

ACADEMIES AND SOCIETIES

Indian Academy of Sciences:

May 1940. SECTION A.—C. V. RAMAN AND P. NILAKANTAN: *Reflection of x-rays with change of frequency—Part I. Theoretical discussion; Part II. The case of diamond; Part III. The case of sodium nitrate.* The optical analogy of the scattering of light in crystals indicates that when X-rays traverse a crystal they excite pulsations in the crystal lattice having the characteristic infra-red frequencies, and these pulsations in turn cause periodic variations in the structure-amplitude of the crystal spacings, and therefore result in reflections of the X-rays with change of frequency. In the case of diamond, the 1332^{-1} frequency is effective. Sodium nitrate exhibits intense modified reflections by several of the crystal spacings. K. V. BOKIL AND K. S. NARGUND: *Synthesis in the chaulmoogric acid series—Part II. Synthesis of Δ^2 -cyclopentene carboxylic acid.* T. M. K. NEDUNGADI: *Raman effect in Rochelle salt crystals.* 25 Raman shifts are recorded along with 4 water bands. The intensities of many of the Raman lines change markedly for varying orientations of the crystal axes, even when the incident light is unpolarised. R. D. DESAI AND (MISS) K. S. RADHA: *The action of hexamethylenetetramine on the methyl esters of phenolcarboxylic acids.* G. V. L. N. MURTY AND T. R. SESHADRI: *Raman effect and chemical constitution. Influence of constitutive and other factors on the double bonds in organic compounds—Part IV. The frequency of the ethylenic double bond in unsaturated carboxyl compounds.* Raman spectra of cinnamyl acetate alcohol and cinnamyl acetate are compared with those of ethyl cinnamate. K. SAMBASIVA RAO: *On the representation of a number as the sum of the kth power of a prime and an lth power-free integer.* F. C. AULUCK: *On Warings' problem for biquadrates.* E. MCKENZIE TAYLOR: *Some aspects of the physics of water-table rise and salt movement in the soil under irrigated conditions.* The importance of the presence of a zone of field capacity moisture content on the movement of moisture in a soil has been investigated. There is no essential connection between the rise of water-table and the rise of salts in the soil.

May 1940. SECTION B.—KHAN A. RAHMAN AND AMAR NATH SAPRA: *Mites of the family tetranychidae from Lyallpur with descriptions of four new species.* Seven species of phytophagous mites of which four are new, are described and biological notes for each species given. H. S. RAO: *On the anatomy of Lycopodiopsis derbyi Renault with remarks on the southern palaeozoic lycopods; A re-examination of one of the few interesting silicified plants known from Brazil.* A. ANANTHANARAYANA AYER: *A note on the morphology of the iliofemoral ligament of the hip-joint.* The study has furnished additional evidence for the view that the muscle iliacus minor and the medial limb of the iliofemoral ligament are homologous structures. M. S. RANDHAWA: *A note on a club-shaped variety of Botrydium granulatum (L.) Grev. Var. Clavaeformis Var. Nov.*

Indian Association for the Cultivation
of Science: (Proceedings)

February 1940.—SACHINDRA MOHAN MITRA: *Splitting of spectral lines at scattering by liquids.* S. S. BANERJEE: *Input impedance of high-frequency parallel wire transmission lines immersed in an absorbing medium.* D. V. GOGATE AND D. S. KOTHARI: *Degeneracy in Non-relativistic Bose-Einstein statistics.* B. B. RAY, S. R. DAS AND N. BAGCHI: *Secondary K-Absorption edges of cobalt salts in solid and liquid solutions.* RAM NIVAS RAI: *On sources of stellar energy—A criticism of the Bethe-Gamow theory.* N. BAGCHI: *On the width of the K-Absorption edge of cobalt.* A. C. BANERJEE: *The spiral arms of a configuration of rotating compressible mass having uniform density and surrounding an incompressible spheroid of homogeneous mass.* A. K. DUTTA: *Second maximum of Rossi curve.*

Indian Chemical Society:

April 1940.—S. M. SETHNA AND R. C. SHAH: *Pechman condensation of p-orsellinic acid with ethyl-aceto-acetate. Synthesis of 7-hydroxy-4:5-di-methylcoumarin.* BALKRISHNA H. IYER: *Extension of reformatsky reaction—Part I. Study with ethyl bromomalonate and acetone.* M. S. TELANG AND V. V. NADKARNI: *Kinetics of the reaction between potassium persulphate and the alkyl iodides—Part II.* K. C. SAHA: *Biological value of the proteins of Bengal fish.* P. L. NARASIMHA RAO: *Chemotherapy of bacterial infections—Part I. Substances related to sulphanilamide. Synthesis of p-aminobenzylsulphonamide and its derivatives.* RAFAT HUSAIN SIDDIQUI: *Strychnine and brucine—Part V. Some derivatives of dinitroisostychnic acid.* S. M. SETHNA AND R. C. SHAH: *Kostanecki-Robinson Reaction—Part I. Acetylation of Orcacetophenone and its monomethyl ether.* S. J. DAS-GUPTA: *Acridine derivatives—Part V. Aurothio- and argentothio-Acridines.* K. MITRA, H. C. MITTRA AND A. C. ROY: *Nutrition studies in Bihar—Part III. Estimation of carotene and ascorbic acid in common fruits and vegetables.* B. N. GHOSH AND N. C. MUKHERJEE: *Measurement of swelling and electrokinetic potential of fibrin at various hydrogen ion concentrations.* K. C. SAHA: *Effect of boiling and frying on the enzymic hydrolysis of fish protein.* SATYENDRA NATH CHAKRAVARTI, MAHADEVAN SWAMINATHAN AND P. R. VENKATARAMAN: *O-Aldehydo-carboxylic acids—Part III. A synthesis of 4:5-methylenedioxyphthalaldehydic acid and new synthesis of 4- and 5-methoxyphthalaldehydic acids.* JAGARAJ BEHARI LAL: *Chemical examination of Blepharis Edulis, Pers.—Part III. Constitution of Blepharin.* D. N. MAJUMDAR AND (LATE) G. C. CHAKRAVARTY: *The Constituents of alkanet root (Anchusa tinctoria, Lam.)—Part II. Anchusin and its derivatives.* PHANINDRA BHUSHAN DUTT, NARENDRA CHANDRA DEB AND PRAFULLA KUMAR BOSE: *A preliminary note on Mesuol, the bitter principle of Meusa ferrea.* U. P. BASU AND A. MAJUMDAR: *A note on the keeping properties of Hydnocarpus wightiana oil and its derivatives.*