FOR TEACHERS ONLY

The University of the State of New York
REGENTS HIGH SCHOOL EXAMINATION

PS–ES PHYSICAL SETTING/EARTH SCIENCE

Wednesday, August 16, 2006 — 12:30 to 3:30 p.m., only

SCORING KEY AND RATING GUIDE

Directions to the Teacher:

Refer to the directions on page 3 before rating student papers.

Updated information regarding the rating of this examination may be posted on the New York State Education Department's web site during the rating period. Check this web site http://www.emsc.nysed.gov/osa/ and select the link "Examination Scoring Information" for any recently posted information regarding this examination. This site should be checked before the rating process for this examination begins and several times throughout the Regents examination period.

Part A and Part B–1
Allow 1 credit for each correct response.

Part A

1 . . . . . **1**	13 . . . . . **3**	25 . . . . . **3** . . . . .
2 . . . . . **3**	14 . . . . . **3**	26 . . . . . **3** . . . . .
3 . . . . . **3**	15 . . . . . **4**	27 . . . . . **1** . . . . .
4 . . . . . **1**	16 . . . . . **1**	28 . . . . . **3** . . . . .
5 . . . . . **2**	17 . . . . . **1**	29 . . . . . **3** . . . . .
6 . . . . . **4**	18 . . . . . **1**	30 . . . . . **4** . . . . .
7 . . . . . **4**	19 . . . . . **3**	31 . . . . . **1** . . . . .
8 . . . . . **3**	20 . . . . . **1**	32 . . . . . **4** . . . . .
9 . . . . . **4**	21 . . . . . **1**	33 . . . . . **3** . . . . .
10 . . . . . **2**	22 . . . . . **2**	34 . . . . . **1** . . . . .
11 . . . . . **1**	23 . . . . . **4**	35 . . . . . **2** . . . . .
12 . . . . . **3**	24 . . . . . **4**	

Part B–1

36 . . . . . **3**	44 . . . . . **4** . . . . .
37 . . . . . **1**	45 . . . . . **1** . . . . .
38 . . . . . **1**	46 . . . . . **3** . . . . .
39 . . . . . **4**	47 . . . . . **3** . . . . .
40 . . . . . **3**	48 . . . . . **2** . . . . .
41 . . . . . **2**	49 . . . . . **3** . . . . .
42 . . . . . **3**	50 . . . . . **1** . . . . .
43 . . . . . **3**	

Directions to the Teacher

Follow the procedures below for scoring student answer papers for the Physical Setting/Earth Science examination. Additional information about scoring is provided in the publication *Information for Administering and Scoring Regents Examinations in the Sciences*.

Use only *red* ink or *red* pencil in rating Regents papers. Do *not* correct the student's work by making insertions or changes of any kind.

On the detachable answer sheet for Part A and Part B–1, indicate by means of a checkmark each incorrect or omitted answer. In the box provided at the end of each part, record the number of questions the student answered correctly for that part.

At least two science teachers must participate in the scoring of each student's responses to the Part B–2 and Part C open-ended questions. Each of these teachers should be responsible for scoring a selected number of the open-ended questions on each answer paper. No one teacher is to score all the open-ended questions on a student's answer paper.

Student's responses must be scored strictly according to the Scoring Key and Rating Guide. For open-ended questions, credit may be allowed for responses other than those given in the rating guide if the response is a scientifically accurate answer to the question and demonstrates adequate knowledge as indicated by the examples in the rating guide. In the student's answer booklet, record the number of credits earned for each answer in the box printed to the right of the answer lines or spaces for that question.

Fractional credit is *not* allowed. Only whole-number credit may be given to a response. Units need not be given when the wording of the questions allows such omissions.

Raters should enter the scores earned for Part A, Part B–1, Part B–2, and Part C on the appropriate lines in the box printed on the answer booklet and then should add these four scores and enter the total in the box labeled "Total Written Test Score." The student's score for the Earth Science Performance Test should be entered in the space provided. Then, the student's raw scores on the performance test and written test should be converted to a scaled score by using the conversion chart that will posted on the Department's web site http://www.emsc.nysed.gov/osa/ on Wednesday, August 16, 2006. The student's scaled score should be entered in the labeled box on the student's answer booklet. The scaled score is the student's final examination score.

