

## Chapter 2 Review Questions -Gears-

**Instructions:** Read the questions carefully and choose the most correct answer. Put your answers on a scantron answer sheet. Non-Multiple choice questions should be answered on a separate sheet of paper.

1. Technician A says that when an external gear meshes with an internal annulus gear, both gears rotate in the same direction. Technician B says that when two external gears mesh, both gears rotate in the same direction. Who is right?
  - A. Technician A only
  - B. Technician B only
  - C. Both A and B
  - D. Neither A nor B
2. A gear ratio of .80:1 is an example of:
  - A. Overdrive
  - B. Direct drive
  - C. Gear reduction
  - D. Non of the above
3. The primary components of a simple planetary gearset are:
  - A. Sun, ring and carrier gears.
  - B. Sun, ring and idler gears.
  - C. Sun, ring and internal gears.
  - D. Sun, ring and crescent gears.
4. The member of the planetary gearset that is held in order to transmit torque is often called the?
  - A. Output member
  - B. Reaction member
  - C. Turned member
  - D. Input member
5. To produce a torque increase with a simple planetary gearset, the carrier is always the:
  - A. Drive member
  - B. Reaction member
  - C. Driven member
  - D. Idler member
6. To produce reverse with a simple planetary gearset, the carrier is always the:
  - A. Drive member
  - B. Idler member
  - C. Driven member
  - D. Reaction member
7. Technician A says that when the sun gear and the ring gear are both drive inputs receiving the same torque and speed input the carrier is the drive output member and the result is direct drive. Technician B says when the sun gear and the ring gear are both drive inputs receiving the same torque and speed input the planet pinions will rotate on their axis and produce an overdrive condition. Who is right?
  - A. Technician A only
  - B. Technician B only
  - C. Both A and B
  - D. Neither A nor B
8. Two technicians are discussing planetary carrier planet pinion gear rotation. Technician A says the planet pinion gears will always rotate in the same direction as the planetary carrier. Technician B says the planet pinion gears can sometimes rotate in the opposite rotational direction of the planetary carrier. Who is right?
  - A. Technician A only
  - B. Technician B only
  - C. Both A and B
  - D. Neither A nor B

9. On a simple planetary gearset when the planet pinion gears are rotating on their axis:
- They will always rotate in the same direction as the annulus gear rotational direction.
  - They will always rotate in the opposite direction of the sun gear rotational direction.
  - They will not rotate on their axis if the sun and ring gears are drive input members.
  - All of the above answers are correct.
  - Only answers A and B above are correct.
10. On a simple planetary gearset when the carrier member is held (will not rotate). Choose the statement that is **INCORRECT**.
- The drive and driven members will rotate in opposite directions.
  - The drive and driven members will rotate in the same direction.
  - The pinion gears will rotate on their axis and act as idler gears.
  - The carrier member is the reaction member.
11. Technician A says another name for the ring gear is an annulus gear. Technician B says that Technician A went to the local pub for lunch because there is no such thing as an annulus gear in an planetary gearset. Who is right?
- Technician A only
  - Technician B only
  - Both A and B
  - Neither A nor B
12. In a simple planetary gearset, during gear reduction and or overdrive there is:
- one (1) drive member, one (1) driven member & one (1) free spinning member.
  - two (2) drive members & one (1) driven member.
  - one (1) drive member & two (2) driven members.
  - one (1) drive member, one (1) driven member & one (1) reaction member.
  - none of these answers are correct.
13. Using a simple planetary gearset. If the carrier gear member was the input and the sun gear member was the reaction member:
- the gearset would be in overdrive.
  - the gearset would be in reverse.
  - the gearset would be in direct drive.
  - the gearset would be in forward gear reduction.
14. Using a simple planetary gearset. If the sun gear member was the input and the carrier gear member was the reaction member:
- the gearset would be in overdrive.
  - the gearset would be in reverse.
  - the gearset would be in direct drive.
  - the gearset would be in forward gear reduction.
15. Using a simple planetary gearset. If the ring gear member was the input and the sun gear member was the reaction member:
- the gearset would be in overdrive.
  - the gearset would be in reverse.
  - the gearset would be in direct drive.
  - the gearset would be in forward gear reduction.

16. On a separate sheet of paper explain what a compound planetary gearset is.

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17. On a separate sheet of paper explain the differences between the Simpson gearset and the Ravigneaux gearset.

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