

8. Each cylinder shall be permanently and visibly marked with :—
- (a) Manufacturer's and owner's identification marks and rotation number.
 - (b) Date of last hydraulic test. This may be indicated by the month and year or by the year with a symbol to denote the quarter of the year.
 - (c) For cylinders manufactured after the date of these Regulations—a mark denoting the specification to which the cylinder has been manufactured. This mark may be that of the British Engineering Standards Association Specification No. 399/1930 (B.S.S. No. 399/1930) for cylinders to Specification "A" or Specification No. 400/1931 (B.S.S. No. 400/1931) for cylinders to Specification "B."

The marks shall be stamped on the neck end of the cylinder with the exception of the manufacturer's mark, which may be on the base.

9. If, for any reason, the re-heat treatment of any cylinder becomes necessary, that specified in Clause 6 above shall be applied. After any such re-heat treatment the cylinder shall be thoroughly examined and subjected to the hydraulic stretch test.

PHARMACY AND POISONS.

Regulations.

REGULATIONS MADE BY THE COUNCIL OF THE PHARMACEUTICAL SOCIETY OF NORTHERN IRELAND, PURSUANT TO SECTION THREE OF THE PHARMACY AND POISONS ACT (NORTHERN IRELAND), 1925, AND APPROVED BY THE MINISTER OF HOME AFFAIRS.

1936. No. 30..

Preliminary.

1. The Regulations made by the Council on the 15th day of February, 1929 (hereinafter referred to as "the principal Regulations"), on the 18th day of March, 1932, and on the 16th day of December, 1932, are hereby revoked; provided however that the appendices to the principal Regulations as amended by the Regulations dated 18th March, 1932, shall remain in force and apply to candidates presenting themselves for examination before the 31st day of December, 1936. The appendices to these Regulations shall not apply to candidates presenting themselves for examination before the 1st day of June, 1937.

2. In the following regulations unless the context otherwise requires :—

Words importing the singular number shall include the plural number.

Words importing the plural number shall include the singular number, and words importing the masculine shall include the feminine.

"The Society" shall mean the Pharmaceutical Society of Northern Ireland.

"The Act" shall mean the Pharmacy and Poisons Act (Northern Ireland), 1925, as amended by the Pharmacy (Temporary Provisions) Act (Northern Ireland), 1926.

"The President" shall mean the President of the Society.

“The Vice-President” shall mean the Vice-President of the Society.

“The Council” shall mean the Council of the Society.

“The Secretary” shall mean the Secretary of the Society.

“The Treasurer” shall mean the Treasurer of the Society.

Registration.

3. The fee payable for registration by persons qualifying for registration under Section 7 of the Act shall be five shillings.

4. Where the name of any registered person has been struck off the Register the fee payable for the restoration of such name to the Register shall be one guinea.

5. No recommendation for the erasure of a name from the Register shall be made by the Council unless a notice of the intention to bring forward such recommendation shall have appeared on the Agenda.

Members, Associates and Students.

6. A candidate for membership, associateship or studentship of the Society shall, at a meeting of the Council, be proposed and seconded by Members of the Council, or in writing by Members or Associates of the Society, provided such letter be forwarded to the Secretary not later than ten days prior to the meeting of the Council at which such candidate is to be proposed.

The name and address of every candidate shall be inserted in the summons for the next meeting of the Council, when the candidate may be admitted by a majority of votes.

7. Every candidate for membership or associateship of the Society shall lodge five shillings with the Treasurer before the day of election, and every candidate for studentship shall lodge one shilling with the Treasurer before the day of election. The money shall be returned in the event of the candidate's rejection.

8. The annual subscription of Members and Associates of the Society shall be five shillings, and the annual subscription of students shall be one shilling. All such subscriptions shall be due in advance on the first day of September in each year.

9. All Members and Associates, and all persons qualified for election as Members or Associates, shall have the option of becoming Life Members or Associates respectively, exempt from further subscriptions on payment of a life composition of five guineas.

10. A Member, Associate or Student who is elected on or after the first day of July in any year shall not be required to pay a second subscription until the first day of September in the year following.

11. If any Member, Associate or Student be in arrear of his annual subscription for two years, his name and address shall be omitted from the published "List of Members, Associates and Students."

Honorary Members.

12. The election of Honorary Members of the Society shall be subject to the following provisions:—

- (a) No person, save a Member of the Council, shall be entitled to propose or second a person for honorary membership.
- (b) The Council shall not proceed to the election of an Honorary Member unless notice of motion shall have been given at a meeting of the Council prior to that on which the election takes place.

13. Regulations 7 to 12 (inclusive) shall not apply in the case of Honorary Members.

Council.

14. The Council shall meet on the third Friday of each month, at the hour of three p.m., or on such other day or hour as the Council may from time to time decide. The Secretary shall send by post notice of each meeting to every Member of the Council at least seven days before the time of meeting. Every such notice shall contain an Agenda, and the business shall be dealt with in the order in which it appears on the Agenda. Questions shall be the last item on the Agenda, and shall be dealt with after all other business shall have been transacted.

