# CASUALTY ACTUARIAL SOCIETY

## 1926 YEAR BOOK

Officers, Council and Committees

List of Fellows and Associates

List of Ex-Presidents and Ex-Vice-Presidents

List of Deceased Members

List of Students

Constitution and By-Laws

Examination Requirements

1925 Examination Questions

(Corrected to February 1, 1926)

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## CASUALTY ACTUARIAL SOCIETY

## NOVEMBER 18, 1925

## THE COUNCIL

*Officers: G. F. Michelbacher	President
Sanford B. Perkins $V$	ice-President
RALPH H. BLANCHARDV	
RICHARD FONDILLERSecreta	
ROBERT J. McManus	-
WILLIAM BREIBY	
†Ex-Presidents: Albert H. Mowbray	1926
Harwood E. Ryan	1927
WILLIAM LESLIE	1928
†Ex-Vice-Presidents: Leon S. Senior	1926
EDMUND E. CAMMACK	1928
†Elected: James D. Craig	1926
THOMAS F. TARBELL	1926
OLIVE E. OUTWATER	1926
Paul Dorweiler	1927
Frank R. Mullaney	1927
James S. Elston	1927
EDWIN W. KOPF	1928
Joseph H. Woodward	1928
George D. Moore	1928

<sup>\*</sup>Terms expire at the annual meeting in November, 1926.

<sup>†</sup>Terms expire at the annual meeting in November of the year given.

#### COMMITTEE ON ADMISSIONS

Benedict D. Flynn, Chairman

JOSEPH H. WOODWARD

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CHARLES N. YOUNG

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BURRITT A. HUNT

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BENEDICT D. FLYNN, Chairman

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LEONARD W. HATCH

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ROY A. WHEELER GEORGE D. MOORE

HARWOOD E. RYAN THOMAS F. TARBELL

## MEMBERSHIP OF THE SOCIETY, NOVEMBER 18, 1925.

ber 7,	191	4.	xed (†) were Charter_Members at date of organization, Novem- xed (*) have been admitted as Fellows upon examination by
the Sc	ciet	у.	
Date	Adm	itted	
	ţ	i	Amerine, W. M., Assistant Secretary, Georgia Casualty Co., Brown Building, Atlanta, Ga.
May	23,	1924	Bailey, William B., Economist, Travelers Insurance Co., Hartford, Conn.
*Nov.	20,	1924	Barber, Harmon T., Travelers Insurance Co., Hartford, Conn.
	†		Benjamin, Roland, Treasurer, Fidelity & Deposit Co., Baltimore, Md.
	t		Black, S. Bruce, President, Liberty Mutual Insurance Co., Park Square Building, Boston, Mass.
Apr.		1917	Blanchard, Ralph H., Associate Professor of Insurance, School of Business, Columbia University, New York.
May	24,	1921	Bond, Edward J., First Vice-President, Maryland Casualty Co., Baltimore, Md.
May	19,	1915	Bradshaw, Thomas, General Manager, Massey-Harris Co., Ltd., 915 King St., Toronto, Canada.
	t		Breiby, William, Consulting Actuary, Fackler & Breiby, 50 Broad St., New York.
*Oct.	31,	1917	Brockway, U. Hayden, Travelers Insurance Co., Hartford, Conn.
Oct.	22,	1915	Brown, Herbert D., Chief of U. S. Efficiency Bureau, Washington, D. C.
Oct.	22,	1915	Brown, William H., Second Vice-President and Secretary, Columbian National Life Insurance Co., Boston, Mass.
June	5,	1925	Brosmith, William, Vice-President and General Counsel, Travelers Insurance Co., Hartford, Conn.
	t		Buck, George B., Consulting Actuary for Pension Funds, 25 Spruce Street, New York.
May	26,	1916	Bucklin, Walter S., President, National Shawmut Bank, 40 Water Street, Boston, Mass.
	t		Budlong, W. A., Superintendent of Claims, Commercial Travelers Mutual Accident Association, Utica, N. Y.
Apr.	20,	1917	
Feb.	19,	1915	, , ,
	t		Cammack, Edmund E., Vice-President and Actuary, Aetna Life Insurance Co., Hartford, Conn.
	t		Carpenter, Raymond V., Actuary, Metropolitan Life Insurance Co., 1 Madison Ave., New York.

Date .	A dm	hatti	rellows.
*Nov.			Coates, Barrett N., Consulting Actuary, 603 Dividend Building, San Francisco, Calif.
*Nov.	17,	1922	Coates, Clarence S., Federal Mutual Liability Insurance Co., Mills Building, San Francisco, Calif.
Oct.	27,	<b>19</b> 16	Cogswell, Edmund S., Secretary & Actuary, Commission on Pensions, State House, Boston, Mass.
Feb.	19,	1915	Collins, Henry, Assistant Manager, Ocean Accident & Guaran- tee Corporation, 1 Park Avenue, New York.
	t		Copeland, John A., Consulting Actuary, Southeastern Trust Building, Atlanta, Ga.
*Nov.	18,	1925	Department, Hartford, Conn.
	t	!	Cowles, Walter G., Vice-President, Travelers Insurance Co., Hartford, Conn.
	t		Craig, James D., Actuary, Metropolitan Life Insurance Co., I Madison Ave., New York.
*Nov.	20,	1924	Darkow, Angela C., Independence Indemnity Company, Third and Walnut Streets, Philadelphia, Pa.
	t		Dawson, Alfred B., Miles M. Dawson & Son, 36 W. 44th St., New York.
	†		Dawson, Miles M., Counsellor at Law and Consulting Actuary, 36 W. 44th St., New York.
	†		De Kay, Eckford C., President, De Kay and Co., Insurance Brokers, 51 Maiden Lane, New York.
	t		Dearth, Elmer H., Vice-President, Patch & Co., Insurance Coun- selors, 1220 First National Bank Building, Detroit, Mich.
May	19,	1915	Deutschberger, Samuel, Actuary, New York Insurance Department, 165 Broadway, New York.
*Nov.	17,	1920	Dorweiler, Paul, Aetna Life Insurance Co., Hartford, Conn.
	t		Dublin, Louis I., Statistician, Metropolitan Life Insurance Co., 1 Madison Ave., New York.
May	19,	1915	Dunlap, Earl O., Assistant Secretary, Metropolitan Life Insurance Co., 1 Madison Ave., New York.
	Ť		Egbert, Lester D., Director, Brown, Crosby & Co., Inc., Insurance Brokers, 3 S. William St., New York.
*Nov.	17,	1922	Elston, James S., Assistant Actuary, Life Department, Travelers Insurance Co., Hartford, Connecticut.
	t		Epsteen, Saul, Denver National Bank, Denver, Colo.
	†		Fackler, Edward B., Consulting Actuary, Fackler & Breiby, 50 Broad St., New York.
	t		Fallow, Everett S., Actuary, Accident Department, Travelers Insurance Co., Hartford, Conn.
	†		Farrer, Henry, Assistant Secretary, Independence Indemnity Co., Third and Walnut Sts., Philadelphia, Pa.
Feb.	19,	1915	Fellows, C. W., President, Associated Industries Insurance Corporation, Wells Fargo Bldg., San Francisco, Calif.
Feb.	19,	1915	Flanigan, James E., Agency Manager, Bankers Life Co., 220 Broadway, New York.
	†		Flynn, Benedict D., Secretary, Travelers Insurance Co., Hartford, Conn.

FELLOWS.  Date Admitted			
Feb.	19,	1915	Fondiller, Richard, Woodward, Fondiller & Ryan, Consulting Actuaries, 75 Fulton St., New York.
	t		Forbes, Charles S., Insurance Broker, 68 William St., New York.
May	26,	1916	Frankel, Lee K., Second Vice-President, Metropolitan Life Insurance Co., 1 Madison Ave., New York.
	†	İ	Franklin, Charles H., Assistant to Vice-President, Compensation and Liability Department, Continental Casualty Co., 910 South Michigan Ave., Chicago, Ill.
Feb.	25,	1916	Froggatt, Joseph, President, Joseph Froggatt & Co., Insurance Accountants, 25 Church St., New York.
	t		Furze, Harry, Treasurer, Globe Indemnity Co., Washington Park, Newark, N. J.
Feb.	19,	1915	Garrison, Fred S., Assistant Secretary, Travelers Indemnity Co., Hartford, Conn.
*Nov.	20,	1924	Ginsburgh, Harold J., Aetna Life Insurance Co., Hartford, Conn.
May	19,	1915	l
	t		Goodwin, Edward S., Goodwin-Beach & Co., Bankers, 720 Main St., Hartford, Conn.
	t		Gould, William H., Consulting Actuary, 75 Fulton St., New York.
Oct.	22,	1915	Graham, George, Vice-President, Central States Life Insurance Co., St. Louis, Mo.
Oct.	22,	1915	Graham, Thompson B., Assistant Secretary, Metropolitan Life Insurance Co., 1 Madison Ave., New York.
	†		Graham, William J., Second Vice-President, Equitable Life Assurance Society, 393 Seventh Ave., New York.
May	25,	1923	Granville, William A., Educational Director, U. S. National Life & Casualty Co., 513 Aldine Ave., Chicago, Ill.
	Ť		Greene, Winfield W., Actuary and Comptroller, General Re- Insurance Corporation, 80 Maiden Lane, New York.
	t		Hamilton, Robert C. L., Comptroller, Hartford Accident & Indemnity Co., Hartford, Conn.
	t		Hammond, H. Pierson, Assistant Actuary, Life Department, Travelers Ins. Co., Hartford, Conn.
	t		Hansen, Carl M., Vice-President and General Manager, General Re-Insurance Corporation, 80 Maiden Lane, New York.
Oct.	27,	1916	Hardy, Edward R., Assistant Manager, New York Fire Insurance Exchange, 123 William St., New York.
Oct.	22,	1915	Hatch, Leonard W., Director, Bureau of Statistics and Information, State Department of Labor, 124 East 28th St., New York.
Nov.	·		New York Insurance Department, 165 Broadway, New York.
Nov.	21,	1919	Henderson, Robert, Second Vice-President and Actuary, Equitable Life Assurance Society, 393 Seventh Ave., New York.
May	17,	1922	Heron, David, Secretary & Chief Statistician, London Guaran- tee & Accident Co., 20 Lincoln's Inn Fields, London, W. C. 2, England.

