Reg No.:_____ Name:_____

APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY

Seventh Semester B.Tech Degree Examination (Regular and Supplementary), December 2020

Course Code: CE407
Course Name: TRANSPORTATION ENGINEERING - II

Max. Marks: 100 Duration: 3 Hours

PART A

Answer any two full questions, each carries 15 marks. Marks

1 a) Describe the role of Indian railway in national development. (5)

b) Distinguish between LRT and MRT. (10)

2 a) Sketch the components of a permanent way and mark the salient points. (5)

b) What is sleeper density? Explain the function of sleepers. (5)

c) Explain different types of gradients used in rail alignments. (5)

3 a) Write a brief note on ballast less tracks. (5)

b) Find the final gradient for a broad gauge track where the grade resistance together with curve resistance due to a 2° curve is equal to the resistance due to a ruling gradient of 1 in 200. (5)

c) Write Brief note on tube rail way. (5)

PART B

Answer any two full questions, each carries 15 marks.

4 a) Explain the procedure of ‘Through packing’ and ‘Scissor packing’ and highlight the difference between them. (5)

b) What are the type of accidents generally occur in Indian Railways. What are the remedial measures? (6)

c) Explain the working of absolute block system. (4)

5 a) A turnout takes off from a straight BG track at an angle of 1^o 40’ 22” with crossing angle 5^o 59’ 20”. Length of the switch rail is 4.72m. Heel divergence is 11.7cm. Straight length of the track at the crossing is 0.8m. Design the turnout. (8)

b) Draw a neat sketch of a Left hand turnout and mark its components. (7)

6 a) Explain how the accidents are classified on Indian Railways. Explain the various aids and methods for preventing railway accidents. (8)

	b)	What are the different systems of controlling the movement of trains? Explain the working of ATC system.	(7)

PART C

Answer any two full questions, each carries 20 marks.

7	a)	Write brief note on i) Lighting and ii) ventilation of tunnelling	(10)
	b)	Explain the working of i) TBM ii)Compressed Air method of tunnelling	(10)
8	a)	What are the classifications of tunnelling?	(5)
	b)	Write a brief note on tunnel lining.	(7)
	c)	What are breakwaters? Explain the necessity and functions of breakwaters.	(8)
9	a)	What are different types of Docks? Explain its functions.	(7)
	b)	Enlist various forces acting on break water and principles of design.	(7)
	c)	What are the types of signals and functions of signals used in ports?	(6)

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