic ingredients is misbranded

a) If it is so coloured, coated, powdered or polished that damage is concealed or if it is made to appear of better or greater therapeutic value than it really is

b) If it is not labelled in the prescribed manner

c) If its label or container or anything accompanying the drug bears any statement, design or device which makes any false claim for the drug or which is false or misleading in any particular.

- characteristics
- Not labelled in the prescribed manner
- Colored, coated & polished that damage is concealed
- Appears better and of greater therapeutic value than what actually is.

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Unit Test

Class	TY B Pharm	Name of Student	Krishna Rupesh Agrawal
Sem.	V th	Roll No. (In Figure)	03
Division	A	Roll No. (In Words)	Three
Subject	Pharmaceutical Jurisprudence - BP505T		

Name & Signature of Examiner: Mr. V.S. Bagul (24)

1) Give the objective of Pharmacy Act?
2) Give the objective of D and C Act?
3) Write in short Education Regulation [ER]?
4) Write in short on Adulterate drug?
5) Write in short on Misbranded drug?

⇒ 1) Pharmacy Act, 1948:

Pharmacy Act regulates the profession of pharmacy in India since there was no legislative law and stringent regulations to control profession of pharmacy

objectives

- Regulating and Raising the status of profession of pharmacy in India
- To provid constitution and functions of 'state pharmacy council' for registration of pharmacists
- Maintaining control over the persons entering the profession of pharmacy.
- To regulate the activities of pharmacists C.
- providing uniform education and training to the persons willing to enter the profession of pharmacy
- To constituent 'pharmacy council of India' for setting new standards in 'pharmacy Education'.

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→ 2) Drug and Cosmetics Act objectives:-

- on April 10, 1940, the Drug & cosmetics act was passed. with main purpose of legalizing import, manufacturing, distribution and sale of drugs and cosmetics.
- The Act overses medication imports into India, ensuring that no standard or counterfeit drugs enter the country.
- The provisions of Act control the import, manufacture, sale and distribution of cosmetics
- To have drug inspectors visit licensed premises regularly
- Monitoring pharmaceutical and cosmetic standard by collecting samples and analyzing them in accredited laboratories.
- The Act prohibits the production of inferior or counterfeit pharmaceuticals in the country.

⇒ 3) Education Regulations 1991 (ED)

The pharmacy council of India make regulations which is known as education Regulations

- It prescribe the:-

a) Minimum qualification for admission to course
b) Nature and period of course of study
c) Nature and period of practical training to be undertaken after the completion of the regular course
d) The subjects of examination and the standard attained therein.
e) The equipment and facilities to be provided by the institution for the students undergoing approved courses of study
f) conditions to be fulfilled by institutions giving practical training.

- central council before submitting the Education Regulation or any amendment thereof, as case may be to central Goverment for approval, sends copies of draft of ER to all state Governments.
- The ER then is published in offical Gazette by central Governments as directed by central Council.

⇒ 4) Adulterated drugs

The term adulteration is defined as the substituting original crude drug partially or wholly with other similar-looking substances.

1) If it consists in whole or in part of any filth, putrid or decomposed substance.
2) If it has been produced, prepared, packed or held under insanitary conditions whereby it has been contaminated with filth, or whereby it has been rendered injurious to health
3) If it is a drug and the methods used in, or the facilities or controls used for, its manufacture, processing, packing, or holding do not conform to or are not operated or administered in conformity with current good manufacturing practice to assure that such drug meets the requirements.
4) If it is a color additive, the intended use of which in or on drugs is for purposes of coloring only, and is unsafe within the meaning of the federal act.
5) If it is a drug and it bears or contains, for purposes of coloring only, a color additive which is unsafe.

⑤→ Misbranded Drugs :- Is deemed to be misbranded.

(i) If it so coloured, coated, powdered or polished that damage is concreated if it is made to appear of better/ greater therapeutics value than it really is/or.

(ii) If it is not prescribed labelled in the prescribed manner.

