Misce ft. mass. et in pillulæ decem dividend.

Sig.—Sumat æger pilulam ant. cib. ter in die, si op. sit.

Pharmacy.

Examiner—CHAS F. HEEBNER, PH. G.

1. *Alkaloids:* (*a*) Define. (*b*) How do they differ from glucosides. (*c*) Mention the liquid alkaloids, stating difference, chemically and physically, from the solid. (*d*) Name three important general alkaloid precipitants. (*e*) By what tests would you differentiate quinine from morphine.

2. *Percolation*: (*a*) Define. (*b*) Mention the essential features to be carefully followed out with a view to the exhaustion of the drug, and to demonstration of the process scientifically, as exhibited in the preparation of a fluid extract. (*c*) State the strength of fluid extracts. (*d*) Describe pressure percolation, and mention the objectionable features of the process. (*e*) Give method for determining amount of spirit and of extractive matter in a percolate (*f*) Detail a general process for standardizing fluid extracts prepared from drugs containing alkaloidal principles.

3. Give the official names of the following:—(*a*) Donovan's Solution. (*b*) Labarraque's Solution. (*c*) Blaud Pill. (*d*) Plummer's Pill. (*e*) Spirit Mindererus. (*f*) Pulvis Jacobi. (*g*) Blue Pill. (*h*) Gregory's Powder. (*i*) Sal Polychrestum. (*j*) Salt of tartar. (*k*) Hoffman's Anodyne. (*l*) Chloric Ether. (*m*) Turner's Cerate. (*n*) Huxham's Tincture.

4. Mention the important ingredients in each of the following preparations: (*a*) Clemen's Solution. (*b*) Pearson's Solution. (*c*) Monsel's Solution. (*d*) Monsel's Solution. (*d*) Goulard's Extract. (*e*) Lugol's Solution. (*f*) Javelle Water. (*g*) Solution Glonoin. (*h*) Burnett's Disinfecting Fluid.

5. (*a*) Define Gum Resins. (b) Give three examples. (*c*) State in full how to prepare a perfect emulsion of a gum resin from both medicinal and pharmaceutical standpoints.

6. (*a*) Why is ether used in the preparation of Tincture Strophanthus. (*b*) Carbonate of Lead in Liq. Gutta Percha. (*c*) Copper in Spts. Ætheris Nitrosi. (*d*) Water in Emp. Plumbi. (*e*) Strong solution of Ammonia in Spt. Ammon. Arom. (*f*) Carbonate of Potassium in Ung. Potassi Iodidi.

7. What is "soluble saccharin," and how may it be prepared?

8. (*a*) Define Fixed Oils. (*b*) Why are some fats solid and others liquid. (*c*) Mention the impurities and adulterations of volatile oils, and give tests for their detection. (*d*) State method for making a "precipitated oleate" of your own selection. (*e*) Mention the official products resulting from saponification.

9. Detail method for preparing permanent colorless Syrup of Hydriodic Acid.

10. State solubility in distilled water at 15°C. of:—(*a*) Potass. Iodide. (*b*) Potass. Bromide. (*c*) Potass. Chlorate. (*d*) Mercuric Chloride. (*e*) Acid Tartrate of Potassium. (*f*) Sodium Bicarbonate.

Prescriptions.

Examiner—CHAS. F. HEEBNER, PH.G.

1. Translate into English:

Recipe — Olei ricini. fluiduncium et semissem, Tincturæ opii, fluidrachmam dimidiam, Pulveris acaciæ et Pulveris sacchari albi ana drachmas tres, Aquæ menthæ viridis, fluiduncias quatuor. Acaciam et saccharum cum paululo aquæ menthæ tere; dein oleum adjice et iterum tere; denique aquam reliquam paulatim infunde et omnia misce.

Signum: Capiat æger cochlearia duo magna bis terve in die, donec adsit catharsis.

2. Write the following directions without abbreviations, and translate: (*a*) Ft. mas. et. div. in pil. xij. (*b*) Ft. S. A. R. (*c*) Detur cochl. dimid. pro dos. tempore matut. (*d*) Applic. paululum auri affectæ omn. nocte cum gossipio. (*e*) Ft. pil. binæ, nocte sum. ad vicem secund. (*f*) Cap. cochl. ij. magn statim; iterentur. post. horam si tussis accrev. (*g*) Cap. cochl. ij. vel iij. quart. horis ubi dolor urget.

