



INT 1
2002

Scottish Qualifications Authority

Intermediate 1 Chemistry - 2002 Examination

Paper 1A

Statistical Data from Sample of Candidates

Item	Syllabus Section	Ability	Facility	r	Percentage Choosing Option				
					A	B	C	D	Omit
1	2c	PS	0.63	0.16	20	63*	6	11	1
2	1	KU	0.90	0.15	90*	2	2	5	0
3	1	KU	0.34	0.33	30	20	16	34*	0
4	2c	PS	0.86	0.21	0	5	8	86*	0
5	1	KU	0.40	0.27	15	17	40*	27	0
6	1	KU	0.48	-0.03	4	48*	10	37	0
7	1	KU	0.29	0.04	8	29*	33	28	1
8	2b	PS	0.66	0.18	66*	12	12	11	0
9	2	KU	0.29	0.19	29*	14	47	9	0
10	2	KU	0.84	0.20	5	84*	4	6	1
11	2	KU	0.54	-0.02	3	28	54*	15	0
12	2	KU	0.46	0.04	35	46*	12	7	0
13	2	KU	0.40	0.20	8	26	40*	24	2
14	2	KU	0.89	0.19	3	4	4	89*	0
15	2c	PS	0.34	0.07	34*	6	40	20	1
16	3	KU	0.60	0.20	15	60*	11	13	0
17	2c	PS	0.67	0.17	20	6	67*	6	0
18	3	KU	0.77	0.28	77*	16	2	5	0
19	2b	PS	0.29	-0.03	8	52	29*	11	0
20	3	KU	0.40	0.07	22	11	26	40*	1

Scottish Qualifications Authority

Intermediate 1 Chemistry - 2003 Examination

Paper 1A

Statistical Data from Sample of Candidates

Item	Syllabus Section	Ability	Facility	r	Percentage Choosing Option				
					A	B	C	D	Omit
1	1ai	KU	0.38	0.35	37	6	19	38*	1
2	1aiii	KU	0.56	0.30	28	8	7	56*	0
3	1bi	KU	0.69	0.28	23	1	69*	7	1
4	1bii	KU	0.64	0.17	3	24	8	64*	1
5	1ci	KU	0.61	0.09	18	61*	10	11	1
6	2ai	KU	0.52	0.23	52*	8	36	3	1
7	2ai	PS	0.89	0.17	2	89*	4	4	1
8	2aii	PS	0.68	0.21	22	6	68*	4	0
9	1bii	KU	0.66	0.38	66*	17	8	8	1
10	2ci	KU	0.70	0.26	4	70*	19	7	0
11	2civ	PS	0.70	0.19	70*	5	5	19	1
12	2cv	KU	0.32	0.09	32*	3	13	51	1
13	2diii	PS	0.61	0.24	12	61*	11	15	0
14	3ci	KU	0.81	0.18	5	7	6	81*	1
15	3cii	KU	0.42	0.37	12	35	11	42*	0
16	3civ/v	PS	0.50	0.40	22	50*	18	9	0
17	3c	PS	0.74	0.16	2	10	74*	14	0
18	3cv	PS	0.64	0.36	14	11	64*	10	0
19	3cv	KU	0.31	0.42	29	31	9	31*	0
20	3di	KU	0.50	0.22	50*	29	7	13	0

