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| Image result for nit meghalaya logo | **National Institute of Technology Meghalaya**An Institute of National Importance | **CURRICULUM** |
| Programme | **Bachelor of Technology in Civil Engineering** | Year of Regulation | **2019** |
| Department | **Civil Engineering** | Semester | **VIII** |
| CourseCode | Course Name | **Pre requisite** | Credit Structure | Marks Distribution |
| L | T | P | C | INT | MID | END | Total |
| **CE420** | **Traffic Engineering**  | **Nil** | **3** | **0** | **0** | **3** | **50** | **50** | **100** | **200** |
| CourseObjectives | **To gain knowledge about fundamental traffic parameters and their relationship.** | Course Outcomes | CO1 | **Demonstrate the clear understanding of the factors influencing road vehicle performance** |
| **Obtain a basic Knowledge of the fundamental issues in traffic engineering** | CO2 | **Learn and understand about traffic planning strategies** |
| **To study about various traffic management system.** | CO3 | **Acquire knowledge about traffic rules and regulations** |
| **To understand detrimental effect of traffic on environment and solution**  | CO4 | **To understand the impact of traffic on environment**  |
| **To gain knowledge about recent innovation in traffic engineering** | CO5 | **Learn about latest trend and innovation in traffic engineering** |
|  |  |  |
| No. | COs | Mapping with Program Outcomes (POs) | Mapping with PSOs |
| PO1 | PO2 | PO3 | PO4 | PO5 | PO6 | PO7 | PO8 | PO9 | PO10 | PO11 | PO12 | PSO1 | PSO2 | PSO3 |
| 1 | CO1 | **3** | **3** | **2** | **2** | **-** | **3** | **-** | **-** | **-** | **-** | **-** | **2** | **0** | **3** | **0** |
| 2 | CO2 | **-** | **-** | **2** | **1** | **3** | **3** | **-** | **-** | **-** | **-** | **-** | **2** | **0** | **3** | **1** |
| 3 | CO3 | **-** | **-** | **1** | **-** | **-** | **2** | **-** | **1** | **-** | **-** | **-** | **3** | **0** | **3** | **0** |
| 4 | CO4 | **3** | **2** | **3** | **-** | **2** | **2** | **1** | **-** | **-** | **-** | **-** | **2** | **0** | **2** | **3** |
| 5 | CO5 | **1** | **1** | **-** | **-** | **3** | **1** | **3** | **-** | **-** | **-** | **-** | **1** | **0** | **2** | **2** |
|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| SYLLABUS |
| No. | Content | Hours | COs |
| I | Traffic Flow Analysis: Macroscopic and Microscopic approach, Road User Characteristics – human and vehicularcharacteristic, conflict points, intersection type,accident studies and characteristics, causes andpreventive measures. | **09** | **CO1** |
| II | **Transportation planning:**Introduction to Transportation planning; Transportation planning strategies, travel demand forecasting and data collection, Intelligent traffic management systems. | **09** | **CO1** |
| **CO2** |
| **CO5** |
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| III | **Traffic Management**: Traffic Laws, Pedestrians andMixed Traffic. Traffic control Measures – One Way streets, Kerb Parking Control, IntersectionControl, Speed Control, Traffic Control Devices – TrafficMarkings, Signs, Signals, Traffic Islands, their Classification, types and Sketches, StreetLighting. | **09** | **CO1** |
| **CO3** |
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| IV | **Traffic and Environment**: Detrimental effects of traffic on environment – air pollution,noise pollution, visual intrusion, aesthetics and their solution. **Road Safety**: The identification of problem, causation and Prevention, Road layout andImprovements, Safety equipment. Recent innovations in road safety equipment. | **09** | **CO4** |
| **CO5** |
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| Total Hours | **36** |  |
| **Essential Readings** |
| 1. Chakraborty, P and Das , D “Principles of Transportation Engineering” PHI Learning
 |
| 1. S.K. Khanna, C.E.G. Justo, A.Veeraragavan,”Highway Engineering”, Nemchand Bros.
 |
| 1. Kadiyali L.R. “Traffic Engineering and Transportation Planning”, Khanna Publications
 |
| 1. C.A.O. Flaherty, “Transportaion Planning and Traffic Engineering”, Butterworth-Heinemann; 4th edition
 |
| **Supplementary Readings** |
| 1. McShane, W.R and Roess, R.P, “Traffic Engineering”, Prentice-Hall, Inc..Newjersey 1990
 |
| 1. Relevant IRC Codes, Indian Roads Congress, Delhi
 |
| 1. Khisty, C.J. and Lall, B.K., “Introduction to Transportation Engineering”, Prentice-Hall India
 |
| 1. Papacostas, C.S and Prevedouros, P.D.,”Transportation Engineering & Planning”
 |
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