

(3 Hours)

(Maximum Marks: 80)

- NB. 1. Question number one is compulsory**
2. Attempt any three out of the remaining five questions
3. Assume suitable data
4. Figures to the right indicate the maximum marks

- Q1 Attempt any FOUR: (20)**
- a) Elaborate on challenges in the current deployment of Autonomous Vehicles.
 - b) What are the benefits of self-driving cars?
 - c) Explain the five core components of Autonomous vehicles.
 - d) Compare different types of sensors in SDCs.
 - e) Illustrate different CAN protocol layers.
- Q2 a) Explain different Levels of Autonomy in SDC. (10)**
- b) Write a short note on Vehicle to Everything Infrastructure. (10)
- Q3 a) Write a short note on operating systems used in SDC. (10)**
- b) What is GNSS? Explain how Error Analysis is affecting the performance of GNSS. (10)
- Q4 a) Explain topology in flex ray protocol. (10)**
- b) Explain what behavioral decision in SDC is. What are different input data sources to take behavioral decisions? (10)
- Q5 a) Explain the dragonfly model, Sensor configuration, and software architecture. (10)**
- b) Write a short note on SVM and how it is helpful in SDC. (10)
- Q6 a) Write a short note on HOG. (10)**
- b) Explain the architecture of YOLO. (10)