Scottish Qualifications Authority

Intermediate 1 Chemistry - 2004 Examination

Section A

Statistical Data from Sample of Candidates

Item	Syllabus		Facility	r	Percentage Choosing Option				
	Section	Ability			A	B	C	D	Omit
1	1ai	KU	0.61	0.35	61*	7	19	11	2
2	1ai	PS	0.69	0.31	3	5	69*	21	2
3	1aiii	KU	0.61	0.25	7	11	21	61*	1
4	1aii	KU	0.34	0.45	34*	2	17	45	3
5	1di	PS	0.53	0.47	37	53*	5	4	0
6	1cii	PS	0.79	0.33	5	8	7	79*	1
7	1di	PS	0.30	0.19	30*	36	29	4	1
8	1diii	KU	0.65	0.34	10	20	65*	4	1
9	2ai	KU	0.60	0.24	14	60*	20	6	0
10	2biii	KU	0.88	0.20	5	2	4	88*	1
11	2bi	KU	0.43	0.20	43*	5	13	39	0
12	2ci	PS	0.58	0.39	10	24	58*	9	0
13	2cii	KU	0.32	0.32	25	23	20	32*	1
14	2dii	KU	0.42	0.38	42	42*	8	7	1
15	3ai	PS	0.51	0.42	5	7	37	51*	0
16	3di	PS	0.94	0.09	0	3	94*	2	0
17	3aiii	KU	0.71	0.28	6	71*	14	8	0
18	3ciii	KU	0.79	0.16	2	13	79*	5	0
19	3ci	PS	0.87	0.29	3	87*	5	5	0
20	1aiii	PS	0.61	0.19	61*	17	12	10	0

Chemistry Intermediate 1 2005

Section A

Number of persons in test: 1547
 Average test score : 10.14
 Average facility value : 50.71
 Reliability : 0.55

Item	Syllabus Section	Ability	Fac	Disc	% Choosing Option			
					A	B	C	D
1	1a ii	KU	34	22	4	26	34*	35
2	1a iii	PS	59	20	7	59*	15	19
3	1b ii	KU	56	10	56*	8	31	4
4	1c i	KU	60	10	14	60*	11	15
5	1c iii	KU	34	28	31	32	3	34*
6	1d i	KU	75	28	75*	6	2	16
7	2a i	KU	43	17	16	17	23	43*
8	2a i	PS	69	8	69*	22	4	5
9	2a iii	PS	34	13	44	11	34*	11
10	2a iv	PS	18	10	6	21	55	18*
11	2b ii	KU	56	34	23	10	11	56*
12	2c i	KU	56	17	4	7	56*	32
13	2c iii	KU	42	13	18	7	42*	33
14	2c iv	KU	44	8	32	44*	12	12
15	2d i	PS	63	26	63*	7	20	10
16	3a i	KU	49	23	14	16	49*	21
17	3c iii	PS	34	4	39	34*	15	12
18	3c vi	KU	87	15	2	87*	9	2
19	3c v	KU	49	17	20	19	11	49*
20	3d i	KU	52	27	52*	15	14	19

2006

Chemistry Intermediate 1 2006

Section A

Number of persons in test : 1881
 Average test score : 12.26
 Average facility value : 61.29
 Reliability : 0.68

Item	Content Area	Ability	Fac	Disc	% Choosing Option			
					A	B	C	D
1	1 (b) (i)	KU	64	33	64*	3	15	17
2	1 (b) (ii)	PS	82	29	11	6	82*	1
3	1 (c) (i)	KU	68	31	20	4	68*	7
4	1 (c) (ii)	PS	80	26	8	3	7	80*
5	1 (d) (i)	KU	57	7	23	57*	8	11
6	1 (d) (i)	KU	76	36	3	6	76*	13
7	1 (d) (iii)	PS	77	32	10	77*	9	3
8	1 (d) (iii)	KU	25	29	25*	6	11	56
9	2 (a) (i)	KU	34	-7	11	22	31	34*
10	2 (a) (i)	KU	86	29	9	1	3	86*
11	2 (a) (iii)	KU	61	29	61*	24	4	10
12	2 (c) (ii)	KU	64	31	2	64*	15	18
13	2 (c) (iv)	PS	41	18	41*	33	15	10
14	2 (d) (ii)	KU	58	39	8	15	58*	18
15	3 (b) (ii)	KU	68	23	22	7	2	68*
16	3 (c) (i)	KU	70	27	6	15	7	70*
17	3 (c) (i)	KU	38	21	4	46	38*	10
18	3 (c) (iv)	PS	53	30	16	53*	24	5
19	3 (c) (iv) / (v)	PS	42	29	42*	30	18	7
20	3 (d) (ii)	KU	82	25	2	82*	9	6



Chemistry Intermediate 1 2007

Section A

Number of persons in test : 2417
 Average test score : 12.53
 Average facility value : 62.67
 Reliability : 0.69