All student answer papers that receive a scaled score of 60 through 64 **must** be scored a second time. For the second scoring, a different committee of teachers may score the student's paper or the original committee may score the paper, except that no teacher may score the same open-ended questions that he/she scored in the first rating of the paper. The school principal is responsible for assuring that the student's final examination score is based on a fair, accurate, and reliable scoring of the student's answer paper.

Because scaled scores corresponding to raw scores in the conversion chart may change from one examination to another, it is crucial that for each administration, the conversion chart provided for that administration be used to determine the student's final score.

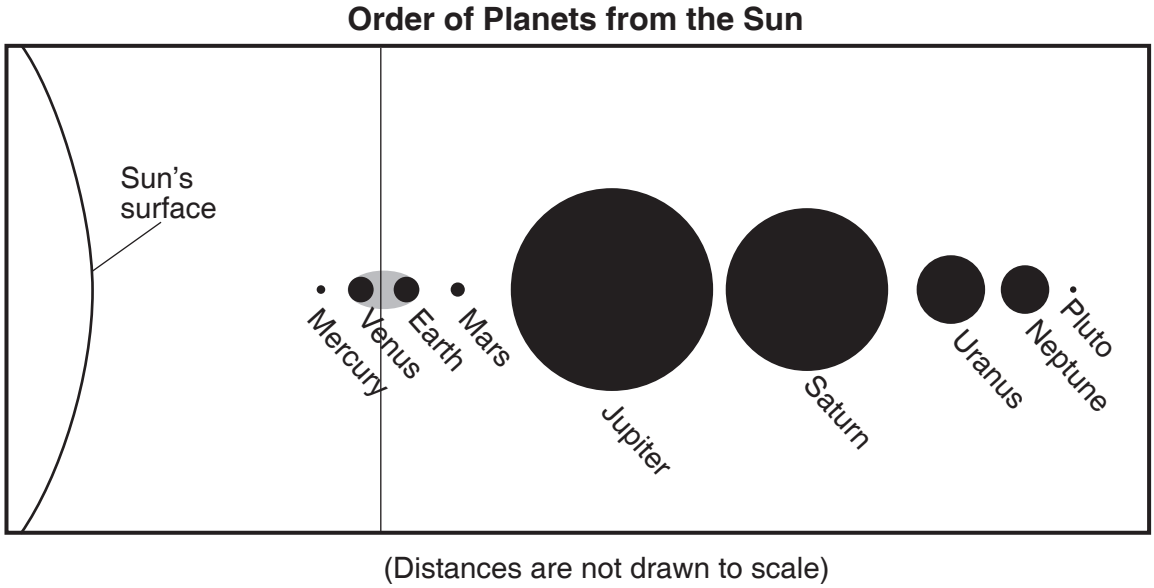
Part B–2

Allow a total of 15 credits for this part. The student must answer all questions in this part.

51 [1] Allow 1 credit for fusion *or* nuclear fusion.

52 [1] Allow 1 credit for a vertical line drawn anywhere through the shaded area shown below. The line does *not* have to be perfectly vertical.

Example of a 1-credit response:



53 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

— *Aldebaran* is larger than the Sun.

— The Sun is smaller than *Aldebaran*.

54 [1] Allow 1 credit for Devonian Period.

55 [1] Allow 1 credit for *Pleurodictyum*.

56 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

— widespread geographic distribution

57 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

— The organisms lived in a shallow sea.

— They lived in a marine environment.

58 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

— There is no contact metamorphism between rock unit *A* and the sandstone.

— An unconformity exists between the igneous intrusion and sandstone layer.

59 [2] Allow a maximum of 2 credits, allocated as follows:

- Allow 2 credits if all four responses are correct. Acceptable responses include, but are not limited to:

Granitic bedrock

Texture:
- — coarse
- — nonvesicular

Density:
- — low density
- — 2.7 g/cm^3

Basaltic bedrock

Texture:
- — fine
- — vesicular or nonvesicular

Density :
- — high density
- — 3.0 g/cm^3

- Allow 1 credit if only two or three of the responses for the textures and densities are correct.

