Etablissement Inter – Etats d'Enseignement Supérieur
CENTRE D'EXCELLENCE TECHNOLOGIQUE PAUL BIYA
BP: 13719Yaoundé (Cameroun) Tel. 237) 22 72 93 57
Site web: www. ai-cameroun.com E-mail: iaicameroun@yahoo.fr

RESIT EXAMINATION

JUNE 2022

Course Tittle: MATHS ANALYSIS

Duration: 1h Level: I Branch: Software Engineering ACADEMIC YEAR: 2021/2022

INSRUCTION: ANSWER ALL QUESTIONS FROM BOTH SECTIONS

SECTION A: STRUCTURAL QUESTIONS (15mks)

INSTRUCTIONS: SHOW ALL STEPS IN YOUR CALCULATIONS

1. Determine the domain of domain of definition of the following functions

a) $y = e^x$ b) $y = \ln(x^2 - 4x + 3)$ {2mks}

2. Consider the following equation:

$$\ln(x^2 - 1) = \ln(2 - x) + \ln(3 - x)$$

a) Give the domain of definition of this function {1mks}

b) Solve this equation {2mks}

3. Calculate the following indefinite integrals

a) $A = \int \frac{3}{4x-2} dx$

b) $B = \int (3x + 1)^4 dx$

c) $C = \int \frac{1}{(6x+3)^4} dx$

d) $D = \int e^{\log x} dx$

e) $E = \int \log e^2$ {5mks}

4. Determine the parity of the following functions:

a) $y = 2x^2 + x + 1$ b) $y = e^{-x}$ (2mks)

5. Determine the asymptotes of the following functions

a) $y = \frac{1}{x^2-4}$ b) $\frac{2x^2-3x+2}{x^2+5x+6}$ (3mks)

SECTION B: MULTIPLE CHOICE QUESTIONS (5mks)

Write down just the letter which corresponds to the correct answer in your answer booklet

1. The vertical asymptote of the function $f(x) = \frac{2x}{x-1}$ is

A. $x = -1$
B. $x = 1$
C. $x \leq -1$
D. $x \geq 1$

2. The horizontal asymptote of the function $f(x) = e^{-x}$ is

A. $y = \infty$
B. $y = 1$
C. $y = 0$
D. $y \leq 0$

3. What is the parity of the function $f(x) = x^2 + 2x - 1$

Zepythagore
Zepythagore.com

A. Even
B. Odd
C. Odd and even
D. Neither odd nor even

4. The parity of the function $f(x) = \ln\left(\frac{1+x}{1-x}\right)^{1/2}$ is
A. Odd
B. Even
C. Neither odd nor even
D. None of the above

5. Solving the differential equation $y = (x+1)\frac{dy}{dx} = 1 - y$ given that $y = -3$ when $x = 0$
A. $y = \frac{x-3}{x-1}$
B. $y = \frac{x-3}{x+1}$
C. $y = \frac{x-1}{x+3}$
D. $y = \frac{x-1}{x-3}$

6. The particular solution to the differential equation $e^x \frac{dy}{dx} = 4$
A. $y = 7 + 4e^{-x}$
B. $y = 7 - 4e^{x}$
C. $y = 4e^{-x} - 7$
D. $y = 7 - 4e^{-x}$

The end!!!!

Course Master: Mr Ekiti

Zepythagore

Zepythagore.com