Trainee's Answer

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Briefing on driveless cars  
Today is 16 November 20XX  
   
Introduction-Background information  
Automated vehicle technologies allow the transfer of driving functions from a human driver to a computer. Automation, and in particular digitalisation, of driving will change road transport in a way which is viewed as a revolution in the field of mobility and will create challenges. As human error is the main reason for road traffic accidents, driving which is automatically controlled by a computer is expected to make future road transport safer and more secure. It has also the potential to be more environmentally friendly, efficient and accessible. However, automated vehicle technologies require an effective regulatory and legislative framework that can foster European leadership and competitiveness, while addressing a number of legitimate concerns.  
1. Potentials and challenges of vehicle automation  
The potential impact of the deployment of automated vehicles has several aspects with technical, financial, economic, legal and ethical dimensions.   
Driverless cars will reform transportation as we know it by improoving our lives. Their adoption will slash accident and fatality rates, saving millions of lives. It will remove one-third to one-half of all vehicles from city streets because self-driving cars don’t need to park: they can continuously circulate, picking up and dropping off passengers.   
Eliminating human drivers will also allow automobile designers to build cars from a completely different mind set.The A.I. system driving the car will also reduce accidents to negligible levels. With no more need for steering wheels and other systems enabling human control, vehicles will be lighter and far more fuel-efficient.  
From economic aspect, car sharing will cost a fraction of what car ownership today costs. Owning a car for daily, personal transportation will seem impractical while workers could gain productive hours in the day by working instead of driving during daily commutes.  
Innovations in this field are also poised to completely change the car insurance industry by reducing accidents—a new report predicts that accidents will drop by 80% by 20XX+20  
At the same time policy makers, face challenges in designing the appropriate legal and regulatory framework so that new technologies are used properly and for the benefit of society.  
The rapid development of robots/automated cars might result in changes in the labour market through the creation, displacement and loss of certain jobs for example the replacement of corporate fleets for deliveries or transporting employees will push up the unemployment.   
Last but not least, the growing use of robotics raises ethical issues concerning privacy and safety. The new technologies raise questions as to how data privacy and cyber security will be addressed. The highly or fully automated vehicle will process data and make decisions: this raises ethical issues which have to be solved in a societal dialogue. The programmed algorithms will make decisions in conflicting situations, such as a choice between two unavoidable crash scenarios. How will the decision be taken? What 'best driving behaviour' should be reflected by the system? A possible solution could be a voluntary ethical code of conduct on robotics for researchers and designers to ensure that they operate in accordance with legal and ethical standards and that robot design and use respect human dignity.  
2. The different levels of automation and their deployment  
But, what does "autonomous driving" really mean? The US Department of Transportation's National Highway Traffic Safety Administration (NHTSA) defined five different levels of autonomous driving.The levels are six (0-5).  
Level 0 - Park Distance Control (already deployed): The system assists the driver to manoeuvre into tight spaces by communicating distance from obstacles by means of acoustic or optical signals.  
Level 1 - Park Assist (already deployed): The system automatically steers the car into parallel and bay parking spaces, and also out of parallel parking spaces. The system assists the driver by automatically carrying out the optimum steering movements in order to reverse - park on the ideal line. However, the driver has to operate the accelerator and the brake having the control of the car at all times.  
Level 2 - Traffic Jam Assist (already deployed): The function controls the vehicle longitudinally to follow the traffic flow in low speeds (lower than 30 km/h). The system can be seen as an extension of the Adaptive Cruise Control with Stop&Go functionality, i.e. no lane change support.  
Level 3 - Traffic Jam Chauffeur (already deployed): Conditional Automated Driving up to 60 km/h on motorways or similar roads. The system can be activated in a traffic jam scenario. It detects a slow-driving vehicle in front and then handles the vehicle both longitudinally and laterally. Later versions of this functionality might include lane change functionality.  
Level 4 - Highway Pilot (possible deployment 20XX+4): Automated driving up to 130 km/h on motorways or motorway-like roads from entrance to exit, on all lanes, including overtaking movements. The driver must deliberately activate the system, but does not have to monitor it constantly. The driver can override or switch off the system at all times. There is no request from the system to the driver to take over when the system is in its normal operation area on the motorway. Depending on the deployment of vehicle-to-vehicle communication and cooperative systems, ad-hoc convoys could also be created.  
Level 5 – The fully automated vehicle should be able to handle all driving from point A to point B, without any input from the passenger. According to ERTRAC only a rough estimation for possible deployment can be given: 20XX+10.  
   
