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| Structural Description and “Open” Functional Attributes | Satisfied Functional Attributes | Candidate Rules Selected Rule |
| |  |  |  |  | | --- | --- | --- | --- | | F18 | F10 | F12 | F3 | | Safe  Car | High  Speed | Low  Fuel | Min  Pollution | | Null | |  | | --- | | Rule 4 | | decompose f18: | | ‘‘the car is SAFE’’ | |
| |  |  |  |  | | --- | --- | --- | --- | | F19 | F10 | F12 | F3 | | Safe  In Accidents | High  Driving  Speed | Low  Fuel  Consumption | Min  Pollution | | |  |  | | --- | --- | | F18 | F19 | | Safe Car | Safe in Accidents | | |  | | --- | | Rule 6 | | decompose f19: | | ‘‘the car is SAFE IN ACCIDENTS’’ | |
| |  |  |  |  | | --- | --- | --- | --- | | D4 | D5 | D8 | D10 | | Absorbent  Front end | Air bag | An engine that deflects down | Automatic  Belts | | F10 | F12 | F22 | F21 | F3 | | High  Driving  Speed | Low  Fuel  Consumption | Safe In  Head-on  Collisions | Safe  In  Flipping  over | Creates  Minimal  pollution | | |  |  |  | | --- | --- | --- | | F22 | F19 | F18 | | Safe  Head on  Collision | Safe in  Accident | Safe  Car | | |  | | --- | | Rule 11 | | decompose f22: | | ‘‘the car  is SAFE IN HEAD-ON  COLLISIONS | |
| |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | D4 | D5 | D7 | D8 | D18 | D19 | D35 | D10 | D29 | | Absorbent front end | Air bag | Air deflector | An engine that  deflects down | Extra strong door | Extra-strong roof ( | Rigid passenger  compartment | Automatic belts | Antilock braking  system (ABS) | | D26 | D3 | D32 | D28 | D34 | D30 | D23 | D41 | D43 | | Stabilizers in the front | 6–8 cylinders | Powerful starter | Liquid cooling system | Richer mixture fuel | Muffler | High transmission ratio | Tire with 205 width symbol | Tire with 60 aspect ratio  symbol | | D44 | F3 | F12 | | Tire with U speed symbol | Creates minimal pollution | Low Fuel Consumption | | |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | F2 | F11 | | F30 | | F1 | | | Diesel engine | High-volume  combustion  chamber | | High-powered  engine | | Aerodynamic design | | | F10 | | F21 | | F27 | F22 | F19 | | F18 | | High driving speed | | Safe in flipping over | | Safe in side collisions | Safe in head-on collision | Safe in accidents | | Safe car | | |  | | --- | | Rule 38 Rule 21 | | decompose f12 | | ‘‘the car  has LOW FUEL  CONSUMPTION’’ | |
| |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | D4 | D5 | D8 | D19 | D35 | D10 | D29 | D7 | D26 | | Absorbent front end | Air bag | An engine that  deflects down | Extra-strong roof | Rigid passenger  compartment | Automatic belts | Low & small structure | Air deflector | Large pistons & cylinders | | D3 | D32 | D28 | D34 | D30 | D23 | D41 | D43 | D44 | | 6–8 cylinders | Powerful starter | Liquid cooling system | Richer mixture fuel | Muffler | High transmission ratio | Tire with 205 width symbol | Tire with 60 aspect ratio  symbol | Tire with U speed symbol | | D13 | D42 | F3 | F5 | | Disconnecting  fan system | Tire with 155 width symbol | Creates minimal pollution | Efficient engine | | |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | | F12 | F2 | F11 | F30 | F1 | | | | Low Fuel  Consumption | Diesel engine | High-volume  combustion  chamber | High-powered  engine | Aerodynamic  design | | | | F10 | F21 | F27 | F22 | | F19 | F18 | | High driving speed | Safe in flipping over | Safe in side collisions | Safe in head-on collisions | | Safe in accidents | Safe car | | |  | | --- | | Backtracking | | The structural  attributes **d41** (‘‘tire with  205 width symbol’’) and **d42**  (‘‘tire with 155 width  symbol’’) cannot be  included together in a  design description | |
| |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | D4 | D5 | D8 | D19 | D35 | D10 | D29 | D7 | D26 | | Absorbent front end | Air bag | An engine that  deflects down | Extra-strong roof | Rigid passenger  compartment | Automatic belts | Low & small structure | Air deflector | Large pistons & cylinders | | D3 | D32 | D28 | D34 | D30 | D23 | D41 | D43 | D44 | | 6–8 cylinders | Powerful starter | Liquid cooling system | Richer mixture fuel | Muffler | High transmission ratio | Tire with 205 width symbol | Tire with 60 aspect ratio  symbol | Tire with U speed symbol | | F12 | F3 | | Low fuel consumption | Creates minimal pollution | | |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | F2 | F11 | | F30 | | F1 | | | | Diesel engine | High-volume  combustion  chamber | | High-powered  engine | | Aerodynamic design | | | | F10 | | F21 | | F27 | | F22 | F19 | | F18 | | High driving speed | | Safe in flipping over | | Safe in side collisions | | Safe in head-on collisions | Safe in accidents | | Safe car | | |  | | --- | | Rule 21 is used to  decompose f12: ‘‘the car  has LOW FUEL  CONSUMPTION’’ | |
| |  |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | --- | | D4 | D5 | D8 | D19 | D35 | D10 | D29 | D7 | D26 | | Absorbent front end | Air bag | An engine that  deflects down | Extra-strong roof | Rigid passenger  compartment | Automatic belts | Low & small structure | Air deflector | Large pistons & cylinders | | D3 | D32 | D28 | D34 | D30 | D23 | D41 | D43 | D44 | | 6–8 cylinders | Powerful starter | Liquid cooling system | Richer mixture fuel | Muffler | High transmission ratio | Tire with 205 width symbol | Tire with 60 aspect ratio  symbol | Tire with U speed symbol | | D16 | D21 | D13 | D27 | D11 | | Electronic  Ignition | Fuel Injection | Disconnecting fan system | Light  Weight | Catalytic  Converter | | |  |  |  |  |  |  |  |  | | --- | --- | --- | --- | --- | --- | --- | --- | | F2 | F11 | | F30 | | F1 | | | | Diesel engine | High-volume  combustion  chamber | | High-powered  engine | | Aerodynamic design | | | | F10 | | F21 | | F27 | | F22 | | F19 | F18 | | High driving speed | | Safe in flipping over | | Safe in side collisions | | Safe in head-on collisions | | Safe in accidents | Safe car | | F3 | | | F5 | | | | F12 | | | | Low  Maintenance | | | Efficient engine | | | | Low fuel consumption | | | | |  | | --- | | STOP | | Final Solution | |