15. The President, or, in his absence, the Vice-President, on the requisition of at least seven Members of the Council, shall summon a special meeting of the Council to be held on such a day and at such an hour as shall be most convenient. The Secretary shall give each Member of the Council four clear days' notice of such meeting. No business shall be transacted at such special meeting other than that for which the meeting shall have been called, and which shall have been specified on the notice summoning the meeting.

16. If an amendment is proposed to any resolution, the amendment shall first be put to the vote, and, if carried, it shall then be put as a substantive resolution, on which it then shall be competent for any Member of the Council to move an amendment, which, if carried, shall also be put as a substantive resolution, and, so on, so long as an amendment shall be proposed. If the final amendment be negatived, the original resolution shall be put to the vote.

17. All resolutions passed at meetings of the Council shall take effect as from the date on which they are passed except such resolutions as shall relate to the making, altering or

abrogating of any regulation, which resolution shall take effect on such date or dates as the Council shall decide.

No notice of alteration, abrogation or addition to these resolutions shall be discussed by the Council until the expiration of one month after such notice shall have been given.

18. When a division has taken place, any Member of the Council may require that the names and numbers of the majority and minority, and of those declining to vote, be entered on the minutes.

19. The proceedings of each meeting of the Council shall be entered by the Secretary in a book kept for that purpose.

20. A fair copy of the minutes of each meeting shall be entered in a separate book by the Secretary, and be compared by the Chairman with the original minutes, and, if correct, be confirmed by the signature of the Chairman.

21. The minutes of meetings shall contain such motions and amendments as have been proposed and adopted or negatived, with the names of proposers and seconders, but without any comments or protests annexed.

22. The election of the Secretary, Clerk, and other officers shall be by open voting, each Member of the Council declaring the name of the person for whom he votes.

23. Members and Associates of the Society may, when permitted by the Council, be present at its meetings, but shall not take part in the proceedings.

24. If in the intervals between the meetings of the Council, a Member of the Council sends a notice of motion, in writing, to the Secretary, such notice shall not appear upon the Agenda without the sanction of the President, or, in his absence of, the Vice-President, and unless the notice shall have been received seven clear days before the time of meeting.

Seal.

25. The Seal of the Society shall consist of a hand in a circle divided into six parts elaborated, and with the legend, "The Seal of the Pharmaceutical Society of Northern Ireland, MCNXXV."

26. The Seal shall be kept in a box which shall be locked with two different locks. The key of one lock shall be in the custody of the President or Vice-President, and the key of the other in the custody of the Secretary. The box shall be kept in a safe on the premises of the Society.

27. The Seal shall not be affixed to any deed, instrument, or certificate, unless in pursuance of a resolution of the Council entered in the Minute Book. The affixing of the Seal shall be attested by the signatures of the President or Vice-President and Secretary.

Secretary.

28. The Secretary shall attend at the office of the Society at such times as may be appointed by the Council. He shall attend, and take a record of the proceedings, at all meetings of the Council and Committees, and at the Annual Meeting of the Society. He shall also attend examinations, elections, etc., conducted by the Society. He shall make a report of all matters that may come under his notice for the information of the Council and Committees. He shall be responsible for the safe custody of all the books, documents and other property of the Society. He shall consult, and act upon the instructions of the President, or Vice-President, on any business requiring attention between the various meetings. He shall have authority over the clerks and all servants of the Society, whose wages he shall pay. He shall receive such a sum in advance as the Council may consider sufficient to pay the current expenses of his office.

Treasurer.

29. The Honorary Treasurer shall be elected from among the Members of the Council.

30. It shall be the duty of the Treasurer to open an account in the Ulster Bank, Limited, and to lodge all moneys as soon as possible after he receives them. He shall keep an account of all moneys received, and shall pay all accounts as ordered by the Council. All payments shall be made by cheque, which shall be signed by the President or Vice-President, the Treasurer and the Secretary.

31. The Treasurer shall submit his financial statement to the Council at its meeting in September in each year, and also to the Annual Meeting of the Society.

32. The accounts shall be audited before the Annual Meeting by the official auditors of the Society who shall affix their signatures to the financial statement.

Finance.

33. The Treasurer's alphabetical list of Members and Associates who have paid their subscriptions shall be open for inspection at each Annual Meeting.

34. The financial year shall commence on 1st September, and shall terminate on 31st August in the following year.

35. All donations of money to the Society shall be kept as a reserve fund, to be applied as a General Meeting of the Society may direct.

36. No sum of money exceeding five pounds shall be voted or ordered for payment (except for rent, or fixed salaries) without notice having been given in the Agenda of the next monthly meeting of the Council.

37. All sums of money received by the Treasurer in any year by way of penalties under the provisions of sub-section (3) of section 28 of the Act shall be applied towards defraying the law costs and expenses incurred by the Society during that year, and the surplus (if any) shall form part of the general funds of the Society.

Committees.

38. The Council shall appoint five Committees:—General Purposes, Law, Education, Finance, and House—three Members to form a quorum. The composition of the Committees shall be in the following proportions:—Four Pharmaceutical Chemists, one Chemist and Druggist or Registered Druggist, and one nominated Member. The President and Vice-President shall be ex-officio Members of all Committees. The President shall preside at all meetings of Committees, or in his absence the Vice-President. If the President and Vice-President are both absent, a Chairman shall be chosen by the Members present.