Item	Key	Content	Area	Ability	Fac	Disc	% choosing option				
							A	B	C	D	
1	C	1	(c)	(ii)	KU	47	34	14	16	47*	23
2	B	1	(c)	(iii)	PS	27	25	12	27*	43	18
3	B	1	(a)	(ii)	KU	76	28	12	76*	5	6
4	A	1	(b)	(ii)	PS	80	29	80*	6	6	8
5	D	1	(b)	(iii)	KU	80	25	5	6	9	80*
6	C	1	(a)	(i)	PS	43	19	10	16	43*	31
7	A	2	(b)	(ii)	KU	75	33	75*	13	7	5
8	D	2	(c)	(i)	KU	75	27	5	5	15	75*
9	B	2	(c)	(i)	KU	85	28	2	85*	6	8
10	A	2	(c)	(ii)	KU	48	29	48*	7	6	39
11	B	2	(a)	(ii)	PS	33	11	14	33*	23	29
12	D	2	(d)	(ii)	KU	73	30	17	3	6	73*
13	B	2	(d)	(i)	KU	74	23	4	74*	9	12
14	A	2	(d)	(iii)	PS	81	30	81*	7	9	2
15	D	3	(b)	(i)	KU	62	30	16	14	8	62*
16	C	3	(c)	(iii)	KU	81	24	2	14	81*	3
17	B	3	(c)	(v)	PS	28	19	11	28*	16	45
18	D	3	(c)	(v)	PS	44	12	32	9	14	44*
19	A	3	(c)	(vi)	KU	54	35	54*	5	25	15
20	C	3	(c)	(vi)	KU	86	35	1	3	86*	9



Chemistry Intermediate 1 2008

Section A

Number of persons in test : 2675
 Average test score : 11.03
 Average facility value : 55.15
 Reliability : 0.62

Item Key	Content Area	Ability	Fac	Disc	% Choosing Option			
					A	B	C	D
1	C 1 (a) (iv)	KU	85	21	9	3	85*	2
2	A 1 (b) (i)	KU	59	14	59*	3	11	26
3	D 1 (a) (ii)	PS	41	19	14	13	31	41*
4	B 1 (b) (ii)	KU	67	12	7	67*	3	23
5	C 1 (b) (ii)	PS	47	26	15	24	47*	13
6	A 1 (d) (iii)	PS	35	33	35*	10	14	40
7	A 1 (d) (iii)	KU	11	12	11*	9	52	28
8	D 2 (a) (i)	KU	32	20	33	8	26	32*
9	B 2 (a) (ii)	KU	65	26	12	65*	14	10
10	D 2 (a) (iii)	KU	86	28	2	6	6	86*
11	A 2 (a) (iv)	KU	58	15	58*	5	31	5
12	C 2 (b) (i)	KU	65	30	23	4	65*	9
13	A 2 (c) (iv)	KU	60	29	60*	24	4	12
14	C 2 (d) (i)	KU	62	18	5	1	62*	32
15	B 3 (b) (i)	KU	62	18	15	62*	13	9
16	D 3 (b) (ii)	KU	52	32	19	12	17	52*
17	B 3 (a) (ii)	KU	41	29	20	41*	23	16
18	D 3 (d) (i)	PS	45	22	8	30	17	45*
19	C 3 (d) (i)	PS	34	15	14	41	34*	11
20	A 3 (d) (i)	PS	97	7	97*	2	1	1



Chemistry Intermediate 1 2009

Section A

Number of persons in test : 3010
 Average test score : 12.52
 Average facility value : 62.59
 Reliability : 0.64