Date Admitted	1
Oct. 22, 1915	Hess, Herbert, Herbert Hess & Co., Public Insurance Accountants, 120 Broadway, New York.
† *	Hillas, Robert J., President, Fidelity & Casualty Co., 92 Liberty St., New York.
Nov. 15, 1918	
May 23, 1924	Hobbs, Clarence W., Special Representative of the National Convention of Insurance Commissioners, National Council on Compensation Insurance, 151 Fifth Ave., New York.
Oct. 22, 1915	Hodgkins, Lemuel G., Secretary, Massachusetts Protective Association, Worcester, Mass.
†	Hoffman, Frederick L., Consulting Statistician, Prudential Insurance Co., and Dean, Advanced Course, Babson Institute, Wellesley Hills, Mass.
Oct. 22, 1915	Holland, Charles H., President, Independence Indemnity Co., Third & Walnut Sts., Philadelphia, Pa.
Ť	Hughes, Charles, Auditor and Actuary, New York Insurance Department, 165 Broadway, New York.
†	Hunt, Burritt A., Assistant Secretary, Accident & Liability Department, Aetna Life Insurance Co., Hartford, Conn.
t	Hunter, Arthur, Chief Actuary, New York Life Insurance Co., 346 Broadway, New York.
Nov. 18, 1921	Mutual Life Insurance Co., 32 Nassau St., New York.
Feb. 25, 1916	Jackson, Charles W., Actuary, Postal Life Insurance Co., 511 Fifth Ave., New York.
May 19, 1915	Johnson, William C., Vice-President, Massachusetts Protective Association, Worcester, Mass.
*Nov. 18, 1921	Kearney, Thomas P., Manager, State Compensation Insurance Fund, Denver, Colo.
t	King, Walter I., Secretary, Group Insurance Department, Connecticut General Life Insurance Co., Hartford, Conn.
*Nov. 21, 1919	Kirkpatrick, A. L., Casualty Information Clearing House, 208 So. La Salle St., Chicago, Ill.
†	Kopf, Edwin W., Assistant Statistician, Metropolitan Life Insurance Co., 1 Madison Ave., New York.
Feb. 19, 1915	Laird, John M., Secretary, Connecticut General Life Insurance Co., Hartford, Conn.
Feb. 19, 1915	Landis, Abb, Consulting Actuary, 1107 Independent Life Building, Nashville, Tenn.
Nov. 17, 1922	Lawrence, A. R., Special Deputy Commissioner of Banking and Insurance, 92 Washington St., Newark, New Jersey.
t	Leal, J. R., Secretary & Actuary, Interstate Life and Accident Co., Chattanooga, Tenn.
t	Leslie, William, General Manager, National Council on Compensation Insurance, 151 Fifth Ave., New York.
*Nov. 20, 1924	Linder, Joseph, Office of Woodward, Fondiller & Ryan, Consulting Actuaries, 75 Fulton St., New York.
Nov. 18, 1921	Little, James F., Associate Actuary, Prudential Insurance Co., Newark, N. J.

Date Admitted	FELLOWS.
†	Luckett, Daingerfield G., First Vice-President and General Manager, United States Casualty Co., 80 Maiden Lane, New York.
*Nov. 16, 1923	McClurg, D. Ralph, Secretary and Treasurer, National Equity Life Insurance Company, Little Rock, Ark.
May 23, 1919	McDougald, Alfred, Ellerslie, Beddington Gardens, Wallington Surrey, England.
*Oct. 31, 1917	McManus, Robert J., Assistant Statistician, Compensation and Liability Department, Travelers Insurance Co., Hartford, Conn.
Feb. 19, 1918	Maddrill, James D., Actuary, Hartford Accident and Indemnity Co., 690 Asylum St., Hartford, Conn.
†	Magoun, William N., General Manager, Massachusetts Rating & Inspection Bureau, 80 Broad St., Boston, Mass.
May 19, 1918	Maycrink, Emma C., Examiner, New York Insurance Department, 165 Broadway, New York.
Feb. 19, 1918	Mead, Franklin B., Secretary and Actuary, Lincoln National Life Insurance Co., Fort Wayne, Ind.
Apr. 20, 1917	Meltzer, Marcus, Statistician, National Bureau of Casualty & Surety Underwriters, 120 W. 42nd St., New York.
t	Michelbacher, G. F., Secretary-Treasurer, National Bureau of Casualty & Surety Underwriters, 120 W. 42nd St., New York.
†	Miller, David W., Assistant Treasurer, S. W. Straus & Co., Investment Bonds, 565 Fifth Ave., New York.
Ť	Milligan, Samuel, Assistant Actuary, Metropolitan Life Insurance Co., 1 Madison Ave., New York.
t	Mitchell, James F., First Assistant U. S. Manager, General Accident Fire and Life Assurance Corporation, 421 Walnut St., Philadelphia, Pa.
t	Moir, Henry, President, United States Life Insurance Co., 105 Fifth Ave., New York.
*Nov. 18, 1921	Montgomery, Victor, Secretary, Pacific Employers Insurance Company, 724 So. Spring St., Los Angeles, Calif.
Ť	Moore, George D., Assistant Secretary and Actuary, Royal Indemnity Co., 84 William St., New York.
May 19, 1918	Morris, Edward B., Actuary, Life Department, Travelers Insurance Co., Hartford, Conn.
Nov. 21, 1919	
t	Morrison, James, Secretary-Treasurer, Independence Indemnity Co., Third & Walnut Sts., Philadelphia, Pa.
†	Mowbray, Albert H., Consulting Actuary, 1012 Colusa Ave., Berkeley, Calif.; Associate Professor of Insurance, University of California, Berkeley, Calif.
May 20, 1918	Mudgett, Bruce D., Professor of Economics, University of Minnesota, Minneapolis, Minn.
*Nov. 17, 1920	Mueller, Louis H., Treasurer, Associated Industries Insurance Corporation, Wells Fargo Building, San Francisco, Calif.

	FELLOWS.
Date Admitted	Modiana Talifa T
Ť	Mullaney, Frank R., Actuary and Assistant Secretary, American Mutual Liability Insurance Co., 142 Berkeley St., Boston, Mass.
May 28, 1920	Murphy, Ray D., Second Vice-President and Associate Actuary, Equitable Life Assurance Society, 393 Seventh Ave., New York.
†	Nicholas, Lewis A., Assistant Secretary, Fidelity & Casualty Co., 92 Liberty St., New York.
†	Olifiers, Edward, Consulting Actuary, rua Dos Andradas 64, P. O. Box 1817, Rio-de-Janeiro, Brazil.
†	Orr, Robert K., President, Michigan Employers Casualty Co., Lansing, Mich.
† *Nov. 21, 1919	Otis, Stanley L., Counsellor at Law, 80 Maiden Lane, New York. Outwater, Olive E., Actuary, Ladies of the Maccabees, Port Huron, Mich.
†	Pallay, Julius J., Secretary, London Guarantee & Accident Co., Ltd., 55 Fifth Ave., New York.
May 26, 1916	Parker, John M., Jr., Secretary, Accident and Liability Department, Aetna Life Insurance Co., Hartford, Conn.
*Nov. 18, 1921	Perkins, Sanford B., Assistant Secretary, Travelers Insurance Co., Hartford, Conn.
Nov. 15, 1918	tee Corporation, 36 Moorgate, London, E. C. 2, England.
*Nov. 17, 1922	Pinney, Sydney D., Actuary, Compensation and Liability Department, Travelers Insurance Co., Hartford, Conn.
†	Remington, Charles H., Vice-President, Aetna Life Insurance Co., Hartford, Conn.
May 23, 1919	Richardson, Frederick, U. S. Manager, General Accident Fire and Life Assurance Corporation, 421 Walnut St., Philadelphia, Pa.
May 24, 1921	Riegel, Robert, Professor of Insurance, University of Pennsylvania, Philadelphia, Pa.
*Nov. 16, 1923	Roeber, William F., Assistant Actuary, National Council on Compensation Insurance, 151 Fifth Avenue, New York.
†	Rubinow, I. M., Executive Director, Jewish Welfare Society, 330 South Ninth St., Philadelphia, Pa.; Consulting Statistician and Actuary.
Ť	Ryan, Harwood E., Woodward, Fondiller & Ryan, Consulting Actuaries, 75 Fulton St., New York.
†	Scheitlin, E., Assistant Treasurer, Globe Indemnity Co., Washington Park, Newark, N. J.
†	Senior, Leon S., Manager and Secretary, Compensation Inspection Rating Board, 370 Seventh Ave., New York.
Apr. 20, 1917	Smith, Charles G., Manager, State Insurance Fund, 432 Fourth Avenue, New York.
Feb. 25, 1916	Co., 32 Nassau St., New York.
Oct. 22, 1915	Kew, Victoria, Australia.
†	Sullivan, Robert J., Vice-President, Travelers Indemnity Co., Hartford, Conn.
*Nov. 17, 1920	Tarbell, Thomas F., Actuary, Accident and Liability Department, Aetna Life Insurance Co., Hartford, Conn.