Annual Meeting.

39. The Annual Meeting of the Society shall be held on the first Monday in October in each year in such place as the Council shall determine.

40. The election of Members to replace the retiring Members of the Council shall take place at the Annual Meeting.

41. At the Annual Meeting of the Society a Member or Associate shall not be entitled to vote, unless he has paid his subscription for the preceding year.

In case of an equality of votes, the President or Chairman of the Annual Meeting shall have a casting vote.

42. No Member or Associate of the Society, save a life Member or Associate, shall be qualified either to stand for a seat on the Council or to propose or second any candidate for a seat on the Council unless he shall have paid his subscription for the current year. Any candidature which does not fulfil the above conditions shall be null and void.

43. No motion shall be moved at the Annual Meeting of the Society without fourteen days' previous notice in writing having been given to the Secretary; which notice shall be inserted in the summonses convening such meeting.

44. A new candidate for a seat on the Council shall be proposed and seconded by a Member or Associate of the Society; the nomination paper, together with a written undertaking by such candidate that he will act if elected, shall be lodged with the Secretary by noon at least fourteen clear days before the Annual Meeting. The representatives of Pharmaceutical Chemists shall

be replaced by Pharmaceutical Chemists, and those of the Druggists shall be replaced by Chemists and Druggists or Registered Druggists subject to such alterations in numbers as may be necessary pursuant to the provisions of Article 3 of Part III. of the First Schedule to the Act.

45. A retiring Member of the Council who desires to stand for re-election need not be proposed and seconded by a Member or Associate of the Society, but shall notify the Secretary in writing by noon at least fourteen clear days before the Annual Meeting of his intention to stand for re-election.

46. Voting papers shall be sent by post to the Registered Address of every Member and Associate of the Society at least seven clear days before the Annual Meeting. Every such voting paper shall contain the names of such retiring Members as are standing for re-election, with a list of their attendances at the meetings of the Council and Committees since last elected or appointed, and the names and qualifications of all new candidates, together with the names of their proposers and seconders : Provided that when the number of candidates is equal to or less than the number of vacancies to be filled no voting papers shall be issued, but the Chairman of the Annual Meeting shall declare the candidate duly elected.

47. Each voter shall—

- (a) erase from the voting paper the names of those for whom he does not intend to vote ;
- (b) leave no more names than are sufficient to fill the vacancies ;
- (c) write his name and address on the outside of the envelope in which he returns his voting paper ; and
- (d) transmit his voting paper under cover as aforesaid to the Secretary so that it shall be received by him not later than noon on the morning of the election.

The voting paper of every voter who fails to comply with any of the above requirements shall be void.

48. The scrutineers of the ballot shall be two. Members of the Council appointed for the purpose at the September meeting, together with the President or Vice-President. They shall meet at noon on the day of the Annual Meeting to count the votes and to deliver to the Secretary a record of the voting. The proposer and seconder of each new candidate may be present if they so desire. Voting papers shall not be opened save by, or in the presence of, the scrutineers. The names of those elected shall be declared by the Chairman at the Annual Meeting.

Reading of Papers.

49. The Council shall have power to arrange from time to time for the reading of papers or the delivery of lectures on subjects of professional interest, and to defray all expenses incidental thereto.

Poisons.

50. In the keeping of poisons each bottle, vessel, box or package containing a poison shall be labelled with the name of the article, and also with some distinctive mark indicating that it contains poison.

51. In the dispensing and selling of poisons by retail all liniments, embrocations, lotions and liquid disinfectants containing poison shall be sent out in bottles rendered distinguishable by touch from ordinary medicine bottles, and there shall be affixed to each such bottle in addition to the name of the article and to any particular instructions for its use a label indicating that the contents of the bottle are not to be taken internally.

EXAMINATIONS.

(All communications concerning examinations should be addressed to:—The Secretary of the Pharmaceutical Society of Northern Ireland, 73 University Street, Belfast.)

General Regulations.

52. Those matters in respect of which the Act provides that the Candidate shall satisfy the Council shall be referred to the Education Committee which shall report thereon to the Council, and Candidates shall be bound to furnish such evidence of compliance with the Statutory requirements as the Council may require.

53. Upon acceptance of a Candidate the Council shall notify him, specifying under which part of the Second Schedule to the Act the Candidate is to be examined.

54. The fees payable by Candidates for Examination shall be as set out in Appendix A to these Regulations, which fees shall be paid to the Treasurer on application for permission to sit for examination.

55. A candidate, who, having paid his prescribed fee, submits on or before the day of the Examination a medical certificate of his unfitness to attend shall be entitled to examination at a subsequent date without further payment.

56. A Candidate, who, having paid the prescribed fee, fails to satisfy the Board of Examiners, or fails to attend and does not furnish a good and sufficient reason for his absence, shall be entitled to examination at a subsequent date only on payment of the appropriate re-examination fee prescribed in Appendix A.

57. A Candidate who, having paid the prescribed fee, is not accepted by the Council, shall have his full fee returned to him.

58. All Examinations under the Act shall be held on such dates and at such times as the Education Committee may from time to time determine.

59. The Council shall deliver to each Candidate who passes any of the Examinations held under the Act a certificate appropriate to his qualifications and according to such form as shall from time to time be determined upon by the Council.

