

Manual Drivetrains and Axles 9th Edition

Chapter 2

Multiple Choice Quiz B

Name: \_\_\_\_\_ Date: \_\_\_\_\_

1. What is the primary function of a drivetrain in a vehicle?
  - A. To control vehicle stability
  - B. To transfer power from the engine to the drive wheels
  - C. To improve fuel efficiency
  - D. To regulate exhaust emissions
  
2. In the context of gear ratios, if a driving gear has 15 teeth and the driven gear has 45 teeth, what is the gear ratio?
  - A. 1:3
  - B. 3:1
  - C. 2:1
  - D. 1:2
  
3. Which gear type is known for quiet operation due to its unique tooth design?
  - A. Spur gear
  - B. Helical gear
  - C. Bevel gear
  - D. Hypoid gear
  
4. What is the main advantage of using a planetary gear set in automatic transmissions?
  - A. Increased fuel efficiency
  - B. Simplified gear shifting
  - C. Compact size and multiple gear combinations
  - D. Enhanced torque transmission
  
5. In a four-wheel drive (4WD) system, what component is essential for distributing power to both the front and rear axles?
  - A. Differential
  - B. Driveshaft
  - C. Clutch
  - D. Transfer case
  
6. How does an all-wheel drive (AWD) system differ from a 4WD system?
  - A. AWD is only active on rough terrains
  - B. AWD operates full-time, providing power to all wheels
  - C. AWD uses two differentials and a transfer case
  - D. AWD is manually activated by the driver
  
7. What is the role of a differential in a vehicle's drivetrain?
  - A. To allow different wheel speeds
  - B. To increase engine power
  - C. To transfer power to the wheels
  - D. To reduce gear noise

8. What happens when power transfers through an even number of gears?

- A. The input and output gears rotate in the same direction
- B. The gear ratio is always even
- C. The input and output gears rotate in opposite directions
- D. The torque is significantly reduced

9. What is the effect of an overdrive gear in a vehicle?

- A. Increases engine speed at lower gears
- B. Reduces engine speed at higher gears
- C. Enhances torque at lower speeds
- D. Provides additional power for towing

10. What is the significance of gear backlash in a gear set?

- A. It increases fuel efficiency
- B. It enhances torque transmission
- C. It reduces gear noise
- D. It prevents gear binding

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Answer Key

1. B

2. B

3. B

4. C

5. D

6. B

7. A

8. C

9. B

10. D