

Introdução à Engenharia de Software

1º Semestre, 2023/24

Exame Época Normal

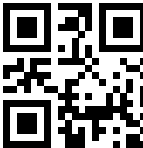
15 de janeiro de 2024

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	X					X	X								X					
B		X			X							X							X	X
C								X			X			X			X	X		
D			X	X					X	X			X			X				

1. (0.90 pts) Probability of certain event?
- A. 1

B. 0.5

C. infinity

D. 0
2. (0.90 pts) Area of a circle with radius 5?
- A. 50 pi

B. 25 pi

C. 10 pi

D. 5 pi
3. (0.90 pts) Median of 2,4,6,8?
- A. 6

B. 4

C. 7

D. 5
4. (1.19 pts) What is d/dx(x to the 4th)?
- A. x to the 4th

B. x cubed

C. 4x

D. 4x cubed
5. (0.60 pts) What is cos(60 degrees)?
- A. 0

B. 1/2

- C. 1
 - D. $\sqrt{3}/2$
6. (1.19 pts) Solve: $x/3 = 4$
- A. $x = 12$
 - B. $x = 7$
 - C. $x = 4$
 - D. $x = 1$
7. (0.60 pts) What is $\sin(30 \text{ degrees})$?
- A. $1/2$
 - B. $\sqrt{3}/2$
 - C. 1
 - D. 0
8. (1.19 pts) What is the chain rule result?
- A. f prime times g prime
 - B. f prime plus g prime
 - C. f prime of g times g prime
 - D. f times g
9. (1.19 pts) What is $d/dx(2x)$?
- A. x
 - B. 0
 - C. $2x$
 - D. 2
10. (1.19 pts) Expand: $(x-3)(x+3)$
- A. $x \text{ squared} + 6x - 9$
 - B. $x \text{ squared} - 6x + 9$
 - C. $x \text{ squared} + 9$
 - D. $x \text{ squared} - 9$
11. (0.60 pts) $\sin^2 \theta + \cos^2 \theta = ?$
- A. 2
 - B. 0
 - C. 1
 - D. θ
12. (0.90 pts) Variance is the square of what?
- A. Median
 - B. Standard deviation
 - C. Mean
 - D. Range
13. (1.19 pts) What is $(x \text{ cubed})$ to the 0?
- A. x
 - B. $x \text{ cubed}$
 - C. 0
 - D. 1
14. (1.19 pts) Simplify: $(x \text{ squared}) \text{ cubed}$
- A. x to the 5th
 - B. x to the 9th
 - C. x to the 6th
 - D. x to the 8th
15. (1.19 pts) What is $d/dx(\sin x)$?
- A. $\cos x$
 - B. $\sin x$

C. $-\sin x$

D. $-\cos x$

16. (0.90 pts) Volume of sphere radius 3?

A. 27π

B. 12π

C. 9π

D. 36π

17. (1.19 pts) Solve: $x^2 - 5x + 6 = 0$

A. $x = -2, -3$

B. $x = 1, 6$

C. $x = 2, 3$

D. $x = 0, 5$

18. (0.90 pts) In a normal distribution, mean equals?

A. Neither

B. Mode

C. Median

D. Both

19. (1.19 pts) What is $d/dx(x)$?

A. 0

B. 1

C. x

D. undefined

20. (0.90 pts) Volume of a cube with side 3?

A. 9

B. 27

C. 18

D. 81