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Date Admitted			
May			Thiselton, Herbert C., 50 Beulah Hill, Norwood, London, S. E. 19, England.
	t		Thompson, John S., Assistant Actuary, Mutual Life Insurance Co., 32 Nassau St., New York.
Nov.	18,	1921	
	Ť		Train, John L., Secretary and General Manager, Utica Mutual Insurance Co., 239 Genesee St., Utica, New York.
Nov.	17,	1922	Traversi, Antonio T., Government Insurance Commissioner and Superintendent of National Provident Fund, Box 563, Wellington, New Zealand.
*Nov.	21,	1919	Van Tuyl, Hiram O., Examiner, New York Insurance Department, 165 Broadway, New York.
*Nov.	17.	1920	Waite, Alan W., Aetna Life Insurance Co., Hartford, Conn.
*Nov.	18,	1925	Warren, Lloyd A. H., Assistant Professor of Mathematics, University of Manitoba, Winnipeg, Manitoba, Canada.
May	23,	1919	Welch, Archibald A., President, Phoenix Mutual Life Insurance Co., Hartford, Conn.
	t		Whitney, Albert W., Associate General Manager and Actuary, National Bureau of Casualty & Surety Underwriters, 120 West 42nd St., New York.
	t		Wolfe, Lee J., Consulting Actuary, 165 Broadway, New York.
	t		Wolfe, S. Herbert, Consulting Actuary, 165 Broadway, New York.
May	24,	1921	Wood, Arthur B., Vice-President and Actuary, Sun Life Assurance Company, Montreal, Canada.
	t		Woodward, Joseph H., Woodward, Fondiller & Ryan, Consulting Actuaries, 75 Fulton St., New York.
*Nov.	17,	1920	
	t		Young, William, Actuary, New York Life Insurance Co., 346 Broadway, New York.

## 12

# **ASSOCIATES**

Those marked (\*) have been enrolled as Associates upon examination by the Society.

Those marked (1) or (2) have passed Part I or Part II of the Fellowship Examination.

Exami	nau	on.	
Date 1	Enro	lied	
May	23,	1924	Acker, Milton, Manager, Compensation and Liability Department, National Bureau of Casualty and Surety Underwriters, 120 West 42nd St., New York.
*Nov.	15,	1918	Ackerman, Saul B., Assistant Professor of Insurance, New York University, 32 Waverly Place, New York.
*Nov.	15,	1918	Ankers, Robert E., Secretary and Treasurer, Continental Life Insurance Co., District National Bank Building, Washington, D. C.
(1)*Nov	7.16	,1923	Ault, Gilbert E., Office of Woodward, Fondiller & Ryan, Consulting Actuaries, 75 Fulton St., New York.
*Nov.	17,	1922	Barter, John L., Hartford Accident & Indemnity Co., 430 California St., San Francisco, Calif.
*Oct.	31,	1917	Bessey, John M., Nutley, N. J.
*Nov.	18,	1925	Bittel, William H., University of Michigan, 807 So. State Street, Ann Arbor, Mich.
Nov. 1	7,	1920	Black, Nellas C., Superintendent Statistical Division, Maryland Casualty Co., Baltimore, Md.
*Oct.	22,	1916	Brann, Ralph M., Superintendent Compensation Department, London & Lancashire Indemnity Company of America, 20 Trinity St., Hartford, Conn.
Nov.	15,	1918	Brooks, LeRoy, Statistician, U. S. Fidelity & Guaranty Company, Baltimore, Md.
Nov.	20,	1924	Broughton, Thomas W., Zurich General Accident and Liability Co., 175 W. Jackson Boulevard, Chicago, Ill.
*Nov.	15,	1918	Brunnquell, Helmuth G., Actuary, Wisconsin Insurance Department, Madison, Wis.
*Oct.	22,	1915	Buffler, Louis, District Manager, Utica Mutual Insurance Co., 41 East 42nd St., New York.
*Nov.	20,	1924	Bugbee, James M., Rating Engineer, The Associated Companies, 477 Prospect Ave., Hartford, Conn.
Mar.	31,	1920	Burt, Margaret A., Office of George B. Buck, Consulting Actuary, 25 Spruce Street, New York.
Nov.	17,	1922	Cavanaugh, Leo D., Vice-President and Actuary, Federal Life Insurance Co., 166 N. Michigan Boulevard, Chicago, Ill.
(2)*Nov	.17	,1920	Comstock, W. Phillips, Statistician, London Guarantee and Accident Co., Ltd., 55 Fifth Ave., New York.
*Nov.	18,	1921	Constable, William J., Assistant Secretary, National Council on Compensation Insurance, 151 Fifth Ave., New York.
*Nov.	18,	1925	Crane, Howard G., National Council on Compensation Insurance, 151 Fifth Avenue, New York.
*Nov.	16,	1923	Davis, Evelyn M., Office of Woodward, Fondiller & Ryan, Consulting Actuaries, 75 Fulton St., New York.
*Nov.	18,	1925	Davis, Malvin E., Metropolitan Life Insurance Co., 1 Madison Ave., New York.
May	25,	1923	Economidy, Harilaus E., Assistant Secretary and Comptroller, American Indemnity Co., Galveston, Texas.

	ASSOCIATES.
Date Enrolled	
June 5, 1925	Eger, Frank A., Secretary and Comptroller, Indemnity Insurance Company of North America, Philadelphia, Pa.
Nov. 15, 1918	Egli, W. H., Statistician, Zurich General Accident & Liability Insurance Co., 431 Insurance Exchange, Chicago, Ill.
*Nov. 16, 1923	Fitz, L. Leroy, Assistant Actuary, Massachusetts Insurance Department, State House, Boston, Mass.
*Nov. 16, 1923	Fleming, Frank A., Actuary, American Mutual Alliance, 730 5th Ave., New York.
May 23, 1919	Fletcher, Nicholas, Secretary, Workmen's Compensation Board, Winnipeg, Manitoba, Canada.
*Nov. 18, 1925	Fredrickson, Carl H., Statistician, Canadian Casualty Underwriters Association, 26 Adelaide St., W., Toronto, Canada.
Nov. 20, 1924	Froberg, John, Superintendent, California Inspection Rating Bureau, San Francisco, Calif.
*Nov. 17, 1922	Gibson, Joseph P., Jr., Actuary, Security Mutual Casualty Co., 3236 So. Michigan Ave., Chicago, Ill.
*Nov. 16, 1923	Gildea, James F., Travelers Insurance Co., Hartford, Conn.
*Nov. 17, 1922	Graham, Chas. M., Assistant Actuary, State Insurance Fund, 432 Fourth Avenue, New York.
*Nov. 18, 1921	Haggard, Robert E., Superintendent, Permanent Disability Rating Department Industrial Accident Commission, State Building, Civic Center, San Francisco, Calif.
*Nov. 17, 1922	Hall, Hartwell L., Assistant Actuary, Connecticut Insurance Department, Hartford, Conn.
Nov. 20, 1924	Hall, Leslie L., Secretary, Rating Division, National Council on Compensation Insurance, 151 Fifth Avenue, New York.
*Nov. 18, 1925	Hall, William D., National Bureau of Casualty and Surety Underwriters, 120 West 42nd St., New York.
(¹)Mar.25, 1924	Hart, Ward Van Buren, Assistant Actuary, Connecticut General Life Insurance Co., Hartford, Conn.
*Nov. 16, 1923	Haugh, Charles J., Jr., Assistant Actuary, National Bureau of Casualty & Surety Underwriters, 120 West 42nd St., New York.
Nov. 21, 1919	Haydon, George F., General Manager, Wisconsin Compensation Rating & Inspection Bureau, 481 Broadway, Milwaukee, Wis.
Nov. 18, 1921	Hull, Robert S., Travelers Insurance Co., Hartford, Conn.
*Oct. 31, 1917	Jackson, Edward T., Statistician, General Accident Fire & Life Assurance Corporation, 421 Walnut St., Philadelphia, Pa.
(²)*Nov.18,1921	Jensen, Edward S., Great Republic Life Insurance Co., Los Angeles, Calif.
*Nov. 21, 1919	Jones, Loring D., Claim Auditor, State Insurance Fund, 432 Fourth Ave., New York.
(¹)*Nov.20,1924	Kelton, William H., Assistant Actuary, Life Department, The Travelers Insurance Company, Hartford, Conn.
*Nov. 17, 1922	Kirk, Carl L., Assistant Statistician, Zurich General Accident & Liability Insurance Co., 431 Insurance Exchange, Chicago, Ill.
*Nov. 18, 1925	
*Nov. 18, 1925	

