

56920 2016/ ISO/IEC/IEEE 29119 1:2013

1

ISO/IEC/IEEE 29119-1:2013
Software and systems engineering — Software testing —
Part 1: Concepts and definitions
(IDT)



© , 2016

, -

1     1       1     1       1     1       5     9       5     11       5     16       5     4       5     20       5     21       5     26       5     29       ( )     30       ( )     31       ( )     32       D( )     38       ( )     46        48	1		1
5.1     9       5.2     11       5.3     16       5.4     20       5.5     21       5.6     26       5.7     29       5.6     29       ( )     30       ( )     31       ( )     32       D( )     38       ( )     46			2
5.1	1		3
5.1       .9         5.2       .11         5.3       .16         5.4       .20         5.5       .21         5.6       .26         5.7       .29         5.6       .29         ( )       .30         ( )       .31         ( )       .32         D( )       .38         ( )       .46	1	•	4
5.2           5.3        5.4        5.5        5.6        5.7        5.6        5.7        5.6        ( )        30        ( )        31        ( )        32        D( )        38        ( )        46	9		5
5.3     16       5.4     20       5.5     21       5.6     26       5.7     29       ( )     30       ( )     31       ( )     32       D( )     38       ( )     46	9	5.1	5.
5.3       16         5.4       20         5.5       21         5.6       26         5.7       29         5.6       29         ( )       30         ( )       31         ( )       32         D( )       38         ( )       46		5.2	5.
5.4       20         5.5       21         5.6       26         5.7       29         5.6       30         ( )       31         ( )       32         D( )       38         ( )       46	11		
5.5       21         5.6       26         5.7       29         5.6       30         ( )       31         ( )       32         D( )       38         ( )       46		5.3	5.
5.6       26         5.7       29         5.6       29         ( ) 30       31         ( ) 32       32         D( ) 38       38         ( ) 46       46	20	5.4	5.
5.7       29         5.6       29         ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( ) ( )	21	5.5	5.
5.6	26	5.6	5.
( )	29	5.7	5.
( )	29	5.6	5.
( )32 D( )38 ( )46	30	( )	
D( )38 ( )46	31	( )	
( )46		(	
	38	D (	
	46	(	

```
( )
                  1.
         2.
                                                               75 %
         29119*1
                             29119
1.
2.
3.
4.
                                           29119 «
                                ( ),
                                                   ( ),
```

IV

```
29119.
                                          29119.
8
                                                                                      29119-2
           29119-3 (
           29119 «
29119-2 «
                                                                 29119-2
                 29119-3 «
                                    29119-4 «
                                             29119
```

,

DEPERTURE STENT PERVINDOBSHIMO
TO TEXHVIPOTOM
N METPOTOM

DEPERTURE BEHT CTBO DEBAHMO TO TEXHVIPOTUM NO TEXHVIPOTUM NOT MET POTOTUM

DEPENDANCE STEHTCTED WINDOBSHIMO
TO TEXHWHECKOMY DETYTIMDOBSHIMO
IN METPOTOTIVI

## 56920-2016/ISO/IEC/IEEE 29119-1:2013

1

Software end systems engineering. Software testing. Part 1. Concepts end definitions

**—** 2017**—**06**—**01

```
1
8
                                                                               29119.
2
                                     29119 «
                                                         29119-2.
                                                                                         29119-3
           29119-4.
3
           24765,
         1.2.
                                                  29119 «
                                      29119. 8
                               24765.
                                                           : http://www.computer.org/s6vocab.
```

4.1	(accessibility testing):
4.2	(actual results):
	<del>_</del> , , ,
4.3	(backup and recovery testing):
	,
4.4	. « » (black-box testing): . «
4.5	» 4.39. (capacity testing):
,	, )
4.6	. (compatibility testing):
	( ) .
	).
4.7 4.6	(coverage item): . « » 4.54. (decision):
4.9	(dynamic testing):
4.10	(endurance testing):
	,
4.11	(equivalence partition):
	, (
4.12	(equivalence partition coverage):
	_ (
	« » ):
4.13	(equivalence partitioning):
4.4.4	,
4.14	(error guessing):
,	«          ».
4.15	(expected results):
4.16	(exploratory testing):
	, )
	, "

