

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.

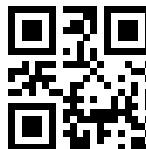
As perguntas de escolha múltipla tem apenas uma resposta correta, devem ser respondidas na grelha presente nesta página do enunciado com um **X**. Para anular uma resposta, o aluno deve preencher a célula. As respostas anuladas não descontam, mas as erradas **descontam** (cotação da pergunta \times 0.25).

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 \times 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										X		X		X		X		X		
B						X				X							X			
C		X		X	X		X									X				
D	X		X					X	X			X		X						X

1. (0.90 pts) Mean of 5,5,5,5?
 - A. 20
 - B. 0
 - C. 10
 - D. 5
2. (0.60 pts) What is $\tan(0 \text{ degrees})$?
 - A. 1
 - B. infinity
 - C. 0
 - D. undefined
3. (1.19 pts) What is the limit of $(x \text{ squared} - 1)/(x-1)$ 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 $\sin(30 \text{ degrees})$?

- 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. $1-P(A)$