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Mid Term Examinations - October 2026

Date: 05/10/2026 **Time:** 11:45 AM - 01:15 PM

Course Code: AVM1005 **Course Name:** Airport operations - Basics

Semester: First Semester **Max. Marks:** 50 **Weightage:** 50%

CO - Levels	CO1	CO2
Marks	46	44

PART A: Answer Following Questions. 10 M

Q.N.	Questions	M	CO	BT
1	High volume of aircraft, passengers, cargo, and vehicles Multiple activities happening simultaneously Strict safety, security, and regulatory requirements Unpredictable external factors such as weather and disruptions	2	CO1	BT1
2	Flight Operations Ground Operations Cabin Operations Engineering & Maintenance	2	CO1	BT1
3	Cabin cleaning Replenishing soap Replenishing tissue paper and reading materials Replacing/replenishing washable items such as pillows and blankets	2	CO2	BT1
4	Aircraft marshalling Pushback/towing Lavatory drainage Luggage handling using belt loaders and baggage carts	2	CO2	BT1
5	Directorate General Of Civil Aviation	2	CO1	BT1

PART B : Answer Any 1 Following Questions. 10 M

Q.N.	Questions	M	CO	BT
6	Airport operations are highly complex because large numbers of aircraft, passengers, cargo, vehicles, employees, and organizations operate simultaneously within a highly regulated environment. Major factors include: 1. High volume of activities – Airports handle large numbers of aircraft, passengers, cargo, and vehicles. 2. Multiple simultaneous activities – Turnaround, passenger processing, baggage handling, fueling, catering, and maintenance may occur simultaneously. 3. Safety and security requirements – Airports must comply with national and international regulations. 4. Multiple stakeholders – Airport authorities, airlines, ATC, ground handling agencies, security, immigration, customs, cargo operators, and emergency services must coordinate. 5. Airside congestion – Aircraft parking, gate allocation, runway and taxiway movement require careful coordination. 6. Landside congestion – Passenger movement, check-in, security, boarding, parking, and road traffic can create congestion. 7. Weather conditions – Fog, rain, storms, and heat waves can affect operations. 8. External disruptions – Strikes, technical failures, and airspace restrictions can affect operations. 9. Technology dependency – Systems such as AODB, BHS, FIDS, and CCTV are important. 10. Human factors – Communication errors, workload, stress, fatigue, and differences in training can affect operations. Airports manage this complexity through collaborative decision-making, SOPs, monitoring, contingency planning, training, audits, data analytics, and AI.	10	CO1	BT2

ANSWER KEY

PTO (Please Turn Over)

7	Airport operations involve several stakeholders, each having specific responsibilities. 1. Airport Authority – Responsible for airport infrastructure, facilities, overall coordination, and airport operations. 2. Airlines – Operate flights and coordinate aircraft, crew, passenger, baggage, and airline activities. 3. Air Traffic Control (ATC) – Coordinates aircraft movements and supports safe aircraft movement. 4. Ground Handling Agencies – Perform baggage handling, aircraft servicing, passenger handling, ramp operations, and turnaround support. 5. Security and Immigration – Manage passenger security, access control, threat detection, and immigration procedures. 6. Customs – Handles customs requirements for passengers and cargo. 7. Cargo Operators – Manage cargo acceptance, storage, processing, and movement. 8. Emergency Services – Respond to fire, medical incidents, and other airport emergencies. Effective coordination among these stakeholders: • Ensures smooth aircraft turnaround. • Reduces operational delays. • Supports passenger flow. • Improves safety and security. • Ensures regulatory compliance. • Facilitates emergency response. • Helps manage operational disruptions. No single organization can operate an airport independently. Continuous communication, coordination, and cooperation are essential.	10	CO1	BT2

PART C: Answer Any 1 Following Questions. 10 M				
Q.N.	**Questions**	**M**	**CO**	**BT**
8	Airport operations can be divided into airside and landside activities. Airside challenges: 1. Aircraft parking and gate allocation. 2. Runway and taxiway congestion. 3. Aircraft turnaround coordination. 4. Wildlife hazards. 5. FOD control. Landside and terminal challenges: 1. Passenger flow management. 2. Baggage handling. 3. Vehicle traffic and parking. 4. Peak-hour congestion. 5. Accessibility and passenger experience. Effects on airport efficiency: These challenges can result in: • Flight delays. • Passenger congestion. • Increased operating costs. • Reduced service quality. • Safety and security concerns. • Poor passenger experience. Efficient airport management therefore requires proper planning, coordination, monitoring, and contingency arrangements.	10	CO1	BT2
9	Aviation is a highly complex and safety-critical industry. Clearly defined management and operational structures are therefore essential. Management structure A typical aviation management hierarchy is: Board of Directors / Owners ↓ CEO / Managing Director ↓ Senior Management ↓ Department Heads / General Managers ↓ Middle Management / Supervisors ↓ Operational Staff Authority generally flows downward, while information and performance reports flow upward. Major departments • Flight Operations • Ground Operations • Cabin Operations • Engineering and Maintenance • Safety Management • Security • Cargo Operations • Finance • Human Resources • Marketing and Sales • Information Technology Operational structure Operational structure refers to the arrangement of people, processes, and resources involved in day-to-day aviation activities. It focuses on: • Performing operational activities. • Coordinating resources. • Following SOPs. • Maintaining safety and security. • Delivering services efficiently. • Responding to operational problems. Importance of coordination Effective coordination: • Improves safety. • Reduces operational delays. • Ensures proper resource utilization. • Supports regulatory compliance. • Improves service quality. • Facilitates effective decision-making. A well-defined structure provides clear authority and responsibility while ensuring that departments work together toward common organizational and safety objectives.	10	CO1	BT2

