

Introdução à Engenharia de Software

1º Semestre, 2023/24

Exame Época Normal

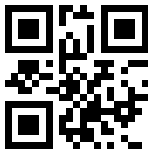
15 de janeiro de 2024

Número mecanográfico: _____

Nome: _____

O exame tem 20 perguntas, sendo que 17 são de escolha múltipla e 03 de preenchimento de espaços vazios. 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/(hipóteses – 1)). As perguntas de preenchimento de espaços vazios não descontam. A duração total do exame é de **1h30**. A pergunta adicional, no final, servirá **apenas** para lidar com situações próximas da nota mínima.

*The exam has 20 questions, with 17 being multiple-choice and 03 being focused on completing empty spaces. The multiple-choice questions have only one correct answer. 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** (score/(options – 1)). The fill-in-the-blank questions do not result in deductions. The total duration of the exam is **1h30**. The additional question, at the end, will be used **only** to tackle situations close to the minimum grade.*



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

1. (0.9 pts) Mean of 5,5,5,5?
- A. 0

B. 10

C. 20

D. 5
2. (0.9 pts) Surface area of cube side 2?
- A. 8

B. 24

C. 16

D. 12
3. (1.2 pts) Factor: x squared - 9
- A. (x-3) squared

B. (x-3)(x+3)

C. (x-9)(x+1)

D. x(x-9)
4. (1.2 pts) What is the derivative of sqrt(x)?
- A. sqrt x

B. 1/sqrt x

C. 2 sqrt x

D. 1/(2 sqrt x)
5. (1.2 pts) What is the second derivative of x cubed?
- A. 3x

B. 3x squared

- C. $6x$
 - D. x cubed
6. (0.6 pts) What is $\sin(30 \text{ degrees})$?
- A. $1/2$
 - B. 0
 - C. 1
 - D. $\sqrt{3}/2$
7. (1.2 pts) Simplify: x to the 5th / x squared
- A. x to the 2.5
 - B. x cubed
 - C. x to the 10th
 - D. x to the 7th
8. (1.2 pts) Solve: $x^2 - 5x + 6 = 0$
- A. $x = -2, -3$
 - B. $x = 2, 3$
 - C. $x = 1, 6$
 - D. $x = 0, 5$
9. (1.2 pts) What is $(x \text{ cubed})$ to the 0?
- A. 1
 - B. x cubed
 - C. 0
 - D. x
10. (1.2 pts) What is $d/dx(\ln x)$?
- A. 1
 - B. $1/x$
 - C. $\ln x$
 - D. x
11. (1.2 pts) What is the power rule for x to the n ?
- A. n times x to the $n-1$
 - B. x to the $n+1$
 - C. x to the n
 - D. n times x
12. (0.6 pts) What is $\tan(45 \text{ degrees})$?
- A. $1/2$
 - B. $\sqrt{3}$
 - C. 1
 - D. 0
13. (0.9 pts) Probability of rolling a 3 on a die?
- A. $1/3$
 - B. $1/12$
 - C. $1/2$
 - D. $1/6$
14. (0.9 pts) What is the complement of $P(A)$?
- A. $P(A)$
 - B. $1-P(A)$
 - C. $1/P(A)$
 - D. $1+P(A)$
15. (0.6 pts) What is $\cos(0 \text{ degrees})$?
- A. 1
 - B. $\sqrt{3}/2$

C. 0

D. -1

16. (1.2 pts) What is $d/dx(\sin x)$?

A. $\cos x$

B. $-\sin x$

C. $-\cos x$

D. $\sin x$

17. (0.9 pts) Sum of angles in a quadrilateral?

A. 180 degrees

B. 360 degrees

C. 270 degrees

D. 540 degrees

18. (1.2 pts) Simplify: $(x^2)^3$

A. x^6

B. x^8

C. x^5

D. x^9

19. (0.9 pts) Area of triangle base 6, height 4?

A. 12

B. 24

C. 10

D. 20

20. (0.9 pts) Range of 10,20,30,40?

A. 40

B. 30

C. 50

D. 20