



A N G L A I S

Plastics – leading car design

“Thanks to plastics, the cars we dream of today are quickly being developed – offering high performance, cleaner driving and advanced safety and convenience features.”

- As we enter an era of mass customisation, where products will increasingly be tailored to meet individual requirements, diversity will become the new rule. Cars will come in all shapes and sizes, metamorphosing into new ‘part-car part- truck’ combinations. Plastics’ versatility and flexibility will support the trend in the automotive industry to build very different cars based on the same chassis and a core set of components, thus reducing research and development time and the retail price.
- 5 Plastics-based composite materials will substantially reduce the weight of the future car and, as a result, less energy will be required to propel it. In fact, the 100kg of plastics that have been added to the average car have already displaced 200 to 300kg of other materials.
- 10 Thanks to lightweight plastics, driving 50 kilometres on one litre of fuel will soon be possible and the commercialisation of electric cars that need just 40kW instead of the 120kW a conventional-size vehicle requires today, could be only a few years away. As we move into the next century, cars will be fitted with hybrid engines that draw their energy from a combination of sources including fuel, plastics-based solar panels, batteries and fuel cells which generate electricity catalytically from hydrogen thus further reducing emissions of CO₂.
- 15 In 20 years time, cars may even drive themselves, using satellite based Global Positioning Systems (GPS) to take their passengers safely to the nearest hotel on a cross-country trip. New plastics are increasingly being tailored to meet the needs of the electronic car of the future.
- Looking forward to the 21st century, plastics in automotive applications will continue to contribute significantly to the drive towards building better, safer and cleaner cars.
- 20 The plastics industry will continue to work closely with the automotive industry to meet this challenge by developing technologies and products to turn transport dreams into a reality.

I. READING COMPREHENSION.

A. Match Words with their corresponding definitions.

(01.5 marks)

WORDS	DEFINITIONS	ANSWERS
1. Automation	a. The state of being suitable and useful	1. _____
2. Customisation	b. The act of implementing the control of equipment with advanced technology.	2. _____
3. Flexibility	c. Having a wide variety of applications	3. _____
4. Convenience	d. Conceptual whole made up of complicated and related parts.	4. _____
5. Versatility	e. Quality of being adaptable or variable	5. _____
6. Composite	f. Making to meet individual requirements	6. _____

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B. Match the characteristics and the illustrations of the dream car.

(02 marks)

CHARACTERISTICS	ILLUSTRATIONS	ANSWERS
7. Cleaner driving	a. hybrid engines	7. -----
8. Advanced safety	b. using GPS	8. -----
9. High performance	c. cars may drive themselves	9. -----
10. Convenience features	d. all shapes and sizes	10. -----
11. Customisation	e. reduced emission of CO ₂	11. -----
12. Versatility	f. reduced weight	12. -----
13. Flexibility	g. tailored to meet individual needs	13. -----
14. Diversity	h. combination of fuel, plastics based-solar panels, batteries, fuel-cells	14. -----

C. Find the correct information in the text.

(02 marks)

15. Features that “Part-car part-truck” cars have in common:

- a.
- b.

16. Impact of the new materials on cars:

- a.
- b.

17. Technical features of the cars:

- a.
- b.
- c.
- d.

D. Fill in the gaps with the correct words from the list below:

(02.5 marks)

AUTOMOTIVE – COMPOSITE- AVERAGE – TAILORED - CHALLENGE - TREND

18. By increasing safety and comfort features, the weight of the car has raised from 1015 kg in 1990 to 1132 kg in 1998.
19. With advances in polymer technology components such as bumpers, remain in perfect shape, even at high temperatures.
20. The use of materials to replace traditional ones, has contributed to produce lighter, thinner, and yet stronger plastic parts.
21. In terms of performance and security, the development of plastic components is a big in the car industry.
22. The replacement of more traditional and heavier materials by plastics, involves the provision of solutions to meet new individual requirements.

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II. LINGUISTIC AND COMMUNICATIVE COMPETENCE.

- E. Find the correct derivatives of the words in bracket. (01.5 marks)**
23. The development of this new car technology will be (**benefit**) to both manufacturers and users in the future.
 24. To reduce energy consumption and pollution by fossil fuels, it's become (**urgency**) to design lighter parts with convenient materials.
 25. Some car parts can be improved (**qualitative**) without any impact on the overall cost of vehicles.

F. Put the verbs in brackets in the correct tenses and forms. (03 marks)

In the first years of the automotive industry, cars 26. (**compose**) of rather rudimentary parts in quite simple designs. Throughout the years, it 27. (**become**) a fashion to manufacture bigger and heavier vehicles, until serious threats on nature like pollution and global warming 28. (**raise**) awareness on the imperious necessity to act accordingly to preserve it. At the moment, many tests 29. (**be / carry out**) in the car manufacturing industry to produce new materials. Prospects for the next generation 30. (**be**) not so brilliant and designer 31. (**expect**) to find solutions to the problem as soon as possible.

- G. Reformulate using the prompts given. (02 marks)**
32. They had never carried out any previous research aimed at reducing car weight before.
This is the first time
 33. Although car manufacturers are willing to reduce car prices, they are confronted with the high cost of investments on research.
Despite

- H. Put the words in brackets in the comparative or superlative. (01.5 marks)**
- Between conventional and new technologies, Africans will have to identify which one is
34. (**GOOD**) adapted to their specific contexts. It is obvious that the
 35. (**LESS**) expensive ones will be the 36. (**MUCH**) accessible to them.

III. WRITING

Choose one topic and write a passage of not more than 150 words. (04 marks)

TOPIC 1:

Global warm has now become a worldwide issue and cars are considered as one of the biggest contributors to climate change. As an expert, you have been asked by the

government of your country to help reduce the impact of transportation means on global warming. Write about the problems you have identified and suggest some solutions.

TOPIC 2:

The import of second-hand vehicles contributes to more car pollution in developing countries. Do you think that manufacturing spare parts locally could be an alternative in order to cut down on carbon emissions and pollution in your country. Give your reasons.