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## UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, May 2018

Programme: MBA AVM

Course Name: Aviation Security and Safety Management

Course Code: TRAV 7003

No. of page/s: 2

Semester – II

Max. Marks: 100

Duration: 3 Hrs

### Section-A (Attempt all the questions)

Q1. Answer the following

2 X 10= 20

a) The Area between any Pax inspection or screening control point and aircraft in which access is control

- |                         |                  |
|-------------------------|------------------|
| i) Airside              | ii) Landside     |
| iii) Security Hold Area | iv) Sterile Area |

b) Which does not include in the “Act of Unlawful Interference”

- |   |               |
|---|---------------|
| i) Hijacking                              | ii) Sabotage  |
| iii) Disruption of communication facility | iv) Pilferage |

c) CASO stands for

- |   |                             |
|---|-----------------------------|
| i) Chief Airport Security Officer officer     | ii) Chief Aviation Security |
| iii) Commissioner of Airport Security officer | iv) None of the above       |

d) Airport Entry Permit does not contain

- |                       |                         |
|-----------------------|-------------------------|
| i) Photo              | ii) Name of pass holder |
| iii) Area of Validity | iv) Permanent address   |

- e) Annexure 17 deals with
- |                     |                     |
|---------------------|---------------------|
| i) Aviation Safety  | ii) Aviation Safety |
| iii) Airport Manual | iv) Aircraft Manual |
- f) Security of Parked Aircraft is done by
- |                     |             |
|---------------------|-------------|
| i) Airport Operator | ii) Airline |
| iii) BCAS           | iv) CISF    |
- g) What is MTBF ?  
 h) What is ACAS?  
 i) Define response Time for ARFF. Mention the max response time as per Standard and as per Recommendations.  
 j) What is screening?

**Section B**

**Attempt any four questions**

Q2. Write Short Answers

4 X 5 = 20

- a) What is Aviation Hazard? Explain with suitable example.
- b) Explain the five essential steps in Risk management.
- c) Describe Runway incursion with examples.
- d) Explain what is PFMEA with suitable example.
- e) Describe the agencies involved in airport emergency planning (On & off Airport).

**Group C**

**Attempt all the questions**

Q3. Long Answers.

2 X 15 = 30

- (a) Describe the concept of LOSA in aviation safety.
- (b) Explain the four major components of Safety Management System.

**Group D**  
**Attempt both the question**

**Q4. Question 4 consists of two parts**

**2 X 15 = 30**

**Part I**

**Case study: a tale of two siblings**

A father wants to give his two children a good start to their working lives. Both are qualified pilots and are keen to run an aviation business together. However, they cannot agree on where to base their business, as one wants to live in Sydney and the other loves Melbourne.

The father purchases two Metro III aircraft and gives one to each child, who both apply for an air operator's certificate (AOC). On receiving an AOC, the Sydney-based sibling secures some regular contract work flying mining workers to and from regional centers.

The Melbourne-based one is able to sign a contract with the Victorian government for regular scheduled services throughout the state. Over the next few months both businesses grow and take on more pilots, ground handling, engineering and maintenance, and administration staff to cope with additional passenger numbers and extra services. Their fleet size also expands to meet these demands.

While each business continues to be successful, their proud father notices their approaches to safety management are very different.

The Sydney-based sibling adopts a formal safety management system (SMS) based on six simple strategies:

- Appointing one of the best line pilots as a part-time safety officer
- Regular staff meetings to identify safety risks to the operation and controls to manage these
- Establishing a confidential safety reporting system for staff to report safety hazards
- Weekly safety meetings to manage and resolve identified safety issues
- Central recording and capture of safety information to identify emerging safety risks
- Regular distribution of safety information to staff, reinforcing a 'safety-first' culture.

In contrast, the Melbourne-based operation relies on less formal methods to manage safety. These tend to be 'on the run'.

Eight months later, the father asks an independent auditor to have a look at each business. While both businesses are financially sound, the auditor finds evidence that the Sydney-based operation has a stronger safety culture than the Melbourne-based one, as in the results

1. Analyze the importance of safety culture in organizations from above case study.

## **Part II**

### **Case Study**

On 24 September 2015, Shaheen Air International scheduled passenger flight number SAI791, operated by a Boeing 737-400 Aircraft, registration AP-BJR, departed from Sharjah International Airport (OMSJ), the United Arab Emirates, at 0239 local time (LT) to Bacha Khan International Airport (OPPS), Pakistan. Instead of the assigned runway 30, the Aircraft took off from the parallel taxiway Bravo. The Investigation was informed four days after the Incident and was not able to interview the flight crewmembers.

Using the Aircraft flight data, and air traffic communications, the taxi route up to takeoff was determined. This confirmed that the Aircraft did turn onto taxiway Bravo and departed from this taxiway.

The air traffic Controller lost the visual watch on the Aircraft as it taxied from taxiway Alpha 20 towards taxiway Bravo and regained sight of the Aircraft on taxiway Bravo as it passed the taxiway Alpha 18 intersection. No attempt was made by ATC to stop the Aircraft during its take-off roll on the taxiway. The Controller decision was to allow the takeoff to continue as the Aircraft speed was unknown and taxiway Bravo was sterile at the time.

After takeoff, the flight crew were not informed about the taxiway takeoff and the flight continued for an uneventful landing at the destination airport. The crew were made aware of the Incident by the Aircraft Operator five days later.

The Investigation could not determine why the flight crew did not notice that they had lined up on a taxiway, but the flight crew stated that they had no doubt, but that they were lined up on the runway and they never had reason to question the visible cues, including the lighting. The difference between runway and taxiway lighting is significant yet this was not recognized by the flight crew.

1. Analyze the above serious incident using SHELL model and identify probable mismatches that could have contributed to the serious incident.
2. Define "Incident" and "Serious Incident". Why the above can be called as "serious incident".