QP Code: SN22BTECH584 Reg. No | | | | | | | | | | AR 21

Gandhi Institute of Engineering and Technology University, Odisha, Gunupur (GIET University)

B. Tech (Seventh Semester - Regular) Examinations, November – 2025

22BCVPC47002– Transportation Engg-II

(Civil Engineering)

Time: 3 hrs Maximum: 70 Marks

Answer ALL questions

(The figures in the right hand margin indicate marks)

PART – A **(2 x 5 = 10 Marks)**

Q.1. Answer ***ALL*** questions

	Question	CO #	Blooms Level
a.	Define wheel gauge. What are the various gauges used in India?	CO1	K1
b.	What is the difference between pusher gradient and momentum gradient?	CO2	K1
c.	Differentiate between ruling gradient and momentum gradient.	CO3	K1
d.	What is scissor crossings?	CO4	K1
e.	How railway signals are classified based on their location?	CO3	K1

PART – B **(15 x 4 = 60 Marks)**

Answer ***all*** the questions

	Question	Marks	CO #	Blooms Level
2. a.	Explain the advantages and disadvantages of wooden sleepers.	8	CO1	K1
b.	Describe the requirements of ideal gauge.	7	CO1	K1
	(OR)			
c.	What is creep and write about theories related to creep	8	CO1	K3
d.	What is the necessity of widening of gauges on curves?	7	CO1	K2
3.a.	Explain the difference between cant deficiency and negative super elevation.	8	CO2	K2
b.	List out various objectives of signaling in railways.	7	CO2	K2
	(OR)			
c.	Write in detail about various gradients used on a railway track along with minimum values of each gradient.	8	CO2	K1
d.	What is conning of wheel and tilting of rails. Explain the behavior of a conned wheel on curved track	7	CO2	K1
4.a.	What is meant by crossing? Discuss the various types of crossings.	8	CO3	K2
b.	What is interlocking? Explain various functions of interlocking.	7	CO3	K3
	(OR)			
c.	Discuss about semaphore signals.	8	CO3	K2
d.	Draw the cross section of permanent way	7	CO3	K2
5.a.	Discuss the development of air transport in India and its contribution to connectivity.	8	CO4	K2
b.	Describe various **aircraft characteristics** that influence airport planning.	7	CO4	K2
	(OR)			
c.	Explain the **criteria for airport site selection** with special emphasis on topography and wind.	8	CO4	K1
d.	Explain imaginary surfaces around airports and their importance in safe air navigation.	7	CO4	K1

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