

CONFIDENTIAL



UTHM
Universiti Tun Hussein Onn Malaysia

UNIVERSITI TUN HUSSEIN ONN MALAYSIA

**FINAL EXAM
SEMESTER II
SESSION 2021/2022**

COURSE NAME : AVIATION HUMAN FACTOR

COURSE CODE : BDL30702

PROGRAMME CODE : BDC

EXAMINATION DATE : JULY 2022

DURATION : 2 HOURS

INSTRUCTION : 1. ANSWER **ONE (1)** QUESTION IN PART A
2. ANSWER **ALL** QUESTIONS IN PART B
3. THIS FINAL EXAMINATION IS CONDUCTED VIA **CLOSED BOOK**.
4. STUDENTS ARE **PROHIBITED** TO CONSULT THEIR OWN MATERIAL OR ANY EXTERNAL RESOURCES DURING THE EXAMINATION CONDUCTED VIA CLOSED BOOK

THIS QUESTION PAPER CONSISTS OF **THREE (3)** PAGES

CONFIDENTIAL

Part A

- Q1** (a) Lack of teamwork and lack of assertiveness are two common mistakes that occur in the aviation industry. Explain how these two mistakes can harm the industry. (8 marks)
- (b) You are working in a composite lab which is equipped with a furnace machine for aircraft part fabrication. You may be exposed to a high-temperature environment and dust from the fiberglass. Solve this situation by proposing SIX (6) procedures that can be done to reduce the risk in this workplace. (12 marks)
- (c) State the occupational hazard that has a high potential to cause harm to health (5 marks)
- Q2** (a) List down TWELVE (12) common causes of human factors in the aviation workplace (12 marks)
- (b) Select THREE (3) situations at a workplace that are related to whole body vibration (WBV) and describe its health effects. (9 marks)
- (c) What is occupational noise? Explain one example of a noise hazard in aviation. (4 marks)

Part B

- Q3** (a) State and describe THREE (3) sources of prejudice and give further explanation on each type of source that you state. (9 marks)
- (b) Describe FOUR (4) possible causes of mental illness. (8 marks)
- (c) Crossing multiple time zones during flight may influence the pilot's body physiologically. Explain this body physiology effect and how it affected the pilot performance in the course of 24 hours. (4 marks)

- (d) A report from the air accident reveal that the Captain of the aircraft had limited sleep in the previous 48 hours, been awake more than 19 hours during both day and night periods, and been at a high level of alertness during a period of time (3-5 PM) associated with sleepiness. What is the main factor of the accident? Explain one example of a real incident that happen due to the same factor as the above accident. (4 marks)
- Q4** (a) Describe the job description/tasks between a commercial pilot airliner and the aircraft maintenance engineer. (10 marks)
- (b) Considering the nature and characteristics of human errors, there are six Types of Error Models and Theories had been proposed. Two among of them are (1) Design errors versus operator-induced errors models, and (2) Reversible Versus Irreversible Errors models. Describes the features of these two error models. (15 marks)
- Q5** (a) There are many potential hazards that can be identified in the aircraft maintenance industry. However thorough health and safety appraisal, the presence of physical hazards can be revealed. State FIVE (5) examples of these physical hazards. (10 marks)
- (b) You are an internship student in Galaxy Aerospace Sdn Bhd one of the helicopter maintenance, repair, and overhaul company. An accident may occur at that workplace. If suddenly, there is an explosion occurs in the hangar, propose FIVE (5) basic actions that need to be done. (10 marks)
- (c) If hazards cannot be removed from the workplace, employees should be made aware that they exist and how to avoid them. In order to make awareness of the presence of such hazards, describe how the warning signs have to be presented. (5 marks).

-END OF QUESTIONS –

TERBUKA