SmartScan for Assessment

SmartScan for Assessment consists of two modules:

(a) SmartScan module that scans the forms and converts the marks into digital format.

(b) SmartScore module which is an invaluable tool for thorough academic assessments in Universities, Colleges and Schools. The following are the areas assessed:

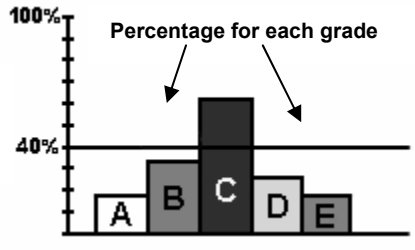
Student Performance

Topics	Correct	Remarks
Functions	9/ 10	V. GOOD
Set Theory	1 / 4	WORK HARDER
Probability	5 / 8	GOOD

How high have you scored?

Score Report highlights the performance of every student, whether he is experiencing difficulties in any topics or is already fall short of the expected performance.

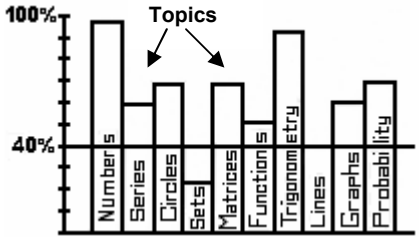
Class Performance



What about overall performance?

Class Analysis Tracks the performance of all the classes on *Grades, Number of Passes, Averages, Percentages, and Standard Deviations* with the push of a button.

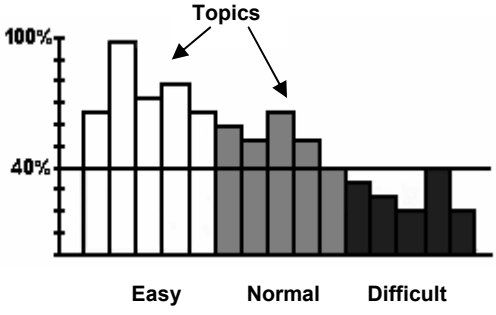
Topic Analysis



Which areas are they weak in?

Topic Analysis presents the performance according to each topic tested. Concise macroscopic views enable trouble spots to be detected at a glance.

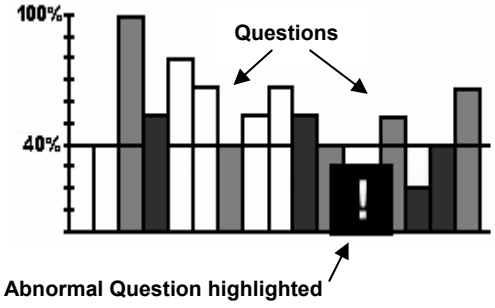
Difficulty Analysis



How weak actually they are?

Difficulty Analysis further segregates each Topic into *difficulty levels*. The microscopic views expose all hidden problems and enable effective corrective measures to be applied right on the problems without guessing!

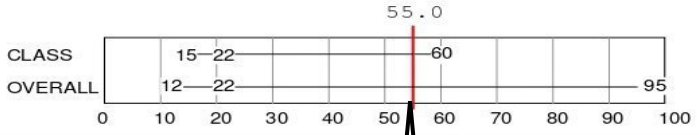
Question Analysis



Are the Questions OK?

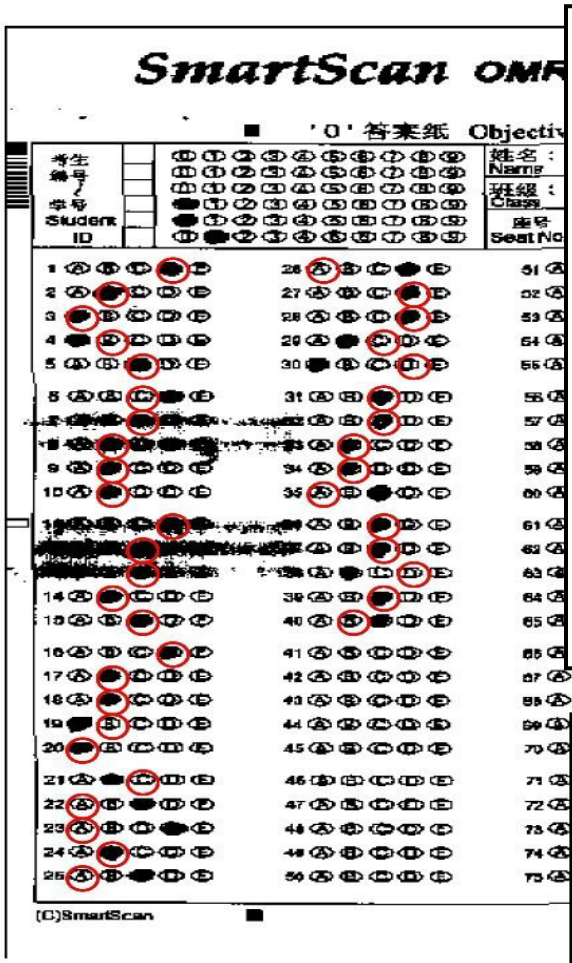
Question Analysis assesses every question vigorously and inferences are drawn with the assistance of a *Knowledge base*. Abnormally behaved question, if encountered, will be cautioned so that adjustments can be made to the scores for the test to be fair.