	ASSOCIATES.
Date Enrolled	
(2)*Nov.16,1923	Matthews, Arthur N., Travelers Insurance Co., Hartford,
	Conn.
(¹)*Oct.27, 1916	McClure, Laurence H., Colt's Patent Fire Arms Manufacturing Co., Hartford, Conn.
*Nov. 17, 1922	McIver, Rosswell A., Actuary, U. S. National Life & Casualty Co., 29 South LaSalle St., Chicago, Ill.
(¹)*Nov.17,1922	Michener, Samuel M., Assistant Actuary, Columbus Mutual Life Insurance Co., 580 East Broad St., Columbus, Ohio.
Nov. 17, 1922	Montgomery, John C., Assistant Treasurer, Utilities Mutual Insurance Co., 225 West 34th St., New York.
May 25, 1923	Moore, Joseph P., Vice-President, North American Accident Insurance Company, 275 Craig St. W., Montreal, Canada.
(²)*Nov.21,1919	Mothersill, Roland V., Secretary & Actuary, Compensation Insurance Board, State Capitol, St. Paul, Minn.
(1)*Oct.27,1916	Newell, William, Superintendent Compensation & Liability Department, Sun Indemnity Co., 55 Fifth Ave., New York.
*Nov. 18, 1925	Nicholson, Earl H., Actuarial Department, Lincoln National Life Insurance Company, Ft. Wayne, Ind.
May 23, 1919	Otto, Walter E., Secretary and Treasurer, Michigan Mutual Liability Co., Park Avenue Building, Detroit, Mich.
Nov. 20, 1924	Pennock, Richard M., Actuary, Pennsylvania Manufacturers Association Casualty Insurance Co., Finance Building, Philadelphia, Pa.
*Nov. 17, 1920	Pike, Morris, Examiner, New York Insurance Department, 165 Broadway, New York.
(1)*Nov.17,1922	Poorman, William F., Actuary, Central Life Assurance Society, Fifth and Grand Avenues, Des Moines, Iowa.
(1) Nov. 17, 1922	Powell, John M., Actuary, Columbian National Life Insurance Co., 77 Franklin St., Boston, Mass.
*Nov. 18, 1925	Prenner, Myron R., Actuary, Department of Insurance, Bismarck, North Dakota.
*Nov. 15, 1918	Raywid, Joseph, Vice-President, Underwriters Statistical Bureau, 81 Fulton St., New York.
(¹)*Nov.20,1924	Richter, Otto C., American Telephone & Telegraph Company, 195 Broadway, New York.
*Nov. 21, 1919	Robbins, Rainard B., Assistant Actuary, New York Insurance Department, 165 Broadway, New York.
Nov. 16, 1923	Sawyer, Arthur, Actuary, London Guarantee & Accident Co., 55 Fifth Ave., New York.
*Nov. 20, 1924	Shaw, Victoria E., Michigan Mutual Liability Company, Park Avenue Building, Detroit, Mich.
(¹)*Nov.20,1924	Sheppard, Norris E., Lecturer in Mathematics, University of Toronto, Toronto, Canada.
Nov. 15, 1918	Sibley, John L., Statistician, United States Casualty Co., 80 Maiden Lane, New York.
*Nov. 18, 1925	Skelding, Albert Z., National Council on Compensation Insurance, 151 Fifth Avenue, New York.
*Nov. 18, 1921	Smith, Arthur G., Actuary & Auditor, Compensation Inspection Rating Board, 370 Seventh Ave., New York.
*Nov. 18, 1925	Sommer, Armand, Standard Accident Insurance Co., Insurance Exchange, Chicago, Ill.

Date Enrolled *Nov. 15, 1918	Spencer, Harold S., Aetna Life Insurance Co., Hartford, Conn.
Nov. 20, 1924	Stellwagen, Herbert P., Manager, Automobile Department, National Bureau of Casualty and Surety Underwriters, 120 West 42nd St., New York.
*Nov. 16, 1923	Stoke, Kendrick, National Council on Compensation Insurance, 151 Fifth Ave., New York.
Nov. 15, 1918	Sullivan, Oscar M., Director of Re-education, State Department of Education, St. Paul, Minn.
*Nov. 18, 1925	Tao, Sheng-Han, University of Michigan, 203 South Thayer St., Ann Λrbor, Mich.
Mar. 23, 1921	Thompson, Arthur E., Chief Statistician, Globe Indemnity Co., Washington Park, Newark, N. J.
(¹)*Nov.21,1919	Trench, Frederick H., Manager, Underwriting Department, Utica Mutual Insurance Co., 239 Genesee St., Utica, New York.
*Nov. 20, 1924	Uhl, M. E., National Bureau of Casualty & Surety Underwriters, 120 West 42nd St., New York.
May 25, 1923	Upshur, Arthur B., Actuary, Home Beneficial Association, 900 E. Broad St., Richmond, Va.
May 25, 1923	Vinter, Joseph M., Standard Accident Insurance Co., 640 Temple Ave., Detroit, Mich.
*Nov. 21, 1919	Voogt, Walter G., Comptroller, State Compensation Insurance Fund, State Building, Civic Center, San Francisco, Calif.
(¹)*Oct.27,1916	Waite, Harry V., Statistician, Compensation & Liability Department, Travelers Insurance Co., Hartford, Conn.
May 23, 1919	Warren, Charles S., Chief Statistician, Ocean Accident & Guarantee Corporation, 1 Park Ave., New York.
Nov. 18, 1925	Washburn, James H., Consulting Actuary, 165 Broadway, New York.
(1)*Nov.18,1921	Waters, Leland L., Actuary, National Accident Insurance Co., Lincoln, Neb.
Nov. 17, 1920	Watson, James J., Assistant Secretary and Business Administrator, Michigan Mutual Liability Company, Detroit, Mich.
*Nov. 18, 1921	Welch, Eugene R., Secretary, Associated Industries Insurance Corporation, Wells Fargo Bldg., San Francisco, Calif.
*Nov. 18, 1925	Wellman, Alexander C., Royal Union Life Insurance Co., Des Moines, Ia.
*Nov. 16, 1923	Wetherald, Dorothy, 4631 Sansom St., Philadelphia, Pa.
Mar. 23, 1921	Wheeler, Roy A., Vice-President and Actuary, Liberty Mutual Insurance Company, Park Square Building, Boston, Mass.
Nov. 15, 1918	Wilkinson, Albert E., Statistician, Standard Accident Insurance Co., Detroit, Mich.
Sept. 17, 1919	Williams, John F., Actuary, Division of Insurance, State Department of Trade, Springfield, Ill.
*Oct. 22, 1915	Williamson, William R., Assistant Actuary, Life Department, Travelers Insurance Co., Hartford, Conn.

	ASSOCIATES.
Date Enrolled	
*Oct. 22, 1915	Wood, Donald M., Childs, Young & Wood, General Agents, Independence Indemnity Company, 175 W. Jackson Blvd., Chicago, Ill.
*Oct. 22, 1915	Woodman, Charles E., Comptroller, Ocean Accident & Guarantee Corporation, 1 Park Ave., New York.
*Nov. 18, 1925	Woolery, James M., Protective Life Insurance Co., Birmingham, Ala.
*Nov. 17, 1922	Young, Floyd E., Assistant Actuary, Western Union Life Insurance Company, 1023 Riverside Avenue, Spokane, Washington.

# SCHEDULE OF MEMBERSHIP, NOVEMBER 18, 1925.

Fellows	Associates	Total
159	87	246
2 2 1	_ 	2 4 1
154	85	239
<u>1</u> 2	1 1 14	2 1 16
157	101	258
	2	2
157	99	256
	159 2 2 1 154 154 1 2 157 —	159 87 2 2 1 2 1 54 85 1 1 2 14 157 101 — 2

## **EX-PRESIDENTS AND EX-VICE-PRESIDENTS**

## **EX-PRESIDENTS**

	Term
I. M. Rubinow	.1914-1916
JAMES D. CRAIG	1916-1918
JOSEPH H. WOODWARD	1918-1919
Benedict D. Flynn	.1919-1920
ALBERT H. MOWBRAY	1920-1922
HARWOOD E. RYAN	. 1922-1923
WILLIAM LESLIE	1923-1924
EX-VICE-PRESIDENTS	
•	Term
George D. Moore	. 1918-1920
LEON S. SENIOR	1920-1922
G. F. MICHELBACHER	1922-1924
EDMUND E. CAMMACK	1922-1924

## **DECEASED MEMBERS**

All of the following were Fellows with the exception of those marked \* who were Associates.

