

## Scottish Qualifications Authority

### Notes for Guidance on Statistical Data on Objective Tests

1 **Item No**

This is the number of the question in the question paper.

2 **Content Area**

This is the section shown in the appropriate published arrangement documents. It is appreciated that in the case of some items more than one content area might be considered appropriate.

3 **Ability**

An attempt has been made to classify each item according to the educational ability being tested although the limitations of this exercise are fully recognised. Two abilities are presently used: KU for Knowledge and Understanding and PS for Problem Solving.

4 **Fac**

This is the facility value of the question; i.e. the fraction of candidates in the sample choosing the correct option.

5 **Disc**

This is the Discrimination for an item. It is the ability of an item to tell high scoring and low scoring candidates apart. The result ranges from  $-100$  through  $100$  and a high value means that able candidates (high total test score) tend to answer the question correctly and candidates with a low total test score tend to answer the question incorrectly. The item is then said to be consistent with the test. With zero Discrimination there is no relationship between the performance on the item and the performance on the test as a whole. A negative Discrimination means able candidates tend to answer the item incorrectly and persons with a low total test score tend to answer the items correctly.

6 **Percentage choosing option**

This shows, for each option, the percentage of candidates selecting it. Percentages have been corrected to the nearest whole number. Correct options are asterisked.

Physics Intermediate 2 2006

Section A

Number of persons in test : 2628  
 Average test score : 10.29  
 Average facility value : 51.46  
 Reliability : 0.76

Item	Content Area	Ability	Fac	Disc	% Choosing Option				
					A	B	C	D	E
1	1.1.2/13	KU	81	23	2	4	81*	12	0
2	1.2.18	KU	53	36	14	6	8	19	53*
3	1.2.1/6/11/14	PS	29	-1	7	9	29*	44	10
4	1.3.2	KU	52	36	5	13	13	16	52*
5	1.3.11/13	KU	42	34	29	4	19	42*	5
6	1.4.4/5	KU	43	43	9	43*	24	18	5
7	2.1.1/4/6	KU	38	15	38*	36	6	13	6
8	2.1.9	PS	49	31	4	49*	26	6	15
9	2.1.10/12	PS	25	10	45	14	8	25*	6
10	2.1.15	PS	61	42	3	3	18	61*	15
11	2.1.17	PS	22	45	2	22*	6	21	48
	2.2.4								
12	2.3.2	KU	76	29	76*	2	14	1	5
13	2.4.5	KU	47	53	5	13	18	47*	16
14	2.4.16/17	KU	59	35	7	7	59*	12	13
15	3.1.3/7	PS	72	47	6	9	8	5	72*
16	3.3.7/8	KU	51	31	14	15	51*	6	14
17	3.1.8	KU	66	38	5	66*	11	8	10
18	4.2.1/4	KU	43	37	6	11	43*	33	7
	4.3.2								
19	4.2.7	PS	63	41	13	63*	5	9	8
20	4.4.4	KU	55	30	8	4	20	55*	12

Physics Higher Level 2006

Section A

Number of persons in test : 8585  
 Average test score : 13.05  
 Average facility value : 65.26  
 Reliability : 0.76

Item	Content Area	Ability	Fac	Disc	% Choosing Option				
					A	B	C	D	E
1	1.1.3	KU	55	32	13	15	9	8	55*
2	1.1.4	PS	46	37	7	28	14	46*	5
3	1.2.3/6	PS	69	37	14	69*	6	5	5
4	1.3.2/3	PS	39	30	29	3	11	39*	17
5	1.4.5	PS	57	27	2	4	57*	34	2
6	1.5.2	PS	84	35	1	5	84*	7	3
7	1.5.8	KU	70	31	6	3	20	2	70*
8	2.1.16	PS	46	40	6	46*	6	35	8
9	2.1.16	PS	66	43	11	66*	3	8	11
10	2.1.14/16	PS	94	20	0	3	94*	1	2
11	2.3.1/9	KU	68	38	68*	10	3	12	6
12	2.2.3	PS	55	36	55*	16	10	8	11
	2.3.11								
13	2.4.7/8/9	KU	76	36	3	76*	9	9	2
14	3.1.9	PS	54	34	13	8	13	54*	9
15	3.2.2	KU	90	23	6	2	2	90*	0
16	3.2.5/6	KU	86	28	4	1	1	7	86*
17	3.3.6/10	PS	61	33	61*	6	12	9	11
18	3.3.16	PS	54	38	12	12	54*	6	15
19	3.4.2/3	PS	61	36	15	14	61*	8	2
20	3.5.7	PS	74	31	6	74*	7	3	10