60 [1] Allow 1 credit if *both* minerals are correct. Acceptable responses include, but are not limited to:

— olivine

— pyroxene *or* augite

— plagioclase *or* plagioclase feldspar

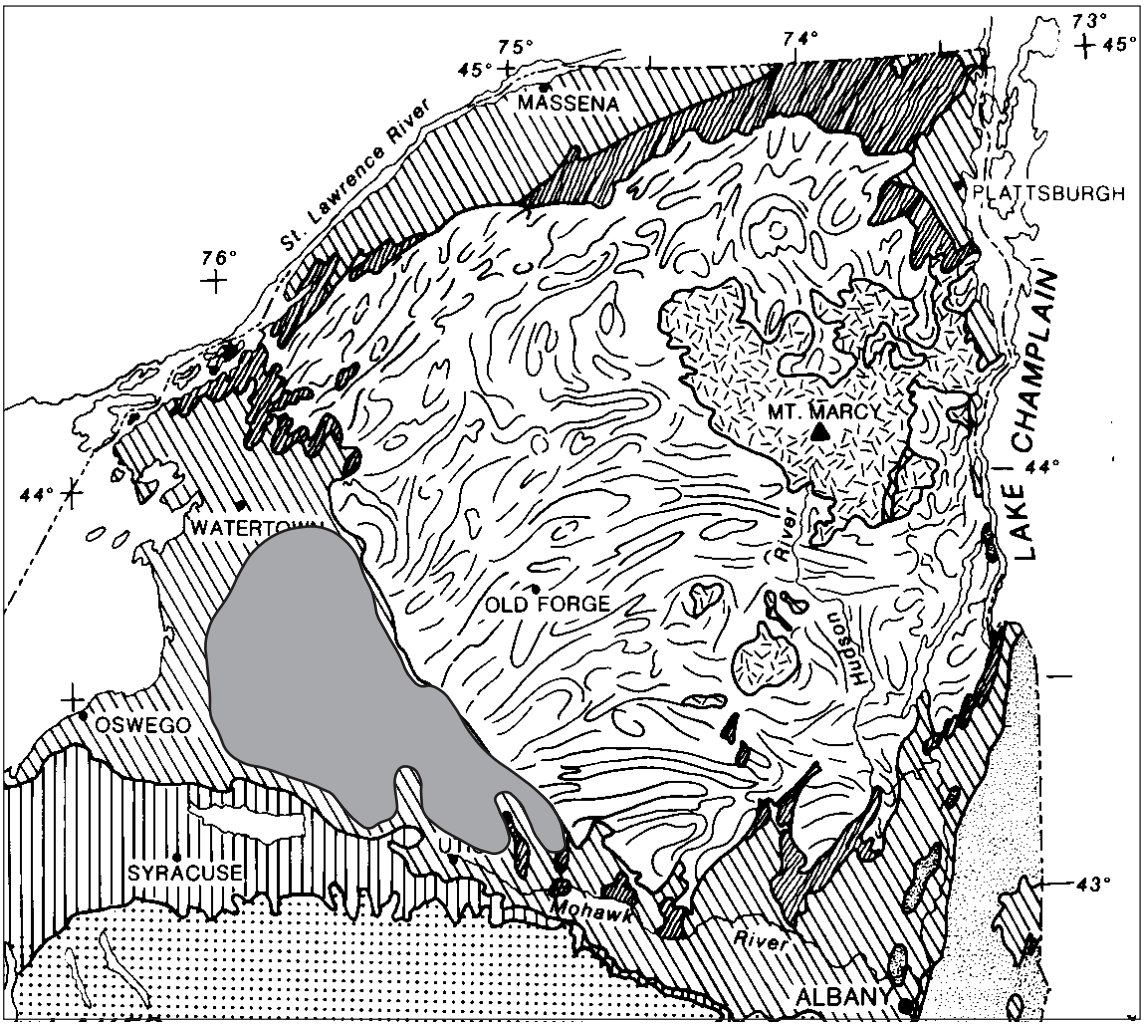
Note: Do *not* accept "feldspar" only.

61 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

— rigid mantle

— uppermost part of the mantle

62 [1] Allow 1 credit if the center of the **X** is located within the shaded area shown. Also allow credit if a symbol other than **X** is used.