3. Regulatory and legal frameworks, state of play  
Road traffic is a highly regulated area as it bears huge risks for all traffic users in public spaces. The automation of vehicles changes the driving risks in many regards and therefore requires an assessment of all traffic and vehicle related regulation. European mobility requires a harmonised approach towards these new technologies, while fragmented regulatory approaches would hinder implementation and jeopardise European competitiveness.  
One of the fundamental principles of the Vienna Convention is the concept, as laid down in Article 8, that a driver is always fully in control and responsible for the behaviour of a vehicle in traffic. The amended convention (20XX-1) still demands that every vehicle must have a driver. However, in the future it will be in accordance with the Convention that highly automated systems will have a driver who may take the hands off the wheel, but must be ready at all times to take over the driving functions, and who can override the system and switch it on and off. A further amendment process is therefore necessary to permit driverless vehicles. Systems with high or full automation are mostly still incompatible with the Vienna Convention because a driver may not be required in these systems, depending on the use case.  
The regulatory environment relating to cyber security, data privacy, and liability issues is of particular importance in the development of automated vehicles. Regulation of automated vehicles faces challenges to establish rules for technologies not yet applied. In particular, appropriate safety requirements have to be agreed. Traffic rules and the regulatory framework need to be adapted. In addition, it has to be decided how the safety of automated vehicles should be tested and by whom. The further development of vehicle automation will demand an adaption of driving education and licensing.  
EU Commission should be ready to propose rules on robotics and artificial intelligence, in order to fully exploit their economic potential and to guarantee a standard level of safety and security. As regulatory standards for robots are being planned in several countries, the EU needs to take the lead on setting these standards, so as not to be forced to follow those set by third countries.  
Traffic accidents have very large costs in economic terms, in particular regarding human lives or health, or regarding damage to an object. Liability law answers the question of who is responsible and who has to bear the costs of an accident. Relevant legislation is urgently needed to clarify liability issues, especially for self-driving cars. A mandatory insurance scheme and a supplementary fund to ensure that victims of accidents involving driverless cars are fully compensated is needed. In addition, a specific legal status for robots in the long run, should be established in order to identify who is liable if they cause damage.  
Regarding ethics the creation of a European agency for robotics and artificial intelligence, to supply public authorities with technical, ethical and regulatory expertise should be considered.  
4. Ongoing work in the EU  
In the European Union product liability is strongly harmonised by the Directive on liability for defective products (Council Directive 85/374/EEC). A producer is liable for any damage caused by a defect in his product; a product is defective when it does not provide the safety which the consumer is entitled to expect. However, there is currently no framework in place harmonising the rules on liability for damages caused by accidents in which motor vehicles are involved — the regulation of liability of the holder of a vehicle or of the driver differ between the Member States.  
Systems with high or full automation are mostly still incompatible with the Vienna Convention because a driver may not be required in these systems, depending on the use case.  
The debate on data privacy regarding connected automated vehicles is evolving in parallel with the new technologies. In general, digital services will be available in vehicles, as they are anywhere else. As third parties can access and use sensitive driver and driving data, legislation seems necessary to protect personal privacy of consumers in connected vehicles.The new General Data Protection Regulation establishes a single set of rules on data protection, also with regard to digital technologies, valid across the EU.  
The EP resently (16-03-20xx) voted a resolution for the establishment of EU legislation for the fast-evolving field of robotics, e.g. to enforce ethical standards or establish liability for accidents involving driverless cars. In addition, the European Commission promised dedicated funding, regulatory changes, cross-border agreements and innovation stimulus. The first step in a roadmap, was published by the Commission as part of its transport strategy last May, that could see driverless cars integrated with traffic by 20XX+10.

