

TABLE 2

Nation	% of Total Quotations			Nation	% of Total Quotations		
	1957	1958	1959		1957	1958	1959
U.S.A. ..	47.0	52.0	48.3	Australia ..	0.3	0.2	0.3
Great Britain	16.3	16.9	20.0	Denmark ..	0.3	0.2	0.3
Germany ..	6.3	6.9	8.3	Finland ..	0.3	0.2	0.3
Russia ..	6.3	5.9	3.3	Czechoslovakia	0.0	0.2	0.6
France ..	5.4	3.0	3.6	Roumania ..	0.0	0.5	0.3
Japan ..	1.7	2.0	4.4	Poland ..	0.3	0.2	0.0
Italy ..	2.0	1.5	1.9	Belgium ..	0.0	0.0	0.3
Switzerland..	0.6	1.5	0.6	Brazil ..	0.3	0.0	0.0
Sweden ..	0.9	1.2	0.3	Latvia ..	0.3	0.0	0.0
Canada ..	0.6	0.2	0.8	New Zealand	0.3	0.0	0.0
India ..	0.6	0.2	0.6	South Africa	0.3	0.0	0.0
Austria ..	0.6	0.0	0.6	Argentina ..	0.0	0.2	0.0
Hungary ..	0.9	0.0	0.3	International			
Holland ..	0.0	0.7	0.3	Publications	7.4	6.2	5.5

The data contained in the references analysed in the above tables were chosen from a large amount of available material, solely on the basis of their adjudged interest for cosmetic chemists, and without any discrimination as to their origin. The analysis of the sources of the data may therefore give some indication of the periodicals most serviceable to the cosmetic chemist.

(Received : 10th December 1959)

## SOCIETY OF COSMETIC CHEMISTS OF GREAT BRITAIN

### *Third Year Diploma Examination*

#### BRUNEL COLLEGE

#### PAPER I

(Monday, 22nd June 1959)

Candidates must answer *Question 1* and any FOUR other questions. Do not attempt to answer more than five questions, including Question 1. Candidates should commence each question on a separate sheet of paper.

1. What are the chief characteristics of the two-phase system in a pressurized pack? Illustrate this diagrammatically. Discuss the characteristics which determine whether a Surface Spray or a Space Spray will result. Suggest a formula for a Hair Lacquer (Surface Spray) and a Room Deodorant (Space Spray).

2. Describe in detail a method of counting the number of viable bacteria in a shampoo and list the apparatus required.
3. (a) What are Koch's postulates ?  
(b) Discuss the application of these postulates to dandruff.
4. Discuss the various factors which determine the consistency of emulsions. Illustrate your answer by reference to the formulation of both liquid and solid W/O and O/W products.
5. Write short notes on *two* of the following topics :—
  - (a) The "surface tension theory" of emulsions.
  - (b) The general properties of emulsifiers suitable for use in cosmetic emulsions.
  - (c) The application of the HLB concept to the formulation of emulsions.
  - (d) The use and method of application of polyvalent metal soaps in preparing emulsions.
6. A prototype, O/W, pourable hand cream based on non-ionic partial ester emulsifiers has been developed for the U.K. market. Write down a scheme for the product evaluation tests which should be carried out.
7. What substance in human hair is responsible for its natural colour (except in the case of white hair) ?  
How can the colour of hair be changed (a) to lighten it and (b) to darken it ? Name one important chemical used for (a) and one for (b).  
What is the importance of Quinone diimine as an intermediate formed during the dyeing of hair by means of the usual types of oxidation dyes ?
8. A human hair consists of three concentric portions ; name them and point out which is the most important in permanent waving. Give the name of the protein of which it mainly consists and describe the aspects of its structure which make permanent waving possible by the particular processes normally employed.  
A permanent waving lotion is to be based on a solution containing six per cent of thioglycollic acid. How much ammonia (calculated as  $\text{NH}_3$ ) should it contain ?

## P A P E R I I

(Wednesday, 24th June 1959)

Candidates should answer any FIVE questions. Do not attempt to answer more than five questions. Candidates should commence each question on a separate sheet of paper.

1. Discuss the difficulties which may be encountered in the perfuming of typical products such as :
  - (a) Creams.
  - (b) Soaps.
  - (c) Powders.
  - (d) Lipsticks.
  - (e) Alcoholic perfumes (handkerchief perfumes, toilet waters, etc.).
2. Describe how Citronella and Lemongrass Oils yield a series of important perfumery raw materials, either by isolation or by chemical reactions. Based upon some of these materials, suggest a formula for a definite floral perfume built around them. If you wish, other materials may be included in the formula.
3. What are the desirable properties of a toothpaste ?  
How can these properties be achieved ?
4. Describe the structure of *either* a pilosebaceous unit *or* the epidermis and dermis.
5. Give an account of modern powder compact formulation and manufacture.
6. Give a typical formulation of a solid fragrance of the soap gel type. What precautions are necessary in the manufacture of such a product ?
7. Write a short account of the production of sulfated fatty alcohols. In what type of toilet articles are they used, and give a typical formulation.
8. What are the control limits required for toilet soap, shaving soaps, and shaving creams ?  
Give a brief description of the soap boiling process.

