

Automotive Electrical and Engine Performance 8th Edition
Chapter 25 – Electronic Transmission Controls
Quiz B

1. What are the four types of computer memory used in a TCM?
 - a. Input, processing, storage, and output
 - b. RAM, ROM, PROM, and EEPROM
 - c. Memory allocation, processing, resetting, and storage
 - d. Voltage conversion, memory, input, and calibration

2. What type of sensor measures transmission fluid temperature?
 - a. Negative temperature coefficient (NTC) thermistor
 - b. Potentiometer
 - c. Transducer
 - d. Frequency generator

3. What type of sensor measures the speed of the input or output shaft?
 - a. Potentiometer
 - b. Thermistor
 - c. Transducer
 - d. Frequency generator

4. Which function does the transmission range (TR) switch perform?
 - a. Prevents engine start in any gear except park or neutral
 - b. Limits upshifts in manual ranges
 - c. Operates the backup lights in reverse
 - d. All of the above

5. What is another name for the input speed sensor (ISS)?
- Output speed sensor (OSS)
 - Vehicle speed (VS) sensor
 - Turbine speed sensor (TSS)
 - Any of the above depending on the system
6. What is the purpose of the electronic pressure control (EPC) solenoid?
- Adjust mainline pressure using current
 - Maintain constant hydraulic pressure
 - Modulate temperature within the transmission fluid
 - Control fluid flow direction to the torque converter
7. What is adaptive control in a transmission system?
- Time delay between shift command and completion
 - Adjustment of shift timing to compensate for clutch wear
 - Default operation in failure mode
 - Transmission operation based on vehicle load detection
8. What function do linear solenoids perform in an electronically controlled transmission?
- Torque converter clutch (TCC) control
 - Pressure control solenoid (PCS) operation
 - Modulation of fluid flow using pulse-width signals
 - All of the above
9. Which condition would necessitate brake switch input to the TCM?
- Engaging the parking brake
 - Disengaging the torque converter clutch (TCC)
 - Activating adaptive transmission learning mode
 - Calibrating the transmission range switch

10. What is the role of fuzzy logic in adaptive transmission control?

- a. Allows fixed shift timing based on ROM programming
- b. Adapts shift patterns based on throttle activity and terrain
- c. Reduces engine load during downshifts
- d. Maintains default gear selection in limp-in mode

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Correct Answers:

1. b

2. a

3. d

4. b

5. c

6. a

7. b

8. d

9. b

10. c