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



**End Semester Examination – Nov / Dec – 2019**

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| **Code :** | **17CE2015** | **Duration :** | **3hrs** |
| **Sub. Name :** | **TRANSPORTATION ENGINEERING** | **Max. Marks :** | **100** |

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| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | **Marks** |
| 1. | a. | Draw the Cross sectional diagram of highway drainage system. | CO3 | 7 |
| b. | List the methods of surface drainage and sub surface drainage system. | CO3 | 7 |
| c. | Infer catch basins and its significance. | CO3 | 6 |
|  | **(OR)** | | | |
| 2. | a. | Enlist the requirements of a highway alignment. | CO2 | 6 |
| b. | Draw the cross sectional diagram of road pavement. | CO2 | 7 |
| c. | Define Marshall design parameters for highway pavement. | CO2 | 7 |
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| 3. | a. | Define the terms sleeper, ballast and fasteners. | CO5 | 5 |
| b. | Mention the types of sleepers and their advantages. | CO5 | 5 |
| c. | Draw the sectional view of rail way track. | CO5 | 5 |
| d. | Define conning of wheel. | CO5 | 5 |
|  | **(OR)** | | | |
| 4. | a. | Draw the layout of a harbour and mention the components. | CO6 | 7 |
| b. | Define dock and navigation aids. | CO6 | 6 |
| c. | Explain about hydrographic survey and nautical units. | CO6 | 7 |
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| 5. | a. | The design speed of the road is 65kmph, the friction coefficient is 0.36 and reaction time of driver is 2.5sec. Calculate the values of;  i) Head light sight distance and  ii) Intermediate sight distance for the road. | CO3 | 14 |
| b. | Define SSD and OSD with neat sketch. | CO3 | 6 |
|  | **(OR)** | | | |
| 6. | a. | Compare Rail transport and Road transport under various aspects. | CO4 | 4 |
| b. | Define creep. | CO4 | 4 |
| c. | Express the side slope of embankment of rail track. | CO5 | 4 |
| d. | Write the political advantages of rail transport. | CO5 | 4 |
| e. | Define shoulders and their important function. | CO1 | 4 |
|  |  |  |  |  |
| 7. | a. | Mention the salient features of airport. | CO6 | 7 |
| b. | List the advantages of airways over water transport. | CO6 | 7 |
| c. | Define the following terms,  (i) Apron (ii) Taxiway (iii) Hanger | CO6 | 6 |
|  | **(OR)** | | | |
| 8. | a. | Construct the steps to be followed for safe transportation. | CO1 | 8 |
| b. | Enumerate the different mode of transportations and their adavantages and disadvantages. | CO1 | 12 |
|  | | **Compulsory**: |  |  |
| 9. | a. | List the failures in flexible pavement and rigid pavement and draw their failure patterns. | CO2 | 10 |
| b. | Give a new innovative solution for the control of increasing traffic volume in day to day life. | CO3 | 10 |