

BE Sem 8, Choice based, 'C' Scheme, R 2019-20, May 25

Date :- 23/5/2025
Branch Electrical

Duration: 3 Hours

Maximum Marks: 80

N.B.: - 1. Question No 1 is Compulsory

2. Solve any three questions from remaining questions
3. Assume suitable data if required and mention it clearly
4. Figures to right indicate full marks

- Q1** Solve any four of following
- (a) What are security issues and technical issues in connected car technology? 5
 - (b) State and describe traditional perception methods. 5
 - (c) What is the future scope of vehicle to vehicle connectivity? 5
 - (d) Write a short note on Robot Operating Systems. 5
 - (e) What is the advantage of heterogeneous computing in autonomous vehicle systems? 5
- Q2**
- (a) What is LiDAR? What are its advantages and disadvantages? 10
 - (b) Draw and explain the architecture of an autonomous vehicle system. 10
- Q3**
- (a) Write a short note on IMU/INS. 10
 - (b) What is a cloud platform and what is its application to an autonomous vehicle system? 10
- Q4**
- (a) Describe Convolutional Neural Networks and their applications to autonomous vehicle systems. 10
 - (b) What is connected car technology? How is it useful in an autonomous vehicle system? 10
- Q5**
- (a) Draw and describe the architecture of the planning and control pipeline. 10
 - (b) What is TensorFlow? How is it useful in autonomous vehicle systems? 10
- Q6**
- (a) What are the components and functions of an Electronic Engine Control System? 10
 - (b) Write a short note on Direct Short Range Communication (DSRC). 10
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