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School of Engineering
M.TECH Transportation Engineering
Mid Term Examination - May 2024

Duration : 90 Minutes
Max Marks : 50

Sem II - G1PD204T - Airport planning and design

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) Define the term aerodrome. K2 (2)
- 2) Why an aircraft requires a considerably larger run before taking off on a hot day? K1 (3)
- 3) List out the four factors which affect the size of the necessary size of an airport? K2 (4)
- 4) Write short notes on: (a) Cross wind component; (b) Runway Numbering K2 (6)
- 5) Give reasons for the following: (a) The orientation of runway along the head wind is desirable; (b) It is necessary to provide the transverse gradient for the taxiway K3 (6)
- 6) Differentiate between the following: (a) Runway and Taxiway, (b) Sight distance and Stopping distance (c) Loading aprons and holding aprons K3 (9)
- 7) What is the basic runway length? Describe the corrections to be applied to the calculated basic runway length to get its actual length. K4 (8)
- 8) Calculate the actual length of the runway from the following data: Airport elevation= R.L. 100, Airport reference temperature= 28 °C, Basic length of runway= 600 m, Highest point along the length= R.L. 98.2, Lowest point along the length= R.L. 95.2. K4 (12)

OR

An airport is proposed at an elevation of 400 m above the mean sea level where the mean of maximum and mean of average daily temperatures of the hottest month are 44.8 °C and 26.2 °C respectively. The maximum elevation difference along the proposed profile of runway is 6.3 m. If the basic length of runway is 1260 m, determine the actual length of runway to be provided. K4 (12)