60. No person shall be deemed to have complied with the provisions relating to the duration of apprenticeship or assistantship which are contained in Parts IV. or V. of the Second Schedule to the Act unless he has been engaged during the whole term of his apprenticeship or assistantship for not less than 36 hours per week in the actual BUSINESS of his employer as a Pharmaceutical Chemist, Registered Chemist and Druggist or Registered Druggist, as the case may be.

Apprentices.

61. Candidates for the Preliminary Certificate of Apprentice to a Pharmaceutical Chemist shall furnish the Council with documentary evidence of having passed one of the following examinations :—

- (1) The Matriculation Examination of the Queen's University of Belfast.
- (2) Any examination accepted by that University as equivalent to the Matriculation Examination.
- (3) The Pharmaceutical Preliminary Examination of the Queen's University of Belfast.

62. Every Candidate for the Preliminary Certificate of Apprentice to a Pharmaceutical Chemist must have passed in the following subjects, viz. :—

English and Mathematics, and THREE other subjects (one of which must be a language) from the following list :—
Latin, Greek, French, German, Spanish, Italian, Irish, Modern History, Geography, Botany, Chemistry, Physics or Mechanics.

63. Evidence that candidates have complied with any requirement of Articles 61 and 62 shall be submitted to the Education Committee and reported upon by that Committee to the Council.

64. Upon acceptance of a candidate the Council shall forward to him a copy of the Regulations under Schedule 2, and a Preliminary Certificate of Apprentice to a Pharmaceutical Chemist.

65. Any application for the Preliminary Certificate of Apprentice to a Pharmaceutical Chemist must be accompanied by the necessary fee as specified in Appendix A to these Regulations.

Assistants.

66. The subjects of Examination for the Certificate of Assistant to a Pharmaceutical Chemist shall be as set out in Appendix B to these Regulations :

Provided that candidates who have passed the Preliminary Scientific Examination may enter for the Assistants' Examination under Schedule 2, Part V. of the Act, without a further examination in Botany provided they have complied with the provisions of the said Schedule 2, Part V., and provided also that candidates who have entered for the Pharmaceutical Chemist Qualifying Examination and who have failed to obtain this Certificate may be granted the Certificate of Assistant to a Pharmaceutical Chemist if they have satisfied the Examiners in Pharmacy, Practical Pharmacy and Theoretical Pharmacognosy and have previously given notice to the Secretary of their intention to enter for the Examination for the Certificate of Assistant and have lodged with such notice a fee of £1 1s. 0d.

Pharmaceutical Chemists.

67. Candidates coming within the provisions of Part IV. of the Second Schedule to the Act shall be examined on the syllabus prescribed in Appendix C to these Regulations. The Examination shall be divided into two parts, hereinafter referred to as Part 1 or Preliminary Scientific Examination, and Part 2 or Pharmaceutical Chemist Qualifying Examination respectively.

68. A Candidate applying to take the Preliminary Scientific Examination shall :—

- (a) Submit evidence that he has received instruction in an Institution approved by the Council and has attended to the satisfaction of the authorities of such Institution an approved course of instruction in the subjects and of the respective minimum durations following, that is to say :—

in Botany not less than 140 hours ;

in Chemistry, Appendix C, Part 1, not less than 140 hours ;

in Physics not less than 70 hours.

(The Candidate shall be required to have attended in each subject at least 75 per cent. of the classes. In case of prolonged sickness or other just cause, the Council shall have power to modify this Regulation) ; and,

- (b) Present himself for examination in the subjects prescribed in Appendix C, Part 1, or alternatively, submit to the Board of Examiners documentary evidence of his having passed the Intermediate Examination of the Queen's University of Belfast in all the subjects prescribed in Appendix C, Part 1.

69. No Candidate shall be permitted to present himself for the Pharmaceutical Chemist Qualifying Examination in the subjects prescribed in Appendix C, Part 2, until he has—

- (a) obtained a certificate that he has already passed in all the subjects prescribed in Appendix C, Part 1.
- (b) submitted evidence that he has received instruction in an Institution approved by the Council and has attended to the satisfaction of the authorities of such Institution an approved course of instruction in the subjects and of the respective minimum durations following, that is to say—

in Chemistry, Appendix C, Part 2, not less than 140 hours ;

in Pharmacognosy not less than 100 hours ;

in Pharmacy not less than 56 hours ;

in Practical Pharmacy not less than 84 hours.

(The Candidate shall be required to have attended in each subject at least 75 per cent. of the classes. In case of prolonged sickness or other just cause, the Council shall have power to modify this Regulation) ; and

- (c) produced documentary evidence that he is at least twenty-one years of age, and has served an apprenticeship of four years to a Pharmaceutical Chemist in accordance with Regulation 60.

70. A Candidate who has complied with the provisions contained in Regulation 69 shall then either—

- (a) present himself for examination in all the subjects prescribed in Appendix C, Part 2, or
- (b) submit to the Board of Examiners documentary evidence that he has passed the examination in all the subjects of Final Part 1, for the B.Sc., in Pharmaceutics of the Queen's University of Belfast, and present himself for oral and practical examinations in the following three subjects :—

(1) Pharmacy ;

(2) Practical Pharmacy ; and

(3) Latin and Prescription Reading.

