

Introdução à Engenharia de Software

1º Semestre, 2023/24

Exame Época Normal

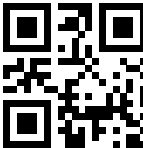
15 de janeiro de 2024

Número mecanográfico: _____

Nome: _____

O exame tem 20 perguntas de escolha múltipla.
As perguntas de escolha múltipla tem apenas uma resposta correta, devem ser respondidas na grelha presente nesta página do enunciado com um **X**. Para anular uma resposta, o aluno deve preencher a célula. As respostas anuladas não descontam, mas as erradas **descontam** (cotação da pergunta × 0.25).
A duração total do exame é de **1h30**.

The exam has 20 multiple-choice questions.
*The multiple-choice questions have only one correct answer and should be answered in the grid provided on this page of the exam with an **X**. To cancel an answer, the student should fill in the cell. Canceled answers do not result in deductions, but incorrect answers **deduct** (question score × 0.25).*
*The total duration of the exam is **1h30**.*



	01	02	03	04	05	06	07	08	09	10	11	12	13	14	15	16	17	18	19	20
A																				
B																				
C																				
D																				

1. (0.90 pts) Mean of 5,5,5,5?
- A. 20

B. 0

C. 10

D. 5
2. (0.60 pts) What is tan(0 degrees)?
- A. 1

B. infinity

C. 0

D. undefined
3. (1.19 pts) What is the limit of (x squared - 1)/(x-1) as x approaches 1?
- A. 0

B. undefined

C. 1

D. 2
4. (1.19 pts) What is the derivative of e to the x?
- A. 1/x

B. x times e to the x-1

C. e to the x

D. ln x
5. (1.19 pts) Solve: 2x + 5 = 13
- A. x = 9

B. x = 3

- C. $x = 4$
D. $x = 8$
6. (1.19 pts) Solve: $5x - 3 = 2x + 9$
A. $x = 2$
B. $x = 4$
C. $x = 12$
D. $x = 6$
7. (1.19 pts) Factor: $x^2 - 9$
A. $x(x-9)$
B. $(x-3)^2$
C. $(x-3)(x+3)$
D. $(x-9)(x+1)$
8. (0.90 pts) Complementary angle to 30 degrees?
A. 120 degrees
B. 90 degrees
C. 150 degrees
D. 60 degrees
9. (1.19 pts) Expand: $(x-3)(x+3)$
A. $x^2 + 6x - 9$
B. $x^2 + 9$
C. $x^2 - 6x + 9$
D. $x^2 - 9$
10. (0.90 pts) What percentile is the median?
A. 75th
B. 50th
C. 100th
D. 25th
11. (0.90 pts) What is the sample space of a coin flip?
A. H,T
B. H,T,E
C. 0,1
D. 1,2
12. (1.19 pts) What is $d/dx(1/x)$?
A. $-1/x$
B. $1/x^2$
C. $1/x$
D. $-1/x^2$
13. (1.19 pts) What is $d/dx(\cos x)$?
A. $-\sin x$
B. $\cos x$
C. $\sin x$
D. $-\cos x$
14. (0.60 pts) What is $\sin(30^\circ)$?
A. 1
B. 0
C. $\sqrt{3}/2$
D. $1/2$
15. (0.90 pts) Pythagorean theorem: $a^2 + b^2 = ?$
A. c^2
B. $2c$

- C. ab
- D. $a+b$

16. (0.60 pts) What is $\sin(90 \text{ degrees})$?

- A. 0
- B. -1
- C. 1
- D. $\sqrt{2}/2$

17. (0.90 pts) Diagonal of square side 1?

- A. $\sqrt{2}$
- B. 2
- C. $\sqrt{3}$
- D. 1

18. (1.19 pts) Simplify: $(2x)$ cubed

- A. $8x$
- B. $8x$ cubed
- C. $6x$ cubed
- D. $2x$ cubed

19. (1.19 pts) What is the derivative of a constant?

- A. 0
- B. constant
- C. 1
- D. undefined

20. (0.90 pts) What is the complement of $P(A)$?

- A. $1/P(A)$
- B. $1+P(A)$
- C. $P(A)$
- D. $1-P(A)$