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



**End Semester Examination – Nov/Dec– 2017**

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

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

|  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- |
| **Q. No.** | **Sub Div.** | **Questions** | **Course**  **Outcome** | | **Marks** | |
| 1. | a. | Calculate the safe stopping sight distance for design speed of 50 kmph for i. two-way traffic in a two lane road ii. two-way traffic in single lane road. Assume suitable data as per IRC standards. | | CO3 | | 10 |
| b. | Draw a typical cross-section of a highway and explain its elements. | | CO1 | | 5 |
| c. | Explain with nest sketch the concept of ‘coning of wheels’ | | CO6 | | 5 |
| (OR) | | | | | | |
| 2. | a. | Define: HSD, ISD, SSD and OSD. | | CO3 | | 8 |
| b. | Illustrate with neat sketches and explain, how the obligatory points control a highway alignment? | | CO2 | | 6 |
| c. | Draw a typical cross section of permanent way and label its components. | | CO6 | | 6 |
| 3. | a. | List out the factors depends on OSD and Write expression for an OSD. | | CO3 | | 7 |
|  | b. | Describe the process of engineering surveys for a highway alignment. | | CO1 | | 7 |
|  | c. | Enlist the different elements of railway track. | | CO6 | | 6 |
| (OR) | | | | | | |
| 4. | a. | Find head light sight distance and intermediate sight distance for V=65 kmph. Assume suitable data. | | CO3 | | 8 |
|  | b. | List and explain types of railway crossing. | | CO6 | | 6 |
|  | c. | Differentiate runway from taxiway. | | CO6 | | 6 |
| 5. | a. | Construct the step by step design procedure for super elevation as per IRC suggestion. | | CO4 | | 7 |
|  | b. | Classify and explain Railway Signals. | | CO6 | | 7 |
|  | c. | Compose the objectives of terminal building. | | CO5 | | 6 |
| (OR) | | | | | | |
| 6. | a. | Sketch and explain about different types of stoping sight distances. | | CO4 | | 6 |
|  | b. | Enumerate the factors involved in an airport site investigation. | | CO6 | | 8 |
|  | c. | Differentiate between railway station and yards. | | CO6 | | 6 |
| 7. | a. | Write a short note on National importance of transportation engineering. | | CO3 | | 6 |
|  | b. | Summaries the requirements of a pavement. | | CO4 | | 9 |
|  | c. | Compare railways with roadways. | | CO6 | | 5 |
| (OR) | | | | | | |
| 8. | a. | Explain the different types of vertical alignment. | | CO2 | | 7 |
|  | b. | Elaborate the difference between Flexible and Rigid Pavement according to its functional parameters. | | CO5 | | 7 |
|  | c. | Draw a typical layout of airport and label its components. | | CO6 | | 6 |
|  | | **Compulsory**: | |  | |  |
| 9. | a. | Define Docks and outline its types. | | CO6 | | 8 |
|  | b. | Write a short note on Pier, wharf, jetty. | | CO6 | | 12 |

ALL THE BEST