55.0%



SUBJECT : 00 Student No. : 000001 Seat# : 11 Class : DD Seq. No. : 16		
Raw Score (Max= 40.00)		Score (Max=100)
Correct= 22/40 Wrong= 0 Omit = 0 Multi = 5	22.00/ 40.00 0.00-	Obj = 55.00/100 Adj = 0.00
Total	22.00	Total= 55.00

Obj= 22.00 / 40.00X100= 55.0



1. D(D)*
2. B(B)*
3. A(A)*
4. A(B)
5. C(C)*
6. D(C)
7. ?(C)
8. ?(B)
9. B(B)*
10. B(B)*
11. ?(D)
12. ?(C)
13. ?(C)
14. B(B)*
15. C(C)*
16. D(D)*
17. B(B)*
18. B(B)*
19. A(B)
20. A(A)*
21. B(C)
22. C(A)
23. D(A)
24. B(B)*
25. C(A)
26. D(A)
27. D(D)*
28. D(D)*
29. B(C)
30. A(D)
31. C(C)*
32. C(C)*
33. B(B)*
34. B(B)*
35. C(A)
36. C(C)*
37. C(C)*
38. B(D)
39. C(C)*
40. C(B)

The student will get a report like this for each test. In the class, the highest score is 60 and and the lowest is 15. For the entire form, the highest is 95 and lowest is 12. Median score for both is 22 and the student's score is 55. Therefore we can infer that he is a top student in an average class.

Topics	Correct	Remarks	Top
Topic #01	5/10	Average	To
Topic #02	10/10	Perfect	
Topic #03	2/10	Poor	To
Topic #04	5/10	Average	To
Topic #05	0/0		To
Topic #06	0/0		To
Topic #07	0/0		To
Topic #08	0/0		To
Topic #09	0/0		To
Topic #10	0/0		To

Topic analysis indicates the strengths and weaknesses of the student. The student is very good in Topic#2, poor in Topic#3 and doing average for the other Topics. Teachers can now make teaching more focused and maximise the usage of time, effort and resources.

Keys:
( ) Teacher's Answers

* Correct
' ' Omit(Blank)
? Multi
X Exclude
\- Penalty

68.9%

LAW KEEN HOONG

SUBJECT : Math101 Student No. : WB004K021 ID : 870413145259 Group(Class): 3H	Raw Score (Max= 90.00)		Score (Max=100)
	Correct= 62/90 Penalty= 0 Omit = 0 Multi = 0	62.00/ 90.00 0.00-	Obj = 68.9/100 Other= 0.0 Adj = 0.0
	Total	62.00	Total= 68.9

Obj= 62.00 / 90.00X100= 68.9

1. D(D)*	21. C(C)*	41. C(C)*	61. D(D)*	81. C(C)*
2. B(B)*	22. A(A)*	42. C(C)*	62. C(C)*	82. C(C)*
3. D(A)	23. A(A)*	43. D(D)*	63. B(C)	83. B(B)*
4. C(A)	24. C(B)	44. B(B)*	64. B(B)*	84. B(B)*
5. C(C)*	25. C(A)	45. A(D)	65. C(C)*	85. A(A)*
6. D(D)*	26. D(A)	46. B(D)	66. D(D)*	86. A(A)*
7. C(C)*	27. B(D)	47. B(C)	67. B(B)*	87. C(C)*
8. B(B)*	28. D(D)*	48. B(C)	68. B(B)*	88. D(D)*
9. B(B)*	29. A(C)	49. D(B)	69. B(B)*	89. B(C)
10. B(B)*	30. D(A)	50. C(A)	70. A(A)*	90. D(B)
11. D(D)*	31. C(C)*	51. D(D)*	71. C(C)*	
12. C(C)*	32. C(C)*	52. B(B)*	72. A(A)*	
13. B(C)	33. B(B)*	53. D(A)	73. A(A)*	
14. B(B)*	34. B(B)*	54. C(A)	74. C(B)	
15. C(C)*	35. A(A)*	55. C(C)*	75. C(A)	
16. D(D)*	36. A(A)*	56. D(D)*	76. D(A)	
17. B(B)*	37. C(C)*	57. C(C)*	77. B(D)	
18. B(B)*	38. D(D)*	58. B(B)*	78. D(D)*	
19. B(B)*	39. B(C)	59. B(B)*	79. A(C)	
20. A(A)*	40. D(B)	60. B(B)*	80. D(A)	