(iii) If its label or container or anything accompanying the drugs bear any statement, design or devices which makes any false claim for the drugs or which is false or misleading in any particular

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Unit Test

Class	T.Y. B. Pharm	Name of Student	Sakshi Manoj Atwal
Sem.	V	Roll No. (In Figure)	05
Division	A	Roll No. (In Words)	Five.
Subject	Pharmaceutical Jurisprudence [BP505-T]		
Name & Signature of Examiner: Mr. V. S. Bagul			

Q.1] Give the objective of pharmacy act
Q.2] Give the objective of D & C Act
Q3] Write a short note on Education Regulation (ER)
Q.4] Write a note on adulterated drug.
Q.5] Write in short on misbranded drugs.

Answers:-

①→ (i) Pharmacy Act was founded in 1948. It is an act to regulate the profession of pharmacy in India and its main purpose is to make better the proctics of pharmacy

(ii) This act is passed in 1948. This act have been divided into 5 chapters and 46 sections. This act was implemented everywhere in India, but not in Jammu and Kashmir. This act was amendant in 1959, 1976 and 1983.

• Objectives :-

(a) Regulating and Raising the status of profession of pharmacy in India.

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(b) Provides uniform education and training to the person willing to enter the profession of pharmacy

(c) Maintaining the control over the person entering the profession of pharmacy.

(d) To regulate the activities of pharmacists.

(2) → (i) Drugs and Cosmetics act was passed on 10 April 1940 and its rules in 1945

(ii) This act is to maintain or regulate the import, manufacture, distribution and sale of drugs and cosmetics. This act also verify that the drugs and cosmetics should be manufactured, distributed and sold only by qualified persons having a licence for this purpose.

• Objectives :-

(a) For controlling the import, manufacture, distribution and sale of drugs and cosmetics by licensing and also by qualified persons only.

(b) To verify the standards & quality of drugs manufactured in India and to regulate their manufacture, sale and distribution.

(c) For establish DTAB and Dcc.

(3) → With the approval of central government, the pharmacy council of India makes Education Regulation, in which they mention the minimum qualification needed for registration of pharmacists.

Functions :-

(a) To prescribe the minimum standard of eduction required as pharmacist.

(b) minimum qualification for admission to the coarse e.g. for B. Pharmacy is compulsory

(c) Nature and period of cearse of study.

(d) Nature and period of practical training to be undertaken after completion of the regular course.
e.g. Hospital & Industrial training etc.

(e) The equipment and facilities to be provided by the institution for the students undergoing approved course of study.

(4) (i) Adultered drug is deemed to be adulterated If it consists in whole or in part of any putrid or decompose substance.

(ii) If it has been prepared, packed or stored under insanitary conditions where by it may have been rendered injurious to health. or

(iii) If its container is composed in whole or in part of any poisonous or determine substances which may render the contents injurious to heath or

(iv) If it contains a colour than one which is prescribed ; or.

(v) If it contains any harmful or toxic substance which may render its injurious to health ; or

(vi) If the drug is administered with any other substance so as to reduce its quality or strength.

Assay :- By redox titration aqueous sample solution is titrated against 0.1 N KMnO4 soln in the presence of dil H_2SO_4 to a colored end point

$$2FeSO_4 + 2KMnO_4 + 4H_2SO_4 \longrightarrow K_2SO_4$$

5) → Antidote :- Antidote is any substance which reverse, counteracts, stop the effect of poison

for examples sodium thiosulphate

molecular formula :- $Na_2S_2O_3 \cdot 5H_2O$

molecular weight :- 248.2.

properties :-

1) It is a colourless large crystals or a course.
2) It is crystalline powder
3) It is odourless
4) deliquescent in moist air & efflorescein in dry air at temp above 33°.
5) It is dissolve in water

use :-

1) antidote for cynide poisoning
2) for this purpose at 10 % w/v soln is used intravenously although a 2.5 g % w/v solution is isotonic with serum.
3) Used as standard titrant in iodimetric titration.

storage :-

store in clean & dry place., protected from moisture.

