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School of Business

Master of Business Administration MBA Dual Specialization
Semester End Examination - May 2024

Duration : 180 Minutes
Max Marks : 100

Sem IV - MBAV6025 - Aviation Environment

General Instructions

Answer to the specific question asked

Draw neat, labelled diagrams wherever necessary

Approved data hand books are allowed subject to verification by the Invigilator

- 1) Identify the role of ICAO(International Civil Aviation Organisation) in certifying parts that have been disassembled from the aircraft after it's useful life. K3 (6)

- 2) The dynamic nature of the global aviation industry, where alliances and mergers play a significant role in shaping market dynamics. Airlines form alliances to enhance network connectivity, access new markets, and achieve economies of scale. Mergers, on the other hand, involve the consolidation of airlines to achieve synergies and competitive advantages.However, these arrangements can also raise regulatory challenges and market implications, particularly concerning competition and consumer welfare. Antitrust authorities play a critical role in assessing these transactions to ensure fair competition and market efficiency. By analyzing market concentration, consumer welfare, and competitive effects, regulators aim to strike a balance between promoting industry consolidation for efficiency gains and safeguarding competition for the benefit of consumers.
(i) Analyze the regulatory challenges and market implications of airline alliances and mergers within the global aviation industry.(4 marks)
(ii) How do antitrust authorities assess market concentration, consumer welfare, and competitive effects to ensure fair competition and market efficiency? (4 marks) K4 (8)

- 3) Analyze how International Civil Aviation Organization (ICAO) foster collaboration among member states to develop standardized environmental regulations and promote sustainability in aviation, ensuring consistency across jurisdictions to address environmental concerns? K4 (8)

- 4) (i) Assess the legal obligations of airlines and airports regarding noise pollution management and wildlife habitat preservation (2 marks). (ii) How do regulatory authorities enforce these obligations to minimize environmental disruption? (2 marks) K4 (4)

- 5) K3 (9)

Caselet: Delhi Airport's Sustainable Terminal Renovation

The operators of Delhi airport have embarked on a sustainable initiative by renovating the airport's terminal and constructing four cafeterias made from recycled material such as dismantled machine parts, building wastes, recycled metallic, and plastic structures to design various elements including the ceiling and table tops. Moreover, the spokesperson revealed that as part of the ongoing airport expansion, substantial quantities of refurbished and other waste materials would be employed to construct additional facilities.

Based on above answer the questions:

1. How does the utilization of recycled material in the construction of cafeterias contribute to reducing the carbon footprint of the airport?(3)
2. How does this initiative align with the airline's commitment to corporate social responsibility and sustainable development?(3)
3. What are the potential long-term financial benefits associated with incorporating sustainable practices into terminal renovations, beyond immediate cost savings?(3)

- 6) Caselet: Dust Pollution at Long Thanh International Airport Construction Site K5 (10)

The Airports Corporation of Vietnam (ACV), the investor of Long Thanh International Airport, acknowledged the recent outbreak of dust originating from the project site. This issue arises as contractors accelerate construction progress on terminals and runways across. Compounded by the dry season in southern Vietnam, characterized by strong winds, the dust can be carried over long distances, impacting nearby communities. To mitigate dust pollution, the environmental health and safety team of the investor have deployed 35 water tank trucks to water the site regularly, up to five times a day.

Based on above answer the questions:

1. What are the potential long-term environmental and public health implications of continued dust pollution from the Airport construction site?(4)
2. Considering the recurrence of dust pollution issues, what additional measures can be implemented to enhance dust suppression efforts on local communities and ecosystems?(6)

Caselet: Environmental Initiatives at Kolkata Airport

The city airport has achieved ACI – ACA Level 2 certification for its proactive measures in reducing carbon dioxide emissions. This accreditation, under the Airport Carbon Accreditation program, underscores the airport's dedication to environmental sustainability and carbon footprint reduction. Among the green initiatives implemented by the airport authorities are the phasing out of diesel-powered vehicles in operational areas and their replacement with electric ones, transitioning to LED fixtures for apron flood lighting, adopting environment-friendly refrigerant gas for central AC plants, and implemented an automated baggage handling system based on bag availability sensing. Moreover, battery-operated vehicles, both airside and city-side, as well as solar-powered belt loaders, have been introduced to reduce carbon emissions further.