63 [1] Allow 1 credit for 74° W. The correct unit and compass direction must be included in the answer.

64 [1] Allow 1 credit if *both* the name of the geologic age and the name of the bedrock are correct. Acceptable responses include, but are not limited to:

Geologic age: — Proterozoic

— Middle Proterozoic

— Precambrian

— about 1000 million years

Name of bedrock: — anorthosite

— anorthositic

Part C

Allow a total of 20 credits for this part. The student must answer all questions in this part.

65 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

— Allegheny Plateau

— Appalachian Plateau (uplands)

— Catskills

66 [2] Allow a maximum of 2 credits, allocated as follows:

• Allow 2 credits if five or six processes are correctly identified.

• Allow 1 credit if only three or four processes are correctly identified.

Example of a 2-credit response:

Number	Water Cycle Process
1	evaporation
2	transpiration
3	condensation
4	precipitation
5	runoff
6	infiltration

67 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

— trench

— Peru-Chile trench

— a subduction zone

— a convergent boundary

— a fault

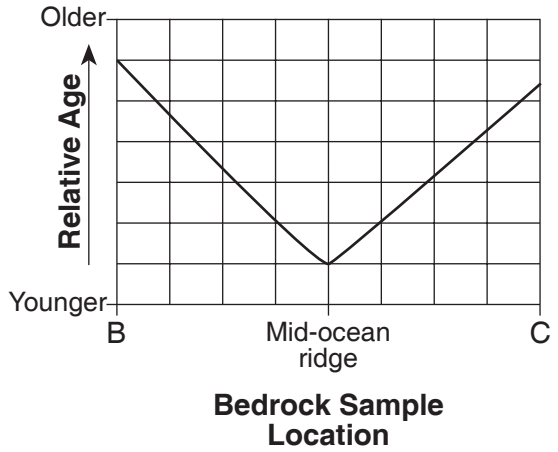
68 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

— divergence

— seafloor spreading

69 [1] Allow 1 credit for a correctly drawn line. The line may be curved or straight, and the lowest point should be at the mid-ocean ridge.

Example of a 1-credit response:



70 [2] Allow a maximum of 2 credits, allocated as follows:

- Allow 2 credits if an **X** is correctly placed on *each* of the six towns, and a line correctly connects the six towns in the order described in the article. The arrow should point eastward and does not need to be at the end of the line.

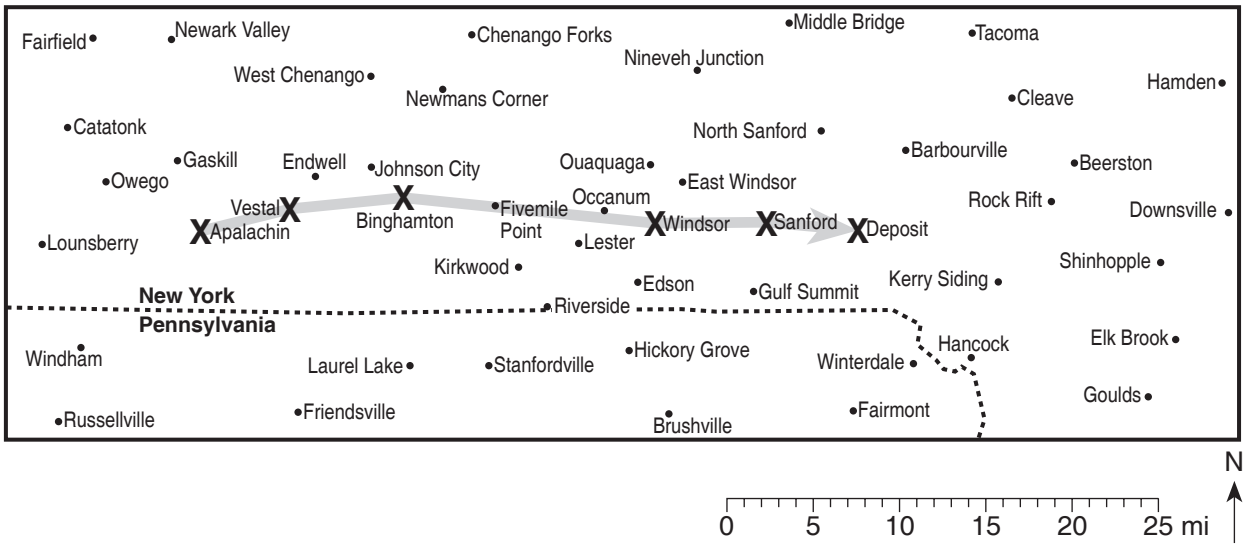
- Allow 1 credit if an **X** is correctly placed on only four or five towns, and a line correctly connects the four or five towns in the order described in the article. The arrow should point eastward and does not need to be at the end of the line.

