Name: **Enrolment No:**	

UPES

End Semester Examination, May 2025

Course: IT Applications in Aviation **Semester: 02**

Program: MBA Aviation Management **Time : 03 hrs.**

Course Code: DSIT 7007 **Max. Marks: 100**

Instructions: Attempt all Questions

SECTION A

10Qx2M=20Marks

Q1		**Marks**	**CO**
i	A key use of blockchain in aviation is: a) Entertainment systems b) Air Traffic Control c) Baggage tracking and maintenance logs d) Ticket pricing	**2**	**CO1**
ii	Which system aids top executives in strategic decision-making? a) ESS b) TPS c) MIS d) CRM	**2**	**CO1**
iii	An example of TPS in aviation is: a) Maintenance scheduling b) Passenger check-in system c) Route optimization d) Budget forecasting	**2**	**CO1**
iv	IoT-enabled sensors are embedded in aircraft to: a) Measure passenger satisfaction b) Detect mechanical issues early c) Track fuel cost d) Print boarding passes	**2**	**CO1**
v	Cloud computing in aviation supports: a) Local data access b) Real-time data sharing across locations c) Offline systems d) Manual reporting	**2**	**CO1**
vi	Which is a benefit of cloud-based aviation software? a) Restricted access b) Easy scalability and updates c) Manual data handling d) High upfront hardware cost	**2**	**CO1**
vii	A common vulnerability in aviation IT systems is:	**2**	**CO1**

	a) No in-flight service b) Weak authentication protocols c) Delayed boarding d) Lack of luggage space		
viii	Under IT security regulations, aviation companies must report cyber incidents to: a) DGCA b) IATA c) CERT-In d) ICAO	**2**	**CO1**
ix	Which of the following is a major ethical concern when using AI for passenger profiling in aviation? a) Increased revenue b) Data bias and discrimination c) Faster check-in process d) Reduced staffing costs	**2**	**CO1**
x	When using AI for predictive maintenance in aircraft, which ethical principle must be prioritized? a) Passenger entertainment b) Competitive pricing c) Safety and reliability d) Fuel efficiency	**2**	**CO1**
SECTION B **(Word Limit: 100–150 words) 4Qx5M= 20 Marks**			
2	Give two real-world examples of how AI is transforming aviation processes.	**5**	**CO2**
3	How can airlines ensure ongoing compliance with IT security policies and standards?	**5**	**CO2**
4	In what ways can phishing attacks exploit human factors in aviation operations, and why is this a concern despite advanced technology?	**5**	**CO2**
5	Given the sensitivity of flight data, how can aviation firms balance operational efficiency with regulatory obligations under IT laws?	**5**	**CO2**
SECTION-C **(Word Limit: 300–500 words) 3Qx10M=30 Marks**			
6	What are the major IT threats and vulnerabilities in aviation? Suggest a framework for IT security management in airlines.	**10**	**CO3**
7	Evaluate the ethical trade-offs involved in deploying AI for real-time surveillance and behavioral analysis in airports. How can aviation firms navigate between security needs and individual rights?	**10**	**CO3**
8	Discuss the integration of Blockchain and IoT technologies in the aviation industry. How do these technologies complement each other, and what are their combined benefits in terms of operational efficiency, safety, and data transparency? Support your answer with real-world examples.	**10**	**CO3**

SECTION-D (Word Limit: 500–800 words) 2Qx15M= 30 Marks			
9	A domestic airline in India experienced a serious data breach through its mobile check-in system. Sensitive personal data such as Aadhaar numbers, passport information, and travel history of thousands of passengers was leaked online. The breach investigation revealed that the airline had stored this data without adequate encryption and failed to implement even basic cybersecurity protocols. Questions: a. Which IT security laws or frameworks may have been violated in this case? b. What steps should the airline take to ensure future compliance with IT laws?	**15**	**CO4**
10	A cyberattack on an international airport's IT systems caused delays in flight operations, shut down baggage handling, and compromised employee login credentials. Questions: a. What types of security threats are evident in this case? b. Suggest best practices the airport authority should implement to prevent such incidents.	**15**	**CO4**