

2023-1학기 자격고사 (지능로봇고학과(석사) IT융합지능로봇공학과(박사) 공통)

(영어 문제) 영문은 한글로 번역하고 한글문장은 영어로 번역하세요. (100점)

### 1. Self-driving car (20점)

A **self-driving car**, also known as an **autonomous car**, **driver-less car**, or **robotic car (robo-car)**,<sup>[1] [2] [3]</sup> is a car that is capable of traveling without human input. Self-driving cars use sensors to perceive their surroundings, such as optical and thermographic cameras, radar, lidar, ultrasound/sonar, GPS, odometry and inertial measurement units.<sup>[6]</sup> Control systems interpret sensory information to create a three-dimensional model of the vehicle's surroundings. Based on the model, the car then identifies an appropriate navigation path and strategies for managing traffic controls (stop signs, etc.) and obstacles

### 2. The Drone Industry in South Korea -A Complete Overview (20점)

The Korean government has been behind the push for the increase in robotics and drone technology. Drones are currently used for many things, such as disaster relief (COVID), agriculture, repairs, and logistics. In addition, Korea has a growing interest in personal drones used for recreation. However, most of the discussion is between government organizations in Korea and Korean logistics companies promoting the drone industry in South Korea. Currently, China is leading the world in drone manufacturing. However, South Korea has the potential to show the world in terms of drone innovation.

### 3. Top Five Trends in the Korean Robot Market by Minkyoo Kim, CEO of Bigwave (20점)

Robotics Korea is a 'Top 5' manufacturing powerhouse in all the main manufacturing sectors including automotive, semiconductor, electronics, machinery, and chemicals. Demand from this solid manufacturing foundation has enabled Korea to become a leading player in robotics, ranking consistently among the top 2 in robot density. The size of the Korean market has also made it very attractive to global robotics companies.

1. Large enterprises have started to focus on robotics as a key future growth engine
2. The robot venture ecosystem is becoming more diverse, with an increasing stock of domestic success stories
3. There is a significant jump in robot implementation by manufacturing SMEs
4. Creativity in the Korean robotics industry: Unique applications in the service sector
5. The Korean government – a strong and reliable partner of Korean robots

### 4. 2022년 국내 로봇 이슈 전망 (40)

2022년 임인년 새해가 밝았다. 새로운 한 해를 시작하면서 올해에는 국내 로봇업계에 어떠한 일들이 벌어지고 어떻게 흘러갈지 전망해 보는 것은 참 어려운 일이다.

지난 해 역시 코로나 팬데믹으로 인해 국내 로봇산업을 포함한 전체 산업계에 어려움이 작지 않았다. 곧 종식될 것이라는 희망속에 살아왔던 사람들에게 코로나19의 새 변이 바이러스인 오미크론으로 인한 감염은 전세계를 다시 충격과 공포, 고립속에 빠지게 했다. 하지만 먹는 치료제 출시와 백신 효과로 새해에는 좀 더 일상에 다가가지 않을까 기대해 본다.

올해 국내 로봇산업은 코로나 영향에서 벗어나 점차 안정을 찾겠지만 분야별로 회복의 시간이 더 필요한 부분도 있을 것으로 예상된다. 새해 국내 로봇산업 이슈도 예년과 비슷하지만 몇 가지 정리해 보고자 한다.