

Introdução à Engenharia de Software

1º Semestre, 2023/24

Exame Época Normal

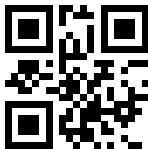
15 de janeiro de 2024

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. (1.2 pts) What is the derivative of e to the x?
- A. 1/x

B. e to the x

C. x times e to the x-1

D. ln x
2. (0.9 pts) Area of triangle base 6, height 4?
- A. 10

B. 20

C. 12

D. 24
3. (1.2 pts) What is d/dx(x)?
- A. x

B. 0

C. 1

D. undefined
4. (0.9 pts) Variance is the square of what?
- A. Standard deviation

B. Median

C. Range

D. Mean
5. (1.2 pts) Solve: $2x + 5 = 13$
- A. $x = 8$

B. $x = 4$

- C. $x = 9$
 - D. $x = 3$
6. (1.2 pts) What is the slope of $y = 3x + 2$?
- A. 3
 - B. 5
 - C. 1
 - D. 2
7. (0.6 pts) What is $\cos(90 \text{ degrees})$?
- A. $1/2$
 - B. -1
 - C. 1
 - D. 0
8. (1.2 pts) What is the power rule for x to the n ?
- A. n times x
 - B. x to the $n+1$
 - C. n times x to the $n-1$
 - D. x to the n
9. (1.2 pts) What is $d/dx(5x \text{ squared})$?
- A. $5x$
 - B. $10x$
 - C. 10
 - D. $5x \text{ squared}$
10. (0.9 pts) Probability of rolling a 3 on a die?
- A. $1/12$
 - B. $1/6$
 - C. $1/3$
 - D. $1/2$
11. (0.6 pts) What is $\tan(45 \text{ degrees})$?
- A. 1
 - B. $\sqrt{3}$
 - C. 0
 - D. $1/2$
12. (0.9 pts) Complementary angle to 30 degrees?
- A. 150 degrees
 - B. 90 degrees
 - C. 60 degrees
 - D. 120 degrees
13. (1.2 pts) Factor: $2x \text{ squared} + 8x$
- A. $2x(x+4)$
 - B. $2(x \text{ squared} + 4x)$
 - C. $x(2x+8)$
 - D. $2x \text{ squared} (1+4x)$
14. (0.6 pts) What is $\tan(0 \text{ degrees})$?
- A. undefined
 - B. 0
 - C. 1
 - D. infinity
15. (1.2 pts) What is the chain rule result?
- A. f times g
 - B. f prime of g times g prime

C. f prime times g prime

D. f prime plus g prime

16. (1.2 pts) Simplify: $(x^2)^3$

A. x to the 5th

B. x to the 6th

C. x to the 9th

D. x to the 8th

17. (1.2 pts) Solve: $x^2 - 5x + 6 = 0$

A. $x = 1, 6$

B. $x = -2, -3$

C. $x = 0, 5$

D. $x = 2, 3$

18. (0.9 pts) What is the sample space of a coin flip?

A. H,T

B. H,T,E

C. 0,1

D. 1,2

19. (0.9 pts) Sum of angles in a quadrilateral?

A. 270 degrees

B. 180 degrees

C. 360 degrees

D. 540 degrees

20. (0.9 pts) What percentile is the median?

A. 75th

B. 100th

C. 50th

D. 25th