Date of Death	I
Feb. 10, 1920	*Baxter, Don. A., Deputy Insurance Commissioner, Michigan Insurance Department, Lansing, Michigan.
Feb. 4, 1920	Case, Gordon, Office of F. J. Haight, Consulting Actuary, Indianapolis, Ind.
July 23, 1921	Conway, Charles T., Vice-President, Liberty Mutual Insurance Co., Boston, Mass.
Jan. 20, 1922	Craig, James McIntosh, Actuary, Metropolitan Life Insurance Co., New York.
Sept. 2, 1921	Crum, Frederick S., Assistant Statistician, Prudential Insurance Co., Newark, N. J.
July 9, 1922	Downey, Ezekiel Hinton, Compensation Actuary, Pennsylvania Insurance Department, Harrisburg, Pa.
Oct. 30, 1924	Fackler, David Parks, Consulting Actuary, New York.
Aug. 22, 1925	Gaty, Theodore E., Vice-President and Secretary, Fidelity & Casualty Co., New York.
Mar. 10, 1924	Hookstadt, Carl, Expert, U. S. Bureau of Labor Statistics, Washington, D. C.
Oct. 15, 1918	Kime, Virgil Morrison, Actuary, Casualty Departments, Travelers Insurance Co., Hartford, Conn.
Dec. 20, 1920	Lubin, Harry, Assistant Actuary, State Industrial Commission, New York.
Aug. 20, 1915	Montgomery, William J., State Actuary, Boston, Mass.
July 24, 1915	Phelps, Edward B., Editor, The American Underwriter, New York.
July 30, 1921	Reiter, Charles Grant, Assistant Actuary, Metropolitan Life Insurance Co., New York.
Feb. 26, 1921	Saxton, Arthur F., Chief Examiner of Casualty Companies, New York Insurance Department, New York.
May 9, 1920	Stone, John T., President, Maryland Casualty Co., Baltimore, Md.

## **STUDENTS**

## Part I only

Arnot, Raymond A., Secretary-Assistant Treasurer, Bankers National Life Insurance Company of Florida, Herkimer Building, Jacksonville, Fla.

BATEMAN, A. E., Liberty Mutual Insurance Co., Park Square Bidg., Boston, Mass.

CAMERON, JOHN L., Travelers Insurance Co., Hartford, Conn.

CHEN, S. T., 402 Benjamin St., Ann Arbor, Mich.

CONROD, S. F., Great-West Life Assurance Co., Winnipeg, Canada.

GRAVES, I. H. (Miss), Board of Estimate and Apportionment, Municipal Bldg., New York.

Hall, Grace G. (Miss), American Telephone and Telegraph Co., 195 Broadway, New York.

HALL, LAWRENCE L., 124 Grant Avenue, Jersey City, N. J.

Hondorp, P., 425 S. Division St., Ann Arbor, Mich.

IRWIN, J. C. W., Guardian Life Insurance Company, 50 Union Square, New York.

Louis, P. H., 811 Catherine St., Ann Arbor, Mich.

MILLER, H. C., Assistant Comptroller, State Compensation Insurance Fund, State Building, San Francisco, Calif.

NEWHALL, K., 55 Imlay Street, Hartford, Conn.

OVERHOLSER, D. M., Woodward, Fondiller and Ryan, 75 Fulton St., New York.

RAIFORD, T. E., 1512 Granger Ave., Ann Arbor, Mich.

ROBINSON, E. E., National Bureau of Casualty and Surety Underwriters, 120 West 42nd Street, New York.

ROCKWELL, C. P., Houston, Texas.

SKILLINGS, E. S., Utilities Mutual Insurance Co., 225 West 34th St., New York.

#### Part 2 only

CARTER, R. B. (Miss), State Compensation Insurance Fund, State Building, San Francisco, Calif.

Christensen, J., Examiner, New York Insurance Dept., 165 Broadway, New York.

MASTERSON, N. E., Statistician, Hardware Mutual Casualty Co., Stevens Point, Wis.

SCHLIER, C. L., Travelers Insurance Co., Hartford, Conn.

URE, A. G., Hartford Accident and Indemnity Co., 441 California St., San Francisco, Calif.

## CONSTITUTION

(As Amended June 5, 1925.)

ARTICLE I .-- Name.

This organization shall be called the Casualty Actuarial Society.

ARTICLE II.—Object.

The object of the Society shall be the promotion of actuarial and statistical science as applied to the problems of casualty and social insurance by means of personal intercourse, the presentation and discussion of appropriate papers, the collection of a library and such other means as may be found desirable.

The Society shall take no partisan attitude, by resolution or otherwise, upon any question relating to casualty or social insurance.

ARTICLE III .- Membership.

The membership of the Society shall be composed of two classes, Fellows and Associates. Fellows only shall be eligible to office or have

the right to vote.

The Fellows of the Society shall be the present members and those who may be duly admitted to Fellowship as hereinafter provided. Any Associate of the Society may apply to the Council for admission to Fellowship. If the application shall be approved by the Council with not more than three negative votes the Associate shall become a Fellow on passing such final examination as the Council may prescribe. Otherwise no one shall be admitted as a Fellow unless recommended by a duly called meeting of the Council with not more than three negative votes followed by a three-fourths ballot of the Fellows present and voting at a meeting of the Society.

Any person may, upon nomination to the Council by two Fellows of the Society and approval by the Council of such nomination with not more than one negative vote, become enrolled as an Associate of the Society provided that he shall pass such examination as the Council may prescribe. Such examination may be waived in the case of a candidate who for a period of not less than two years has been in responsible charge of the statistical or actuarial department of a casualty insurance organization or has had such other practical experience in casualty or social insurance as in the opinion of the Council renders him qualified for Associateship.

ARTICLE IV .-- Officers and Council.

The officers of the Society shall be a President, two Vice-Presidents, a Secretary-Treasurer, an Editor, and a Librarian. The Council shall be composed of the active officers, nine other Fellows and, during the four years following the expiration of their terms of office, the ex-Presidents and ex-Vice-Presidents.

#### CONSTITUTION.

## ARTICLE V.—Election of Officers and Council.

The President, Vice-Presidents, and the Secretary-Treasurer shall be elected by a majority ballot at the annual meeting for the term of one year and three members of the Council shall in a similar manner, be annually elected to serve for three years. The Editor and the Librarian shall be elected annually by the Council at the Council meeting preceding the annual meeting of the Society. They shall be subject to confirmation by majority ballot of the Society at the annual meeting.

The terms of the officers shall begin at the close of the meeting at which they are elected except that the retiring Editor shall retain the powers and duties of office so long as may be necessary to complete the then current issue of *Proceedings*.

## ARTICLE VI.—Duties of Officers and Council.

The duties of the officers shall be such as usually appertain to their respective offices or may be specified in the by-laws. The duties of the Council shall be to pass upon candidates for membership, to decide upon papers offered for reading at the meetings, to supervise the examination of candidates and prescribe fees therefor, to call meetings, and, in general, through the appointment of committees and otherwise, to manage the affairs of the Society.

## ARTICLE VII.—Meetings.

There shall be an annual meeting of the Society on such date in the month of November as may be fixed by the Council in each year, but other meetings may be called by the Council from time to time and shall be called by the President at any time upon the written request of ten Fellows. At least two weeks notice of all meetings shall be given by the Secretary.

## ARTICLE VIII .- Quorum.

Seven members of the Council shall constitute a quorum. Twenty Fellows of the Society shall constitute a quorum.

## ARTICLE IX.—Expulsion or Suspension of Members.

Except for non-payment of dues no member of the Society shall be expelled or suspended save upon action by the Council with not more than three negative votes followed by a three-fourths ballot of the Fellows present and voting at a meeting of the Society.

## ARTICLE X.—Amendments.

This constitution may be amended by an affirmative vote of twothirds of the Fellows present at any meeting held at least one month after notice of such proposed amendment shall have been sent to each Fellow by the Secretary.

## **BY-LAWS**

(As Amended June 5, 1925.)

ARTICLE I.—Order of Business.

At a meeting of the Society the following order of business shall be observed unless the Society votes otherwise for the time being:

- 1. Calling of the roll.
- 2. Address or remarks by the President.
- 3. Minutes of the last meeting.
- 4. Report by the Council on business transacted by it since the last meeting of the Society.
- 5. New membership
- 6. Reports of officers and committees.
- 7. Election of officers and Council (at annual meetings only.)
- 8. Unfinished business.
- 9. New business.
- 10. Reading of papers.
- 11. Discussion of papers.

ARTICLE II .- Council Meetings.

Meetings of the Council shall be called whenever the President or three members of the Council so request, but not without sending notice to each member of the Council seven or more days before the time appointed. Such notice shall state the objects intended to be brought before the meeting, and should other matter be passed upon, any member of the Council shall have the right to re-open the question at the next meeting.

ARTICLE III .- Duties of Officers.

The President, or, in his absence, one of the Vice-Presidents, shall preside at meetings of the Society and of the Council. At the Society meetings the presiding officer shall vote only in case of a tie, but at the Council meetings he may vote in all cases.

The Secretary-Treasurer shall keep a full and accurate record of the proceedings at the meetings of the Society and of the Council,

## BY-LAWS.

send out calls for the said meetings, and, with the approval of the President and Council, carry on the correspondence of the Society. Subject to the direction of the Council, he shall have immediate

charge of the office and archives of the Society.

The Secretary-Treasurer shall also send out calls for annual dues and acknowledge receipt of same; pay all bills approved by the President for expenditures authorized by the Council of the Society; keep a detailed account of all receipts and expenditures, and present an abstract of the same at the annual meetings, after it has been audited by a committee of the Council.

The Editor shall, under the general supervision of the Council, have charge of all matters connected with editing and printing the Society's publications. The *Proceedings* shall contain only the proceedings of the meetings, original papers or reviews written by members, discussions on said papers and other matter expressly authorized by the Council.

