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EAST POINT COLLEGE OF ENGINEERING & TECHNOLOGY
An Autonomous Institution Affiliated to Visvesvaraya Technological University (VTU) Belagavi

USN | | | | | | | | | | |

24CV43

Fourth Semester B.E. Degree Examination, May 2026
TRANSPORTATION ENGINEERING

TIME:3 hrs. Max.Marks:100

Note: 1. Answer **any FIVE** full questions, choosing **ONE** question from **each MODULE.**
2. M: Marks, L: Bloom's level,C: Course outcomes.
3. Assume missing data suitably.

		Module-1	M	L	C
Q.1	a	Explain various modes of Transportation and mention characteristics of Road Transport.	08	L2	CO1
	b	Define Alignment and write a note on requirements of alignment and factors controlling alignment	06	L1	CO1
	c	Write a note on i) Camber ii) Kerb	06	L1	CO1
		OR			
Q.2	a	The design speed of Highway is 80Kmph. There is a horizontal curve of radius 200m on a certain locality. Safe limit of transverse coefficient of friction is 0.15.Calculate the super elevation required to maintain this speed If the maximum super elevation of 0.07 is not to be exceeded, calculate the maximum allowable speed on this horizontal curve as it is not possible to increase the radius.	10	L2	CO1
	b	Explain formation of Jayakar committee and various recommendations of committee.	06	L2	CO1
	c	Enumerate steps in design of Super elevation.	04	L2	CO1
		Module–2			
Q.3	a	Differentiate between Flexible and Rigid Pavement.	08	L2	CO2
	b	Explain factor controlling Design of Flexible Highway Pavement.	06	L2	CO2
	c	Elaborate on Types of Joints in Rigid Pavement.	06	L2	CO2
		OR			
Q.4	a	Explain various cross drainage structures.	08	L2	CO2
	b	Write a note on desirable properties of Bituminous Mixes	06	L4	CO2
	c	Explain functions of Various Components in Flexible Pavement	06	L2	CO2
		Module–3			
Q.5	a	Elaborate on Dynamic Characteristics in Traffic Engineering.	10	L2	CO3
	b	Explain various methods used in Speed and delay studies.	10	L2	CO3
		OR			
Q.6	a	Write a note on i) Types of intersections ii) Types of traffic signs	08	L1	CO3

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	b	A Vehicle of weight 2tonnes skids through a distance equal to 40m before colliding with another parked vehicle of weight 1tonne. After the collision both vehicles skid through a distance equal to 12m before stopping. Compute the initial speed of the moving vehicle. Assume average coefficient of friction as 0.5.	12	L2	CO3
		Module–4			
Q.7	a	Summarize the various requirements of Ideal Permanent Way.	06	L2	CO4
	b	Write a note on different gauges used in India.	06	L1	CO4
	c	Along with advantages and disadvantages explain Coning of Wheels.	08	L2	CO4
		OR			
Q.8	a	Explain railway station and yard.	06	L2	CO4
	b	Explain point and crossing and its importance	06	L2	CO4
	c	Determine to calculate the quantity of materials required to construct 1200m long BG track assuming sleeper density of (n+5)	08	L2	CO4
		Module–5			
Q.9	a	With a neat sketch explain layout of Airport with component parts and functions	08	L2	CO5
	b	The length of runway under standard condition is 1620m. The airport site has an elevation of 270m. Its reference temperature is 32.90^0. If the runway is to be constructed with an effective gradient of 0.2%. Determine the Corrected Runway Length.	12	L2	CO5
		OR			
Q.10	a	Describe the elements of taxiway geometric design.	08	L2	CO5
	b	Design an exit taxiway joining a runway of 45m width and a parallel main taxiway of 22.5m width. The total angle of turn is 30^0 and the turnout speed is 80kmph. Check the stopping sight distance if the separation clearance is 198.7m	12	L3	CO5

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