4.17	(feature set):
	- ( )
	().
4.18	(Incident Report): ,
4.19	(instailability testing):
4.20	(load testing):
, 4.21	, (maintainability testing): ,
4.22	(Organizational Test Policy):
•	, , ,
)	— °
4.23	(Organizational Test Process):
4.24	(Organizational Test Specification):
	· -
4.25	(Organizational Test Strategy): ,
	•
1 2	
4.26	/ (pass/fail criteria):
4.27	(performance testing): ,
4.28	(portability testing):
4.29	(procedure testing):
4.30	(product risk):
4 31	(project risk):

	_ , , ,
4.32	(regression testing):
	, —
4.33	(reliability testing): ,
	,
4.34	· (retesting): , , ,
	· • ».
4.35	(risk-base testing):
4.36	(scenario testing):
•	·
4.37	(scripted testing):
	<del>.</del>
4.38	(security testing):
	,
4.39	(specification-based testing):
	, 
4.40	. (statement coverage):
4.41	, (statement testing): ,
4.42	(static testing):
	(static testing).
4.43	, . (stress testing):
	(stress testing).
, 4.44	(structure-based testing):

(structure-based testing):

4

4.45

4.45.

	1	,	
	2 3	,	
	4.46	« ».	
,	4.46 )	(suspension criteria): , , , , , , , , , , , , , , , , , , ,	
	4.47	(test basis): ,	•
		_ ,	-
•			
	4.48	(test case):	
	, ,	,	
		, ,	
	1	, –	
	2	(	
	), 3 —	,	
	4 4.49	, (Test Cose Specification):	
		(Test Case Specification):	
	4.50	(Test Completion Process):	-
			-
	4.51	(Test Completion Report): ,	-
	4.52 ,	(test condition):	
		·	
	4.53	(test coverage): , ,	-
	4.54	. (test coverage item):	
		y y	
	4.55	(test data):	_
		,	-
		-	
		) ,	-
	4.56	(Test Data Readiness Report): ,	-

S

```
4.57
                                                                       (Test Design and Implementation
Process):
     4.58
                                                      (Test Design Specification):
     4.59
                                                        (test design technique):
     4.60
                            (test environment):
    .).
     4.61
                                                    (Test Environment Readiness Report):
     4.62
                                               (Test Environment Requirements):
      /
                                                   (Test Environment Set-up Process):
     4.63
     4.64
                                (test execution):
                                         (Test Execution Log):
     4.65
     4.66
                                           (Test Execution Process):
     4.67
                                                                   (TestIncident Reporting Process):
     4.68
                                    (test item):
     4.69
                                  (test level):
     4.70
                                        (test management):
     4.71
                                                     (Test Management Process):
     4.72
                                                                           (Test Monitoring and
                                                                                                    Control
Process):
     4.73
                                (test object):
                                                                                            4.68.
6
```

```
(test phase):
 4.74
                                (Test Plan):
 4.75
 1 8
                                                ),
).
2
 3
 4.76
                                                      (Test Planning Process):
 4.77
                                   (test practice):
 4.78
                                     (test procedure):
 4.79
                                                        (Test Procedure Specification):
 2
 4.80
                                 (test process):
 4.81
                              (test requirement):
                                                                                             4.52.
 4.82
                                   (test result):
 4.83
                                   (test script):
 4.84
                       (test set):
```

