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UNIVERSITY OF PETROLEUM AND ENERGY STUDIES

End Semester Examination, May 2019

Programme: MBA AVM
Course Name: Aviation Security & Safety Management
Course Code: TRAV 7003
No. of page/s:

Semester – II
Max. Marks: 100
Duration: 3 Hrs

| Section A (20 marks) Attempt all the questions | | | |
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| Q.1 (a to J) carries 2 marks each for correct answer. | | | |
| A | Airport Entry Permit does not contain 1. Photo 2. Name of pass holder 3. Area of Validity 4. Permanent address | (2*10=20 marks) | CO2 |
| B | What is TCAS? | | CO1 |
| C | EASA stands for _____ | | CO3 |
| D | Which airline will become world's first airline to adopt new satellite-based airplane tracking system? 1. Asiana Airlines 2. Malaysia Airlines 3. Japan Airlines 4. Singapore Airlines | | CO2 |
| E | _____ was set up as a cell in Directorate General of Civil Aviation (DGCA) in 1978. | | CO2 |
| F | Annexure 17 deals with 1. Aviation Safety 2. Aviation Security 3. Aircraft Manual 4. Airport Manual | | CO1 |
| G | What is Safety promotion? | | CO2 |
| H | What is the purpose of an organizational chart in Aviation Safety Management system? | | CO1 |

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| I | What are different types of aviation hazards? | | CO1 |
| J | Security of Parked Aircraft is done by 1. Airline 2. Airport operator 3. BCAS 4. CISF | | CO2 |
| SECTION B (20 Marks) Attempt any 4 question, each question carries 5 marks only | | | |
| 1 | Identify the agencies involved in airport emergency planning (On & off Airport). | (5*4= 20 marks) | CO 3 |
| 2 | Differentiate between errors and violations with examples. | | CO 2 |
| 3 | Define human factor? Illustrate why HF study is important in aviation. | | CO 4 |
| 4 | Identify the aircraft cargo compartment classification based on fire containment. | | CO 2 |
| 5 | Illustrate the significance of aviation security program. | | |
| SECTION C (30 marks) (Attempt any 3 question, each question carries 10 marks only) | | | |
| 1 | Explain the five key ingredients of an effective safety culture. | (3*10= 30marks) | CO 4 |
| 2 | Describe the concept of LOSA in aviation safety. | | CO 2 |
| 3 | Describe the Swiss Cheese model with appropriate examples from the aviation industry. | | CO 4 |
| 4 | Write short note on 1. Airport Rescue & Fire-fighting 2. Airport Bird Hazard Management | | CO 3 |
| SECTION D (30 marks) (Attempt both the question, each question carries 15 marks only) | | | |

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| <p>Q1.</p> | <p style="text-align: center;">Crew avert fire disaster on flight to Colombo</p> <p>PRESSTRUST OF INDIA COLOMBO, JULY 31</p> <p>AMAJOR incident was averted after alert crew aboard a Sri Lankan Airlines flight carrying over 200 passengers from Kochi to Colombo extinguished a mid-flight fire triggered by a lithium battery pack, the airline said on Monday.</p> <p>Shortly after the meal service on the 70-minute flight, the cabin crew noticed smoke emanating from an overhead luggage bin.</p> <p>"Crew members aboard flight UL 166 managed to avert a major incident that is believed to have been caused by the ignition of a lithium battery pack or mobile phones in a passenger's hand luggage," the airlines said in a statement.</p> <p>None of the 202 passengers or any of the crew suffered any injuries and the Airbus A330-200 aircraft landed safely at Colombo's Bandaranaike International Airport (BIA) at the scheduled time, the statement said.</p> <p>The flight crew immediately informed air traffic controllers at BIA and the aircraft was met on arrival by dangerous goods experts, firefighters and other safety related personnel. Since the situation was under control, passengers did not require emergency evacuation, it said.</p> <p>Sri Lankan Airlines has launched an investigation into the incident.</p> | <p style="text-align: center;">15</p> | <p style="text-align: center;">CO4</p> |
| <p>Q2.</p> | <p style="text-align: center;">Case Study</p> <p>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.</p> <p>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.</p> <p>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</p> | <p style="text-align: center;">15</p> | <p style="text-align: center;">CO4</p> |

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| <p>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.</p> <p>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.</p> <p>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.</p> <p>Analyze the above serious incident using SHELL model and identify probable mismatches that could have contributed to the serious incident.</p> | | |
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