

GUJARAT TECHNOLOGICAL UNIVERSITY**BE - SEMESTER-VII (NEW) EXAMINATION – SUMMER 2024****Subject Code: 3170619****Date: 01-06-2024****Subject Name: Railway and Airport Engineering****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.
4. Simple and non-programmable scientific calculators are allowed.

		MARKS
Q.1	(a) State functions of ballast.	03
	(b) Compare railway transportation with roadway transportation,	04
	(c) Give causes and remedial measures of rail accidents.	07
Q.2	(a) Write advantages and disadvantages of concrete sleepers.	03
	(b) Enlist various aircraft characteristics. Explain minimum turning radius in detail.	04
	(c) Enumerate objectives of regional planning. What data collected for regional planning?	07
	OR	
	(c) Determine equilibrium cant on a B.G. track with 4° curve for a speed of 65 kmph. If maximum cant deficiency permitted, what would be maximum permissible speed on track?	07
Q.3	(a) What are functions of AAI?	03
	(b) Write function of following fittings/fastening used for rails. (1) Bearing plate (2) Pandrol clip (3) Spikes (4) Keys	04
	(c) Explain ICAO recommended geometric design of width of safety area, turning radius and fillets of taxiway.	07
	OR	
Q.3	(a) Enumerate basic functions of airport drainage.	03
	(b) Give types of yards. Discuss marshalling yard in detail	04
	(c) Describe various aircraft parking system.	07
Q.4	(a) Discuss briefly devices used for mechanical interlocking.	03
	(b) Discuss take-off climb surface and approach surface in detail.	04
	(c) Define airport capacity. Describe factors affecting airport capacity.	07
	OR	
Q.4	(a) Discuss fish plate type fittings and fastenings used for joining rails.	03
	(b) What is terminal building? Give major components of terminal area.	04
	(c) What is crossing? Give types and characteristics of good crossing.	07
Q.5	(a) Write purposes of railway stations.	03
	(b) Enlist various types of visual aids for air navigation. Explain wind direction indicator.	04
	(c) Discuss factors involved in selection of a good alignment for railway.	07
	OR	
Q.5	(a) What are purposes of air traffic control?	03
	(b) Describe various corrections applied to basic runway length.	04
	(c) Classify wear of rails and discuss causes of wear with suitable remedial measures.	07
