Hall Ticket Number:

Code No. :16108 AS N (A)

VASAVI COLLEGE OF ENGINEERING *(Autonomous)*, HYDERABAD
B.E. (CBCS) VI-Semester Advanced Supplementary Examinations, July-2019

Intelligent Transportation Systems
(Open Elective-VII)

Time: 3 hours   Max. Marks: 70

Note: Answer ALL questions in Part-A and any FIVE from Part-B

Part-A (10 × 2 = 20 Marks)

1.   What are the functions of medians?

2.   What is PIEV? Where is this theory used?

3.   What are the various types of traffic studies?

4.   What are the basic traffic characteristics? Define.

5.   What are the objectives of ITS?

6.   What is the utility of DSRC in ITS?

7.   What are the components of APTS?

8.   Which user service collects the real time data from the transportation system, processes it into usable information, and uses it to determine the optimum assignment of right-of-way to vehicles and pedestrians.

9.   What is ITS?

10. What is triangulation ?

Part-B (5 × 10 = 50 Marks)

11. a) How are roads classified in India? Why is functional classification of roads necessary?   [6]

    b) What are the factors that affect the design of road? Explain the factors with suitable examples   [4]

12. a) Explain the techniques adopted for travel time data collection.   [5]

    b) What is Level of service? Explain the classification of LOS as per Highway Capacity Manual   [5]

13. a) What are the various technologies used in ITS? Explain in detail how the technologies are integrated in ITS with suitable examples.   [5]

    b) Explain how ITS provides innovative services relating to different modes of transport and traffic management and enable users to be better informed and make safer, more coordinated, and 'smarter' use of transport networks.   [5]

14. a) What are the user services in Advanced Traveler Information Systems? Explain. How does ATIS integrate technology primarily to assist surface transportation travellers in moving from a starting location (origin) to their desired destination?   [6]

    b) What are the components of Advanced Vehicle control systems in ITS? How AVCS improves the mobility on the road?   [4]

15. a) "Highway Cross Section elements include the various parts of a road that are present to make a safe and comfortable journey of the vehicle as well as other road users". Justify the above statement by listing the cross sectional elements of the road and how they achieve their objective.   [6]

    b) Explain the automatic methods for volume count data collection.   [4]

16. a) How can ITS be used in commercial vehicle operations?   [5]

    b) Explain how ITS can be explored in rural scenarios and improve the transportation [5]
       system

17.   Answer any *two* of the following:

    a) Benefits of ITS   [5]

    b) Adaptability Issues and concerns in implementing ITS in Indian cities   [5]

    c) ITS architecture   [5]

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