



Name:	
Enrolment No:	

UPES
End Semester Examination, May 2023

Course: Aviation Safety & Security Program: BBA AVM Course Code: TRAV 2018	Semester: IV Time : 03 hrs. Max. Marks: 100
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Instructions:

SECTION A
10Qx2M=20Marks

S. No.	Question	Marks	CO
Q 1	What is Airport Operations Area (AOA)?	2	CO1
Q 2	Identify “Non-Normal items” handled by airline/airport staff.	2	CO1
Q 3	Identify causes of spillage on the airside.	2	CO1
Q 4	Define Risk.	2	CO1
Q 5	Identify the four E’s of safety and Compliance.	2	CO1
Q 6	What is profiling?	2	CO1
Q 7	Define Sterile Area.	2	CO1
Q 8	Define “Undesired Aircraft State”.	2	CO1
Q 9	What is situational awareness?	2	CO1
Q 10	Define Acceptable Level of Safety (ALoS).	2	CO1

SECTION B
4Qx5M= 20 Marks

Q 11	Examine the technologies used to control access to sensitive security areas at airports.	5	CO2
Q 12	Illustrate the type of incidents that requires SMS interventions.	5	CO2
Q 13	Explain the operating characteristics as defined under LOSA.	5	CO2
Q 14	Explain the methods used to achieve vertical and horizontal separation standards to facilitate the safe navigation of aircraft in controlled airspace.	5	CO2

SECTION-C
3Qx10M=30 Marks

Q 15	Analyze how threats to aviation security evolved since the beginning of 21 century.	10	CO3
Q 16	On 29.08.2011, M/s Gulf Air A320 aircraft A9C-AG scheduled to operate flight GFA 270 (BAH-COK) was involved in runway excursion. During	10	CO3

	<p>landing on runway 27 at Cochin, the aircraft landed right of centerline near the edge of runway 27 and rolled off the runway paved surface and went on to the soft ground. Aircraft covered a distance of 1235 meters from threshold before coming to a halt. All the passengers evacuated safely and there were no injuries. There was no evidence of pre and post impact fire.</p> <p>Analyze the causal factors that may lead to a runway excursion. Suggest remedial measures to mitigate such incidents.</p>		
Q 17	<p>Analyze how airport security differs between commercial service airports and general aviation airports.</p> <p style="text-align: center;">OR</p> <p>The Threat and Error Management (TEM) model is a conceptual framework that assists in understanding, from an operational perspective, the inter-relationship between safety and human performance in dynamic and challenging operational contexts.</p> <p>Analyze the TEM model by giving appropriate examples.</p>	10	CO3
<p>SECTION-D 2Qx15M= 30 Marks</p>			
Q 18	Analyze twelve common causes of “Human Factors” errors in the aviation workplace popularly known as “Dirty Dozen”.	15	CO4
Q 19	<p>Kingfisher Airlines ATR-72-212 aircraft VT-KAC was scheduled to operate IT-4124 (Bhavnagar –Mumbai) on 10.11.2010. Aircraft took off from Bhavnagar at 15:36 hrs. and came in contact with ATC Approach, Mumbai around 17NM to touchdown. The ATC instructed IT-4124 to continue the approach. On the day of the accident, secondary runway 14/32 was under maintenance and the primary runway 09/27 was available after the runway intersection as 27A. The crew on the accident flight was not meeting the cockpit qualification required to operate the flight on runway 09/27. During the approach, the aircraft was high and fast, and the touchdown was delayed. The runway available after touchdown was around 1000 meters, just sufficient to stop the aircraft on the runway. The aircraft rolled into an unpaved wet area. After the</p>	15	CO4

aircraft stopped, the right engine kept on running though the Condition Lever was selected to „shut off“. The cockpit crew then pulled the right emergency handle followed by the left emergency handle, but the engine failed to shut off. The pilot evacuated from the emergency exit and then assisted the co-pilot to evacuate. The cockpit crew then went to the left side forward cabin emergency exit and assisted the cabin crew with the evacuation of passengers. All the passengers including the crew evacuated safely without any injuries. There was no fire.

Analyze the above case by taking into consideration human factors and the aviation safety model.

OR

Analyze how STAMP (System-Theoretic Accident Model and Processes) model is robust as compared to traditional safety models.