**14CE801**

**Hall Ticket Number:**

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| **IV/IV B.Tech (Regular/Supplementary) DEGREE EXAMINATION** | | | |
| **July, 2021** | **Civil Engineering** | | |
| **Eight Semester** | **Transportation Engineering - II** | | |
| **Time:** Three Hours | | **Maximum :** 60 Marks | |
| *Answer ALL Questions from PART-A.* | | | (1X12 = 12 Marks) |
| *Answer* ***ANY FOUR*** *questions from PART-B.* | | | (4X12=48 Marks) |
| **Part - A** | | | |

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| 1 | Answer all questions | | (1X12=12 Marks) | |
|  | a) | Define gauge | |  |
|  | b) | What is creep in rails | |  |
|  | c) | Draw a neat sketch of different types of rails | |  |
|  | d) | Define cant excess | |  |
|  | e) | Explain function of stretcher bar? | |  |
|  | f) | List out different types of signals | |  |
|  | g) | What is the function of rudder and elevator in aircraft operation | |  |
|  | h) | Define wind rose diagram | |  |
|  | i) | What is the specification for basic runway length correction for gradient | |  |
|  | j) | In PCA method modulus of rupture should be increased by how much percentage based on 28 days strength? | |  |
|  | k) | List out different types of harbours | |  |
|  | l) | What is the purpose of breakwater? | |  |
| |  | | --- | | **Part - B** | | | | | |
| 2 | a) | Discuss the classification of Indian Railways briefly | | 6M |
|  | b) | Compare railway and highway transportation | | 6M |
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| 3 | a) | Draw the cross section of a permanent way and explain the functions of each component | | 6M |
|  | b) | Explain the concept of coning of wheel with a neat sketch | | 6M |
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| 4 | a) | In a broad gauge track there is an unsymmetrical split 40 and 60 curves from mainline and branch line respectively. If speed on main line is 55kmph what would be the speed on branch line allowing maximum cant deficiency? | | 6M |
|  | b) | Define gradient and explain about different types of gradients in detail | | 6M |
|  | | | | |
| 5 | a) | What are different types of crossings? Explain with neat sketch | | 6M |
|  | b) | Explain the components of left hand turnout with a neat sketch | | 6M |
|  | | | | |
| 6 | a) | Explain various aircraft characteristics briefly | | 6M |
|  | b) | The length of runway under standard condition is 1620m, the airport site has an elevation of 270m. Its reference temperature is 32.94°C. If the runway is to be constructed with an effective gradient of 0.20 percent, Determine the corrected runway length | | 6M |
|  | | | | |
| 7 | a) | What are various factors governing site selection of an airport? Explain in detail | | 6M |
|  | b) | Draw the neat sketch of aeroplane and explain the component parts. | | 6M |
|  | | | | |
| 8 | a) | Discuss in brief various methods used to design a flexible airport pavement | | 6M |
|  | b) | What are the various factors to be considered for the design of air field pavements. | | 6M |
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| 9 | a) | What are the factors governing site selection of harbour | | 6M |
|  | b) | Define break water and explain different types of break water | | 6M |

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