( )Correct Answer * Correct Choice ' ' Omit ? Multiple - Penalty

Topics	Correct	Remarks	Topics	Correct	Remarks
Number Theory	16/20	V.Good			
Fractions	12/14	V.Good			
Lines	13/15	V.Good			
Circles	4/14	Work Harder!			
Graphs	2/7	Work Harder!			
Functions	6/6	Perfect!			
Quadratic Equation:	4/4				
Permutation	3/3				
Probability	2/7	Work Harder!			

This student does not do well in these three topics. Teachers can group students who are weak in common topics and teach them together. This makes teaching more focused, effective and at the same time maximises usage of resourses.

Performance Summary

Subject Code : Math101	Subject: Basic Mathematics	Test Date: 26/ 4/2004
Sorted by : - Objective Mark : 100% Passing Mark : 40%	No. of Groups (Classes): 4	No. of Students: 14
	3G 3H 3K 3M	

Percentage for each Grade

Groups (Classes)	A	B	C	D	E	F	Ave.	S.D.	Passes No.	Passes %	Total
3G	2	0	1	1	0	0	73.9	12.9	4	100%	4
3H	1	1	2	0	0	0	75.6	10.9	4	100%	4
3K	0	2	1	0	0	0	73.4	5.5	3	100%	3
3M	0	1	1	1	0	0	64.8	6.7	3	100%	3
Overall	3	4	5	2	0	0	72.3	10.6	14	100%	14

The Performance Summary shows the performace of each group (or class).

At a glance, the headmaster knows the performace of each and every class as well as that of the entire form.

Mark List

3G

Subject Code : Math101	Subject: Basic Mathematics	Test Date: 26/ 4/2004
Sorted by : ID Objective Mark : 100% Passing Mark : 40%	No. of Groups (Classes): 4	No. of Students: 14
	3G 3H 3K 3M	

	ID	GROUP (CLASS)	TOPICS (1-10) (11-20)	20	14	15	14	7	6	4	3	7	.	0bj% (100%)	Adj	Other	Total	
1	WB004K001	3G	Adrian Wong	14	8	10	7	5	3	4	2	4	.	63.3	0	0.0	63.3%	C
2	WB004K012	3G	Houlos Lee	16	12	15	11	6	6	4	3	5	.	86.7	0	0.0	86.7%	A
3	WB004K019	3G	Yerrald Gregory	14	8	9	7	1	6	2	1	5	.	58.9	0	0.0	58.9%	D
4	WB004K020	3G	Lai Kwang Zheng	20	14	15	10	7	6	.	3	3	.	86.7	0	0.0	86.7%	A

Group (Class)	A 85% to 100%	B 70% to 84%	C 60% to 69%	D 50% to 59%	E 40% to 49%	F 0% to 39%											Ave.	S.D.	Passes No.	Passes %	Total
3G	2	0	1	1	0	0											75.9%	12.9	4	100%	4
Overall	3	4	5	2	0	0											72.3%	10.6	14	100%	14

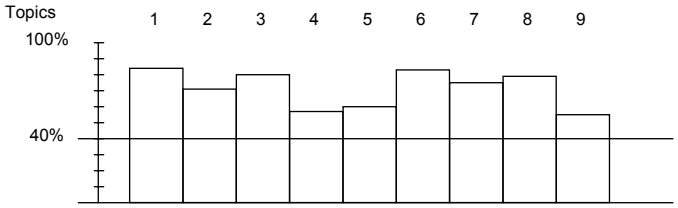
The Mark List not only lists down the grades students achieved but also the detail performance of the students in all the topics tested.

