

Reg.No. _____



Karunya UNIVERSITY

(Karunya Institute of Technology & Sciences)
(Declared as Deemed-to-be University under Sec.3 of the UGC Act, 1956)

End Semester Examination – Nov/Dec – 2016

Code : 14CE2014
Sub. Name : Transportation Engineering

Semester : 2016-17 ODD
Duration : 3hrs
Max. marks : 100

ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)

Q. No.	Sub Div.	Questions	Course Outcome	Marks
1.	a.	Find the minimum sight distance to avoid head on collision of two approaching cars at 90 kmph and 80kmph, Brake efficiency=50%. (Take $f=0.7$, $t=3s$).	CO2	10
	b.	Write down the step by step procedure for the Designing of Super elevation.	CO2	10
(OR)				
2.	a.	Write down different types of sight distance and its significant important in highway alignment.	CO2	10
	b.	Summaries the requirements of an highway alignment.	CO2	10
3.	a.	Calculate the ruling minimum and absolute minimum radius of horizontal curve of a NH in a plane terrain. ($V_{ruling}=80kmph$, $V_{min}=90kmph$). Take the maximum value for e and f.	CO2	10
	b.	Describe with neat sketch about cross sectional elements of highway.	CO1	10
(OR)				
4.	a.	Differentiate Flexible & Rigid pavement.	CO2	10
	b.	Calculate the extra width of pavement required on a horizontal curve of radius 700 m On a 2 lane highway, the design speed being 80 kmph. Assume wheel base $l = 6m$	CO2	10
5.	a.	With neat sketch list the types of joints in railway.	CO1	10
	b.	Differentiate between road transport and rail transport	CO1	10
(OR)				
6.	a.	Describe the uniformity of gauges.	CO2	10
	b.	Explain Rails and its types with neat sketch.	CO2	10
7.	a.	Explain Rail gauge and describe the factors influencing in choosing it.	CO3	10
	b.	What are the different facilities needed in a railway station?	CO3	10
(OR)				
8.	a.	Describe the functional elements of an harbor with neat sketch	CO3	10
	b.	Mention the different factors involving airport site selection and explain in details	CO3	
<u>Compulsory:</u>				
9.	a.	Explain components of airport with a aid of a neat sketch.	CO3	10
	b.	Describe the functional elements of an harbor with neat sketch	CO3	10

ALL THE BEST