PART D: Answer Any 1 Following Questions. 10 M				
Q.N.	**Questions**	**M**	**CO**	**BT**

ANSWER KEY

10	Cabin service is one of the major categories of aircraft ground handling. Its primary objective is to ensure passenger comfort and cabin readiness before the next flight. Major cabin service activities: 1. Cabin cleaning – Cleaning forms a major part of cabin service. 2. Replenishment of consumables – Passenger-use items are replenished. 3. Soap and tissue replacement – Soap and tissues are checked and replaced. 4. Reading materials – Required reading materials can be replenished. 5. Pillows and blankets – These are replaced or replenished as required. Contribution to passenger comfort: • Provides a clean cabin environment. • Improves hygiene. • Ensures passenger amenities are available. • Creates a comfortable environment. • Prepares the aircraft for the next group of passengers. • Supports the overall passenger service experience. Efficient cabin service also supports aircraft turnaround because delays in cabin servicing can affect boarding and departure schedules.	10	CO2	BT2
11	Aircraft catering is an important ground handling activity that ensures food and beverages are available for passengers and crew. Major activities: 1. Unloading unused food and beverages – Supplies from the previous flight are removed. 2. Removal of used service equipment – Empty or waste-filled catering trolleys are removed. 3. Preparation of fresh supplies – Fresh food and beverages are prepared and arranged. 4. Loading fresh food and beverages – Fresh supplies are loaded before departure. 5. Use of service trolleys – Airline meals are generally delivered using service trolleys. 6. Ground-based meal preparation – Meals are mostly prepared on the ground. 7. Chilling and reheating – Certain food items may require chilling or reheating. Importance: • Provides food and beverages to passengers and crew. • Ensures appropriate supplies are available. • Supports passenger comfort. • Helps maintain airline service standards. • Supports aircraft turnaround. Efficient catering operations are necessary for timely aircraft departure and passenger service.	10	CO2	BT2

PART E: Answer Any 1 Following Questions. 10 M				
Q.N.	**Questions**	**M**	**CO**	**BT**
12	Ramp service is a major category of aircraft ground handling. It involves activities carried out around the aircraft while it is parked. Major ramp handling services: 1. Aircraft marshalling. 2. Pushback and towing. 3. Lavatory servicing. 4. Water servicing. 5. Air conditioning. 6. Air-start units. 7. Baggage handling. 8. Gate-checked baggage handling. 9. Cargo handling. 10. Refueling. 11. Ground power. 12. Passenger stairs and wheelchair lifts. 13. Hydraulic mules and deicing. These services support: • Safe aircraft movement. • Passenger handling. • Aircraft servicing. • Baggage and cargo operations. • Timely aircraft departure. Proper coordination of ramp activities is essential for safe and efficient aircraft turnaround.	10	CO2	BT2
13	Aircraft ground handling requires specialized equipment to perform different servicing and turnaround activities safely and efficiently. Major equipment and services: 1. Belt loaders – Used for loading and unloading passenger baggage. 2. Baggage carts – Used to transport baggage between the aircraft and baggage handling areas. 3. Cargo dollies – Used for transporting cargo near the aircraft. 4. Cargo loaders – Used to load and unload cargo. 5. Refueling pumpers – Used to supply fuel to aircraft. 6. Ground Power Units (GPU) – Provide electrical power to aircraft on the ground. 7. Passenger stairs – Used for boarding and disembarkation when an aerobridge is not used. 8. Wheelchair lifts – Provide access for passengers requiring wheelchair assistance. 9. Hydraulic mules – Provide external hydraulic power. 10. Air-start units – Provide external support for engine starting. 11. Air-conditioning equipment – Provides external air conditioning. 12. Deicing equipment – Used when aircraft surfaces require deicing. Proper use of ground support equipment improves turnaround, supports safety, reduces manual handling, and improves operational efficiency.	10	CO2	BT2

ANSWER KEY