3. Translate into English:

Recipe — Antimonii tartarati, grana quatuor, Pulveris foliorum digitalis, grana decem, Confectionis rosæ, quantum sufficit ut fiat massa, in pilulas viginti dividenda.

Signum: Initio sumat æger pilulam unam, pro dosi, mane ac nocte, postea bines, dein tres, et denique augeatur dosis, quantum fieri potest.

Translate the following prescriptions, and if necessary criticise in full:

4. ℞ Quininæ sulph. ℥ j.
Acidi sulphurici dil. q. s.
Syrupi pruni virg. f ℥ ss.
Ext. glycyrrhizæ fld f ℥ j.
Syrupi simplicis ad f ℥ iv.
M. Sig. Exhibe cochl. parv. ter. quaterve de die.

5. ℞ Ext. sarsæ comp. fld. f ℥ ij.
Spts. ætheris nitrosi f ℥ j.
Syr. ferri iodidi f ℥ ij.
Liq. potass. arsen. m xx.
Syr. rhei aromat. f ℥ ij.
Glycerini f ℥ iijss.
Syr. simpl. ad f ℥ ij.
Misce. Sig ℥ j. q. q. h. sum.

6. ℞ Ammon. carb. ℥ j.
Syr. tolutan. f ℥ iij.
Syr. scillæ f ℥ iv.
Aq. menth. pip. ad f ℥ iv.
M. ft. mist. cujus cochl. med. omni horæ quadranta calefactæ sumendæ, durante frigore.

7. ℞ Hydrarg. chloridi corros. gr. iv.
Potassii iodidi ℥ i.
Tinct. cinchonæ comp. f ℥ iij.
Tinct. nucis vomicæ f ℥ ss.
Syr. Aurantii f ℥ ijss.
M. f. ℥j. t. i. d. sum.

6. ℞ Sodii bicarb. gr. xxx.
Spts. ammon. aromat. f ℥ j.
Liq. bismuthi f ℥ ij.
Tinct. cinchonae comp. f ℥ j.
Aq. menthae pip. ad. f ℥ iij
M. ft. mist. Sig. More dictu.

9. ℞ Liq. strychninæ.
Liq. arsenicalis aa. f ℥ jss.
Aq. distillatæ, ad f ℥ iv
M. ft. mist.

10 Mention at least one incompatible of each of the following preparations:—

(*a*) Liquor Cocainæ. (*b*) Hydragyri subchloridum, (*c*) Phenazonium, (*d*) Liq. Plumbi subacet, (*e*) Chloral hydras, (*f*) Mucilago acaciae, (*g*) Ferrum redactum, (*h*) Liq. ammonii acetatis.

(Balance of papers not received at time of going to press.)

Iodide of Carvacrol.

Iodide of carvacrol is mentioned in the *Pharmachentische Post* of Vienna as a new product of some interest. Carvacrol is an isomer of thymol, which is produced when camphor is heated with iodine. Now when carvacrol is submitted to the treatment which, with thymol, produced *aristol*, a substance similar to the latter is obtained, and is called iodide of carvacrol. The preparation is as follows: A solution of iodine in iodide of potassium (iodine 10.16, Klo 10.16—that is equal parts) is mixed with a solution of 1.5 parts carvacrol in 1.6 parts hydrate of soda. A yellow precipitate is formed, which is washed with water. Iodide of carvacrol is a yellow powder insoluble in water, soluble with difficulty in alcohol, but readily dissolved by ligroine, chloroform, and olive oil. It softens at 50°, melts at 96°, and resists the decomposing action of light.—*The Monthly Magazine of Pharmacy.*

THE Japanese use paper at every instant. The string with which the articles you buy are fastened is made of paper. Do you want a piece of string? Tear a sheet of paper, roll it between the fingers; it requires a strong wrist to break it. The handkerchief thrown away after use is paper! The partitions dividing the houses are paper! The pane through which an indiscreet eye looks at you is paper! This pane is truly wanting in transparency, or not at all transparent, and the Japanese, especially the ladies, who are just as curious as they are in other countries, are none the less embarrassed to see, without troubling themselves, what is taking place outside. The method is very simple—one finger is passed through the paper, that is all! When one has had a good look, a small piece is stuck on this opening with a grain of rice. The yakounine hat passing is paper; the porter's cloak, who carries his burden, singing in cadence, through the rain, the garment of the boatmen who reconducts you on board, the tobacco-pouch, cigar-case—all are paper. These elegant flowers ornamenting the beautiful hair of the Japanese ladies, and those robe collars which are taken for crape—paper.—*Ex.*