

# Test Bank for Auto Engine Performance and Drivability 5th Johanson

TEST BANK SAMPLE PREVIEW

PUBLISHER

**Goodheart Willcox**

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**2021**

RESOURCE TYPE

**Test Bank**

ISBN

**9781645641711**

1. Until around the 1960s, which of the following was still true?
  - a. Fuel economy was unimportant to most drivers.
  - b. Almost no one was concerned about exhaust emissions.
  - c. Solid-state electronic components did not exist "under the hood."
  - \*d. All of the above.
  
2. In which decade were the first emission controls introduced?
  - a. The 1950s.
  - \*b. The 1960s.
  - c. The 1970s.
  - d. The 1980s.
  
3. Crude oil supplies are \_\_\_\_\_.
  - \*a. constantly being depleted by use
  - b. renewable resources
  - c. mostly found in the United States
  - d. never going to run out
  
4. The majority of driving in the U.S. is done under which conditions?
  - \*a. At low speeds in urban areas.
  - b. At highway speeds on the Interstate system.
  - c. As a combination of off- and on-road driving.
  - d. At medium speeds on rural highways.
  
5. Modern horsepower readings are taken at the \_\_\_\_\_.
  - a. engine flywheel
  - b. engine damper
  - c. transmission/transaxle output shaft
  - \*d. driving wheels

6. Technician A says that a tune-up will probably cure most driveability problems. Technician B says that, even if no driveability problem is evident, a tune-up should be performed at every second oil change. Who is right?

- a. A only.
- b. B only.
- c. Both A and B.
- \*d. Neither A nor B.

7. Current final drive gear ratios are a compromise between fuel economy and \_\_\_\_.

- \*a. low-speed power and acceleration
- b. high-speed power and acceleration
- c. top speed
- d. smoothness during transmission/transaxle shifts

8. Technician A says that engine power must be used to overcome wind resistance at all speeds. Technician B says that air dams increase flow through the vehicle radiator. Who is correct?

- a. A only.
- b. B only.
- \*c. Both A and B.
- d. Neither A nor B.

9. Technician A says that on a mild hybrid, the gasoline engine is shut off when the vehicle comes to a stop. Technician B says that regenerative braking can be used in any type of vehicle. Who is correct?

- \*a. A only.
- b. B only.
- c. Both A and B.
- d. Neither A nor B.

10. On a fuel cell vehicle, \_\_\_\_.

- a. oxygen and hydrogen are burned
- b. oxygen and hydrogen are stored in a tank
- \*c. electricity propels the vehicle
- d. Either A or C.

11. The energy produced by regenerative braking is used to \_\_\_\_.

- a. help slow the vehicle
- b. charge the vehicle battery
- c. move the vehicle
- \*d. Both A and B.

12. Technician A says that use of computer controls has increased the number of components needing periodic replacement. Technician B says that use of computer controls has made drivability diagnosis more complex. Who is correct?

- a. A only.
- \*b. B only.
- c. Both A and B.
- d. Neither A nor B.

13. A motor/generator consists of:

- a. An electric motor and an internal combustion engine.
- b. An internal combustion engine and a generator.
- \*c. An electric motor and a generator.
- d. A or B, depending on the manufacturer.

14. Technician A says that unitized bodies develop fewer rattles than bodies bolted to a separate frame. Technician B says that unitized bodies transmit more rattles from other places in the vehicle than non-unitized bodies. Who is correct?

- a. A only.
- b. B only.
- \*c. Both A and B.
- d. Neither A nor B.

