|  |  |  |
| --- | --- | --- |
| **Auto Upkeep (2nd Edition)** |  | Name \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ |
| Test for Chapters 11-20 |  | Date \_\_\_\_/\_\_\_\_/\_\_\_\_ |
|  |  | Test Score \_\_\_\_ |

# PART A: Selected Response

Directions: Place the letter that corresponds to the correct answer on the space provided.

\_\_\_ 1. Fuel pumps are either \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

1. mechanical or electric
2. chemical or electric
3. nuclear or electric
4. thermal or electric

\_\_\_ 2. What is the name of the technology that uses engine control systems to shut off the air-fuel mixture to some of the engine’s cylinders when all the cylinders are not needed?

1. cylinder deactivation
2. powertrain control module
3. blow-by
4. distillation

\_\_\_ 3. Approximately what temperature will the antifreeze freeze if mixed 50% water and 50% antifreeze?

1. 212ºF (100ºC)
2. 122ºF (50ºC)
3. 32ºF (0ºC)
4. -34ºF (-37ºC)

\_\_\_ 4. What is the purpose of the radiator?

1. remove heat from the coolant
2. add heat to the coolant
3. slow down the air through the engine compartment
4. keep the coolant at 195ºF (91ºF)

\_\_\_ 5. What type of grease is used in spark plug boot ends to inhibit corrosion?

1. dielectric
2. chassis
3. anti-seize
4. white lithium

\_\_\_ 6. Most automobiles have a \_\_\_\_\_\_ volt DC battery.

1. 2
2. 6
3. 12
4. 120

\_\_\_ 7. What component in the suspension system combines the shock, spring, and upper control arm into one unit?

1. tire
2. leaf spring
3. strut
4. coil spring

\_\_\_ 8. What does the P stand for in P205/55R16 89H?

1. pressure
2. psi
3. pounds
4. passenger

\_\_­\_ 9. What converts fluid pressure to mechanical motion?

1. caliper
2. brake shoe
3. rotor
4. bleeder

\_\_\_ 10. Which drivetrain type uses electronics and speed sensors to control power transfer to all four wheels?

1. front-wheel drive
2. rear-wheel drive
3. four-wheel drive
4. all-wheel drive

\_\_\_ 11. The most common automatic transmission fluid is \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_.

1. Dexron/Mercon ®
2. 10W30
3. 80W90
4. Type F

\_\_\_ 12. The \_\_\_\_\_\_\_\_\_\_\_\_ system reduces nitrogen oxide emissions by diluting the air-fuel mixture with the exhaust gases.

1. PCV
2. exhaust gas recirculation
3. oxygen sensor
4. charcoal canister

\_\_\_ 13. The \_\_\_\_\_\_\_\_\_\_ is basically a silencer to reduce noise pollution.

1. muffler
2. tailpipe
3. exhaust manifold
4. exhaust hanger

\_\_\_ 14. Which of the following uses a receiver that communicates with orbiting satellites to calculate the location of the vehicle and to guide the driver to a destination?

1. PCV
2. EVAP
3. GPS
4. CCV

\_\_\_ 15. What type of trailer wiring plug is commonly necessary to tow large heavyweight trailers with trailer brakes?

1. 2 pole
2. 4 pole
3. 5 pole
4. 7 pole

\_\_\_ 16. What does it mean if the check engine light is blinking?

1. get the oil changed
2. it is a sign of a serious problem
3. flush the cooling system
4. rotate the tires

\_\_\_ 17. What do the letters OBD represent?

1. on-board defects
2. off-by door
3. on-board diagnostics
4. on-board deals

\_\_\_ 18. Technician A says that the higher the octane number of gasoline, the more it resists detonation. Technician B says that 93 octane is required for most cars. Who is correct?

1. Technician A
2. Technician B
3. Both Technician A and Technician B
4. Neither Technician A nor Technician B

\_\_\_ 19. Technician A says that most vehicles require 100% pure antifreeze in the coolant system. Technician B says that a 50% antifreeze/50% water mixture is used for most cars. Who is correct?