The Librarian shall, under the general supervision of the Council, have charge of the books, pamphlets, manuscripts and other literary or scientific material collected by the Society.

## ARTICLE IV.—Dues.

The dues shall be ten dollars for Fellows and five dollars for Associates payable upon entrance and at each annual meeting thereafter, except in the case of Fellows not residing in the United States, Canada, or Mexico, who shall pay five dollars at the times stated. The payment of dues will be waived in the case of Fellows or Associates who have attained the age of seventy years.

It shall be the duty of the Secretary-Treasurer to notify by mail any Fellow or Associate whose dues may be six months in arrears, and to accompany such notice by a copy of this article. If such Fellow or Associate shall fail to pay his dues within three months from the date of mailing such notice, his name shall be stricken from the rolls, and he shall thereupon cease to be a Fellow or Associate of the Society. He may, however, be reinstated by vote of the Council, and upon payment of arrears of dues.

#### ARTICLE V.—Amendments.

These by-laws may be amended by an affirmative vote of twothirds of the Fellows present at any meeting held at least one month after notice of the proposed amendment shall have been sent to each Fellow by the Secretary.

## EXAMINATION REQUIREMENTS.

## SYLLABUS OF EXAMINATIONS

#### SUBJECTS

Associateship: (Part I: Sections 1 to 4; Part II: Sections 5 to 8)

- Section 1. Advanced algebra
- Section 2. Compound interest and annuities certain
- Section 3. Descriptive and analytical statistics
- Section 4. Elements of accounting, including double-entry bookkeeping
- Section 5. Finite differences
- Section 6. Differential and integral calculus
- Section 7. Probabilities
- Section 8. Elements of the theory of life contingencies; life annuities; life assurances
- FELLOWSHIP: (Part I: Sections 9 to 12; Part II: Sections 13 to 16)
- Section 9. Policy forms and underwriting practice in casualty insurance
- Section 10. Investments of insurance companies
- Section 11. Insurance law and legislation
- Section 12. Economics of insurance
- Section 13. Calculation of premiums and reserves for casualty (including social) insurance
- Section 14. Advanced practical problems in casualty (including social) insurance statistics
- Section 15. Advanced problems and practical methods of casualty insurance accounting
- Section 16. Advanced problems in underwriting, administrative and service elements of casualty (including social) insurance

## **EXAMINATION REQUIREMENTS.**

# RULES REGARDING EXAMINATIONS FOR ADMISSION TO THE SOCIETY

(As Amended November 17, 1925)

The Council adopted the following rules providing for the examination system of the Society:

- 1. Examinations will be held on the first Wednesday and Thursday during the month of May in each year in such cities as will be convenient for three or more candidates.
- 2. Application for admission to examination should be made on the Society's blank form, which may be obtained from the Secretary-Treasurer. No applications will be considered unless received before the first day of March preceding the dates of examination.
- 3. A fee of \$5.00 will be charged for admission to examination. This fee is the same whether the candidate sits for one or two parts and is payable for each year in which the candidate presents himself. Examination fees are payable to the Secretary-Treasurer and must be in his hands before the first day of March preceding the dates of examination.
- 4. The examination for Associateship consists of two parts. No candidate will be permitted to present himself for Part II unless he has previously passed in Part I or takes Parts I and II in the same year. If a candidate takes both parts in the same year and passes in one and fails in the other, he will be given credit for the part passed. Upon the candidate having passed both Parts I and II he will be enrolled as an Associate, provided he presents evidence of at least one year experience in actuarial, accounting or statistical work in casualty insurance offices or in the teaching of casualty insurance science at a recognized college or university, or other evidence of his knowledge of the actuarial, accounting and statistical work of casualty insurance offices as is satisfactory to the Council.
- 5. In the case of applicants in the following classes, the Council may, upon receipt of satisfactory evidence that applicants are within the terms of this rule, waive the passing of both Parts I and II of the Associateship Examination. Such applicants may become Associates upon passing Part I of the

## EXAMINATION REQUIREMENTS.

Fellowship Examination, and may be admitted as Fellows by examination, provided they subsequently pass Part II of the Fellowship Examination.

- (a) Casualty insurance men not less than thirty years of age who have been in the business a number of years and who have attained responsible actuarial, statistical, accounting or semi-executive positions.
- (b) Fellows and Associates by examination of the Actuarial Society of America or of the American Institute of Actuaries.
- 6. The examination for Fellowship is divided into two parts. No candidate will be permitted to present himself for Part II unless he has previously passed in Part I or takes Parts I and II in the same year. If a candidate takes both parts in the same year and passes in one and fails in the other, he will be given credit for the part passed.
- 7. As an alternative to the passing of Part II of the Fellowship examination, a candidate may elect to present an original thesis on an approved subject relating to casualty or social insurance. Candidates electing this alternative should communicate with the Secretary-Treasurer as to the approval of the subject chosen. All theses must be in the hands of the Secretary-Treasurer before the first Thursday in May of the year in which they are to be considered. Where Part I of the Fellowship examination is not taken during the same year, no examination fee will be required in connection with the presentation of a thesis. All theses submitted are, if accepted, to be the property of the Society and may, with the approval of the Council, be printed in the *Proceedings*.

EXAMINATION COMMITTEE
PAUL DORWEILER - - - CHAIRMAN

IN CHARGE OF ASSOCIATESHIP EXAMINATIONS

A. W. WAITE, CHAIRMAN WILLIAM F. ROEBER HARMON T. BARBER IN CHARGE OF FELLOWSHIP EXAMINATIONS JAMES S. ELSTON, CHAIRMAN JAMES D. MADDRILL EMMA C. MAYCRINK

## **EXAMINATION FOR ENROLLMENT AS ASSOCIATE**

#### PART I

- 1. Solve
  - (a)  $\frac{1}{x} \frac{1}{y} = \frac{1}{5}$  $5\left(\frac{5}{13x^2} + \frac{5}{13y^2}\right) = 1$
  - (b)  $x^4 + x^2y^2 + y^4 = 2613$  $x^2 + xy + y^2 = 67$
- 2. A cistern can be filled by two pipes in 66% minutes; if the larger pipe takes 30 minutes less than the smaller to fill the cistern find in what time it will be filled by each pipe singly.
- 3. A broker bought a number of \$100 shares when they were a certain per cent below par for \$8500. He afterwards sold all but 20, when they were same per cent above par for \$9200. How many shares did he buy and what did he pay for each share?
- 4. (a) The 12th term of an Harmonical Progression is 1/5 and the 19th is 3/22. Write the first three terms of the series.
  - (b) Find 14th term of  $(3 a)^{15}$

5. Journalize, i. e., display in their debit and credit relations, the following transactions:

Premiums written, \$12,500. Premiums paid, \$9800 less Commissions \$2,450. Return Premiums, \$1000. Commissions on returned premiums charged back to agents, \$250. Claims paid, \$15,000, of which \$5,000 is covered by reinsurance. Sold bonds with book value of \$50,000 for \$51,400 and \$1,000 accrued interest. Paid salaries, \$20,000. Charged operation with rent on company's own building, \$15,000.

- 6. Draw a form for a Voucher Register providing columns for five classes of disbursements. Explain the operation of the voucher system provided for in the form drawn.
- 7. (a) Enumerate and explain briefly three methods of smoothing statistical data.
  - (b) What are the "rules for the preservation of areas" and when do they apply?
- 8. With reference to the tabulation of representative data discuss the error of random sampling and the importance of the data being homogeneous.
- 9. Given log 648 = 2.81157, log 864 = 2.93651. Find logs of 3 and 5.
- 10. (a) A man puts \$100 into a savings bank at the end of every year for 3 years. If the bank pays 4% payable annually, what will his savings amount to at the end of the 3 years?
  - (b) Suppose \$50 is deposited semi-annually and the savings bank pays interest twice a year at nominal rate .04; to what would the savings in (a) amount?
- 11. The coefficients of the 5th, 6th and 7th terms of the expansion of  $(1+x)^n$  are in arithmetical progression. Find "n."

- 12. Develop working formulas for (a) The effective rate of interest in terms of the nominal rate; i. e., effective rate of interest in terms of nominal rate j payable m times a year.
  (b) The amount of an annuity of 1 per annum payable annually for n years.
- 13. Explain briefly nature and purpose of any five of the following:

Balance Sheet
Comparative Statement
Adjustment Entries
Subsidiary Books
Income and Expense Statement
Business Papers

- 14. An insurance company keeps its books on a written basis. What forms of reports will it require from its agents? What means can it adopt to guard against fraud on the part of its agents in the issuing of policies and the collection of premiums?
- 15. (a) Define geometric mean. Outline a practical way of determining the geometric mean of a frequency distribution.
  - (b) What is a weighted arithmetic mean? Illustrate.
- 16. Describe briefly four main classes of graphic representation giving practical examples of use of each.

## PART II

Any one of Questions 6 to 9 inclusive should be omitted.

- 1. From nine men and five women a committee of eight is to be formed. In how many ways can this be done;
  - (a) when the committee contains exactly three women,
  - (b) at least three women?
- 2. There are three events "a," "b" and "c" of which one must happen and only one can happen. Odds are 3 to 8 on "a" and 2 to 5 on "b." What are odds on "c"?

