

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 tan x?
- A. csc squared x

B. 1

C. tan squared x

D. sec squared x
2. (1.2 pts) Solve: $x/3 = 4$
- A. $x = 4$

B. $x = 7$

C. $x = 1$

D. $x = 12$
3. (1.2 pts) Simplify: $3x + 2x$
- A. $6x$

B. 6

C. $5x$

D. $5x$ squared
4. (0.9 pts) In a normal distribution, mean equals?
- A. Mode

B. Neither

C. Median

D. Both
5. (1.2 pts) Expand: $(x-3)(x+3)$
- A. x squared - $6x + 9$

B. x squared + 9

- C. $x^2 - 9$
 - D. $x^2 + 6x - 9$
6. (0.9 pts) Area of triangle base 6, height 4?
- A. 10
 - B. 24
 - C. 20
 - D. 12
7. (1.2 pts) What is the derivative of e^x ?
- A. $x \cdot e^{x-1}$
 - B. $1/x$
 - C. $\ln x$
 - D. e^x
8. (1.2 pts) Simplify: $(2x)^3$
- A. $8x^3$
 - B. $6x^3$
 - C. $2x^3$
 - D. $8x$
9. (1.2 pts) What is the second derivative of x^3 ?
- A. $3x^2$
 - B. $3x$
 - C. $6x$
 - D. x^3
10. (0.9 pts) What is $P(A \cup B)$ if A,B disjoint?
- A. $P(A) \cdot P(B)$
 - B. 1
 - C. $P(A) + P(B)$
 - D. $P(A) - P(B)$
11. (0.6 pts) What is $\sin(30^\circ)$?
- A. 1
 - B. $\sqrt{3}/2$
 - C. $1/2$
 - D. 0
12. (1.2 pts) What is $d/dx(\cos x)$?
- A. $\cos x$
 - B. $-\cos x$
 - C. $-\sin x$
 - D. $\sin x$
13. (0.9 pts) What percentile is the median?
- A. 100th
 - B. 50th
 - C. 75th
 - D. 25th
14. (0.9 pts) Circumference of circle radius 2?
- A. 8π
 - B. 4π
 - C. 2π
 - D. π
15. (0.9 pts) Sum of angles in a quadrilateral?
- A. 180 degrees
 - B. 270 degrees

C. 360 degrees

D. 540 degrees

16. (0.6 pts) What is $\sin(90 \text{ degrees})$?

A. $\sqrt{2}/2$

B. 1

C. -1

D. 0

17. (1.2 pts) What is $d/dx(1/x)$?

A. $1/x$

B. $1/x$ squared

C. $-1/x$ squared

D. $-1/x$

18. (0.6 pts) What is $\cos(0 \text{ degrees})$?

A. $\sqrt{3}/2$

B. 1

C. 0

D. -1

19. (0.9 pts) Median of 1,3,5,7,9?

A. 7

B. 6

C. 3

D. 5

20. (1.2 pts) Simplify: $3x$ squared times $2x$

A. $5x$ squared

B. $6x$ squared

C. $5x$ cubed

D. $6x$ cubed