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. (0.9 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 degrees)?
   A. 1/2
   B. 0
   C. 1
   D. sqrt3/2

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 squared - 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 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 degrees)?
    A. 1/2
    B. sqrt3
    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 degrees)?
    A. 1
    B. sqrt3/2

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 squared) cubed
    A. x to the 6th
    B. x to the 8th
    C. x to the 5th
    D. x to the 9th

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