

Name \_\_\_\_\_

**MULTIPLE CHOICE. Choose the one alternative that best completes the statement or answers the question.**

- 1) The crankshaft journals have been turned. What size bearings should be installed? 1) \_\_\_\_\_
  - A) Standard
  - B) Oversize
  - C) Undersize
  - D) It makes no difference which size is installed
  
- 2) A balance shaft used in a 90-degree V-6 engine is used to correct which of these types of force? 2) \_\_\_\_\_
  - A) Primary vibration
  - B) Secondary vibration
  - C) Rocking couple
  - D) Rolling couple
  
- 3) Which of these can cause a secondary vibration in a four-cylinder engine? 3) \_\_\_\_\_
  - A) Harmonic balancer
  - B) Pistons
  - C) Flexplate
  - D) Connecting rod big ends
  
- 4) A forged crankshaft has a \_\_\_\_\_. 4) \_\_\_\_\_
  - A) Wide parting line
  - B) Thin parting line
  - C) Parting line in one place
  - D) Both B and C
  
- 5) The thrust bearing surface is located on one of the main bearings to control thrust loads caused by \_\_\_\_\_. 5) \_\_\_\_\_
  - A) Lugging the engine
  - B) Torque converter or clutch release forces
  - C) Rapid deceleration forces
  - D) Both A and C
  
- 6) An overhead cam engine with integral cam bearings has a seized camshaft (bearings scored). 6) \_\_\_\_\_

What is the recommended repair?

  - A) Replace the camshaft and bearing shells
  - B) Replace the camshaft and cylinder head
  - C) Bore the cam bearings oversize
  - D) Replace the camshaft and install undersize bearing inserts
  
- 7) If any crankshaft is ground, it must also be \_\_\_\_\_. 7) \_\_\_\_\_
  - A) Shot peened
  - B) Chrome plated
  - C) Polished
  - D) Externally balanced

- 8) A splayed crankshaft is a crankshaft that \_\_\_\_\_. 8) \_\_\_\_\_
- A) Is externally balanced
  - B) Is internally balanced
  - C) Has offset main bearing journals
  - D) Has offset rod journals
- 9) Crankshaft journals are checked for which of these? 9) \_\_\_\_\_
- A) Out of Round
  - B) Taper
  - C) Both A and B
  - D) Neither A nor B
- 10) Why does a 4-cylinder engine have very little, if any, primary vibration? 10) \_\_\_\_\_
- A) Uses a splayed crankshaft
  - B) Two cylinders fire at the same time, reducing the primary vibration
  - C) Two pistons traveling upward at the same time two pistons are traveling downward
  - D) Bore is small, reducing the primary vibration

## Answer Key

Testname: ENGINES9\_31A

- 1) C  
Page Ref: 467
- 2) C  
Page Ref: 461
- 3) B  
Page Ref: 461
- 4) A  
Page Ref: 455
- 5) B  
Page Ref: 454
- 6) B  
Page Ref: 471
- 7) C  
Page Ref: 464
- 8) D  
Page Ref: 458
- 9) C  
Page Ref: 463
- 10) C  
Page Ref: 460