

Advanced Automotive Fundamentals

Automotive Technology · Practice Test · 8 Questions

1. In a four-stroke internal combustion engine, which stroke involves the piston moving from Bottom Dead Centre (BDC) to Top Dead Centre (TDC) with both valves closed?

- A) Intake
- B) Compression
- C) Power
- D) Exhaust

2. What is the primary function of an automotive torque converter in a vehicle with an automatic transmission?

- A) To increase engine RPM
- B) To provide a fluid coupling between the engine and transmission
- C) To lock the driveshaft to the differential
- D) To regulate the cooling system flow

3. Which component is responsible for regulating the electrical system voltage by converting the AC output of the alternator into DC?

- A) Rectifier
- B) Ignition coil
- C) Voltage divider
- D) Capacitor

4. What is the stoichiometric air-fuel ratio for an ideal combustion of gasoline in a petrol engine?

- A) 10:1
- B) 12.5:1
- C) 14.7:1
- D) 16.2:1

5. Which gear set configuration is commonly used in automatic transmissions to provide multiple gear ratios within a compact space?

- A) Worm and sector
- B) Planetary gear set
- C) Hypoid gear
- D) Rack and pinion

6. What is the purpose of the 'caster' angle in vehicle wheel alignment?

- A) To prevent tire wear on the inner edge
- B) To provide directional stability and self-centering of the steering
- C) To adjust the vertical alignment of the wheels
- D) To control the side-to-side movement of the steering rack

7. In a disc brake system, which component exerts hydraulic pressure to move the brake pads against the rotor?

- A) Master cylinder
- B) Wheel cylinder
- C) Brake caliper piston
- D) Proportioning valve

8. What is the primary role of the catalytic converter in an exhaust system?

- A) To reduce engine noise
- B) To convert toxic gases into less harmful pollutants
- C) To increase exhaust backpressure for engine timing
- D) To filter particulate matter from diesel exhaust