4.85	(test specification):	X
•	<u> </u>	
	,	
4.86	(Test Status Report): ,	
4.87	(test strategy):	-
	•	
1	<del>-</del>	
2	· · · · · · · · · · · · · · · · · · ·	-
•	, , ,	-
4.88	(test sub-process):	-
	( , , , , , , , , , , , , , , , , , , ,	
)	( , , , , , , , , , , , , , , , , , , ,	-
,		-
•	, , , , , , , , , , , , , , , , , , ,	-
4.89 »	(test technique): « 4.59.	-
4.90	(test traceability matrix):	
	,	-
1	,	
2		
4.91	(test type):	
	· —	
	( , , ).	
	_ , ,	-
4.92	(testing): ,	/
-		
	<del>-</del> , , , , , , , , , , , , , , , , , , ,	:
4.93	(testware):	-
•	,	-
	, , , , , , , , , , , , , , , , , , ,	
4.94	(unscripted testing):	

```
4.95
                                 (volume testing):
(
                                                                                           )
                                              » (white box testing):
4.96
                       4.45.
5
5.1
                            ( )
               ( )
                                          ( )
                                                                             ).
                                                                            25010 «
                                            ( . 5.5.3).
```

	• –	, , 29119-2 «	»);	. (	
	•	, / 29119-2.			÷
(	);	)		( , : . 8	
	. (	, 1028)		. <b>o</b>	,
	. , ;	,			•
	•	,		); , « »	(
	· 	,	;	/ / 29119-2. ;	
	• , - 5.1.1	, ,	,		
6	,	·	, .	, / 12207	1012.
		,	).		(
	5.1.2				

5.4.

```
5.1.3
                         (
           ),
5.2
   ),
                                                                                                              ).
```

```
( . 5.4),
                                                                                                                                                                                                                                                                   5.6.
                                ).
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                    ).
                                                                                                                                                                                                                                                                                                                                                                 FIGURATION
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                           Огранизм
            меструпция,
сати фарты и замены 1....п
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  ТВОТИРОННЕ МИ
Ортвизиции
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                          Dimonoldeuminnen
Lenimbonerens
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                     Beno-
                                                                                                                                                                                                                                 Committee of the Commit
                                                                                                                               MCO MSK
29119
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                 Отритиски
тистфизичног
                       WCO 26000
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                        Takes
                                                                                                                                                                                                                                                                                                                                      Еулин аромети
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                  THOTHPOMMAN
                                                                                                                                                                                                                                                                  Commerce and
                                                                                                                                                                                                                                                            R pyrocoporius
                                    MCC 20010
Харбагериении иннеения
                                                                                                                                                                                                                                                                                                                                                                                                                                                                   1...n Parent representations
Techniquesians
                                                                                                                                                                                                                                                                                                        Плинтиотирования
                                                           8..0
                                                                                                                                                                                                                                                                                                                                     INDOMENT.
                                                          Q...n
                TOCHEDORAKINE
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Прилам
                                                                                                                                                                         Партроциос
                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                                             Уражны
               Уромен/фана
тестирования
                                                                                                                                                                                                        Мехаррий, бублино-
вого теблировения
                                                                                                                                                                                                                                                                                                                                                      Merchine apprisonment
                                                                                                                                                                                                                                                                                                                                                               MOTO TROTHOCHMAN
                                                                                                                                                                                                                                                                                                                                                                                                                                                               Миторини
                                                                                                                                                                                                                                                                                                                                                                                                                                                        апрущурнаго
                                                                                                                                                                                                                                                                                                                                                                                                                                                    TWOTHPOWERS
```

1 —

```
56920—2016
```

```
).
                                                ),
         ,
5.5.6
                               29119-4.
                                               6).
      ,
29119.
                                                             2.
            );
                              recnvowwi
2 —
```

56920—	-2016								
•			,	);	( );	,	,		
• (	, 2 /	25010 «		, ).			,	»).	(
5.2.1						5.5.3.	·		
/ / ). ,	29119-2		,			3.	, ( , ),		
				,	3.				

3 —

, ( )

\*4

.

