

MANIPAL UNIVERSITY

**FIRST SEMESTER ME (AUTOMOTIVE EMBEDDED SYSTEMS) ESIGELEC, FRANCE
DEGREE EXAMINATION – NOVEMBER 2015**

SUBJECT: AES 603 – VEHICULAR ADHOC NETWORKS

Friday, November 20, 2015

Time: 10:00.– 13:00 Hrs.

Max. Marks: 100

1. Write a brief note on the On-board Units and Road-side Units in VANETs.
(10 marks)
2. Explain the working of the following protocols:
 - 2A. Edge Node Based Greedy Routing Protocol (EBGR).
 - 2B. Improved Greedy Traffic Aware Routing protocol (GyTAR).(5+5 = 10 marks)
3. What are the three core components of Secure Position-Based Routing Protocol? Explain.
(3+7 = 10 marks)
4. Write a note on Priopulses and Priority-Ensured Medium Access scheme.
(10 marks)
5. Briefly explain the following with respect to Cooperative Vehicular Safety applications:
 - 5A. Infrastructure-to-Vehicle applications
 - 5B. Pedestrian-to-Vehicle applications(5+5 = 10 marks)
6. Why is IP Address passing proposed for VANETs? Explain its importance.
(10 marks)
7. Write short notes on the following with respect to information transport in VANETs.
 - 7A. request/reply
 - 7B. clustering
 - 7C. beaconing
 - 7D. sharing(2½ marks × 4 = 10 marks)

8. Explain the working of Code-division multiple access (CDMA) system for MAC based approach.

(10 marks)

9. Explain the layered architecture for DSRC communication in US.

(10 marks)

10. Write short notes on the following attacker classes:

10A. Malicious hacker

10B. Organizational hacker

(5+5 = 10 marks)