Any Candidate who fails to satisfy the Examiners in any of these three subjects shall, on subsequently presenting himself for re-examination, be examined in all three subjects.

71.—(a) Save as hereinbefore mentioned, a Candidate who is unsuccessful in not more than two subjects may enter for re-examination in those subjects only : Provided that the Board of Examiners reports him as "referred" in those subjects and not as "failed" ;

And provided further that in the case of Pharmaceutical Chemist Qualifying Examination he has passed in Pharmacy and Practical Pharmacy.

(b) A Candidate who has been "referred" may present himself for re-examination in those subjects only in which he was "referred" at any number of subsequent examinations; provided that at no subsequent examination does the Board of Examiners report him as "failed" in any of the subjects in which he was "referred." A Candidate who has been "referred" once or more than once in two subjects must pass in both those subjects at one and the same examination.

Examiners.

72. Where any Examiner appointed by the Council is unable to conduct the examination at the proper time, the President, or in his absence the Vice-President, shall have power to appoint a substitute who shall for that examination only discharge the duties of the Examiner originally appointed; provided that such appointment shall be subject to the approval of the Minister of Home Affairs.

73. Every Examiner before entering upon his duties shall give an undertaking to the Council in the following form:—

"I,....., hereby agree in consideration of being appointed an Examiner by the Council to conduct the examination at such times and places as the Council shall determine and to certify to the Council the results of such examination within twenty-four hours of the conclusion of all the examinations. I also hereby agree to sign any certificates required by the Council within a period of fourteen days from the date on which the examination terminates."

No fees shall be paid to any Examiner who has failed to comply with the above undertaking unless the Council by resolution so direct.

(L.S.)

W. S. TAYLOR, *President.*

SAMUEL GIBSON, *Vice-President.*

D. L. KIRKPATRICK, *Secretary.*

Date 11th March, 1936.

In pursuance of the powers conferred upon me by sub-section (2) of section three of the Pharmacy and Poisons Act (Northern Ireland), 1925, I, The Right Honourable Sir Richard Dawson Bates, Minister of Home Affairs for Northern Ireland, after consultation with the Minister of Education for Northern Ireland, hereby signify my approval of the foregoing Regulations.

R. Dawson Bates.

Dated this 16th day of March, 1936.

APPENDIX A.

- (1) For the Certificate of Apprentice to a Pharmaceutical Chemist the fee shall be Three Guineas, provided that in the case of a person who has passed the Pharmaceutical Preliminary Examination of the Queen's University of Belfast, the fee shall be One Guinea.
- (2) For the Certificate of Certified Assistant to a Pharmaceutical Chemist, the fee shall be Six Guineas, and the re-examination fee shall be Three Guineas.
- (3) For the Preliminary Scientific Certificate the fee shall be Four Guineas, and the re-examination fee shall be Two Guineas.
- (4) For the Certificate of Pharmaceutical Chemist the fee shall be Eight Guineas; and the re-examination fee shall be Four Guineas.

APPENDIX B.

BOTANY. As specified in the syllabus for Part I. in Appendix C.

PHARMACY AND PRACTICAL PHARMACY. As specified in the syllabus for Part II. in Appendix C.

PHARMACOGNOSY. As specified in the syllabus for Part II. in Appendix C; provided that an oral examination may be given on the practical side of this subject.

APPENDIX C. PART I.

SYLLABUS FOR THE PRELIMINARY SCIENTIFIC EXAMINATION.

CHEMISTRY.

(Examination in this subject comprises one written session and one practical session each of three hours' duration.)

The chief characteristics of chemical action, the distinction between elements and compounds; the laws of chemical combination by weight and volume; the hypothesis of Avogadro; the Kinetic theory of gases; the theory of dilute solutions; the phenomena of ionisation; conductivity; strength of acids and bases; solubility product; osmotic pressure; Raoult's Law; chemical equilibrium and the law of mass action; endothermic and exothermic reactions; equivalent weight; atomic weight and molecular weight; chemical formulæ and nomenclature; valency; the distinction between metals and non-metals, and the periodic classification of the elements.

The general characters of the non-metals; the chief methods of preparation and the typical reactions of the following non-metallic elements and compounds; hydrogen, oxygen, ozone, water, hydrogen peroxide; chlorine, bromine and iodine and their compounds with hydrogen and oxygen; fluorine, hydro-fluoric acid; nitrogen, ammonia, and ammonium compounds, the oxides of nitrogen, nitrous acid, nitric acid, sulphur, hydrogen sulphide, sulphurous and sulphuric anhydrides and acids, thiosulphuric acid; phosphorus, phosphine, the oxides and oxy-acids of phosphorus, the chlorides of phosphorus; silicon, silica; boron, boric acid.

The general characters and classification of the metals, and the general methods of forming oxides and salts; the sources, the general methods of extracting and the chief properties of the undermentioned metals, also the modes of preparation and properties of their principal compounds:—Potassium, sodium, lithium, barium, strontium, calcium, magnesium, zinc, aluminium, iron, chromium, manganese, nickel, cobalt, arsenic, antimony, tin, copper, cadmium, bismuth, lead, silver, mercury, gold and platinum.