3. An index of average weekly wages by calendar years for the period 1918-1924 inclusive using 1921 as base is desired. The purpose of the index is to show wage trend over the period in question. The following data are available:

Calendar Period	No. of Em- ployees	Average Weekly Wage	Calendar Period	No. of Em- ployees	Average Weekly Wage
1-1-18 to 6-30-18	3,275	20.83	7-1-21 to 12-31-21	3,475	26.07
7-1-18 to 12-31-18	3,400	21.74	1-1-22 to $6-30-22$	3,150	25.00
1-1-19 to 6-30-19	3,800	22.02	7-1-22 to 12-31-22	2,975	24.58
7-1-19 to 12-31-19	3,625	25.80	1-1-23 to 6-30-23	3,025	24.70
1-1-20 to 6-30-20	4,200	26.70	7-1-23 to 12-31-23	3,150	24.68
7-1-20 to 12-31-20	4,250	30.45	1-1-24 to 6-30-24	3,200	24.75
<b>1-1-21</b> to 6-30-21	3,750	28.30	7-1-24 to 12-31-24	3,225	25.00

- (a) In solving this problem would you use a weighted or simple average? Give reasons for your answer.
- (b) For purposes of illustration construct the indices for calendar years 1923 and 1924 using 1921 as a base in accordance with your answer to Part (a) of this question.
- 4. Which of the items listed below are
  - 1. Ledger Assets
  - 2. Non-Ledger Assets
  - 3. Non-Admitted Assets
    - (a) Market Value of Bonds and Stocks over Book Value?
    - (b) Premiums in Course of Collection (Gross Amount)?
    - (c) Premiums in Course of Collection effective prior to October 1 of the year of statement?
    - (d) Bills Receivable?
    - (e) Book Value of Real Estate over Market Value?
    - (f) Loans on Company's Stock?
    - (g) Accrued Interest on Collateral Loans?
- 5. (a) Discuss the unsatisfactory aspects of the present means of redress available to an injured employee in Missouri as contrasted with New York State.
  - (b) What are the limitations imposed by law on casualty insurance companies with respect to the largest single amount of insurance which may be written on (a) a fidelity or surety bond (b) a compensation insurance policy.

Answer three of the next four questions.

- 6. (a) State in your own words the insuring clause of a standard accident insurance policy.
  - (b) Discuss the propriety of writing the following prospects for health insurance:
    - 1. Professional Musician
    - 2. Waiter
    - 3. Retired business man
    - 4. Electrician—Lineman
    - 5. Caisson Worker
- 7. You are designated as a home office representative to accompany an agent of a multiple line casualty company in an interview with an influential proprietor of a combined automobile sales agency and garage to discuss fully the prospect's casualty insurance needs from both a personal and business standpoint. The business of the prospect is located in a three-story building in a downtown section of a large city. The ground floor is devoted to salesroom, office and general garage work. The second floor is used as an assembling room for new cars and for general repair work while a machine shop used in connection with repairs is located on the top floor. The prospect also owns a home in the residential section of the city.
  - (a) Make a list of at least fifteen policies you should be prepared to discuss with the prospect.
  - (b) Outline briefly the coverage of five of these policies as you would explain it to the prospect.
- 8. Name some of the more essential elements to be considered in underwriting (a) a Fidelity Bond; (b) a Surety Bond.
- 9. (a) An assured carrying a public liability policy providing \$10,000/20,000 limits is involved in an accident in which one person is killed and another injured. The estate of the person killed is successful in getting a judgment of \$15,000 against the assured whereas the injured party gets a verdict of \$5,000, or in other words, a total verdict of \$20,000 is rendered by reason of this accident. For how much would the company providing the insurance be responsible?

- (b) If in the above accident a third person had been injured and had secured an award of \$10,000, for how much would the company have been liable?
- 10. Three men toss a coin in succession for a prize which is to be given to the first to get "heads". Find their respective chances.
- 11. There are 3 works, one consisting of 3 volumes, one of 4 volumes and the other of 1 volume. They are placed on a shelf at random. What is the chance that volumes of the same work are together?
- 12. The Legislature of a certain state has passed a law changing the annual registration fee for motor vehicles from a flat amount per vehicle per year to a system of fees proportional to the weight of the vehicle. The budget for the succeeding year determines the total amount of revenue which must be raised through registration fees. The registration records of the previous several years are available. Describe in detail how you would determine the scale of fees which would yield the necessary revenue.
- 13. Describe the general form and state the purpose of three of the following:

Schedule W Schedule Z Schedule P-Part II New York Casualty Exhibit

- 14. Answer either Part (a) or Part (b)
  - (a) Discuss the insurance carrier's liability in the following case:

An automobile dealer held an insurance policy covering him against theft, robbery, or pilferage. A mechanic named Cole was robbed of his check-book and union card by a swindler who went to the automobile dealer and represented himself as Cole with the aid of the check-book and union card. The swindler tendered a check after banking hours as the first installment in payment of a car, which by written agreement was not to be removed outside the

county. The dealer telephoned the bank and was assured that the check was good for the amount drawn. The swindler was given possession of the car, with which he immediately disappeared.

(b) An employer operating under the Compensation Law of a certain state is fostering a baseball team among his employes. While playing baseball on his employer's team, an employee is injured. If the game were played on a holiday, i. e., other than during regular working hours, would the employee be entitled to Compensation for his injury? Give reason for your answer.

Answer three of the next four questions.

- 15. What information regarding applicants is necessary in underwriting Accident and Health Insurance?
- 16. In what respect does a plate glass insurance policy differ from other indemnity policies? Discuss the advantage or disadvantage of an insurance carrier having its plate glass business concentrated in one locality.
- 17. Outline the forms of coverage needed by a contractor erecting a 10-story reinforced concrete building in (a) New York, (b) North Carolina, to protect him against claims brought by employees and public. (c) What additional coverage would he require if he subcontracted part of the work?
- 18. What would be your reaction as an underwriter to the following Compensation risk?

General Contractor

Premium for 4 years—\$4,000.

Losses for same period—\$4,500, made up of the following:

Fatality \$3,000 (fell off roof)

Loss of hand 500 (infection following a cut

on finger)

Miscellaneous 1,000 (made up of indemnity and medical on accidents common to class of operations

conducted)?

## EXAMINATION FOR ADMISSION AS FELLOW

#### PART I

- 1. (a) Solve xy + ab = 2 ax.  $x^2 y^2 + a^2 b^2 = 2b^2 y^2$ .
  - (b) Prove that the roots of the following equation are rational provided a, b, and c are rational  $(a + c b) x^2 + 2cx + (b + c a) = 0.$
- 2. (a) Find the coefficient of  $x^n$  in the expansion of  $\frac{2+x+x^2}{(1+x)^3}$ .
  - (b) Prove by mathematical induction that  $2 + 2^2 + 2^3 + \ldots + 2^n = 2(2^n 1)$ .
- 3. (a) Find the value of  $\frac{1}{2} \frac{1}{22} + \frac{1}{22} \frac{1}{323} \frac{1}{424} + \frac{1}{525} \dots$ 
  - (b) Determine for which values of x the following series is divergent and for which it is convergent

$$1 + \frac{2}{5} x + \frac{6}{9} x^2 + \frac{14}{17} x^3 + \dots + \frac{2^n - 2}{2^n + 1} x^{n-1} + \dots$$

4. (a) Find by the method of undetermined coefficients the sum of  $1^2 + 3^2 + 5^2 + 7^2 + \dots$  to *n* terms.

(b) If 
$$y = a^{\frac{1}{\sqrt{a^2-x^2}}} + \frac{x(1+x^2)}{\sqrt{1-x^2}} + x^{\frac{1}{\log x}}$$
, find  $\frac{dy}{dx}$ .

- 5. (a) If  $\log (u + v) = u v$ , find  $\frac{d^2v}{du^2}$  in terms of u and v.
  - (b) Derive Maclaurin's Theorem and by means of it expand  $a^x$  to four terms.

6. (a) If 
$$y = \frac{x^2}{(a^2 + x^3)^{\frac{1}{2}}} + e^{x^3 + 4x + 3} (x + 2)$$
, find  $\int y \, dx$ .

(b) Find 
$$\int \frac{y^2 dy}{y^3 + 5y^2 + 8y + 4}$$
.

- 7. (a) The values of a function are 150, 392, 1,452, 2,366 and 5,202 corresponding to the values of the argument 5, 7, 11, 13, 17 respectively. Apply the Lagrange formula to find the value of the function when the argument has the value 9.
  - (b) Obtain the first six terms of the series for which

$$3 u_0^2 = \Delta u_0$$
.

$$3 u_0 = 5 - 2 \Delta u_1$$

 $3 u_1 = 11 - \Delta u_2$ , assuming second differences constant.

- 8. (a) The following are the populations for three consecutive quinquennial age groups; 44,132, 41,922, and 39,387. Find the population for the middle individual age group.
  - (b) Derive a formula expressing the  $n^{th}$  term of a series in terms of the first term and its differences.
- 9. (a) Discuss the characteristics and relative advantages of the (1) arithmetic mean, (2) mode, (3) median, (4) geometric mean, (5) harmonic mean.
  - (b) Explain the general principles underlying the method of least squares.
- 10. From the following data draw a diagram illustrating graphically the correlation between the length and breadth of shells. What is meant by coefficients of correlation and to what extent are they of use in statistical investigations? Outline the method of finding the coefficient of correlation between the length and breadth of the shells whose measurements are tabulated.