*LIST OF SUCCESSFUL CANDIDATES* (seven out of eleven)

**Reginald George ENGLEFIELD.**

**Maureen Joyce GRIGGS.**

**Peter JARVIS.**

**Michael PICKTHALL.**

**Pamela Francis OGLE.**

**Ravindra Manilal SHAH.**

**Margaret Doreen SIDEY.**



The President presents the Diploma to Mr. M. Pickthall, son of a Past-President.

The Diplomas were presented to six of the seven successful candidates, by the President, immediately preceding the first lecture of the 1959/60 Session.

### ***Permanent Binding Covers***

Orders for binding cases, price 7s. each, should be sent to P. G. Chapman & Co., Ltd., Kent House Lane, Beckenham, Kent, who will also undertake the work of binding at an inclusive cost of 16/6 per volume.

### ***1960 Programme***

The following lectures will be given before the Society :

Monday, 18th January 1960

*The use of polyoxyethylene derivatives in cosmetics*

by B. A. KILLNER, B.SC.

Friday, 12th February 1960

*The design of experiments*

by M. H. QUENOUILLE, M.A.

Tuesday, 15th March 1960

*Fragrance in the natural orders*

by E. S. MAURER

Thursday, 7th April 1960

*Planning and equipping a cosmetic laboratory*

by R. H. MARRIOTT, D.S.C., F.R.I.C.

A display of laboratory equipment will be held in conjunction with this lecture.

ALL lectures commence at 7.30 p.m. and are given at the Royal Society of Arts, John Adam Street, London, W.C.2.

*DINNER and DANCE*

This will be held at the Café Royal, Regent Street, London, W.1, on Friday, 5th February 1960, and tickets at £2 2s. each are now available from the *General Secretary*.

***Annual General Meeting***

The Annual General Meeting of the Society will take place on Friday, 27th May 1960, at 7 p.m. at 55, Park Lane, London, W.1.

**PURE & APPLIED CHEMISTRY**

The International Union of Pure and Applied Chemistry has decided to publish an official journal PURE & APPLIED CHEMISTRY.

The journal will appear at irregular intervals as material is available. It will be published in parts ; four parts to a volume, each volume containing about 600 pages. The subscription will be approximately £5 5s. per volume.

The journal will contain the lectures or papers read at symposia organized or sponsored by IUPAC, reports of IUPAC Commissions, Divisions and Committees, and other material which the IUPAC Authorities may decide to include.

PURE & APPLIED CHEMISTRY will be published by the official publishers to the Union, Butterworths Scientific Publications, 4-5 Bell Yard, London, W.C.2, England, to whom all enquiries concerning final price and conditions of sale should be addressed.

**BOOK REVIEW**

INTERNATIONALER KODEX DER ÄTHERISCHEN ÖLE—Erster Ergänzungsband. by A. Müller. Dr. Alfred Hüthig Verlag, G.m.b.H., Heidelberg, Germany, 1959. 208 pages, size 6 × 8½ inches. Price : DM 24.

This first Supplement to the author's International Codex of Essential Oils is divided into 13 main parts. The first deals with the formation of essential oils ; the second part, with the characteristics of the oils, their

application and the botanical families. In the third part, the components of the various oils are listed both in alphabetical order of the oils and the components themselves. Section 4 deals with their more important properties, and Section 5 with yields, geographical distribution and annual production figures. Section 6 deals with rare oils and Section 7 gives details of the harvest seasons. In Section 8, the physical properties are dealt with, while Section 9 deals with terpeneless oils.

Section 10 is concerned with historical details and bibliography, and Section 11, with resins and balsams. Section 12 lists some of the foreign (cf. non-German) names for the various oils, but this Section in particular could be improved by subdivision into the various languages. The last section lists manufacturers of essential oils, and suggested reading matter.

Altogether, this book appears to contain a lot of useful information, though it is somewhat difficult to understand the basis for some of the classifications without having read the book to which this volume is the supplement. J.P., A.H.

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**Publication dates :** The "Journal of the Society of Cosmetic Chemists" is published nine times a year.

**Three issues by the Society of Cosmetic Chemists of Great Britain**  
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**Five issues by the Society of Cosmetic Chemists**  
from 404 Lothrop Road, Grosse Pointe Farms 36, Mische., U.S.A.

**One issue by the Gesellschaft Deutscher Kosmetik-Chemiker, e.V.**  
from Holzminden a.W., Dohnenstieg 7, Germany.

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