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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** | | | | | | |
| Course  Code | | 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** | |
| Course  Objectives | | **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** | | | | | | | | | | | | | | |
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| 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** |
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| 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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