#### LENGTH OF SHELLS

		1.0	1.3	1.6	1.9	2.2	2.5	2,8	3.1	3.4	<b>3.7</b>	4.0	4.3
	.7	1	1										
	. 8		1										
	. 9		1	2									
	1.0			3	2	1							
	1.1				6	1	1						
Ę	1.2					1	1	1					
Æ	1.3					1	3	2	1				
of Shells	1.4						4	3	1				
	1.5							4	7	2			
Breadth	1.6							1	7	2			
Ě	1.7								6	8	3	1	
щ	1.8									1	4	1	
	1.9									1	3	1	
	2.0										2	2	
	2.1											2	3
	2.2												1

11. (a) Calculate the standard deviation in the case of the following analysis of weight of women

Weight	170	165	160	155	150	145	140	135
No. of Individuals	1	1	3	3	10	20	30	45
Weight								
No. of Individuals	75	85	55	50	25	6	3	

- (b) Give one form of the equation of the normal curve of error or Gauss' probability curve, explaining the constants involved.
- 12. (a) Assume that from the experience of your company you have obtained a mortality table showing the number living at each age according to your experience on widows awarded compensation benefits. Explain exactly how you would construct the ordinary commutation columns for this table.
  - (b) What is meant by the Law of Uniform Seniority and under what conditions does it hold?
- 13. A widow age 35 has a son age 10 and a daughter age 8. Find expressions in terms of  $_np_x$  and corresponding functions for the following probabilities.
  - (a) that at least one of the family is alive at the end of 10 years.
  - (b) that only the widow will be alive at the end of 10 years.

- (c) that the widow will die in the tenth year and the children survive that year.
- (d) that the widow will survive 10 years but that at least one child will die within 10 years.
- (e) that at least one of the family dies within 10 years.
- 14. If death benefits of a Workmen's Compensation law provide 30% of the deceased's wages as long as the widow survives, and also 10% to each child until age 18 while the mother survives but increased to 15% if the mother dies, obtain an expression in terms of life and temporary life annuities for the present value of the benefits at death where the wage was \$1,500 per annum and the dependents were a widow age 35 and children 5, 7 and 10 respectively.
- 15. (a) Discuss the economic aspects of self-insurance under Workmen's Compensation laws.
  - (b) Discuss coverage of occupational diseases under Workmen's Compensation laws from the social insurance and economic viewpoints, both as to theory and actual practise in the United States and Europe.
- 16. Discuss Compulsory Automobile Insurance as a plan of social insurance.

#### PART II

- (a) Describe briefly upon what data each of two accident tables, which have been used in the compilation of country-wide rate-making data for Workmen's Compensation Insurance, was based.
  - (b) Outline a plan for collecting and tabulating data for a table which could be used in place of these tables, giving in particular the extent and scope of the investigation which would be necessary.
- 2. (a) In connection with the recent National Council revision of the Workmen's Compensation rates it was stated that companies were failing to collect full premiums because of understated payrolls in some classifications or underestimated advance premiums. If this were universally true, what would be the effect (a) on pure premiums shown in schedule "Z"; (b) on loss ratios used in the projection factors; (c) on adjusted rates computed from experience rating data?

- (b) A reinsurance company offers to pay your company's excess liability losses, either (a) over 5/10 for 60% of the excess premium your company has written therefor, or (b) over 10/20 for 50% of the excess premium written for the latter limits. What analysis would you make to determine which treaty to accept?
- 3. Give the principal features of an Automobile Liability statistical plan, showing the items in the punch cards to be used in connection with this plan, and sketching the skeleton form of a schedule for reporting statistical information for ratemaking.
- 4. The New York Casualty Experience Exhibit provides for a report of expenses by lines of insurance and divisions of expense. Assuming that the accounting records show no separation of general administration expenses by lines, discuss what methods you might follow in making an analysis by lines of insurance.

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- 5. (a) Pure premiums for Workmen's Compensation Insurance were based on the year 1920. In the multipliers used to project this experience in rates to be effective in 1925 no wage factor was introduced. What conditions would justify the omission of this factor? If a wage factor had been introduced, what, if any, would be the objections to the use of a flat factor?
  - (b) Outline briefly the basis of premiums in Steam Boiler Insurance.
- 6. (a) Review briefly the basic National Council manual for Workmen's Compensation Insurance, giving the source of the rates and stating how the classifications are divided into groups.
  - (b) Discuss the question of whether there should be few classifications including a large number of risks or a larger number of classifications. Which of these views governed in the selection of classifications for the present manual?

- 7. (a) What important factors are to be considered in establishing scientific rates for Plate Glass Insurance? What statistical information is necessary?
  - (b) It is suggested that sickness benefits represented by the following formula would be suitable:

$$P = \frac{10 \left\{ (K_x^{12} - K_x^3) - (K_{70}^{12} - K_{70}^3) \right\}}{12 \bar{a}_{x: 70-x} D_x}$$

Explain the meaning of the various functions involved and analyze the coverage and premium payments contemplated.

- Discuss the rationale of Schedule P determination of reserves for unpaid losses for each of the last four policy years

   for Liability, (2) for Workmen's Compensation Insurance. Discuss reasons for the principal change in the 1924 Convention Statement Schedule P for Workmen's Compensation.
  - 9. A company writes accident business for six months—October 1, 1924, to April 1, 1925. All premiums are paid on the annual basis. There are no lapses prior to June 30, 1925, upon which date all the business is to be reinsured on a 20% commission basis. The commission paid by the company to its agents for business of January, February, and March, 1925, amounted to \$1,117. The premiums during the six months were as follows:

October \$ 720	January\$2,400
November 1,200	February 1,800
December 3,600	March 1,200

making a total of \$10,920 of premiums in force as of June 30. What entry should be made in the books, giving the amount of each entry to cover reinsurance transactions? What entries should be made on the income page and the disbursements page of the Annual Statement for 1925 to show the Gross Premiums, Reinsurance Premiums and Commissions?

- 10. (a) What are the requirements for loss reserves for Credit Insurance in the Annual Statement blank? Give the reason for these requirements.
  - (b) Explain in detail how you would obtain the reserve liabilities on Non-cancelable Accident and Health Insurance for the Annual Statement.
- 11. (a) What items of information can be derived from the Annual Statement with reference to the Automobile Liability business only of a company?
  - (b) A company writing Surety and Fidelity business finds on December 31 that it has 1,000 notices of loss in which loss papers have not been completed. How would you determine the reserve to be entered in the Annual Statement of the company to cover these notice cases?
- 12. The Annual Statement of a Casualty Company as of December 31, 1923, having a capital stock of \$500,000.00 showed ledger assets of \$1,000,000.00 made up as follows:

Book Value of Real Estate	\$90,000.00
Mortgage Loans on Real Estate	115,000.00
Book Value of Bonds	662,000.00
Cash in Office and Banks	33,000.00
Premiums in Course of Collection.	100,000.00
	\$1,000,000,00

During 1924 the following transactions took place:

Gross premiums written, \$800,000.00; reinsurance premiums, \$20,000.00; return premiums \$50,000.00; premiums on policies not taken, \$80,000.00; interest and rents received, \$52,000.00.

Gross losses paid amounted to \$360,000.00, which were reduced by reinsurance recovered of \$10,000.00 and salvage \$5,000.00. Payments for loss expenses, commissions, salaries, taxes and other expense items amounted to \$300,000.00 and a stock dividend of 10% was declared and paid.

The book value of real estate was increased to \$100,000.00 by a profit and loss adjustment. \$20,000.00 was loaned on mortgages. Bonds having a par value of \$10,000.00 and a book value of \$9,500.00 were sold (without brokerage) at 98 and accrued in-

terest of \$625.00 which is included in interest income above. Bonds having a par value of \$8,000.00 and a book value of \$8,150.00 matured during the year. Net premiums collected in cash during the year amounted to \$700,000.00.

Make up a statement as of December 31, 1924, following in general the form prescribed by the National Convention of Insurance Commissioners containing Income, Disbursements, and Ledger Assets.

- 13. (a) Outline a system of rating apartment and tenement house risks for Public Liability Insurance which would take into account differences in hazard. Indicate what features of your plan are in use today and discuss the feasibility of adopting the methods you suggest.
  - (b) Discuss the underwriting of risks for Group Accident and Health Insurance.
- 14. (a) Discuss briefly the application of experience rating to Manufacturers' and Contractors' Public Liability risks.
  - (b) Discuss a conclusion that, because its morbidity rate is lower, coal mining is more healthful than ordinary occupations. What would you advise as to acceptance of coal miners as Health Insurance risks?
- 15. (a) In connection with Workmen's Compensation Schedule
  Rating discuss a proposal to divide practically all
  industry into a relatively small number of comprehensive groups of fairly like-hazard classifications, and
  to prepare and apply a separate schedule for each
  group for the rating of the individual risk.
  - (b) For experience rating, what relative consideration should be given to frequency and to severity of accidents experienced? Describe the plan in use in any state you choose for experience rating of Workmen's Compensation risks.
- 16. (a) Discuss briefly the principal features to be investigated in the inspection of risks for Electric Machinery Insurance.
  - (b) Discuss briefly the problems involved in loss adjustments on Mercantile Open Stock Burglary Insurance.

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