/ / 29119-2. , 1028.

Тестиро-Процессы динамического тестирования евния Резуль-(Проблем Специ-Разработка таты не обнаружено] фикация Выполнение и Реализация Тестирования [Обнаружена проблема Tecmupo-Tecmupo-Тестирования **РИНВР** сания или результат перетестирования) Требования к Тестовой Среде Создание Отчетность и Поддержка об Инцидентах Тестовой Отчет Отчет об Тестирования Среды о Готовности Инцидентах Тестовой Среды

5 —

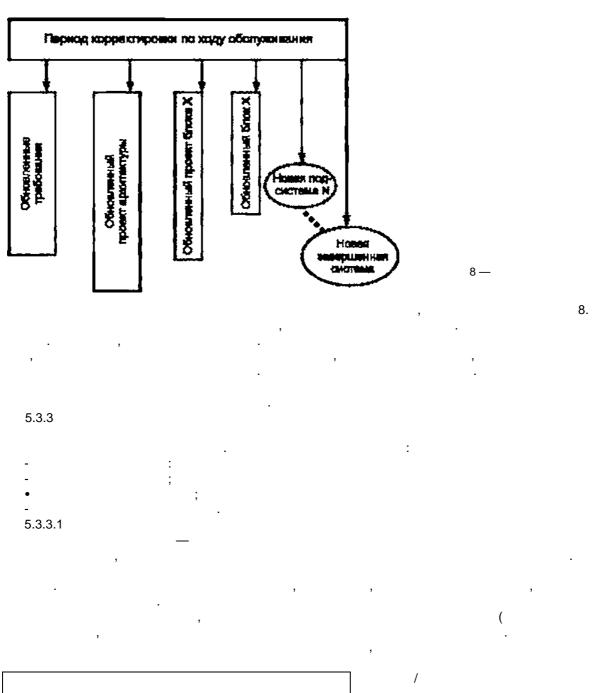
/ / 29119-2.

5.3

5.3 12207:2008 15288 6. ыметоно тинца йыннененик йишдО CHITHIA CHAMILE S RECEIVING THE LINE Посперния реигистиция Жизнанный цикл ризриботии Жизнанный цикл эксплуктации 9 0} ^} 6 — 6 ). (COTS) 25051. 5.3.1 ».

```
8
     8
                           7.
                                               Датильнов провитировение
                     Провитировиния
архитектуры
Инповиция
Требований
                                                                           Кормронение
                                                                                                     Интегрещия
                                                                             Eros 1
                                                     7 —
                                                             7,
     5.3.2
                                                                                                    (SLA)
                                                                                                                    8.
```

56920-2016



тtereewe

Процессы менекримента тестирования, елияющие на проект тестирования

9.

5.3.3.2

,							
,							
8				,			
					,		
	,			,			
·							
5.3.3.3		,					
5.5.5.5		_				,	
	•			,	•		
		,					
,		,				,	
,							
,							
	:		,				
•		).				•	
•							
• ( ),			,			,	
			,		,	,	
,				,		,	
	,			,			
		,	,	,	,		
		,				,	
,						,	
	,	,					
	\						
,	,				,		
	,			,	,		
			•				

(

5.3.3.4	,		
,			-
: 1		,	
2	{	,	).
,		1	
	·		
,	,	,	•
		,	
		,	,
5.4		,	
	{ ,	,	),
			,
. 8 / 16085 <b>«</b>	».		
,		,	, (
),		(	).
)	,		,
5.4.1			
	,		,
• ,		•	

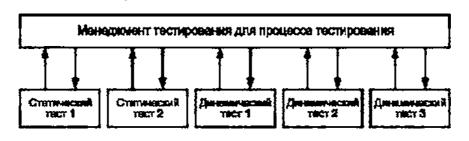
•

										,		
5.4.2												
					(						)	-
	,	,	,					(			,	
			,					).	(	,		
			,					).	,		,	
,			,		,						,	
					,					,		-
					(		,			)		
									,		,	
5.4.3												
		, (		)						,	,	
								,				
,												
			,	,				,	,			
,				-		,						
5.5												
		,						,	. /			
		,	•									
		,				,					,	
											,	

· ,

. .