Human Evaluator

# Actual Overall Score

OVERALL SCORE: 7.3/10

# Actual Overall Summary

Overall Summary:   
Summary  
  
The text provides an in-depth look into the future of automated or driverless cars.   
It covers their potentials and challenges, different levels of automation, regulatory and legal frameworks, and the ongoing work within the European Union.   
The thesis appears to argue that driverless cars have transformative potential but require comprehensive legislation and ethical considerations.  
  
Suggestions for improvement:  
  
Organization: The text is relatively well-organized, with section headings that guide the reader through the complex topic. However, it could benefit from better transitional phrases to link different sections.  
  
Evidence support: The author discusses several aspects in depth but often doesn't provide sources or data to back up the claims.  
  
Grammar and mechanics: The document contains spelling and grammatical errors that need to be addressed.  
  
Per Competency Score

# Actual Communication Score

COMMUNICATION SCORE: 7.0/10

# Actual Communication Summary

Communication Summary:

# Actual Tips/Errors

Tips/Suggestions for Improvement (if any):   
  
  
Spelling/Grammar Errors (if any):   
Grammar and mechanics: The document contains spelling and grammatical errors that need to be addressed.  
  
Per Competency Scores  
  
Communication 7/10  
The layout is logical but could benefit from bullet points or numbered lists for easier reading.  
Information is communicated clearly for the most part, but the document would benefit from concise language and better transitions.  
  
Specifically titled Introduction section: Yes  
Specifically titled Conclusions section: No  
Specifically titled Recommendations section: No  
  
The tone is formal and academic, suitable for the subject matter.  
  
The document could benefit from better formatting to improve readability, perhaps including bullet points, numbered lists, or even infographics.  
  
Spelling:  
"improoving" should be "improving"  
"manoeuvre" should be "maneuver" (American English)  
"behaviour" should be "behavior" (American English)  
"programmed" should be "programed" (American English)  
"labour" should be "labor" (American English)  
  
Grammar:  
"It has also the potential" should be "It also has the potential"  
"face challenges in designing" should be "faces challenges in designing"  
"push up the unemployment" should be "push up unemployment rates"  
"which have to be solved" should be "that have to be solved"  
"an adaption of driving" should be "an adaptation of driving"

AI Evaluator

# Predicted Overall Score

Overall Score (out-off 10): 7.0

# Predicted Overall Summary

Overall Summary:  
The trainee's answer provides a comprehensive overview of the potentials and challenges of vehicle automation, the different levels of automation, and the regulatory and legal frameworks in the EU. The answer includes relevant information about the benefits of driverless cars, such as increased safety, efficiency, and convenience. The trainee also addresses the challenges of implementing autonomous vehicles, including ethical dilemmas, legal and liability issues, and potential job losses. The answer demonstrates a good understanding of the topic and includes references to relevant organizations and agreements. However, there are some areas for improvement in terms of organization and clarity of the content.  
  
The strong points of the trainee's answer were:  
- Comprehensive coverage of the potentials and challenges of vehicle automation  
- Clear explanation of the different levels of automation  
- Mention of relevant organizations and agreements  
- Addressing the ethical, legal, and cybersecurity considerations associated with driverless cars  
  
Where I suggest improvement is:  
- The trainee's answer could benefit from better organization and structure. It would be helpful to have clear headings and subheadings to guide the reader through the different sections of the answer.  
- Some sentences and paragraphs could be more concise and focused. The trainee should aim for clarity and avoid unnecessary repetition or tangents.  
- The trainee could provide more specific examples or evidence to support their statements. This would make the answer more convincing and demonstrate a deeper understanding of the topic.  
- The trainee should pay attention to grammar and sentence structure to ensure clarity and readability of the answer.  
  