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Class	F.Y. B.pharm	Name of Student	Bari Sneha Rajendra
Sem.	I	Roll No. (In Figure)	07
Division	A	Roll No. (In Words)	Seven
Subject	pharmaceutical Inorganic chemistry (BP107T)		
Name & Signature of Examiner: Mr. M.L Mahajan			

Questions

1) Define GIT Agent classify it in detail with suitable examples.
2) Define Antacids & Ideal requirement for Antacids
3) Define Expectorant give properties uses of Ammonium chloride
4) Define Haemetinics give properly uses & assay of Ferrous sulphate.
X 5) Enlist the Iodine preparations.
5) Define Antidote give in detail Sodium thiosulphate.

1) → These are the agent use in treatment of GIT disorders such a acholhydria, hyperacidity, diarrhoae & Constipation.

• GIT Agent further classify in 4

① Antacids :- This are the agent use in ~~increase~~ decrease acid in stomach. The high acid in stomach cause hyperacidity. Antacids are divide in two types systemic Antacid or non-systemic Antacid. for example - Sodium Bicarbonate, Aluminium hydroxide

② Acidifiers :- This are the agent use in increase ,acid in stomach. The low acid in stomach cause Acholhydria. for examples :- Aluminium chloride Dil HCl

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a) Cathartics :- These are agent used in such a disease constipation. relief from constipation. For example :- magnesium sulphate, kaolin, Bentonite

2) → Define Antacids :- These Agents in use to decrease acid in stomach. When the Increase acid in stomach causes hyperacidity. Hence these Agents are use in treatment of hyperacidity.

Ideal requirement of Antacids.
- It should not be laxative
- It should not be cause constipation
- It should not be absorbable
- It should not cause systemic alkalosis.
- It should buffer in pH 4-6
- It should not produced large volume of gas
- It should be inexpensive
- It should be give long period action.

For examples :- Sodium bicarbonate
Aluminium hydroxide.

3) → Expectorant :- Expectorant are the drugs that remove sputum from the respiratory tract.
For eg :- Ammonium chloride

Ammonium chloride
molecular formula :- NH_4Cl
molecular weight :- 53.5g

properties
- It is white crystalline
- slightly hygroscopic powder
- It is odourless but it has cooling saline state.
- It is very soluble in water
- slightly soluble in alcohol.
- Store in air tight container.

uses.
1) Replace chloride lost during vomiting
2) Systemic acidifiers
treatment of metabolic alkalosis
3) Treatment of urinary tract infection
4) Increase secretion of respiratory tract & makes the mucus less viscous
5) Treatment of lead poisoning by increasing it's excretion - Diuretic.

4) → Define Haemetinics :- These are the agents used for formation of blood to treat various types of anemia's. Include iron, vit B12 & folic acid.

For example :- Ferrous sulphate

Ferrous sulphate
molecular formula :- $FESO_4 \cdot 7H_2O$.
molecular weight :- 278.07
synonyms :- Green vitrol.

properties
1) It is a pale green, crystalline or granular solid.
2) It is odourless.
3) It have saline metallic astringent taste.
4) It is acidic to litmus with pH of about 3.7
5) It is soluble in water., insoluble in alcohol

uses :-
1) use in oral like preparation such a tablets, capsule, syrup, dry powders etc.
2) To treat iron deficiency
3) use in anaemia.
4) To treat formation of blood

properties:

1) colourless, large crystals or coarse crystalline powder
2) odourless
3) deliquescent in moist air & efflorences in dry air
4) dissolve in water of crystalline at 49°C

Preparation:

it is prepared by boiling sodium sulphate with sulphur.

$Na_2SO_3 + S \longrightarrow Na_2S_2O_3$

Assay:

weigh ~~0.5~~ g dissolve in 20 ml H_2O & titrate it with 0.05 M iodine using starch sol added at the end of titration.