, 5.5.5.



.

10 —

).

D. , , ,

, 5.5.1

• ;

• :

,

5.5.2 5.5.4 ( ), 5.5.3 25010 « ).

```
5.5.4
          ),
                                                                         25010 «
                                                                                            25010
5.5.5
```

```
.
5.5.6
(«
    )»)
    5.5.6.1
                                                                        1012 ( .
             1026:2008.
     ).
                                                                 ( )
             29119 «
                                                   29119 «
    ».
5.5.6.2
                29119-4
```

```
56920—2016
/ / 29119-4.
/ / 29119-4 «
                                            29119-4.
5.6
5.6.1
                                                       5.4.
                                         / 29119
           29119-2.
           29119-2.
 5.6.2
                ,
12207.
```

( , ).

```
).
                                                                                               (
                            )
     5.6.3
8
                                                                                         UML)
(
                   UML
                                           ).
                                                        (
     5.6.4
                                                                           . 8
                                                                                            29119-4:
```

```
56920—2016
```

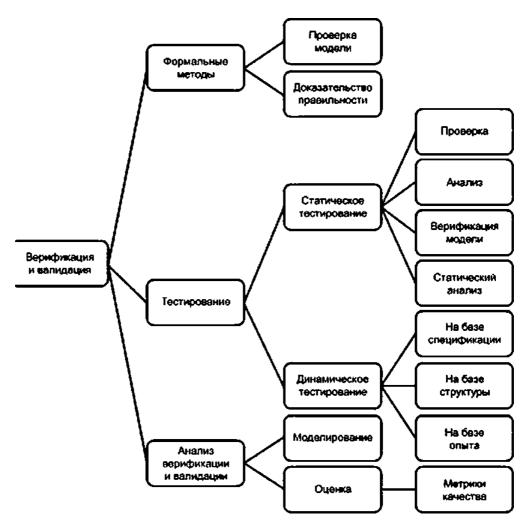
```
/ / 29119-4), :
   22'
5.6.5
              29119-4
              / 29119-4
       29119-2
               .
29119-2.
5.6.6
```

5.7

-	-
, -	· , -
, - . « » « - »	· · · · · · · · · · · · · · · · · ·

( )

.1 1012 / 12207. . / 29119 ( ),



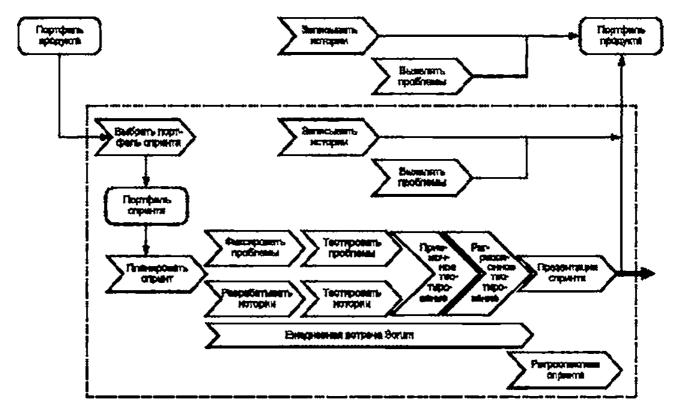
.1 —

).