Item	Key	Content Area	Ability	Fac	Disc	% Choosing Option			
						A	B	C	D
1	D	1 (a) (i)	KU	73	26	5	4	17	73*
2	A	1 (a) (ii)	KU	41	36	41*	3	26	29
3	C	1 (a) (ii)	KU	74	35	12	6	74*	7
4	B	1 (c) (i)	KU	64	10	13	64*	6	17
5	A	1 (c) (ii)	KU	39	28	39*	23	24	14
6	C	1 (c) (iii)	KU	49	24	8	16	49*	27
7	A	2 (a) (iii)	KU	92	18	92*	6	2	1
8	C	2 (b) (i)	KU	60	16	8	22	60*	10
9	B	2 (b) (ii)	KU	78	31	6	78*	12	4
10	D	2 (c) (iii)	KU	69	20	21	5	5	69*
11	A	2 (d) (i)	PS	93	16	93*	3	3	1
12	D	2 (d) (iii)	PS	53	28	6	23	18	53*
13	B	2 (d) (iv)	KU	47	19	19	47*	13	21
14	D	3 (a) (i)	KU	84	18	2	12	3	84*
15	A	3 (a) (iii)	KU	86	26	86*	8	5	2
16	C	3 (b) (ii)	PS	47	21	9	16	47*	28
17	B	3 (c) (ii)	KU	39	20	20	39*	25	16
18	C	3 (c) (vi)	KU	64	29	11	3	64*	21
19	A	3 (d) (i)	KU	27	22	27*	52	13	7
20	D	3 (d) (ii)	KU	73	20	2	10	14	73*



Chemistry Intermediate 1 2010

Section A

Number of persons in test : 2,857
 Average test score : 12.98
 Average facility value : 64.89
 Reliability : 0.53

Item	Key	Content Area	Ability	Fac	Disc	% Choosing Option			
						A	B	C	D
1	B	1 (a) (i)	PS	74	21	10	74*	5	10
2	D	1 (b) (ii)	KU	83	26	6	2	8	83*
3	C	1 (c) (iii)	PS	55	26	7	17	55*	21
4	A	1 (d) (ii)	KU	41	13	41*	28	6	25
5	D	1 (d) (i)	KU	77	28	16	2	5	77*
6	A	2 (a) (iv)	PS	72	13	72*	8	12	6
7	D	2 (b) (i)	PS	59	16	24	8	9	59*
8	A	2 (b) (i)	PS	67	26	67*	4	5	23
9	D	2 (b) (ii)	PS	90	14	0	8	1	90*
10	B	2 (c) (iii)	KU	63	3	25	63*	8	5
11	B	2 (c) (v)	PS	17	-1	11	17*	6	66
12	A	2 (d) (i)	PS	48	6	48*	18	4	30
13	C	2 (d) (ii)	PS	81	24	2	14	81*	2
14	B	3 (a) (i)	KU	77	21	6	77*	4	13
15	B	3 (a) (iii)	KU	66	28	10	66*	13	11
16	C	3 (b) (ii)	KU	84	25	9	2	84*	5
17	C	3 (c)	PS	66	11	17	16	66*	1
18	A	3 (c) (i)	KU	76	27	76*	2	21	1
19	C	3 (d) (i)	PS	75	3	17	2	75*	6
20	B	3 (d)	PS	28	7	15	28*	34	23



Chemistry Intermediate 1 2011

Section A

Number of persons in test : 2,892
 Average test score : 12.45
 Average facility value : 62.26
 Reliability : 0.58

Item	Key	Content Area	Ability	Fac	Disc	% Choosing option			
						A	B	C	D
1	D	1 (a) (iv)	KU	95	13	3	1	1	95*
2	B	1 (c) (iv)	KU	65	8	16	65*	13	6
3	D	1 (c) (i)	PS	17	12	29	29	25	17*
4	C	1 (d) (i)	PS	62	25	6	6	62*	26
5	C	1 (d) (ii)	KU	41	7	15	16	41*	29
6	A	2 (a)	KU	87	19	87*	3	4	7
7	C	2 (a) (i)	KU	70	19	10	9	70*	11
8	A	2 (b) (i)	KU	43	20	43*	7	15	36
9	D	2 (b) (i)	KU	63	30	10	8	18	63*
10	B	2 (b) (ii)	KU	84	22	5	84*	8	2
11	C	2 (d) (i)	PS	71	25	16	6	71*	8
12	A	2 (a) (ii)	KU	62	29	62*	24	6	7
13	C	2 (d) (ii)	KU	80	18	3	1	80*	15
14	B	3 (b) (ii)	PS	45	19	40	45*	11	3
15	B	3 (c) (i)	PS	88	14	4	88*	5	3
16	D	3 (c) (i)	KU	64	20	7	8	21	64*
17	A	3 (c) (iii)	KU	40	15	40*	19	10	30
18	D	3 (c) (vi)	KU	28	21	6	55	12	28*
19	C	3 (d) (i)	KU	55	27	8	22	55*	15
20	A	3 (d) (ii)	KU	87	25	87*	6	4	3



