



MUEO

MOI UNIVERSITY

OFFICE OF THE DEPUTY VICE CHANCELLOR
(ACADEMICS, RESEARCH, EXTENSION & STUDENT AFFAIRS)

UNIVERSITY EXAMINATIONS

2022/2023 ACADEMIC YEAR

FOURTH YEAR FIRST SEMESTER EXAMINATION

FOR THE DEGREE OF

BACHELOR

OF

CIVIL AVIATION MANAGEMENT

COURSE CODE: BCM 412

COURSE TITLE: AIRPORT TRAFFIC MANAGEMENT

DATE: 13TH DECEMBER, 2022 **TIME:** 9.00 A.M. – 12.00 P.M

INSTRUCTION TO CANDIDATES

- SEE INSIDE.

THIS PAPER CONSISTS OF (4) PRINTED PAGES

PLEASE TURN OVER

MOI UNIVERSITY
FOURTH YEAR FIRST SEMESTER EXAMINATION
SEPTEMBER - DECEMBER 2022

END OF SEMESTER EXAMINATION

COURSE CODE: BCM 412

COURSE TITLE: AIR TRAFFIC MANAGEMENT

INSTRUCTIONS:

ANSWER ANY OTHER **FOUR** QUESTIONS

QUESTION ONE:

- i. The concept of Air Traffic Flow Management is a service established with the objective of contributing to a safe, orderly and expeditious flow of air traffic. Elaborate on any five specific objectives of Air Traffic Management Services **(15 Marks)**
- ii. Aircraft recognition is about being able to distinguish between different aircraft. Describe any five accepted Air Craft features that aid in Aircraft recognition **(10 Marks)**
- iii.

QUESTION TWO:

- iv. Explain the importance of the following areas in the provision of Air Traffic Services **(6 Marks)**
- a. Control Zone
 - b. Terminal Maneuvering Area
 - c. Flight Information Region
- v. Explain the minimum meteorological conditions required to conduct Special VFR flights **(5 Marks)**
- vi. Draw a Left Hand Circuit of runway 36 and name the legs. Use the top of your answer sheet as the magnetic north **(6 Marks)**
- vii. Explain the factors that determine the choice of a runway in use at an airport **(8 Marks)**

QUESTION THREE:

- i. Explain the categories of aircraft incidents during a flight **(6 Marks).**
- ii. Explain any three areas of focus in ATS incident investigation **(6 Marks).**
- iii. Differentiate between airspace class **C** and **D** and give one example of each in Kenya **(4 Marks).**
- iv. Explain the current global developments air routes aimed at enhancing flight navigation **(9 Marks).**

QUESTION FOUR:

- i. Discuss the term air traffic management and trace its development to the modern day aviation. **(15 Marks).**

- ii. Identify and discuss the legal and non-legal duties of air traffic controllers
(10 Marks)

QUESTION FIVE:

- i. Using a specific diagram illustrate the traffic pattern in any typical airport (15 Marks)
- ii. Outline the limitations of current air traffic management system (10 Marks)

QUESTION SIX:

- iii. Explain the Air Traffic Services provided in the following units (6 Marks)
- a. Aerodrome Control
 - b. Approach
 - c. Flight Information Centre
- iv. State any FOUR conditions for conducting IFR flights within civil airspaces (8 Marks)
- v. Explain, with aid of examples, how separation is achieved in air traffic control (8 Marks)
- vi. Explain the concept of Reduced Vertical Separation Minima used in enhancing airspace utilization (3 Marks)

QUESTION SEVEN:

- i. Explain the following airspaces giving one example in Kenya (6 Marks)
- a) Prohibited area
 - b) Restricted area
 - c) Free route airspace

- ii. Explain the role of the following categories of ATM equipment using examples **(9 Marks)**
- a) Communication equipment
 - b) Navigation equipment
 - c) Surveillance equipment
- iii. Describe the role of semicircular rule as applied in Air Traffic Management **(6 Marks)**
- iv. Explain the contents of Air Traffic Control Clearance **(4 Marks)**

QUESTION EIGHT:

- i. Examine the effects of loss of separation of aircraft **(5 Marks)**
- ii. State and briefly explain three main components of air traffic management **(6 Marks)**
- iii. Discuss the role of Air Traffic Control in accident investigations **(8 Marks)**
- iv. Clearly describe the ICAO Aircraft classification. **(6 Marks)**

