

**Automotive Electrical and Engine Performance 9th Edition**  
**Chapter 6 – Digital Storage Oscilloscopes (DSOs)**  
**Multiple Choice Questions Quiz B**

1. A digital storage oscilloscope (DSO) differs from an analog oscilloscope primarily because it:
  - a) Uses a cathode ray tube to display continuous voltage patterns
  - b) Stores voltage levels over time as digital data points
  - c) Only captures alternating current signals
  - d) Requires an external power source to function
  
2. Technician A states that a DSO can record intermittent issues in circuits. Technician B claims DSOs cannot display faults that occur faster than the sampling rate. Who is correct?
  - a) Technician A only
  - b) Technician B only
  - c) Both Technicians A and B
  - d) Neither Technician A nor B
  
3. The purpose of setting the time base on an oscilloscope is to:
  - a) Determine the amount of time displayed across the screen
  - b) Control the sampling rate of the waveform
  - c) Adjust the voltage per division
  - d) Set the reference level for voltage measurements
  
4. In a pulse train waveform, duty cycle represents:
  - a) The frequency of the signal in hertz
  - b) The on-time percentage of the total cycle
  - c) The period of off-time during each pulse
  - d) The average voltage over multiple cycles

5. Technician A says DC coupling allows both AC and DC components of a signal to be displayed. Technician B says AC coupling blocks DC voltage signals. Who is correct?

- a) Technician A only
- b) Technician B only
- c) Both Technicians A and B
- d) Neither Technician A nor B

6. When setting up a scope, the volts per division setting is critical because it:

- a) Controls the horizontal time displayed
- b) Adjusts the screen brightness for better clarity
- c) Reduces the sampling rate
- d) Ensures the entire expected voltage range is viewable

7. A “graticule” on an oscilloscope display refers to:

- a) The grid of divisions used for measurement reference
- b) The input channel selection
- c) The high-voltage warning indicator
- d) The scale calibration for voltage

8. Technician A states that a positive trigger slope is selected when observing an increasing voltage signal. Technician B claims a negative slope is used for signals with decreasing voltage levels. Who is correct?

- a) Technician A only
- b) Technician B only
- c) Both Technicians A and B
- d) Neither Technician A nor B

9. Which of the following components allows an oscilloscope to measure current without disconnecting any circuit wires?

- a) Pressure transducer
- b) Voltage probe
- c) Current clamp (amp clamp)
- d) Frequency analyzer

10. In a DSO, the term “sampling rate” refers to:

- a) The speed at which the scope captures voltage changes
- b) The number of divisions displayed on the graticule
- c) The total number of signals processed per second
- d) The maximum voltage range the scope can measure

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**Answer Key Quiz B**

**Correct Answers:**

1. b
2. c
3. a
4. b
5. c
6. d
7. a
8. c
9. c
10. a