



MINISTRY EDUCATION, CULTURE,
RESEARCH AND TECHNOLOGY
UNIVERSITAS NEGERI JAKARTA
FACULTY MATHEMATICS AND KNOWLEDGE KNOWLEDGE
NATURAL
MAJOR PHYSICS & EDUCATION
PHYSICS
Campus A UNJ Rawamangun, G-d. Hasjim Asj'arie Lt. 5
Jl. Rawamangun Advance No. 1 Jakarta
13220Tel. 021-29266285/29266284

EXAM MIDDLE SEMESTER 118

Calculus II

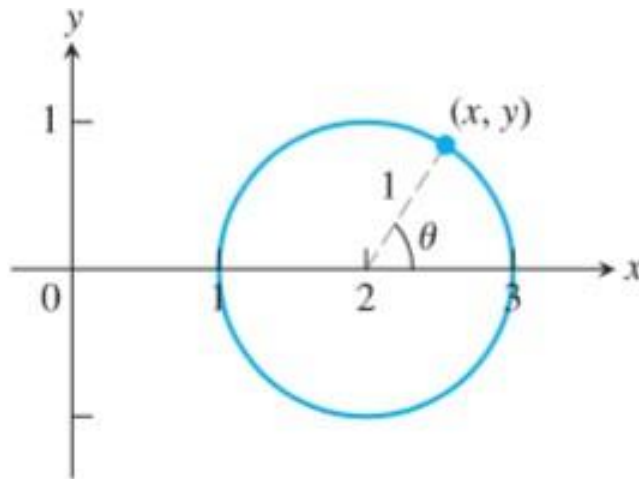
Date and time	Tuesday, 28 March 2023
O'clock	08.00-09.40
Study Program	Physics And Pend. Physics
Nature of the Exam	Closed Book
Lecturer	Prof. Dr. Mangasi A. Marpaung Dr. Firm B. Prayitno Dr. Hadi Nasbey

Instruction Processing:

1. Use paper Striped/plain size A4/Folio as answer sheet.
2. Write it down Name & NIM as well Date Implementation in Corner Right on in every page
3. Answer written with neat use ballpoint color Black blue

Take your pick 3 question for done

1. Look for it approximation from mark in lower This until ethnic group order-1
 - a. $e^{0.01}$
 - b. $\ln(0.01)$
2. Determine row rank from function $\ln(1 + x^2)$, Then look for it hoseits convergence
3. Determine equality Parameter For circle $(x-2)^2 + y^2 = 1$ leave from point (1.0) move one way needle O'clock One time around circle use corner θ as parameter



4. Determine $\frac{\partial z}{\partial u}$ dan $\frac{\partial z}{\partial v}$ bila $z = 4e^x \ln y$ and $x = \ln(u \cos v)$, $y = u \sin v$ as function from u And v
5. Show vectors following; $\mathbf{B} = \frac{10}{r} \mathbf{a}_r + r \cos \theta \mathbf{a}_\theta + \mathbf{a}_\phi$ in cartesian coordinate and celendrical!