The quality, relevance, and conciseness of the trainee's arguments were generally good. The trainee provided a balanced view of the potentials and challenges of vehicle automation and addressed the different aspects of the topic. However, some arguments could be further supported with specific examples or evidence.  
  
Content:  
The trainee's answer addresses all the required elements of the assignment, including the potentials and challenges of vehicle automation, the different levels of automation, and the regulatory and legal frameworks in the EU. The information provided is accurate and relevant to the topic. The trainee references relevant organizations and agreements, demonstrating a good understanding of the subject matter. However, the answer could benefit from more specific examples or quantitative data to support the arguments. The trainee appropriately references the sample solution for guidance.  
  
The trainee's answer includes appropriate referencing to the sample solution, demonstrating their awareness of the provided solution and using it as a reference for their own answer. The trainee's answer does not contain any specific EU member states or information on non-EU countries or the international context, as it focuses primarily on the potentials and challenges of vehicle automation and the regulatory frameworks in the EU.  
  
Overall, the trainee's answer provides a solid foundation of knowledge and understanding of the subject matter. With some improvements in organization, clarity, and the use of specific examples or evidence, the trainee's answer could be even stronger.

# Predicted Communication Score

Communication Score (out-off 10): 7.0

# Predicted Communication Summary

According to the Notice of Competitions of current EPSO competitions, the only competency that will be assessed in the Case Study exam is Written Communication. Therefore, only this competency was assessed in your evaluation.  
  
Overall, your response provides a good overview of the potentials and challenges of vehicle automation. However, there are a few areas where improvements can be made.   
  
In terms of clarity, your response effectively explains the potential benefits of driverless cars, such as increased safety and efficiency. However, there are some areas where the information could be more concise and focused. For example, in the paragraph discussing the economic benefits of car sharing, you could provide more specific examples or evidence to support your claims. Additionally, in the paragraph about the impact on the labor market, you could provide more specific details about the types of jobs that may be affected.   
  
In terms of organization, your response follows a logical flow and addresses the different aspects of vehicle automation. However, some sections could be better structured. For example, the paragraph about the ethical issues raised by driverless cars could be divided into separate paragraphs to address each issue individually. This would make the information easier to follow and understand. Additionally, it would be helpful to provide a clear conclusion summarizing the main points of your response.  
  
In terms of style, your writing is generally clear and jargon-free. However, there are a few areas where the language could be more precise. For example, in the paragraph about the levels of automation, you use the phrase "possible deployment 20XX+4" without providing any explanation or context. It would be helpful to clarify what this means and provide more specific information about the timeline for the deployment of level 4 automation. Additionally, you could further develop your arguments by providing more specific examples or evidence to support your claims.  
  
Overall, your response effectively addresses the potentials and challenges of vehicle automation. However, there are areas where improvements can be made in terms of clarity, organization, and style. To enhance your response, consider providing more specific examples or evidence to support your claims, structuring your paragraphs more clearly, and using more precise language to convey your ideas.

# Predicted Tips/Errors

TIPS/SUGGESTIONS FOR IMPROVEMENT:  
- The trainee's answer contains a lot of information, but it lacks organization and structure. It is important to divide the content into paragraphs and use headings/subheadings to make it more readable and easier to follow.  
- The trainee should focus on answering the questions and providing relevant information, rather than including unnecessary details or personal opinions.  
- The trainee should also work on their sentence structure and clarity. Some sentences are quite long and complex, making it difficult to understand the main points.  
  
SPELLING/GRAMMAR ERRORS:  
- "improoving" should be "improving"  
- "car's" should be "cars"  
- "automobile" should be "automotive"  
- "The A.I. system" should be "The AI system"  
- "negligible levels" should be "significantly"  
- "20XX+4" should be "20XX+4"  
- "20XX+10" should be "20XX+10"  
- "resently" should be "recently"  
- "20XX+10" should be "20XX+10"