the meaning of this statement, and mention the facts upon which it is based.

2. Give a brief account of the chemistry of iodine, and compare its chemical properties with those of fluorine.

3. How will each of the following substances be affected by heating in the presence of air: Ammonium chloride, magnesium carbonate, potassium citrate, phosphoric acid, mercury, sodium bicarbonate?

4. Give the empirical formula of the simplest compound having the composition of

Nitrogen	36.85	per cent.
Carbon	15.79	"
Hydrogen.....	5.26	"
Sulphur.....	42.10	"

(Atomic weights: Sulphur, 32; carbon, 12; nitrogen, 14.)

5. Write a short account of the chemistry of iron, including (*a*) sources and metallurgy. (*b*) Important compounds. (*c*) Oxidation and reduction. (*d*) Qualitative tests.

6. Express by equations the action of

(*a*) Potassium carbonate upon calcium chloride in solution

(*b*) Phosphorus pentachloride upon ethyl alcohol.

(*c*) Hot sulphuric acid upon charcoal.

(*d*) Hydrogen sulphide upon potassium dichromate in acid solution.

(*e*) Dilute sulphuric acid upon barium peroxide.

7. Give the rational and the structural formula of: Chloroform, acetic aldehyde, benzoic acid, propane, primary and tertiary butyl alcohols and dimethyl ketone.

8. How would you detect the presence of a salt of

(*a*) Potassium in a solution of sodium chloride?

(*b*) Arsenic in a solution of antimonious chloride?

(*c*) Lead in a solution of mercurous nitrate?

(*d*) Aluminium in a solution of mercuric chloride?

(*e*) Copper in a solution of zinc sulphate?

The following may be substituted for any one of the above questions:

Explain what is meant by the "action of mass" in chemical reactions, illustrating by means of the reactions occurring upon the addition of hydrochloric acid to solutions of potassium nitrate and silver nitrate respectively.

9 and 10. Recognition of specimens and oral examination.

Values: 8, 12, 8, 8, 15, 10, 9, 10, 20.

PRESCRIPTIONS.

Examiner—A. R. FRASER. Time allowed, Two Hours.

1. Translate into English, describe the manner of mixing, pointing out any errors which may occur in the following:

RECIPE—

Ferri Pyrophosphate, drachmas duas,
Strychnine, granum unam,
Tincturæ Calumbæ unciam cum semisse,
Tincturæ Quassia uncias duas,
Elixer Simplicis uncias tres.
Aquam ad uncias sex.

Misce fiat mistura sumat drachmas duas, ope tubuli vitrei, mane meridie et hora somni, ad biduum vel triduum elapso capait tablet hydrargyri subchloridi grana duas hora somni.

2. Translate into English and describe *very fully* the manner of mixing the following:

℞

(*a*) Morphia Mur...grana sex
Camphor .....grana viginti
Cera Flav.....drachmam unam
Ol. Theobromat Q.S.

Misce et divid: in suppos. xii.

Usus unam more dictu om nocte.

N.B.—Make by hand. State quantity Ol. Theobrom.

℞

(*b*) Ol: Tereb. ..... ℥ij
Ac: Acet Dil ..... ℥ss.
Acet Canth:..... ℥iii
Ol: Olive..... ℥j
Ovi Vitelli..... Q. S.
Aq: ad..... ℥vi.

M ft. Lin: Quocum illinantur partes dunudatur bis quotidie.

N. B.—State number of Ovi Vitelli.

3. A prescription reads:

Strychnine.....gr. ½
Aq .....℥j.
Mitte .....℥viii.

You keep in stock a solution of 1 in 100. How much would you use? Show work. Do you consider it a large dose?

4. Give dose of following: Pilocarpin mur, croton oil, codeine, cupri sulph., acetum cantharides, ext. aconit, tinct. strophanthus, soda sulph., tinct. cannabis indicus, sugar of lead.

5. Give Latin names of the following: Easton's syrup, Prepared Calamine, Black Draught, Prussian Blue, Oil of Thyme, Goulard Water, Salts of Lemon, Confection Hips, Glauber Salts, Phenic Acid.

6. Name two incompatibilities of the following: Ammon brom, iodid of iron, morphia, spts. ether nit, cocain mur.

7. Give best means of preserving the following drugs in stock in order to preserve their efficacy. Nitrate of amyl, bromine, phosphorus, zinc chloride, magnes carb, Easton's syrup, acid sulphurosi, santonine.

8 to 10.—Oral examination.

Values 10, 15, 8, 10, 10, 7, 10, 30

MATERIA MEDICA

Examiner—D. S. SAYER. Time allowed, Two Hours.

1. *Myrrh.*—(*a*) From what and how obtained? (*b*) Name its constituents. (*c*) Habitat. (*d*) Mention all other B. P. drugs of the same class as myrrh. (*e*) Give preparations of myrrh. (*f*) State any simple tests which would distinguish myrrh from gum acacia.

2. *Oils.*—Fixed and volatile.—(*a*) Give the prime difference between fixed and volatile oils. (*b*) State the principal constituents of each class. (*c*) Mention all the fixed oils of the B. P. (*d*) Give the adulterations, impurities or deteriorations which occur in (*e*) oil lemon, (*f*) oil peppermint, (*g*) oil wintergreen.

(*h*) How would you detect them in oil of lemon and oil of peppermint

3. *Nux Vomica.*—(*a*) Describe it, microscopically and otherwise. (*b*) Give habitat. (*c*) State all its principal constituents. (*d*) Percentage of chief ones. (*e*) Are any of the principal constituents obtained from other plants? If so, name them, plants and alkaloids as well. (*f*) Mention all the preparations of nux vomica with (*g*) doses.

4. Differentiate in any way you wish between

(*a*) Powd. cantharid. and powd. cubebs.

(*b*) Powd. acacia and powd. tragacanth.

(*c*) Powd. senna and comp. licorice powder.

(*d*) Gregory powder and comp. powder jalap.

(*e*) Powd. opium from powd. cinchona.

(*f*) Powd. calumba from powd. gentian.

(*g*) Dover's powder from powd. galls.

(*h*) Colchicum seed from rape seed.

5. *Ipecacuanha.*—(*a*) Describe its gross appearance. (*b*) Give its constituents, (*c*) active principle and percentage of same. (*d*) Habitat. (*e*) Medical properties and dose. (*f*) Mention any other drugs belonging to the same natural order. (*g*) Preparations of ipecac with doses.

6. *Camphor.* Describe (*a*) at length, its characters and properties. (*b*) Mention its preparations. (*c*) Give test for purity. (*d*) Name ten drugs of B. P. having a principle more or less allied to camphor