Carbon, its oxides, methane, ethylene, and acetylene.

The methods of determining carbon, hydrogen, oxygen and nitrogen in organic compounds and of obtaining molecular formulæ.

NOTE.—The Candidate is expected to solve simple problems relating to the weight and volume under different conditions of temperature and pressure, of elements and compounds concerned in chemical reactions. The whole of the syllabus in chemistry to be treated in an elementary manner and as far as possible experimentally.

PRACTICAL EXAMINATION.

The Candidate will be required :—

- To exhibit a practical acquaintance with the methods of preparing the more important inorganic substances.
- To identify by chemical tests the more important non-metallic elements and their compounds, as well as the metals and salts indicated in the foregoing list.
- To analyse a mixture containing not more than two basic and two inorganic acid radicles.
- To be able to weigh accurately on a standard analytical balance involving the use of a rider.
- To show a knowledge of the principles of volumetric analysis and to prepare, standardise, and use volumetric solutions of inorganic acids, alkalies, potassium permanganate, and silver nitrate.

The Candidate will be required to bring to the practical examination his original laboratory notebooks for the examiners to inspect should they so desire. The books must be taken away by the candidate at the close of the examination.

PHYSICS.

(Examination in this subject comprises one written session and one practical session each of three hours' duration.)

Velocity, acceleration, mass, momentum, force, work, energy, gravity, centre of gravity; simple machines; pressure in liquids, the siphon, water pumps; principle of Archimedes. Boyle's Law, compression and exhaust pumps; atmospheric pressure; surface tension; diffusion, osmosis.

Temperature; thermometry; changes in volume of solids, liquids and gases with alterations of temperature; quantity of heat, specific heat; change of state, latent heat; melting and boiling points; vapour pressure; hygrometry conduction, convection and radiation; relation between heat and work.

Photometry; laws of reflection and refraction; formation of images by plane and spherical mirrors and lenses; the eye as an optical instrument; defects of vision and their correction by lenses; action of prisms on light; dispersion, colour.

Properties of magnets; magnetic field, lines of force; law of force; the earth as a magnet.

Simple phenomena of static electricity; potential, induction, distribution of electrification of conductors; influence machines; capacity; principle of condenser, Leyden jar.

Electric currents, magnetic, chemical and heating effects; primary and secondary cells; current strength; electromotive force; Ohm's Law; resistance, specific resistance; galvanometers, ammeters and voltmeters; metre bridge; potentiometer; induced currents.

PRACTICAL EXAMINATION.

Simple exercises illustrating the above, including :—

- Use of vernier, screw-gauge, balance, hydrometer; measurement of time of oscillation. Determination of volumes by weighing in air and water, densities, specific gravities of solids and liquids; verification of Boyle's Law.
- Determination of co-efficients of expansion, melting points, boiling points, specific heats, latent heats, dew point.
- Tracing paths of rays; determination of refractive indices by slab and prism; focal lengths of mirrors and lenses.
- Tracing lines of force. Measurement of time of swing of a magnet; comparisons of magnetic moments and of field strengths.
- Comparison of electromotive forces and resistances. Use of galvanometer, ammeters and voltmeters. Electrolytic measurements.

The Candidate will be required to bring to the practical examination his original laboratory notebooks for the examiners to inspect should they so desire. The books must be taken away by the Candidate at the close of the examination.

BOTANY.

A knowledge of:—

The elements of Plant Morphology and Anatomy:—The external form of plants; Thallus, stem, leaf, root. The distinguishing features and commoner modifications of these structures. Buds and veneration. Phyllotaxis and branching. Inflorescence, flower, fruit. Pollination. Self- and cross-fertilisation. The formation of the seed. Germination. A general acquaintance with the elements of plant anatomy; the vegetable cell; tissues, including meristematic, epidermal, fundamental, and vascular. The characteristic anatomical features of stems, leaves and roots of flowering plants. The method of increase in thickness of stems and roots, and the characters of primary and secondary tissues.

The elements of Physiology:—The nature and source of the food of plants, and the manner in which the raw materials are elaborated. Chlorophyll, its manner of occurrence in the plant; its functions and the conditions under which it discharges them. Reserve materials, their nature, mode of deposition, and the manner in which they are utilised by the plant. The manner in which plants grow, and the conditions necessary for the growth of a plant. The manner in which plants respond to external stimuli, e.g., light, gravity, etc. Sexual and asexual reproduction.

Classification:—A general knowledge of the chief divisions of the vegetable kingdom, including a special study of the plants and families named.

THALLOPHYTA.

Algae:—*Spirogyra*, *Fucus*.

Fungi:—*Psalliota*, *Saccharomyces*, *Bacillus*.

BRYOPHYTA.

Pellia and *Funaria*.

PTERIDOPHYTA.

Dryopteris filix-mas.

SPERMATOPHYTA.

Gymnospermæ:—*Pinus*, with only the general external features of *Cycas* and *Taxus*.

Angiospermæ.

Dicotyledones:—Salicaceæ, Ranunculaceæ, Cruciferae, Rosaceæ, Leguminosæ, Umbelliferae, Scrophulariaceae, Labiate, Solanaceæ, Compositæ.

Monocotyledones:—Liliaceæ, Gramineæ.