15. Supplies of crude oil are practically inexhaustible; the problem is getting them to refineries.

- a. True
- \*b. False

16. Some vehicle parts are made from recycled plastics, such as soft drink bottles.

- \*a. True
- b. False

17. Some engine mounts are filled with fluid.

- \*a. True
- b. False

18. A fuel cell vehicle uses a small internal combustion engine with a supercharger.

- a. True
- \*b. False

19. A hybrid vehicle produces no emissions when it is stopped in traffic.

- \*a. True
- b. False

20. Transmission shift valves are moved by hydraulic pressure, as opposed to how they were moved in older designs.

- a. True
- \*b. False

21. Vacuum-operated EGR valves have been replaced with exhaust-operated valves.

- a. True
- \*b. False

22. Manufacturing tolerances have decreased greatly over the past few decades.

- \*a. True
- b. False

23. Fuel cell technology involves a chemical reaction.

- \*a. True
- b. False

24. The stated vehicle power is measured at the engine flywheel.

- a. True
- \*b. False

25. The final drive ratio is around 4.11 to 1.

- a. True
- \*b. False

26. Aerodynamic body shapes reduce top speed.

- a. True
- \*b. False

27. Hybrid vehicles do not have a separate alternator.

- \*a. True
- b. False

28. Under heavy acceleration, a hybrid vehicle may be driven by the internal combustion engine and the motor/generator.

- \*a. True
- b. False

29. Match the vehicle part or system with its description.

- |                                                               |                            |
|---------------------------------------------------------------|----------------------------|
| [i] 1. Stamped in one piece or welded together.               | a. Front-wheel drive       |
| [b] 2. Turned by exhaust gases.                               | b. Turbocharger            |
| [c] 3. Reduces torque converter slippage.                     | c. Lockup clutch           |
| [f] 4. Produces electricity by chemical reaction.             | d. Shift light             |
| [d] 5. Used on vehicles with manual transmissions/transaxles. | e. Fuel injection          |
| [e] 6. First used on diesel engines.                          | f. Fuel cell               |
| [h] 7. Can move the vehicle if the engine fails.              | g. Oxygen sensor           |
| [a] 8. A method of reducing drivetrain weight.                | h. Integrated motor assist |
|                                                               | i. Unibody                 |

30. Match the particular engine or vehicle characteristic with the decade during which it was widely used. Some answers may be used more than once.

- |                                                 |                  |
|-------------------------------------------------|------------------|
| [g] 1. Average weight of 4000 pounds (1814 kg). | a. 1990s engine  |
| [f] 2. Average weight of 3000 pounds (1360 kg). | b. 1990s engine  |
| [e] 3. 350 cu. in. (5.7 L).                     | c. 1990s vehicle |
| [b] 4. 230 cu. in. (3.8 L).                     | d. 1990s vehicle |
| [a] 5. Fuel injection.                          | e. 1960s engine  |
| [c] 6. Overdrive transmission.                  | f. 1990s vehicle |
| [d] 7. Front-wheel drive.                       | g. 1960s vehicle |

31. Automatic transmissions/transaxles have housings made of \_\_\_\_.

Correct Answer(s):  
a. aluminum

32. A manual transmission/transaxle may have as many as \_\_\_\_ speeds.

Correct Answer(s):

a. six

b. 6

33. The \_\_\_\_ an engine turns at highway speeds, the less fuel it uses.

Correct Answer(s):

a. slower

34. Almost all older vehicles had \_\_\_\_-wheel drive.

Correct Answer(s):

a. rear

35. When fuel is broken into small particles, it is said to be \_\_\_\_.

Correct Answer(s):

a. atomized

36. Turbochargers and superchargers force more \_\_\_\_ into the engine.

Correct Answer(s):

a. air

37. In a hybrid vehicle, the integrated motor assist is installed between the engine and \_\_\_\_.

Correct Answer(s):

a. transmission/transaxle

b. transmission or transaxle

c. transmission and transaxle

38. Good driveability means engine and vehicle operation without any obvious \_\_\_\_.

Correct Answer(s):

a. defects

39. A typical overdrive ratio is around \_\_\_\_ to 1.

Correct Answer(s):

a. 0.7

b. .7

40. It is uncommon for today's technician to go through even one day without referring to \_\_\_\_ information.

Correct Answer(s):

a. service

41. Today, engine power is measured at the \_\_\_\_.

Correct Answer(s):

a. drive wheels

42. A fuel cell vehicle must be refilled with \_\_\_\_.

Correct Answer(s):

a. hydrogen