1 ml of 0.05 M iodine is equivalent to 0.02482 g of $Na_2S_2O_3 \cdot 5H_2O$

Uses:

1) it is used as standard titrant in iodometric titration.
2) it is used as antidote in cyanide poisoning
3) 2.98 % w/v is isotonic with serum.

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Class	F.Y.B pharm	Name of Student	Rani Sopan Kalbande
Sem.	I	Roll No. (In Figure)	38
Division	A	Roll No. (In Words)	thirty - eight
Subject	pharmaceutical inorganic chemistry		
Name & Signature of Examiner: Mr. M.R. Mahajan			

Q.1) Define Gastrointestinal agent classify in details with suitable example

Q.2) Define antacids & give ideal requirements for antacid?

Q.3) Define expectorant give properties uses of ammonium chloride

Q.4) Define Haematinics give property uses & assay of Ferrous sulphate.

Q.5) ~~Enlist the iodine preparation~~ define antidote give in detail sodium thiosulphate

Q.1) — The agents which are used in gastrointestinal disorder are called as Gastrointestinal agents.

Classification:

1) Gastric acidifie: Dilute Hydrochloric acid
2) Antacid:
   a) systemic / absorbable antacid
      e.g: sodium Bicarbonate
   b) non- systemic / non- absorbable antacid
      e.g: a) aluminium containing antacid
           b) calcium containing antacid
           c) magnesium containing antacid

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c) Combination antacid: aluminium Hydroxide: Calcium Hydroxide, Aluminium Hydroxide gel, Calcium Hydroxide, magnesium Hydroxide

3) Bismuth containing compound: Bismuth subnitrate, Bismuth carbonate,

4) purgatives : e.g: ~~Kaolin~~, methyl cellulose

5) protective & adsorbent: Kaolin.

5) laxatives : constipation, Kaolin, Activated charcoal.

6) cathartics : Agar - Agar - ,

Q.2) —

antacid are the weak bases neutralise excess acid in the patient suffering From ~~Hyp~~ ~~Achollydria~~ Hyperchlolydria is called antacid.

Ideal requirements of antacids :

1) it should not be non- toxic
2) it should not produce large volume of gas
3) it should buffer pH ~~8-9~~ 4-5
4) it is palatble
5) it should not be absorbable
6) may inhibit the pepsin
7)

Q.3) —

exepectorants are the drug to remove the sputum From the respiratory tract. called exepectorant.

Properties of ammonium chloride:

1) it is white crystalline powder
2) it is saline in test
3) it is soluble in water insoluble in alcohol sparingly soluble in glycerine

4)

Uses :

1) it is used in exepectorant
2) it is used in treatment of urinary tract infection
3) it is used in lead poisoning.

Q.4 —

Haematinics are used in the increase blood level & treatment of anemia patient & Formation of blood components is called Haematinics.

properties of Ferrous sulphate :

1) it is odourless
2) it is soluble in water
3) it is blue green in colour
4) it is acidic to the litmus
5) it is insoluble in alcohol

Uses of Ferrous sulphate

1) it is used in oral iron preparation
2) it is used in Haematinics
3) used as iron supplements.

Q.5 —

antidote are the substance which reverse, count the stop the effect of poison is called antidote

Sodium thiosulphate:

molecular Formula : $Na_2S_2O_3 \cdot 5H_2O$

molecular weight : 248.2

Sodium thiosulphate contain not less than 99.0 percent & more than 101.0% of $Na_2S_2O_3 \cdot 5H_2O$

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→ It dissolves in its water of crystallization at about ~~33°C~~ 49°C.

• Assay :-

Weigh accurately about 0.5g dissolved in 20ml of water and titrate with 0.05M iodine using starch solution, added towards the end of the titration as an indicator. 1ml of 0.05M ~~iodine~~ iodine is equivalent to 0.02482 g of $Na_2S_2O_3.5H_2O$.

