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 aditional 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. 1/2
   - C. 0
   - D. 1
2. (0.9 pts) Surface area of cube side 2?
   - A. 12
   - B. 8
   - C. 24
   - D. 16
3. (0.9 pts) Range of 10,20,30,40?
   - A. 20
   - B. 30
   - C. 50
   - D. 40
4. (0.9 pts) Complementary angle to 30 degrees?
   - A. 120 degrees
   - B. 60 degrees
   - C. 90 degrees
   - D. 150 degrees
5. (0.6 pts) What is tan(0 degrees)?
   - A. undefined
   - B. 0

C. infinity
D. 1

6. (1.2 pts) Solve: absolute value of x = 5
   A. x = plus or minus 5
   B. x = 25
   C. x = 5
   D. x = -5
7. (1.2 pts) What is d/dx(sin x)?
   A. sin x
   B. -sin x
   C. -cos x
   D. cos x
8. (0.6 pts) What is sin(180 degrees)?
   A. 1
   B. sqrt2
   C. -1
   D. 0
9. (0.9 pts) What is the complement of P(A)?
   A. 1/P(A)
   B. P(A)
   C. 1-P(A)
   D. 1+P(A)
10. (0.9 pts) Mode of 2,3,3,4,5?
   A. 4
   B. 3
   C. 2
   D. 5
11. (0.9 pts) Sum of angles in a triangle?
   A. 270 degrees
   B. 360 degrees
   C. 90 degrees
   D. 180 degrees
12. (1.2 pts) What is the slope of y = 3x + 2?
   A. 5
   B. 3
   C. 1
   D. 2
13. (1.2 pts) What is d/dx(5x squared)?
   A. 5x squared
   B. 10x
   C. 10
   D. 5x
14. (1.2 pts) What is d/dx(ln x)?
   A. 1
   B. 1/x
   C. x
   D. ln x
15. (1.2 pts) What is d/dx(x)?
   A. 0
   B. undefined

C. 1
D. x

16. (0.9 pts) Probability of certain event?
    A. infinity
    B. 1
    C. 0
    D. 0.5
17. (1.2 pts) Solve: 5x - 3 = 2x + 9
    A. x = 12
    B. x = 2
    C. x = 6
    D. x = 4
18. (1.2 pts) Simplify: (x squared) cubed
    A. x to the 9th
    B. x to the 6th
    C. x to the 5th
    D. x to the 8th
19. (1.2 pts) Factor: 2x squared + 8x
    A. 2(x squared + 4x)
    B. x(2x+8)
    C. 2x(x+4)
    D. 2x squared (1+4x)
20. (1.2 pts) What is the derivative of x cubed?
    A. 3x
    B. x cubed
    C. 3x squared
    D. x squared