Based on above answer the Questions:

1. How can other airports learn from Kolkata Airport's initiatives in reducing carbon emissions and achieving environmental certifications (3)
2. How does the airport justify these expenditures in terms of long-term environmental benefits? (3)
3. What strategies can the airport implement in the future to continue reducing its carbon footprint and enhance its environmental sustainability? (4)

8) Case Study: Waste Management Initiatives at Dubai Airports

Dubai Airports is making significant strides in waste management, with a notable 60% reduction in waste sent to landfills from DXB. This achievement underscores the airport's comprehensive waste management initiative, designed to diminish environmental impact and champion sustainability.

In collaboration with BEEAH Group, Dubai Airports has implemented a robust food waste treatment plan. This initiative involves the distribution of food waste bins, extensive training programs, and the processing of over 400 tonnes of food waste annually. Additionally, BEEAH Group plays a pivotal role by capturing and converting all cooking oil from food and beverage outlets into biodiesel fuel, further lessening the environmental footprint.

Emphasizing collaboration and stakeholder engagement, Dubai Airports works closely with key partners such as DXB Hotel, lounge operators, and commercial Food & Beverage partners to ensure efficient waste management practices.

Paul Griffiths, CEO of Dubai Airports, underscores the importance of sustainable waste management in mitigating environmental impact and advancing broader sustainability objectives. In the future, Dubai Airports will continue to prioritize waste management initiatives, fostering collaboration, and implementing innovative strategies to further diminish environmental impact and enhance sustainability efforts.

Based on above answer the questions:

1. How effective has Dubai Airports' food waste treatment plan been in diverting food waste from landfills? (4)
2. How does collaboration with stakeholders contribute to Dubai Airports' waste management initiatives? (4)
3. What quantifiable impact has Dubai Airports' waste management initiatives had on reducing its environmental footprint? (3)
5. How does Dubai Airports plan to sustain and further enhance its waste management efforts in the long term? (4)

- 9) Growing concerns over the environmental impact of aviation emissions, a global coalition of airlines, regulatory bodies, environmental organizations, and research institutions collaborates to develop a thematic strategy on air pollution in the aviation industry. The coalition recognizes the urgent need to address air pollution from aircraft operations while ensuring continued growth and sustainability in the aviation sector. As part of the thematic strategy development process, the coalition convenes a series of high-level meetings and working groups to engage stakeholders from diverse backgrounds and expertise. Representatives from major airlines, including legacy carriers, low-cost airlines, and cargo operators, participate alongside officials from national aviation authorities, such as the Federal Aviation Administration (FAA), the European Union Aviation Safety Agency (EASA), and the International Civil Aviation Organization (ICAO). Environmental organizations, such as Greenpeace, the World Wildlife Fund (WWF), and the Environmental Defense Fund (EDF), bring valuable insights and advocacy for stronger environmental regulations. Additionally, leading aircraft manufacturers, such as Boeing, Airbus, and Embraer, contribute their expertise in designing and producing aircraft with improved fuel efficiency and reduced emissions. In this scenario, the coalition faces several challenges, including balancing environmental goals with economic considerations, ensuring regulatory compliance across different jurisdictions, and fostering innovation in sustainable aviation technologies. However, through collaborative efforts and stakeholder engagement, the coalition aims to develop a comprehensive thematic strategy that addresses these challenges while advancing environmental stewardship in the aviation industry.

Q (i): Formulate a set of international standards and best practices for airports to minimize environmental impacts such as noise pollution, air quality degradation, and habitat destruction (Your standards should prioritize sustainability, resilience, and community engagement in airport planning and operations). (6 Marks)

Q (ii): Imagine you are a resident living near an airport experiencing high levels of air pollution, how would you advocate for stronger environmental regulations and measures to mitigate the impact of aviation emissions on your community? (6 Marks)

Q (iii): What strategies are being discussed to ensure regulatory compliance across various jurisdictions, given the international nature of aviation emissions? (6 Marks)

- 10) How can a comprehensive communication strategy effectively disseminate information about the environmental impact of airport operations and the importance of sustainability initiatives among airport staff across various departments?