Reg.No. \_\_\_\_\_\_\_\_\_\_\_\_



**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**

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|  |  | **Semester :** | **2016-17 ODD** |
| **Code :** | **14CE2014** | **Duration :** | **3hrs** |
| **Sub. Name :** | **TRANSPORTATION ENGINEERING** | **Max. marks :** | **100** |

**ANSWER ALL QUESTIONS (5 x 20 = 100 Marks)**

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| 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. (Vruling=80kmph, Vmin=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 | 10 |
|  | | **Compulsory:** |  |  |
| 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