Chemistry Intermediate 1 2012

Section A

Number of persons in test : 2,999
 Average test score : 11.93
 Average facility value : 59.64
 Reliability : 0.59

Item	Key	Content Area	Ability	Fac	Disc	% Choosing option			
						A	B	C	D
1	D	1 (b) (i)	KU	76	19	16	2	5	76*
2	A	1 (b) (ii)	KU	60	21	60*	7	32	1
3	B	1 (c) (i)	KU	54	2	26	54*	10	10
4	C	1 (c) (i)	PS	61	17	9	9	61*	20
5	D	1 (c) (iii)	KU	43	19	42	8	7	43*
6	B	1 (d) (i)	KU	81	24	8	81*	9	3
7	C	2 (b) (i)	PS	51	13	43	3	51*	3
8	D	2 (b) (i)	KU	67	26	12	6	14	67*
9	A	2 (b) (ii)	KU	79	28	79*	3	13	5
10	B	2 (b) (ii)	KU	62	11	8	62*	4	25
11	A	2 (c) (i)	KU	49	31	49*	7	37	6
12	D	2 (c) (v)	PS	62	9	23	6	10	62*
13	A	2 (d) (iv)	KU	30	27	30*	32	27	10
14	C	2 (c) (i)	PS	55	25	12	26	55*	8
15	B	3 (b) (i)	KU	46	30	10	46*	11	33
16	B	3 (b) (ii)	KU	37	32	23	37*	24	16
17	D	3 (c)	PS	79	17	7	3	11	79*
18	C	3 (c) (iii)	PS	73	17	17	6	73*	4
19	C	3 (d)	PS	46	15	27	13	46*	14
20	A	3 (d) (ii)	KU	82	21	82*	11	2	5



Chemistry Intermediate 1 2013

Section A

Number of persons in test: 2,943
 Average test score: 12.52
 Average facility value: 62.61
 Reliability: 0.67

Item	Key	Content Area	Abilities	Fac	Disc	% Choosing Option			
						A	B	C	D
1	D	1 a	KU	65	21	4	14	17	65*
2	A	1 a	PS	55	24	55*	28	4	13
3	A	1 b	KU	57	24	57*	4	20	19
4	C	1 b	PS	62	28	27	6	62*	4
5	D	1 c	PS	38	17	20	29	13	38*
6	B	1 c	PS	36	33	8	36*	41	14
7	D	1 d	PS	69	22	8	11	11	69*
8	C	1 d	KU	62	22	15	19	62*	4
9	C	2 a	PS	67	19	22	7	67*	3
10	B	2 a	KU	75	25	11	75*	4	10
11	B	2 b	PS	90	22	7	90*	2	1
12	D	2 c	KU	72	25	7	6	14	72*
13	A	2 c	KU	51	26	51*	30	13	6
14	A	2 c	KU	45	16	45*	6	13	37
15	C	2 d	PS	54	32	22	11	54*	12
16	B	3 a	KU	86	26	1	86*	2	10
17	C	3 a	KU	61	37	28	6	61*	4
18	D	3 a	KU	75	22	9	8	6	75*
19	B	3 a	KU	62	27	15	62*	10	12
20	A	3 b	PS	69	27	69*	9	6	15



Chemistry Intermediate 1 2014

Section A

Number of persons in test: 266
 Average test score: 13.38
 Average facility value: 66.88
 Reliability: 0.69