This information is invaluable to assist teachers in nuturing the students.

Topic / Difficulty Analysis

Subject Code : Math101	Subject: Basic Mathematics	Test Date: 26/ 4/2004
Sorted by : Topic Objective Mark : 100% Passing Mark : 40%	No. of Groups (Classes): 4	No. of Students: 14
	3G 3H 3K 3M	

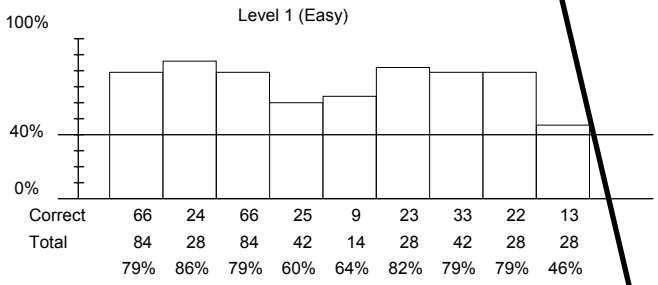
Topic Analysis



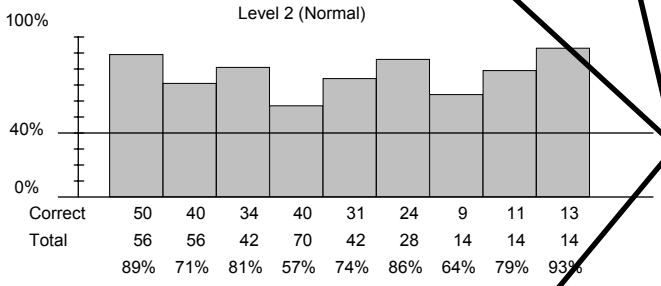
	1	2	3	4	5	6	7	8	9
Correct	234	140	167	112	59	70	42	33	54
Total	280	196	210	196	98	84	56	42	98
	84%	71%	80%	57%	60%	83%	75%	79%	55%

Difficulty Analysis

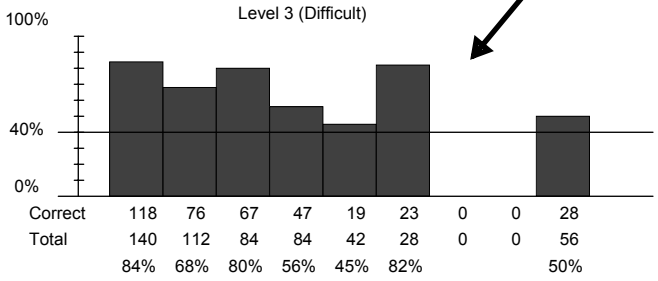
Keys: Easy Normal Difficult



	1	2	3	4	5	6	7	8	9
Correct	66	24	66	25	9	23	33	22	13
Total	84	28	84	42	14	28	42	28	28
	79%	86%	79%	60%	64%	82%	79%	79%	46%



	1	2	3	4	5	6	7	8	9
Correct	50	40	34	40	31	24	9	11	13
Total	56	56	42	70	42	28	14	14	14
	89%	71%	81%	57%	74%	86%	64%	79%	93%



	1	2	3	4	5	6	7	8	9
Correct	118	76	67	47	19	23	0	0	28
Total	140	112	84	84	42	28	0	0	56
	84%	68%	80%	56%	45%	82%			50%

