

Final question paper

May -2017

Subject –Pharmacognosy

Solved by –

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PHARMACOGNOSY

1st Exam/Pharm/1983/May'17

Duration:3Hrs M.Marks:80

SECTION A

Q1.Fill in the blanks:-

- Borntrager's test is used for the identification of _____. **1**
- The botanical name of Ashwagandha is _____ and belongs to the family _____. **2**
- _____ is the antimalaria I drug from plants and contains _____ and _____ as the chief constituents. **3**
- Balsams contain _____ and benzoic acids. **1**
- _____ is an example of organized drug and _____ is an example of unorganized drug. **2**
- _____ is an example of bulk laxative. **1**
- _____ is the antileprotic drug from plant source. **1**
- The special tubes containing volatile oil in umbelliferous fruits are called _____. **1**
- Cod liver oil is a _____ oil rich in vitamin _____ and _____. **3**
- _____ is an oxytocic drug obtained from fungus. **1**

SECTION B

Q2.Attempt any four:- 4x4=16

- Differentiate between volatile oils and fixed oils
- Biological source and constituents of Opium.
- Biological sources and tests for identification of starch.
- Biological source and preparation of silk
- Classification of Glycosides.
- Tests for identification of Alkaloids.

Q3. A) Define any four from the following terms and give at least one example of each.

- Mydriatic **4x2=8**
- Diuretic
- Antiseptic
- Carminative
- Antimalarial
- Hypnotic

B) Give the biological source of any four from the following drugs. 4x2=8

- Nux vomica
- Ephedra
- Cinchona
- Tulsi
- Digitalis
- Rauwolfia

SECTION C

Q4. Attempt any two. 16x2=32

- Discuss in brief the history and scope of pharmacognosy.
- What are volatile oils? Give the detailed account of methods used for extraction of volatile oils.
- What do you understand by adulteration of crude drugs? Discuss the various methods used to check adulteration of drugs.
- Give the biological source, chemical constituents and uses of Cinnamon and draw a neat well labeled diagram of T.S.Cinnamon.

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Section A

Fill in the blanks

- a. Borntrager's test is used for the identification of anthraquinone Glycoside
- b. The botanical name of Ashwagandha is withania somnifera and belongs to the family solanaceae
- c. Cinchona is the antimalaria I drug from plants and contains quinidine and quinine as the chief constituents.
- d. Balsams contain cinnamic acid and benzoic acids.
- e. Aloe is an example of organized drug and gum , resin is an example of unorganized drug.
- f. Gaur gum is an example of bulk laxative.
- g. Acacia catechu is the antileprotic drug from plant source.
- h. The special tubes containing volatile oil in umbelliferous fruits are called vittae
- i. Cod liver oil is a **dietary supplement** oil rich in vitamin A and vitamin D.
- j. Ergot is an oxytocic drug obtained from fungus.

16 marks

Section B do any 4

4x4=16

Question 2

Question I. Differentiate between volatile oils and fixed oils

Difference between volatile oil and fixed oil

<ul style="list-style-type: none">• Evaporate from source when exposed to room temperature.• Color less liquid, or crystalline or amorphous solid.• Do not form permanent stains on paper.• Do not rancidify.• Having distinct odor.• Can be distilled from natural sources.• On exposure to air and light, they oxidize and resins are formed.	<ul style="list-style-type: none">• Remain fixed on the source when exposed to room temperature.• Some of these oils possess colors i.e. castor oil, shark liver oil.• Form permanent stain on paper.• Rancidified on exposure to air.• May or may not possess odor.• Can not be distilled.• On exposure to air or light, it becomes rancid developing a disagreeable odor.
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Question ii. Biological source and constituents of Opium.

Answer - **Opium**, narcotic drug that is obtained from the unripe seedpods of the opium poppy (*Papaver somniferum*), a plant of the family Papaveraceae

Question iii

Biological sources and tests for identification of starch.

Answer -

1. Dissolve **starch** powder in water and boil it in water bath, a viscous translucent jelly is formed

- It gives Molish **test** for carbohydrates
- Starch** solution forms a deep blue colour on addition of iodine solution. The colour disappears on warming and reappears on cooling

Question iv Biological source of silk.

Answer The **silk** fibre is **prepared** from the cocoons of *Bombyx mori* Linn, commonly called the mulberry **silk** worm, and other species of *Bombyx* and *Antheraea* (Order- Lepidoptera). In India it is produced by *A. mylitta* and *A. assama*

Question v Classification of Glycosides.