1. Technician A
2. Technician B
3. Both Technician A and Technician B
4. Neither Technician A nor Technician B

# \_\_\_ 20. Technician A says that all automobiles only have one ignition coil. Technician B says that some automobiles have one coil per cylinder. Who is correct?

1. Technician A
2. Technician B
3. Both Technician A and Technician B
4. Neither Technician A nor Technician B

\_\_\_ 21. Technician A says that when inflating tires, you should check the tire placard for the correct recommended pressure. Technician B says that you can tell when a tire is fully inflated by looking at it. Who is correct?

1. Technician A
2. Technician B
3. Both Technician A and Technician B
4. Neither Technician A nor Technician B

\_\_\_ 22. Technician A says on vehicles that have disc and drum brakes, the drum brakes are always on the front of the vehicle. Technician B says that it is common to have drum brakes on all four wheels on new vehicles. Who is correct?

1. Technician A
2. Technician B
3. Both Technician A and Technician B
4. Neither Technician A nor Technician B

\_\_\_ 23. Technician A says that on front-wheel drive vehicles, a CV shaft connects the transaxle to the wheels. Technician B says that all rear-wheel drive vehicles use CV shafts to connect the transmission to the rear differential. Who is correct?

1. Technician A
2. Technician B
3. Both Technician A and Technician B
4. Neither Technician A nor Technician B

\_\_\_ 24. Technician A says that a rich fuel mixture can cause the catalytic converter to prematurely fail. Technician B says that if a catalytic converter fails, removing it from the system is the recommended fix. Who is correct?

1. Technician A
2. Technician B
3. Both Technician A and Technician B
4. Neither Technician A nor Technician B

\_\_\_ 25. Technician A says that some vehicles have 120V AC power outlets installed from the factory. Technician B says that the battery produces 120V AC power, so converters are not necessary. Who is correct?

1. Technician A
2. Technician B
3. Both Technician A and Technician B
4. Neither Technician A nor Technician B

\_\_\_ 26. Technician A says that when cleaning a battery you should wear gloves, a dust mask, and safety goggles. Technician B says to clean battery terminals you can use a baking soda solution. Who is correct?

1. Technician A
2. Technician B
3. Both Technician A and Technician B
4. Neither Technician A nor Technician B

# PART B.

Directions: Use complete sentences to answer the following questions. The criteria below will be used to assess your answers. Maximum of 4 marks per question.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Outstanding****(A = 4)** | **Very Good****(B = 3)** | **Acceptable****(C = 2)** | **Attempted****(D = 1)** | **Did Not Attempt (F = 0)** |
| Student demonstrates a complete understanding of the problem. Several details and examples were given to support the answer. The response was extremely well organized. | Student demonstrates a considerable understanding of the problem. Some details and examples were given to support the answer. The response was presented in a thoughtful manner. | Student demonstrates a partial understanding of the problem. Few details and examples were given to support the answer. The response was somewhat organized, but did not have smooth transitions. | Student demonstrates little understanding of the problem. Details and examples were not relevant or not given. The response was difficult to follow and confusing to the reader. However, the student made an honest attempt at answering the question. | No attempt was made to answer the question.  |

27. What is the purpose of the fuel system?

|  |
| --- |
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |

28. The cooling system is designed to do four main tasks. What are these four tasks? Also, list the three properties of coolant.

|  |
| --- |
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |

29. What is the purpose of the ignition system? Explain how the chemical energy of the battery ultimately becomes mechanical energy of motion to move the vehicle.

|  |
| --- |
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |

30. What is the purpose of the steering system? What is the purpose of the suspension system?

|  |
| --- |
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |

31. What is the purpose of the braking system? Explain how applying the brake pedal slows the vehicle.

|  |
| --- |
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |

32. What is the purpose of the drivetrain?

|  |
| --- |
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |

33. What is the purpose of the exhaust and emission system?

|  |
| --- |
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |

34. What is the purpose of undercoating?

|  |
| --- |
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |

35. What could cause a no-start situation? List two conditions that commonly occur.

|  |
| --- |
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |
|  |

PART A /26

PART B /36

TOTAL /62