

Introdução à Engenharia de Software

1º Semestre, 2023/24

Exame Época Normal

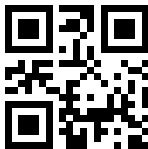
15 de janeiro de 2024

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. (0.6 pts) What is cos(60 degrees)?
- A. sqrt3/2
- B. 0
- C. 1/2
- D. 1
2. (1.2 pts) What is the product rule?
- A. (fg) prime = f prime g + fg prime
- B. (fg) prime = f prime g - fg prime
- C. (fg) prime = f prime g prime
- D. (fg) prime = fg
3. (0.9 pts) Mean of 5,5,5,5?
- A. 20
- B. 5
- C. 0
- D. 10
4. (0.9 pts) Variance is the square of what?
- A. Median
- B. Mean
- C. Range
- D. Standard deviation
5. (1.2 pts) Expand: (x+2) squared
- A. x squared + 4x + 4
- B. x squared + 2x + 4

- C. $x^2 + 4$
 - D. $x^2 + 4x + 2$
6. (0.9 pts) Diagonal of square side 1?
- A. 2
 - B. 1
 - C. $\sqrt{2}$
 - D. $\sqrt{3}$
7. (0.9 pts) Probability of certain event?
- A. 0
 - B. 1
 - C. 0.5
 - D. infinity
8. (0.9 pts) Median of 2,4,6,8?
- A. 7
 - B. 4
 - C. 6
 - D. 5
9. (0.6 pts) What is $\tan(45^\circ)$?
- A. $1/2$
 - B. $\sqrt{3}$
 - C. 0
 - D. 1
10. (1.2 pts) Expand: $(x-3)(x+3)$
- A. $x^2 - 6x + 9$
 - B. $x^2 + 9$
 - C. $x^2 + 6x - 9$
 - D. $x^2 - 9$
11. (1.2 pts) What is the derivative of x^2 ?
- A. $2x$
 - B. x^2
 - C. x
 - D. 2
12. (1.2 pts) What is the derivative of $\tan x$?
- A. $\csc^2 x$
 - B. $\tan^2 x$
 - C. $\sec^2 x$
 - D. 1
13. (0.9 pts) Volume of a cube with side 3?
- A. 81
 - B. 9
 - C. 18
 - D. 27
14. (0.9 pts) Area of a rectangle 5 by 3?
- A. 30
 - B. 8
 - C. 15
 - D. 18
15. (1.2 pts) What is (x^0) to the 0?
- A. 0
 - B. x

C. x cubed

D. 1

16. (0.6 pts) Period of $\sin(x)$?

A. $\pi/2$

B. π

C. 2π

D. 4π

17. (1.2 pts) Solve: x squared = 16

A. $x = 256$

B. $x =$ plus or minus 4

C. $x = 8$

D. $x = 4$

18. (1.2 pts) What is the power rule for x to the n ?

A. n times x to the $n-1$

B. n times x

C. x to the n

D. x to the $n+1$

19. (1.2 pts) What is $d/dx(x$ to the 4th)?

A. $4x$

B. x to the 4th

C. $4x$ cubed

D. x cubed

20. (1.2 pts) What is the y -intercept of $y = 2x - 7$?

A. -2

B. 7

C. 2

D. -7