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Total number of printed pages: **Civil Engineering (UG)/VI/UCE602**

2023

TRANSPORTATION ENGINEERING II

Full Marks: 100

Time: Three hours

The figures in the margin indicate full marks for the questions.

*Answer **any five** questions.*

1.	a)	What are the guidelines to be considered while deciding the layout of Airport terminal building?	5
	b)	Explain satellite system type of aircraft parking system.	5
	c)	Calculate the requirement of various railway track components for a BG track of 5 km length.	10
2.	a)	What are the assumptions made in arriving at basic runway length?	5
	b)	Explain the role of railways in the development of our nation.	5
	c)	The length of runway under standard conditions is 1620 m. The airport site has an elevation of 270 m. Its reference temperature is 32.9°C. If the runway is to be constructed with an effective gradient of 0.2 percent, determine the corrected runway length.	10
3.	a)	On a 2° curve for a BG track, actual cant is provided for a speed of 80 km/h. What is cant deficiency for a train with speed of 120 km/h? If allowable cant deficiency is 10 cm, find the safe speed.	5
	b)	A 5° curve diverges from a 3° main curve in reverse direction in the layout of a BG yard. If the speed on the branch line is restricted to 35 km/h, determine the restricted speed on the main line.	5
	c)	What are the advantages and disadvantages of tunnels?	10
4.	a)	Give the comparison between different modes of transportation.	5
	b)	Draw the section of a railway track. Write the function of each component.	5
	c)	Explain the theories/causes for creep of rails.	10
5.	a)	What are the functions of railway ballast?	5
	b)	What the requirements of an ideal rail alignment?	5

	c)	Briefly explain the maintenance of railway track.	10
6.	Write short notes on any two of the following		5x4=20
	a)	Coning of wheels.	
	b)	Airport Hangar	
	c)	Harbour	
	d)	Taxiway	