Item	Key	Content Area	Ability	Fac	Disc	% Choosing Option			
						A	B	C	D
1	D	1 b i	KU	80	37	16	0	4	80*
2	A	1 a ii	PS	65	33	65*	14	9	12
3	D	1 b ii	PS	53	32	8	24	15	53*
4	C	1 b ii	PS	29	15	24	16	29*	30
5	D	1 c ii	PS	87	27	3	6	4	87*
6	B	1 c iii	KU	83	42	4	83*	10	3
7	A	1 d i	KU	91	37	91*	3	1	5
8	B	1 d ii	KU	43	25	12	43*	38	7
9	C	1 d iii	KU	82	28	4	8	82*	5
10	D	2 a iv	KU	77	17	8	6	9	77*
11	C	2 b ii	KU	87	33	3	7	87*	3
12	D	2 c ii	KU	71	31	8	11	11	71*
13	A	2 c ii	KU	68	25	68*	7	4	20
14	A	2 c iv	PS	30	10	30*	26	30	14
15	A	2 c iv	PS	62	27	62*	17	12	9
16	D	3 a ii	KU	78	36	2	8	12	78*
17	A	3 a iii	KU	86	16	86*	10	2	3
18	C	3 b ii	KU	60	31	24	10	60*	5
19	C	3 d i	PS	38	4	5	45	38*	12
20	C	3 d ii	PS	67	38	8	7	67*	18

Chemistry Intermediate 1 (Objective Rest) 2015

Item Label	Item nr.	Weight	Key	P- and A- values				Mis-#		Weighted									
				A	B	C	D	E	F	O/D	singl	Max	Mean	P	Sd	RSK	Rlt	Rlr	AR
1	1	1	B	67	33*	0	0	0	0	0	0	1	0.33	33	0.47	0.47	13	-13	14
2	2	1	A	100*	0	0	0	0	0	0	0	1	1.00	100	0.00	0.00	0	0	7
3	3	1	C	0	0	100*	0	0	0	0	0	1	1.00	100	0.00	0.00	0	0	7
4	4	1	C	0	11	89*	0	0	0	0	0	1	0.89	89	0.31	0.31	-20	-36	19
5	5	1	B	0	100*	0	0	0	0	0	0	1	1.00	100	0.00	0.00	0	0	7
6	6	1	C	0	0	100*	0	0	0	0	0	1	1.00	100	0.00	0.00	0	0	7
7	7	1	D	0	11	0	89*	0	0	0	0	1	0.89	89	0.31	0.31	0	0	13
8	8	1	A	67*	0	11	22	0	0	0	0	1	0.67	67	0.47	0.47	13	-13	14
9	9	1	D	0	22	11	67*	0	0	0	0	1	0.67	67	0.47	0.47	53	30	-11
10	10	1	D	0	11	22	67*	0	0	0	0	1	0.67	67	0.47	0.47	13	-13	14
11	11	1	C	22	0	78*	0	0	0	0	0	1	0.78	78	0.42	0.42	15	-8	11
12	12	1	B	33	33*	11	22	0	0	0	0	1	0.33	33	0.47	0.47	53	30	-11
13	13	1	D	0	11	0	89*	0	0	0	0	1	0.89	89	0.31	0.31	0	-18	13
14	14	1	A	78*	22	0	0	0	0	0	0	1	0.78	78	0.42	0.42	61	42	-15
15	15	1	A	78*	0	11	11	0	0	0	0	1	0.78	78	0.42	0.42	61	42	-15
16	16	1	C	0	0	89*	11	0	0	0	0	1	0.89	89	0.31	0.31	0	-18	13
17	17	1	B	0	78*	11	11	0	0	0	0	1	0.78	78	0.42	0.42	45	24	-5
18	18	1	C	11	22	56*	11	0	0	0	0	1	0.56	56	0.50	0.50	-13	-38	27
19	19	1	B	0	67*	0	33	0	0	0	0	1	0.67	67	0.47	0.47	53	30	-11
20	20	1	A	44*	44	11	0	0	0	0	0	1	0.44	44	0.50	0.50	38	11	1

Number of persons in test : 9
 Minimum test score : 0
 Average test score : 15.00
 Average P-value : 75.00
 Average Rit : 0.26
 Coefficient Alpha : 0.07
 GLB : 0.00
 Items used in GLB proc : 16

Number of selected items : 20
 Maximum test score : 20
 Standard deviation : 1.76
 Std. Error of Measurement : 1.70
 SE Coeff. Alpha : 0.45
 Asymptotic GLB coef : 0.00

90% Confidence limits for Coefficient Alpha: (-0.87 <= 0.07 <= 0.69)

Estimated Coefficient Alpha if this test had a standard norm length of 40 items: 0.13 (Spearman-Brown)