RE-TEST EXAMINATION, 2022
Semester: 5th
Subject code: CT-505
Subject: Transportation Engineering
Full Marks: 70
Duration: 3 hours

Instructions:

1. Questions on Part A are compulsory

2. Answer any three questions from Part B

PART-A, MARK-25

Questions no.	Questions	marks
	Fill in the blanks:	1x10-10
1a	The meeting of second twenty year road development plan was held in the year _____.	
1b	Aggregate Impact test is used to determine the _____ value of aggregates..	
1c	Motor vehicle act was passed in the year of _____.	
1d	The stopping sight distance is _____ than overtaking sight distance.	
1e	Camber in the road is provided for _____.	
1f	Maximum wheel base distance provided on Indian B.G. tracks, is _____.	
1g	CBR test was developed in the year _____.	
1h	The slope of the wheel flange of a train is at the ration of _____.	
1i	The maximum allowable Los Angeles abrasion value for high quality surface course is _____.	
1j	Loss Angeles Abrasion test is used to measure _____ value of aggregates.	

Question no.	Write true or false:	1x10=10
2a	PIEV theory is related to study of railway engineering.	
2b	Ductility test is performed to find the abrasion value of aggregate.	

2c	Ring and ball apparatus is used to measure the size of aggregates.
2d	CBR test is used for determining the thickness of rigid pavement only.
2e	Ruling gradient is the maximum gradient provided on a curve.
2f	The width of a single lane divided roadway is 4.6m.
2g	Kerb is provided to drain out the rain water from the road surface only.
2h	The standard height of a driver's eye level above the road surface should be 2.5m in Indian roads.
2i	Cutback bitumen is not a type of bitumen, but rather is an externally applied fluid to increase the viscosity of bitumen.
2j	The bitumen emulsion and cutback bitumen are same product.

Question no.	Choose the correct answer	1x5=5
3a	The expansion joints do not consist of a) Dowel bars b) Joint filler c) Joint sealer d) Tack coat	
3b	The most commonly used bitumen is. a) Tar b) VG 70 c) Cutbacks d) VG 30	
3c	The difference in between the set of front axle and rear axle while negotiating a horizontal curve is called a) Psychological widening b) Off tracking c) Skidding d) Slipping	
3d	The design of the highway should satisfy a) Structural requirement b) Drainage system c) Economical d) All the above mentioned	
3e	The desirable relationship between OSD and length of overtaking zone is a) Length of overtaking zone=OSD b) Length of overtaking zone=2 OSD c) Length of overtaking zone = 3 OSD d) Length of overtaking zone = 5 OSD	

PART-B, MARK- 45
(Answer any three questions)

Questions no.	Questions	marks
4	What is the difference between Flexible and Rigid pavement? Explain the CBR method for determining the thickness of pavement layers?	5+10=15
.5	What is horizontal curve in highway? Derive the expression for radius of horizontal curve for a vehicle running at a design speed of 'v' m/s.	5+10=15
6	What is conning of wheel? Derive the expression for super elevation or cant for a railway track. Explain cant deficiency and cant excess of railway track.	5+5+5=15
7	What is overtaking sight distance? Derive the expression for overtaking sight distance in a highway.	5+10=15