( ) .1 ): .2 .2.1 ): < ). Scrum, Crystal. Feature-Driven Development. (Agile Manifesto, . http://:agliemanlfesto.org/). Scrum ( Scrum. ). Scrum .1. .2.2

, « -

```
Развитие бизнас-пребований
                                                                           Беканас-
                   Бижнео-
требовения
                                     Портфель продукть
                       Прорукт
                                                                  Прорукт
                                                                                        Прорукт
                                                       Полтипное резестие
                          Scrum
Scrum (
                                             Scrum
                                  .2.
                Scrum
Scrum.
                                                                              Scrum,
              Scrum
       .2.3
        .2.
```



Рисунох С.2 — Пример динамичного жизненного цикла спринта

```
• ( ' ):

. ( ' ):

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

. ( ' )

.
```

3S

.3.2

, ,

. 8

. 3.3

, , , ( ).



.4.1 :

.4.2 . 8 ). .4.3

D ) ( 0.1 ( ) 0.2 1. 2. 1. ( )

, « ». -

2. ( ) 0.3 1. 2. ( 3. !). , ). ( 1. ( ) 2. ( ) 3. ( ) 0.4 ) (

```
,
).
                                                                                                               (
                                                                            . .)
                                                                          1.
2.
3.
        ( )
                                1.
        ( )
                                2.
                                                                                  ;
                                                                            (
                                                                                       ).
        ( )
                                3.
                                                                 ) (
                                            (
                                                                                          )
        ( )
                                             /
```

O.S

1. 2. 3. 4. 1. 2. 1. ( ) 2. ). ( ) 3. ( ) ). 4.

( )

). 1: .

: : :

2. : :

: :

0.6

, .

:

:

( ) : 1.

· :

(

.

-:

· (

·

( ).

```
( )
                          2.
                                                                           ).
     ( )
                          3.
                                                                            ).
      ( )
D.7
     ( )
0.8
```

( ) 0.9 ( ). ( ) ( ) 0.10 ( )

44

0.11

56920—2016

4S

£ ) ( £.1 £.2 ( ). £.3 ) ) 0) e) (

, , ,

46

). f) ).

, 1012—2004

, , , (

). , ). -

, , , . 8

- [1] BS 7925-1:1998. Software testing Vocabulary
- (2) BS 7925-2:1998. Software testing Software component testing
- [8] CRISPIN. L. and GREGORY. J. 2009. Agile Testing. A Practical Guide for Testers and Agile Teams. Pearson Education
- |4] IEC 60300-3-9:1995. Risk analysts of technological systems
- [5] IEEE Std 610.12—1995. IEEE Standard Glossary of Software Engineering Terminology
- [6] IEEE Std 829—2008. IEEE Standard for Software and System Test Documentation
- [7] IEEE Std 1006—1967. IEEE Standard for Software Unit Testing
- |8| IEEE Std 1012—2012. IEEE Standard for Software Verification and Validation
- (9) IEEE Std 1026—2008. IEEE Standard for Software Reviews and Audits
- [10] ISO/IEC 12207:2008, Systems and software engineering Software life cycle processes
- [11] ISO/IEC 15026-3:2011. information technology System and software integrity levels
- [12] ISO/IEC 16085:2006. Systems and software engineering Life cycle processes Risk management
- [13] ISO/IEC/IEEE 24765:2010, Systems and software engineering Vocabulary
- [14] ISO/IEC 25000:2005, Software Engineering Software product Quality Requirements and Evaluation (SQuaRE) Guide to SQuaRE
- [15] ISO/IEC 25010:2011. Systems and software engineering— Systems and software Quality Requirements and Evaluation (SQuaRE) System and software quality models
- [16] ISO/IEC 25051:2006. Software engmeening Software product Quality Requirements and Evaluation (SQuaRE) Requirements for quality of Commercial Off-The-Shelf (COTS) software product and instructions for testing
- [17] International Software Testing Qualifications Board (ISTQB). Standard glossary of terms used In Software Testing [online]. 2010. Updated 1 April 2010 (viewed 11 April 2011]. Available from: http://www.lstqb.org/
- [18] KOEN. 8. V.. 1985. Definition of the Engineering Method. American Society for Engineering Education

006.034:004.054:006.354 OKC 35.080