or

- Allow 1 credit if an **X** is correctly placed on *each* of the six towns, but the line and/or the arrow has been incorrectly drawn or omitted.

Note: Also allow credit if a symbol other than **X** is used.

Example of a 2-credit response:



71 [1] Allow 1 credit for *two* correct responses. Allow credit for either upper- or lower-case letters. For example, allow credit for MT or Mt or mt or mT. Acceptable responses include, but are not limited to:

— cP and mT

— mT and cP

— mT and cA

— cA and mT

Note: Do *not* allow credit if the letters are reversed, e.g., Tm.

72 [1] Allow 1 credit for cold front.

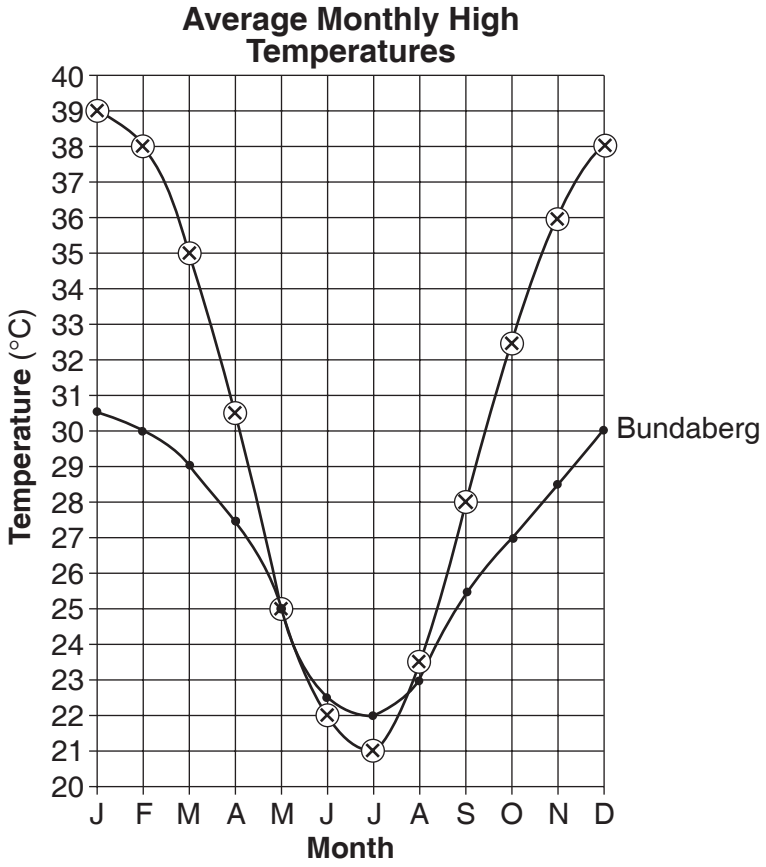
73 [1] Allow 1 credit if three or four classifications are correct, as shown below.

Town	F-Scale Number
Vestal	1
Windsor	0
Sanford	1
Deposit	3

74 [1] Allow 1 credit for 0.7 mi/m.

75 [1] Allow 1 credit if the centers of ten, eleven, or twelve plotted **X**s are within the circles shown and the **X**s are correctly connected with a line.

Example of a 1-credit response:



76 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

— Birdsville is located inland near the center of the continent.

— Bundaberg is located near a large body of water (the ocean) that moderates climate temperatures.

77 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

— Bundaberg is located near the ocean.

— Birdsville is located inland.

— The warm ocean current affects the climate of Bundaberg.

— Bundaberg is located on the windward side of the mountain.