PRACTICAL EXAMINATION.

The candidate will be required to dissect, examine, and describe any plants or parts of plants; and to refer to their systematic position any plants belonging to the above-named groups and families. He will also be required to prepare for the microscope and to describe sections illustrating the anatomy of the plant structures enumerated above.

BUSINESS METHODS.

Book-keeping, including business books required in a Pharmacy; Double Entry; Balance Sheets; Commercial Law relating to Master and Servant, Leases, Agreements and Contracts. A working knowledge of matters likely to arise in Pharmaceutic practice relating to Licences, Insurance, Income Tax, Partnership and Company Trading. Elementary principles of advertising and salesmanship; Modern Methods of Window Display; Shop-craft, including arrangement of a shop, windows, heat, ventilation, counters, wall and counter-cases and general lay-out.

APPENDIX C. PART II.

SYLLABUS FOR THE PHARMACEUTICAL CHEMIST QUALIFYING EXAMINATION.

PHARMACEUTICAL CHEMISTRY.

(Examination in this subject comprises one written session and one practical session each of three hours' duration.)

The general principles of inorganic chemistry with particular reference to those elements and compounds in frequent use in pharmacy; their preparation, properties and purification of pharmaceutical use.

The general principles of organic chemistry involving the main types of aliphatic substances and the simpler aromatic compounds containing the benzene nucleus, with special reference to those of pharmaceutical importance.

Pharmaceutical standards of purity and chemical tests of conformity therewith. The principles involved in the practical work of this syllabus.

PRACTICAL EXAMINATION.

The Candidate will be required to show practical familiarity with the following in reference to their application to substances in frequent use in pharmacy:—

The preparation of simple organic compounds such as chloroform, ether, acetaldehyde, ethyl, acetate, nitrobenzene and acetanilide.

The identification by chemical tests of the salts of the simple organic acids; the identification or reference to class of simple organic compounds.

The performance of the simple chemical tests used to limit the adulterations and contaminations which may occur in the inorganic substances, and in the simple organic compounds of pharmaceutical importance.

The quantitative determination of quinine in iron and quinine citrate and of the alkaloidal content of simple solutions of alkaloidal salts.

Simple gravimetric analysis illustrated by the determination of moisture limits, sulphates, aluminium and iron.

The volumetric determinations of simple chemical substances and of such when present in simple solutions. Alkalinity of glass.

The use of the nitrometer illustrated by the estimation of organic nitrates.

The Candidate will have the opportunity during the practical examination of consulting British Pharmacopœia and will be required to bring to the practical examination his original laboratory notebooks for the examiners to inspect should they so desire. The books must be taken away by the Candidate at the close of the examination.

PHARMACOGNOSY.

The candidate will be required to recognise specimens of crude drugs mentioned in the British Pharmacopœia or in the B.P. Codex; to be acquainted with their botanical or zoological, and geographical sources, commercial varieties, the natural orders to which they belong, and the mode of collection and preparation for the market; to indicate the morphological nature of such as are organised, and the mode of formation of such as are unorganised; to describe them correctly, and to point out diagnostic characters either chemical or physical, the latter as far as they can be ascertained by the use of a pocket-lens; to name the chief active constituents of official drugs, to know the proportion present in good samples of the more important of them, and to possess a knowledge of qualitative Pharmacopœial tests applied to crude drugs or their official products, including the microscopic characters of the Pulveratae, and of Maize, Wheat, Rice and Potato starches.

The candidate is also required to recognise any of the plants in the following list:—

<i>Aconitum napellus</i>	<i>Lavandula vera</i>
<i>Althœa officinalis</i>	<i>Matricaria chamomilla</i>
<i>Anthemis nobilis</i>	<i>Mentha piperita</i>
<i>Atropa belladonna</i>	<i>Mentha pulegium</i>
<i>Avena sativa</i>	<i>Mentha viridis</i>
<i>Brassica alba</i>	<i>Enanthe crocata</i>
<i>Brassica sinapioides</i>	<i>Papaver rhœas</i>
<i>Byronia dioica</i>	<i>Papaver somniferum</i>
<i>Cochlearia armoracia</i>	<i>Pinus sylvestris</i>
<i>Colchicum autumnale</i>	<i>Prunus Laurocerasus</i>
<i>Conium maculatum</i>	<i>Quercus robur</i>
<i>Cytisus scoparius</i>	<i>Rosa canina</i>
<i>Daphne Laureola</i>	<i>Rosmarinus officinalis</i>
<i>Daphne mezereum</i>	<i>Ruta graveolens</i>
<i>Datura stramonium</i>	<i>Salix alba</i>
<i>Digitalis purpurea</i>	<i>Sambucus nigra</i>
<i>Dryopteris filix-mas</i>	<i>Solanum dulcamara</i>
<i>Feniculum capillaceum</i>	<i>Taraxacum officinale</i>
<i>Hordeum distichon</i>	<i>Taxus baccata</i>
<i>Hyoscyamus niger</i>	<i>Triticum vulgare</i>
<i>Juniperus communis</i>	<i>Ulmus campestris</i>
<i>Juniperus sabina</i>	<i>Valeriana officinalis</i>

PHARMACY

A. knowledge of the following:—

Operations requiring the use of heat. Evaporation, with particular reference to the preparation of extracts; special characters and modes of preparing the various classes of extracts; influence of surface, temperature, and pressure upon the rate of evaporation; water, steam, and sand baths; distillation, ordinary, fractional, steam, and destructive, distinctive characters and objects of each; official preparations illustrating the various kinds of distillation apparatus employed; the retort and receiver, still and worm; Liebig's condenser; principles on which they are constructed and used. The principles of sterilisation. Sublimation: its objects and applications in pharmacy; official products of sublimation, calcination and fusion. Desiccation; temperature best suited for drying particular drugs, loss in drying vegetable drugs; forms of drying ovens, principles on which they are constructed and used.