Answer

Glycosides: Classification

Classes of Glycosides:

Examples:

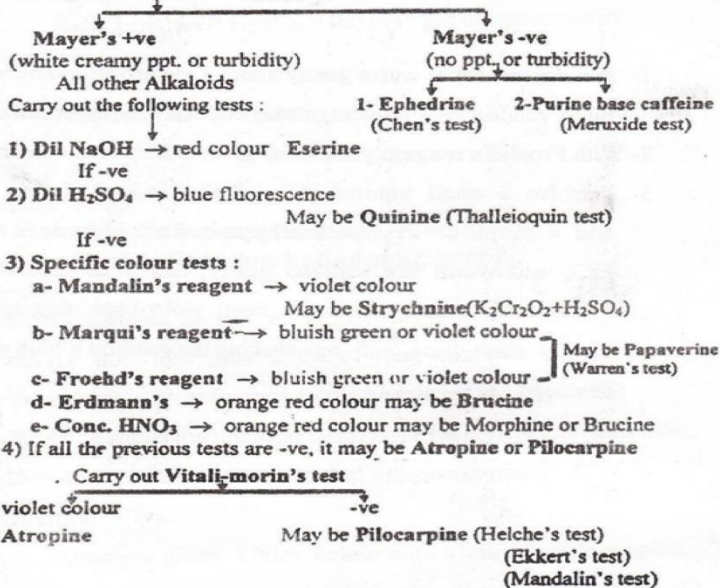
- **Cardioactive glycosides** → Digitalis, Convallaria
- **Anthraquinone glycosides** → Cascara, Senna, Aloe
- **Saponin glycosides** → Glycyrrhiza
- **Cyanophore glycosides** → Amygdalin (laetril), Prunisin
- **Isothiocyanate glycosides** → Wild mustard
- **Flavonoid glycosides** → Quercetin
- **Alcohol glycosides** → Salicin
- **Aldehyde glycosides** → Vanillin (Vanilla orchid)
- **Lactone glycosides** → Sweet & Red clover
- **Phenolic glycosides** → Uva Ursi, (arbutin)
- **Tannins** → glycosides polymerized by polyphenol oxidase

Question vi-Tests for identification of Alkaloids.

Scheme for identification of Alkaloids

General alkaloidal precipitating

- Wagner's reagent : Brown ppt.
- Hager's reagent : Yellow ppt.
- Tannic acid : Creamy white ppt.
- Phosphomolybdic acid : Yellowish-white ppt.
- Mayer's reagent :



Q3. A) Define any four from the following terms and give at least one example of each.

4x2 =8

- i. **Mydriatic** is an agent that induces dilation of the pupil. Drugs such as tropicamide are used in medicine to permit examination of the retina and other deep structures of the eye, and also to reduce painful ciliary muscle spasm.
- ii. **Diuretic**- A **diuretic** is any substance that promotes **diuresis**, the increased production of urine
- iii. **Antiseptic** - preventing the growth of disease-causing microorganisms
- iv. **Carminative** -A carminative, also known as carminativum, is an herb or preparation intended to either prevent formation of gas in the gastrointestinal tract or facilitate the expulsion of said gas,
- v. **Antimalarial** are a type of antiparasitic chemical agent, often naturally derived, that can be used to treat or to prevent malaria
- vi. **Hypnotic**- commonly known as sleeping pills, are a class of psychoactive drugs whose primary function is to induce sleep and to be used in the treatment of insomnia, or for surgical anesthesia.

B) Give the biological source of any four from the following drugs.

4x2=8

- i. Nux vomica- The **biological source** of **nux vomica** is dried ripe seeds of *Strychnos nux vomica*
- ii. Ephedra - **Ephedra** consists of the dried aerial parts of **Ephedra** gerardiana Wall, belonging to family Ephedraceae
- iii. **Cinchona**- The **biological source** of **cinchona** is the dried bark of the stem or root of it. Commonly it is known as Peruvian or jesuit's bark. It belongs to the rubiaceae family.
- iv. **Tulsi *Ocimum tenuiflorum*** (synonym *Ocimum sanctum*), commonly known as holy basil or tulsi, is an aromatic perennial plant in the family Lamiaceae.
- v. **Digitalis** **Digitalis** consists of dried leaves of **Digitalis** purpurea Linn.
- vi. **Rauwolfia** **Rauwolfia** consists of the dried roots and rhizomes of **Rauwolfia** **serpentina** Benth

Section C do any 2

16x2 32

SECTION C

Q4. Attempt any two. 16x2=32

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- c. What do you understand by adulteration of crude drugs? Discuss the various methods used to check adulteration of drugs.
- d. Give the biological source, chemical constituents and uses of Cinnamon and draw a neat well labeled diagram of T.S.Cinnamon.

for long question follow text book of Pharmacognosy