Seat No.: _____ Enrolment No._____

GUJARAT TECHNOLOGICAL UNIVERSITY

ME SEMESTER II EXAMINATION – SUMMER 2017

Subject Code: 2721312 **Date: 29/05/2017**

Subject Name: Airport System Planning and Design

Time:02:30 PM to 05:00 PM **Total Marks: 70**

Instructions:

1. **Attempt all questions.**
2. **Make suitable assumptions wherever necessary.**
3. **Figures to the right indicate full marks**

Q.1	**(a)**	What are the points to be kept in mind while preparing an Airport Master Plan?	**07**
	(b)	Briefly explain the open sky policy of India. How this policy has made its impact on the air transport sector of India?	**07**
Q.2	**(a)**	What do you understand by the term airport capacity? What are the factors affecting airport capacity?	**07**
	(b)	What are the basic patterns of runway configuration? Discuss each pattern. What pattern has been recommended for international airports in India?	**07**
		OR	
	(b)	Explain briefly the forecasting techniques of air travel demand.	**07**
Q.3	**(a)**	Explain the difference between highway and airport pavements with reference to the tyre pressure, weight of vehicle and load repetitions.	**07**
	(b)	Draw a typical sketch showing the general lighting pattern for a major airport.	**07**
		OR	
Q.3	**(a)**	Explain design of passenger terminal and flow through the terminals in detail.	**07**
	(b)	What is wind rose diagram? What is its utility? What are its types? Explain each type.	**07**
Q.4	**(a)**	Explain the procedure for orienting the runway.	**07**
	(b)	At an airport site at sea level with standard atmospheric condition, the runway lengths required for take-off and landing are 2500 m and 3000 m respectively. If the airport reference temperature is 25^0C also if the effective runway gradient is 0.5% and airport located at an altitude of 150 m then calculate the length of runway to be provided.	**07**
		OR	
Q.4	**(a)**	Explain the various factors which affect the size of gate position. How will you decide the number of gate position required by an airline? Decide the number of gate position required by an airline?	**07**
	(b)	Write a short note on Air Cargo Facility.	**07**
Q.5	**(a)**	How will you carry out environment impact assessment in order to suggest the final location of the new Airport?	**07**
	(b)	Explain the various factors affecting the location of exit taxiway. What do you understand by optimum location of exit taxiway?	**07**
		OR	
Q.5	**(a)**	What are the imaginary surfaces? What is their significance?	**07**
	(b)	What do you understand by the term visual aid in connection with airport? Name the different visual aids. What is the necessity of visual aids?	**07**

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