—Disintegration of solid substances; cutting, bruising, and pulverisation; apparatus employed, principles indicating which is to be adopted in particular instances; methods for controlling the degree of comminution; sieves and sifting; trituration, levigation, elutriation, granulation, including methods for producing certain chemicals as fine powders, small crystals, scales, etc.

Filtration, objects and methods, filtering media, means of expediting filtration; dialysis, its application in pharmacy, construction and use of the dialyser.

Expression; methods of obtaining the juices from plants; recovery of the residual liquids from tincture marcs, etc., screw, hydraulic, and other presses.

Solution; its nature, solvent powers of various menstrua, influences of (a) temperature; (b) state of division of the substance to be dissolved; (c) time; (d) position of the substance in the menstruum; lixiviation, infusion, digestion and decoction; maceration; percolation and displacement; principles on which the successful application of these processes depends; form and materials for percolators and other vessels employed.

The principles involved in the dispensing of medicines, particularly with reference to the best excipients and methods for forming pill masses; the preparation and nature of emulsions, the most suitable emulsifying agents, and the best means of suspending insoluble substances in liquids.

The processes by which official galenical preparations are made and the principles upon which they are based; the official biological and chemical standards, including the following:—

- (a) Enzyme action.
- (b) The biology of bacteria in so far as it bears on the preparation of sterile solutions and vaccines, and on the performance of sterility tests.
- (c) The preparation of such serums, vaccines and hormones as occur in the British Pharmacopœia.
- (d) An elementary knowledge of the physiology of the alimentary tract, and of the structure and functions of the glands of internal secretion, in so far as these are connected with official preparations.

FIN AND PRESCRIPTION READING.

The candidate will be required to read without abbreviation autograph Latin prescriptions, translate them into English, understand the grammatical construction, and render a literal as well as an appropriate translation of the directions for use; to detect errors, discover unusual doses, and have a general knowledge of posology; to calculate percentages and other quantities occurring in prescriptions.

PRACTICAL PHARMACY.

The candidate will be required:—

To perform such operations of the British Pharmacopœia, or such parts of them as may be practicable, involved in the processes for preparing collodions, confections, decoctions, dilute acids, extracts (solid and liquid), glycerins, infusions, juices, liniments, lotions, mixtures, ointments, pill masses, plasters, powders (simple and compound), scale preparations, solutions, spirits, suppositories, syrups, tinctures, vinegars, waters, and wines.

To compound and dispense medicines as prescribed ; to write the directions in concise language and in NEAT AND DISTINCT handwriting ; to finish and properly direct each package. [In assessing the work in this subject the time taken by the candidate is taken into account.]

FORENSIC PHARMACY.

The Candidate will be required to possess such information concerning the following enactments and the regulations made under them as is applicable to the practice of pharmacy in shop and hospital :— The Pharmacy and Poisons Act, N.I. 1925, The Dangerous Drugs Acts, The Venereal Disease Act, The Therapeutic Substances Act, The Methylated Spirits and Ether Regulations and Restrictions, the sale of abortifacients.

POOR LAW.

Security of Officers.

REGULATIONS, DATED THE 23RD DAY OF APRIL, 1936, MADE BY THE MINISTRY OF HOME AFFAIRS FOR NORTHERN IRELAND, UNDER SECTION 3 OF THE POOR RELIEF (IRELAND) ACT, 1838.

1936. No. 51.

WHEREAS the Local Government Board for Ireland in pursuance of the powers conferred on the said Board by Section 3 of the Poor Relief (Ireland) Act, 1838, made regulations (hereinafter referred to as the "principal Regulations") dated the 18th day of December, 1882, with regard to the proceedings of Boards of Guardians and the appointment and duties of their officers :

And whereas provision is made in Article 37 of the principal Regulations with regard to the security of officers appointed to the positions therein set forth :

And whereas the functions of the said Local Government Board as respects Northern Ireland have been transferred to the Ministry of Home Affairs for Northern Ireland :

And whereas it is expedient to make further provision with regard to the security of officers as hereinafter more particularly appears :

Now, therefore, the Ministry of Home Affairs for Northern Ireland, in pursuance of the powers vested in it by Section 3 of the Poor Relief (Ireland) Act, 1838, and of all other powers in that behalf enabling the Ministry hereby makes the following Regulations :—

1. The following paragraph shall be added to and read with Article 37 of the principal Regulations :—

"The Board of Guardians may with the sanction of the Ministry of Home Affairs accept as security in lieu of, or in addition to, the security above referred to, a guarantee bond