• Uses:-

1] It is used as Antidote.
2] It is very important reducing agent.
3] For this purpose a 10% W/V solution is used intravenously although a 2.98% W/V solution is isotonic with serum.

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Class	F.Y(BPharm)	Name of Student	Kanika Rupesh Jadhav
Sem.	I	Roll No. (In Figure)	A - 33
Division	A	Roll No. (In Words)	A - Thirty three
Subject	Pharmaceutical Inorganic Chemistry BP104T		
Name & Signature of Examiner: Mr. M. R. Mahajan 22/2			

Q1]. Define Gastrointestinal agents. Classify it in detail with suitable example.

Q2]. Define Antacids and give ideal requirement for Antacids.

Q3]. Define Expectorant give properties and uses of Ammonium Chloride.

Q4]. Define Haematinics. Give Properties uses, uses and assay of Ferrous sulphate.

Q5]. ~~Explain~~ Define Antidote. Give in detail sodium thiosulphate.

Answers:-

Q1]. Gastrointestinal agents are those who are used in treatment of gastrointestinal disorders such achlorhydria, diarrhea, hyperacidity and constipation.

Classification of Gastrointestinal agents:-

1]. Acidifier - these are the agents used when there is no secreation of HCl in our body.
Eg. Dilute Hydrochloric Acid (HCl).

2]. Antacids - Antacids are the agents that are used to decrease level of gastric effect in the stomach.
Eg. Sodium Bicarbonate, & $CaCO_3$.

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3] Cathartics - These drugs or agents used to get relief from constipation are called as Cathartics.
Eg. Magnesium sulphate ($MgSO_4$), Sodium Orthophosphate

4] Eg Antimicrobial agents :- Antimicrobial agents are those chemical compounds or drugs that inhibits or destroys the growth of microorganism.
Eg. Hydrogen Peroxide, Silver nitrate, Alcohol, sulphur dioxide

Q.2] Antacids are gastrointestinal agents that are used to decrease the gastric level in the stomach.
Eg. Sodium Bicarbonate, $CaCO_3$

Ideal requirements of Antacids are :-
→ It should be insoluble in water and has fine particle form.
→ It should not cause metabolic alkalosis.
→ It should not cause constipation.
→ It should buffer at pH 4 - 6.
→ It should be palatable and inexpensive.
→ It should not produce large volume of gas.

Q.3] Expectorants are the drugs which are used to remove sputum from respiratory tract or we can say that they are used for the treatment of cough.
Eg. Potassium Iodide.

ii] Ammonium Chloride :-
→ Molecular formula - NH_4Cl
→ Properties :-
- It is white crystalline powder.
- It is odourless.
- It has cool saline taste.
- It is hygroscopic in nature.

→ Uses :-
- It is used as acidifiers.
- It is used as fertilizers.
- It is also used in Buffer solutions.

Q.4] I] Haematinics are the substances required in the formation of blood and mainly used in the treatment of anaemia.

ii] Ferrous sulphate :-

→ Molecular formula - $FeSO_4$

→ Properties :-
- It occurs as transparent green crystals.
- It is odourless.
- It has metallic taste.
- It is soluble in water.
- It is insoluble in alcohol.

→ Uses :-
- It is used as Haematinics.
- It can also be used as disinfectants.

→ Assay :-
- It is performed by Redox titration.
- Add about 0.76g of $FeSO_4$ in 100ml water.
- Add 0.1ml of 3 drop H_2SO_4 as indicater.
- Titrate with 0.1N $KMnO_4$ standard solution until purple colour disappears

Q.5] I] Antidote is any substance which reverses, counteracts and stops the effect of poison.

ii] Sodium Thiosulphate :-

- Molecular formula - $Na_2S_2O_3 \cdot H_2O$

- Properties :-
→ Colourless large crystals or a coarse
→ crystalline powder, odourless, deliquescent in moisture like and effloresces in dry air at temperature above 33°.