

- (c) Name adulterations, and how detected.
- (d) What part of the fruit yields the largest per cent. of volatile oil?
- (e) What part of the fruit yields the largest per cent. of fixed oil?
2. Name the official drugs of the Nat. Order Compositae.
- Name four non-official drugs of same order indigenous to Canada, and frequently used in medicine.
3. Copaiba: (a) Definition; (b) Nat. ord.; (c) Source; (d) Habitat; (e) How obtained; (f) Varieties in order of value; (g) Properties; (h) Adulterations, and mode of detection.
4. Give in tabular form, source, nat. order, habitat, part used and medicinal properties of: Aconite, Senega, Cascara Sagrada, Belladonna, Buchu, Digitalis, Ergot, Catechu, Cantharis, and Oleum Morrhuæ.
5. Give in two or three words the medical properties of the following: Nux Vomica, Gentian, Hyoscyamus, Creasotum, Elaterium, Valerian, Strophanthus, Cannabis Indica, Ipecac, and Camphora.
6. Define the following Therapeutical terms and give two examples of each: Expectorants, Diuretics, Antiperiodics, Antipyretics, Pustulants.
7. From what are the following obtained, giving dose: Codeine, Eserine, Pilocarpine, Atropine, Thymol, Spartine, Menthol, Veratrine, and Emetine.
- 8, 9, and 10. Oral.

## PHARMACY.

Examiner—L. W. LEITHHEAD. Time allowed, two hours.

1. (a) Spts. Aetheris Nitrosi is a spiritous solution containing what? (b) Give process for preparing it, with chemical equation. (c) Give specific gravity and tests, incompatibles. (d) Medicinal properties and dose.
2. What weight of Acid Sulphuric, Liq. Plumbi Subacet., Spts. Tenuior and syrup, might be put into a bottle which holds exactly the imperial pint of water at standard temperature and pressure?
3. Write a formula for an imperial pint of Tinct. Nucis Vomica B.P., using an equivalent quantity of commercial alcohol 95 per cent. instead of the spirit ordered.
4. Name the liquids employed in exhausting the solid materials in the manufacture of the following extracts: Ext. Aloes Barbadosis, Ext. Ergotæ Liquidum, Ext. Nucis Vomica, Ext. Opii, Ext. Rhei.
5. Give the proportions of Ergot to each of its official preparations, and state the best mode of preventing the deterioration of the crude drug.
6. Name the ingredients in Emplastrum Menthol, Mistura, Olei Ricini, Pulvis Jalapæ Compositus, Pilula Colocynthis Composita, Pilula Phosphori, Tinctura Chloroformi et Morphinae.
7. Give characteristics and maximum dose of the following substances: Acetanilidum, Homatropinas, Hydrobromas, Paraldehydum, Phenacetium, Phenazonum, Picrotoxinum, Sulphonol.

## BOTANY.

Examiner—L. W. LEITHHEAD. Time allowed, two hours.

1. Describe the structure of a Maple Seed; name its parts.
2. Name three principal kinds of roots, and three of subterranean stems or branches; giving instances of each from indigenous plants.
3. Give the growing parts of an exogenous tree. What is the Cambium layer? How does Heartwood differ from Sapwood?
4. Describe a Rhizome Tuber bulb, and say, if they belong to the root or stem, which are Rheum, Jalapæ, Sweet Potato, Onion.
5. Name the parts of a flower. What office is performed by the ovule? Name two kinds of ovules.
6. What do plants feed on?
7. Trace the growth of an annual plant from the sowing of the seed to the ripening of the fruit.
8. Give examples of the plants belonging to the following natural orders: Liliacea, Leguminosæ, Renunculaceæ. Give the characters of these orders.

## CHEMISTRY.

Examiner—L. W. LEITHHEAD. Time allowed, two hours.

1. How much Lithium Carbonate is required to neutralize one drachm Salicylic Acid?
2. How much B.P. Hydrocyanic Acid can be made from one kilogram of Potassium Ferrocyanide? Show work.
3. How would you detect Perchloride of Mercury in Calomel; and the Red Iodide in mercurous Iodides; how could salts so contaminated be purified?
4. In what state does Glycerine exist in fats and oils. How is it obtained? State its properties and pharmaceutical uses.
5. What would be the effect of adding Liquor Potassia in excess to aqueous solution of the following salts: (a) Sulphate of Iron; (b) Perchloride of Iron; (c) Corrosive Sublimate; (d) Sulphate of Copper; (e) Nitrate of Silver.
6. State the composition of Bleaching powder. Describe the mode of manufacture.

## Peau D'Espagne.

Peau D'Espagne, or Spanish skin, is nothing more than highly perfumed leather. Good and sound pieces of wash leather are steeped in a mixture of ottos, in which are dissolved some odoriferous gum resins. Thus: Otto of neroli, rose, sandal, of each one-half an ounce; otto of lavender, verbena, bergamot, of each one-quarter ounce; otto of cloves and cinnamon, of each two drachms; with any others thought fit. In this mixture dissolve about two ounces of benzoin; now place the skin to steep in it for a day or so, then hang it over a line to dry. A paste is now to be made by rubbing in a mortar one drachm of civet with one drachm of grain musk, and enough solu-

tion of gum acacia or tragacanth to give it a spreading consistence; a little of any of the ottos that may be left from the steep stirred in with the civet, etc., greatly assists in making the whole of an equal body; the skin, being cut up into pieces of about four inches square, is then to be spread over plaster fashion with the last-named compost; two pieces, being put together, having the civet plaster inside them, are then to be placed between sheets of paper, weighted or pressed, and left to dry thus for a week; finally each double skin, now called Peau D'Espagne, is to be enveloped in some pretty silk or satin, and finished off to the taste of the vendor. Skin or leather thus prepared will evolve a pleasant odor for years.

When first introduced this skin used to be sold for what would now be thought fabulous prices.

## The New System.

The following druggists have been prompt in adopting the newest and best method of encouraging a cash trade in their stores. Each cash customer receives a printed rebate check issued by the latest National Cash Register. The check is dated, the amount of the purchase printed on it, with a request like this: "Return \$5 in checks and get 25 cents in trade." The register prints a detailed list of the sales as well as giving the day's total sales. Also keeps accurate account of all charges, collections, and disbursements, and so prevents many mistakes. When may we add your name to the list?

H. F. McCarthy, Ottawa.  
C. H. Couen, Toronto.  
D. M. Waters, Belleville.  
W. S. Detlor, Napanee.  
R. S. Shillington, Ottawa.  
Dickson Drug Co., Jas. Findlay, Pembroke.  
John T. Wait, Arnprior.  
Jos. Clark, H. H. Hough, Renfrew.  
W. H. Medley, Kingston.  
M. Patterson, Almonte.  
W. G. Smith, Guelph.  
R. B. W. Robinson, Ottawa.

## Quick Method of Making Mercurial Ointment.

Ettore Barbi gives in *Il Farmacista Italiano* a formula by which he says a 1 in 2 ointment of mercury can soon be made. A few grammes of decoction of saponaria root are put into a strong jar or bottle, 500 grammes of mercury are added, and the whole shaken until globules of the metal are no longer visible. The emulsified mercury is poured into a mortar containing 400 grammes of lard and 100 grammes of white wax melted together, and on triturating the metal is soon taken up, and a smooth and perfect ointment results.—*Pharmaceutical Journal*.

Hippocrates wrote his principal medical treatises on the theory of disease B.C. 422.