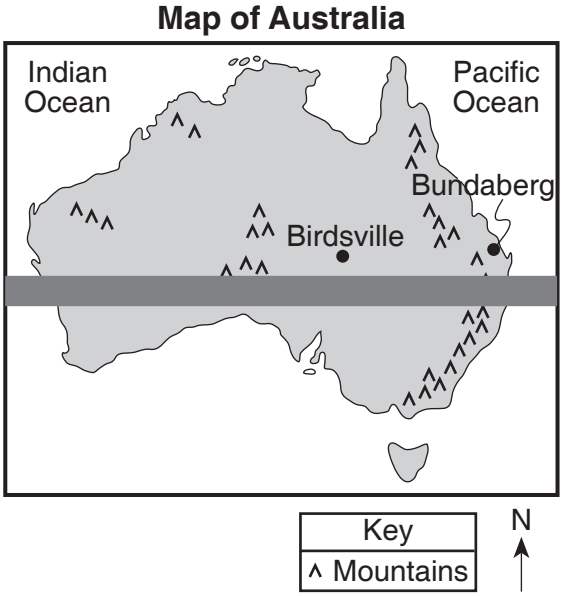
78 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

— Bundaberg is located east of Birdsville.

— Birdsville is west of Bundaberg.

— Earth rotates west to east.

79 [1] Allow 1 credit for drawing a horizontal line at 30° S latitude within the shaded area shown below.



80 [1] Allow 1 credit for any value from 400 to 600 million km.

81 [1] Allow 1 credit. Acceptable responses include, but are not limited to:

— Asteroid 1994 XL1 was very small.

— The asteroid was 100,000 times fainter than the naked eye could see.

— Asteroid 1994 XL1 was dark colored.

82 [1] Allow 1 credit for 65 million yr.

The *Chart for Determining the Final Examination Score for the August 2006 Regents Examination in Physical Setting/Earth Science* will be posted on the Department's web site http://www.emsc.nysed.gov/osa/ on Wednesday, August 16, 2006. Conversion charts provided for previous administrations of the Regents Examination in Physical Setting/Earth Science must NOT be used to determine students' final scores for this administration.

The *Teacher Evaluation of State Examinations* forms will be posted on the same web site. Please select the link "Teacher Evaluation Forms" and then the examination title to complete the evaluation form for the *August 2006 Regents Examination in Physical Setting/Earth Science*.

Map to Core Curriculum

August 2006 Physical Setting/ Earth Science			
Question Numbers			
Key Ideas/Performance Indicators	Part A	Part B	Part C
Standard 1			
Math Key Idea 1	3	39,42	69,74,75
Math Key Idea 2	12,35	38,46,53	
Math Key Idea 3			
Science Inquiry Key Idea 1		40,56	76,77,78
Science Inquiry Key Idea 2			
Science Inquiry Key Idea 3	5,9,19,31,32	48,49,50,51,54,59, 60,62,63,64	66,70,80,81,82
Engineering Design. Key Idea 1			
Standard 2			
Key Idea 1			71,72
Key Idea 2			81
Key Idea 3			
Standard 6			
Key Idea 1	7,17,23,26	44,47,57,58	65,76,78
Key Idea 2	10,13,14,17,20,21, 23,25,26,27,30,34, 38	36,37,41,43,45,47, 54,55,58,61,63,64	67,68,70,77,79
Key Idea 3	33		70
Key Idea 4			
Key Idea 5	17	52	66
Key Idea 6			
Standard 7			
Key Idea 1			
Key Idea 2			
Standard 4			
Performance Indicator 1	1,2,3,4,5,6,7,21,31, 34,35	36,37,38,39,40,51, 52,53,54,55,56,57, 58,63,64	71,78,79,80,81,82
Performance Indicator 2	8,9,10,11,12,13,14, 15,16,17,18,19,20, 22,23,24,25,26,27, 28,29,30	41,42,43,44,45,46, 47,48,59,61,62	65,67,68,69,70,71,72,73, 74,75,76,77
Performance Indicator 3	32,33	48,49,60	
Reference Tables			
ESRT 2001 edition	3,5,7,9,10,12,19, 31,32,33	38,39,42,48,49,50, 53,54,55,59,60,61, 62,63,64	65,67,68,71,79,80,82