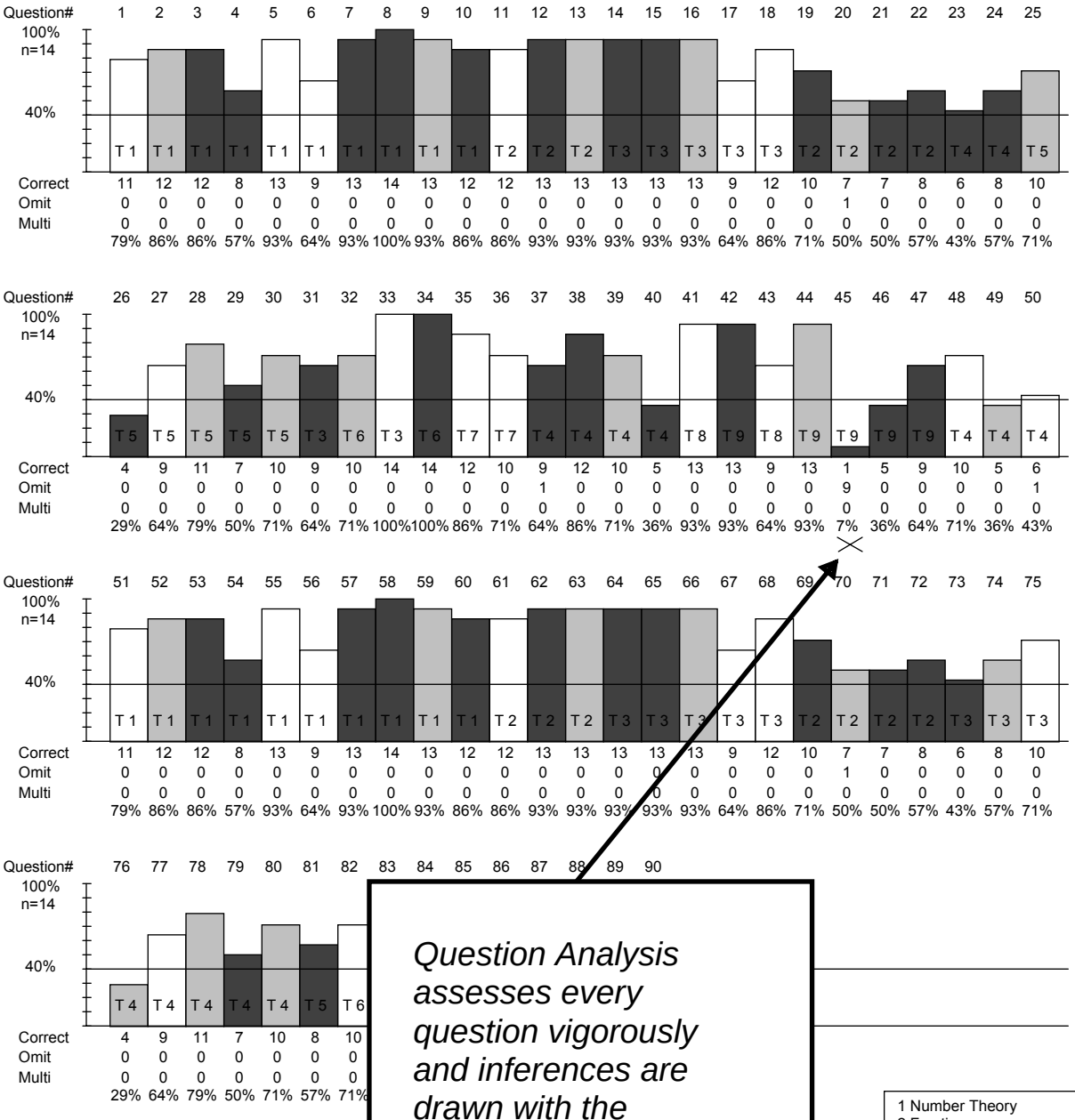
Topic Analysis presents the performance of of each topic tested. Concise macroscopic views enable trouble spots to be detected at a glance.

Difficulty Analysis further segregates each Topic into difficulty levels. The microscopic views expose all hidden problems and enable effective corrective measures to be applied right on the problems without guessing!

Topics:				
	1 Number Theory	6 Functions	11 Topic #11	16 Topic #16
	2 Fractions	7 Quadratic Equations	12 Topic #12	17 Topic #17
	3 Lines	8 Permutation	13 Topic #13	18 Topic #18
	4 Circles	9 Probability	14 Topic #14	19 Topic #19
	5 Graphs	10 Topic #10	15 Topic #15	20 Topic #20

Question Analysis

Subject Code : Math101	Subject: Basic Mathermatics	Test Date: 26/ 4/2004
Sorted by : ID Objective Mark : 100% Passing Mark : 40%	No. of Groups (Classes): 4	No. of Students: 14
	3G 3H 3K 3M	



Question Analysis assesses every question vigorously and inferences are drawn with the assistance of a Knowledge base. Abnormal questions, if exist, are highlighted for further actions.

