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Continuing Education Course #344
The Highway Capacity Manual
6th Edition: Overview and What's New

1. The 6th Edition of the Highway Capacity Manual is the standard for _____.
 - a. Fundamentals of Engineering exam
 - b. Transportation Engineering exam
 - c. Principles and Practice of Engineering exam
 - d. Both the Fundamentals of Engineering and Principles and Practice of Engineering exams
2. Which Transportation Research Board committee is responsible for development and maintenance of the HCM?
 - a. Freeway Operations
 - b. Traffic Flow Theory and Characteristics
 - c. Operational Effects of Geometrics
 - d. Highway Capacity and Quality of Service
3. What year was the first HCM published?
 - a. 1950
 - b. 1965
 - c. 1985
 - d. 2000
4. The HCM 6th Edition revisions include _____.
 - a. New title
 - b. Multiple performance measures
 - c. Travel time reliability and ATDM
 - d. Alternative intersection service measure
 - e. Managed lane analysis
 - f. All of the above
5. HCM 6th Edition Volume 4 is available only to those with a personal copy of the HCM.
 - a. True
 - b. False
6. Freeway Reliability Analysis incorporates _____.
 - a. Demand variation
 - b. Weather events
 - c. Incident events
 - d. Work zone activity
 - e. Special event effects
 - f. all of the above
7. CAF stands for _____.

- a. Calibration adjustment factor
 - b. Calibration advisory factor
 - c. Capacity adjustment factor
 - d. Construction adjustment factor
 - e. Capacity advisory factor
8. The breakpoint value for a multilane highway segment in the unified speed-flow equation is _____.
- a. 1200 pc/h/ln
 - b. 1400 pc/h/ln
 - c. 1600 pc/h/ln
 - d. a function of other parameter values
9. For multilane highways, the density at capacity equals _____.
- a. 35 pc/mi/ln
 - b. 40 pc/mi/ln
 - c. 45 pc/mi/ln
 - d. 50 pc/mi/ln
10. For a basic freeway segment, the maximum density at level of service (LOS) B is _____.
- a. 11 pc/mi/ln
 - b. 18 pc/mi/ln
 - c. 26 pc/mi/ln
 - d. 35 pc/mi/ln
 - e. 45 pc/mi/ln
11. Driver population factor f_p is _____.
- a. an important factor in the analysis flow rate equation
 - b. no longer included in the analysis flow rate equation
 - c. is the passenger car equivalent flow rate
 - d. is no longer determined by the speed and capacity adjustment factors
12. PHF stands for _____.
- a. peak heavy factor
 - b. performance hour feature
 - c. peak hour factor
 - d. preliminary hour factor
13. Heavy vehicle Passenger Car Equivalent (PCE) values have changed in the HCM 6th edition.
- a. True
 - b. False
14. The PCE methodology for the mountainous terrain category remains unchanged.
- a. True
 - b. False
15. The _____ model should be applied when trucks are likely to operate under sustained periods of crawl speed on a grade.
- a. Mixed flow
 - b. Upgrade analysis
 - c. Truck analysis
 - d. Heavy vehicle analysis

16. Managed lane merge and diverge analysis procedures have been incorporated into HCM Chapter _____.
- a. 12
 - b. 13
 - c. 14
 - d. 15
 - e. 16
17. Significant revisions were made to the two-lane highway analysis methodology in Chapter 15.
- a. True
 - b. False
18. In order to better reflect real-world scenarios for urban street segments, LOS thresholds between A and B have been reduced to ____% of free-flow speed?
- a. 60%
 - b. 75%
 - c. 80%
 - d. 85%
19. Improvements to urban street segments include _____.
- a. Capability to evaluate segments with mid-segment lane blockage
 - b. Procedure for predicting segment queue spillback time
 - c. A new adjustment factor for parking activity that affects free-flow speed estimation
 - d. Procedures for evaluating segments with roundabouts
 - e. all of the above
20. Right-turn-on-red vehicles are incorporated into the volume-balancing method for flows into and out of a segment.
- a. True
 - b. False
21. The saturation flow adjustment factors for signalized intersections for heavy vehicles and grade are now broken down into several factors.
- a. True
 - b. False
22. This aspect of the roundabout methodology has been updated.
- a. follow up headway values
 - b. capacity values
 - c. gap acceptance values
 - d. lane utilization values
23. DDI is abbreviation for Diverging Diamond Interchange.
- a. True
 - b. False
24. Choose the list that represents the intersection forms addressed in Chapter 23.
- a. Displaced Left Turn, Restricted Crossing U-Turn, Diamond
 - b. Displaced Left Turn, Restricted Crossing U-Turn, Median U-Turn
 - c. Partial Cloverleaf, Median U-Turn, Diamond
 - d. Restricted Crossing U-Turn, Displaced Left Turn, Single Point Urban Interchange
25. The Transportation Research Board Committee overseeing the HCM does not officially endorse any particular software implementation of the HCM.

- a. True
- b. False

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