1 Number Theory
2 Fractions
3 Lines
4 Circles
5 Graphs
6 Functions
7 Quadratic Equations
8 Permutation
9 Probability
10 Topic #10
11 Topic #11
12 Topic #12
13 Topic #13
14 Topic #14
15 Topic #15
16 Topic #16
17 Topic #17
18 Topic #18
19 Topic #19
20 Topic #20

Keys: Easy Normal Difficult X Abnormal Questions

ANALISIS ITEM
Matematik

Tarikh : 19/ 7/2006 Kod Subjek : Matematik Subjek : Matematik Susun mengikut: No. Soalan Markah Lulus : 40%	Obj. : 100 P1 : 0 P2 : 0 P3 : 0 P4 : 0	Jumlah Pelajar : 13 Bil. Kelas : 3 3A 3B 3C	

Bil. Topik	Tidak Jawab	Multi	Betul	A	B	C	D	E	T	F	
Q 1 Topic #01	0	0	10								PI = 0.77
	(0%)	(0%)	(77%)	0(0%)	0(0%)	3(23%)	10(77%)	0(0%)	0(0%)	0(0%)	DI =+0.06
Q 2 Topic #01	0	0	11								PI = 0.85
	(0%)	(0%)	(85%)	0(0%)	11(85%)	1(8%)	1(8%)	0(0%)	0(0%)	0(0%)	DI =+0.40
Q 3 Topic #01	0	0	12								PI = 0.92
	(0%)	(0%)	(92%)	12(92%)	0(0%)	0(0%)	1(8%)	0(0%)	0(0%)	0(0%)	DI =-0.14
Q 4 Topic #01	0	0	8								PI = 0.62
	(0%)	(0%)	(62%)	8(62%)	2(15%)	3(23%)	0(0%)	0(0%)	0(0%)	0(0%)	DI =-0.03
Q 5 Topic #01	0	0	12								PI = 0.92
	(0%)	(0%)	(92%)	0(0%)	0(0%)	12(92%)	1(8%)	0(0%)	0(0%)	0(0%)	DI =+0.20
Q 6 Topic #01	0	0	8								PI = 0.62
	(0%)	(0%)	(62%)	3(23%)	1(8%)	1(8%)	8(62%)	0(0%)	0(0%)	0(0%)	DI =+0.31
Q 7 Topic #01	0	0	12								PI = 0.92
	(0%)	(0%)	(92%)					0(0%)	0(0%)	0(0%)	DI =-0.14
Q 8 Topic #01	0	0	13								PI = 1.00
	(0%)	(0%)	(100%)					0(0%)	0(0%)	0(0%)	DI =+0.00
Q 9 Topic #01	0	0	12								PI = 0.92
	(0%)	(0%)	(92%)					0(0%)	0(0%)	0(0%)	DI =+0.20
Q10 Topic #01	0	0	11								PI = 0.85
	(0%)	(0%)	(85%)					0(0%)	0(0%)	0(0%)	DI =+0.40
Q11 Topic #02	0	0	11								PI = 0.85
	(0%)	(0%)	(85%)					0(0%)	0(0%)	0(0%)	DI =+0.06
Q12 Topic #02	0	0	12								PI = 0.92
	(0%)	(0%)	(92%)					0(0%)	0(0%)	0(0%)	DI =-0.14
Q13 Topic #02	0	0	12								PI = 0.92
	(0%)	(0%)	(92%)	0(0%)	1(8%)	12(92%)	0(0%)	0(0%)	0(0%)	0(0%)	DI =-0.14
Q14 Topic #03											PI = 0.92
								0(0%)	0(0%)	0(0%)	DI =+0.20
Q15 Topic #03											PI = 0.92
								0(0%)	0(0%)	0(0%)	DI =+0.20
Q16 Topic #03											PI = 0.92
								0(0%)	0(0%)	0(0%)	DI =-0.14
Q17 Topic #03											PI = 0.62
								0(0%)	0(0%)	0(0%)	DI =+0.31
Q18 Topic #03											PI = 0.85
								0(0%)	0(0%)	0(0%)	DI =+0.40
Q19 Topic #02											PI = 0.69
	(0%)	(0%)	(69%)	2(15%)	9(69%)	1(8%)	1(8%)	0(0%)	0(0%)	0(0%)	DI =+0.26
Q20 Topic #02	1	0	7								PI = 0.54
	(8%)	(0%)	(54%)	7(54%)	2(15%)	3(23%)	0(0%)	0(0%)	0(0%)	0(0%)	DI =+1.00

SmartScore takes the trouble to list down responses chosen by the students. With this, teachers can have complete insight on what actually went wrong!

SmartScore also computes the Passing Index(PI), which indicates the percentage of passes, and Discrimination Index (DI), which differentiates good questions from poor questions. DI ranges from -1 to +1. Good questions have DI close to +1 and questions with negative DIs are poor questions

PI = Indeks Kelulusan
DI = Indeks Diskriminasi