**UNIT 1: AOUTOMOTIVE SYSTEMS DESIGN**

TRUE OR FALSE

1. Styling team doesn’t consider the aerodynamics and ergonomics factors of the users **FALSE**
2. The main purpose of the Multi-Point Fuel Injection system is to supply a proper ratio of gasoline and air to the cylinders.

**ANS: True**

1. In MPFI-Air Induction System, the air cleaner, the air flow meter, the throttle body and the air valve supply a proper amount of air to the air intake chamber and intake manifold.

**ANS: True**

1. Propeller shaft is used for all the vehicle configurations

**ANS: FALSE**

1. CAM Shafts can be replaced with the help of electronically controlled Solenoid Valves.

**ANS: True**

1. The ECU in the electronic control system, receives signals from the sensors and determines the opening time for the injectors land which also controls the injection volume.

**ANS: True**

**UNIT 2: AOUTOMOTIVE SENSORS AND ACTUATORS**

1. Thermistors are suited for precision temperature measurements

**ANS: True**

1. % operator calculates the percentage of one number compared to other

**ANS: FALSE**

1. Is the following statement valid?

printf("%d", (17 + 'c'));

**ANS: True**

1. We want to test whether a value lies in the range 2 to 4 or 5 to 7. Can we do this using a switch?

**ANS: YES**

1. The program checks all the conditions in an else-if ladder, even if it encounters a condition to be true.

**ANS: NO**

1. The size of a local array can be a variable from C99

**ANS:** True

1. While declaring a 2D array with initializer list both row size and column size are optional   
   i.e. int marr[][]={10,20,30,40,50,60}; is allowed

**ANS: FALSE**

1. A pointer to a block of memory is effectively same as an array

**ANS:** True

1. Are the expression \*ptr++ and ++\*ptr are same?

**ANS: FALSE**

1. Functions cannot return more than one value at a time.

**ANS:** True

1. In C all functions except main() can be called recursively.

**ANS: FALSE**

1. A union cannot be nested in a structure

**ANS: FALSE**

1. Nested unions are allowed.

**ANS:** True

1. The elements of union are always accessed using & operator

**ANS: FALSE**

1. Can the size of dynamically allocated array be increased?

**ANS:** True

1. When we dynamically allocate memory is there any way to free memory during run time?

**ANS:** True

1. If the file to be included doesn't exist, the preprocessor flashes an error message.

**ANS:** True

1. Preprocessor directive #undef can be used only on a macro that has been #define earlier.

**ANS:** True

**UNIT 3: EMBEDED SYSTEMS APPLICATIONS \_ DESIGN & VERIFICATION**

1. Pooling saves CPU time (true/false)

**ANS: FALSE**

1. The main purpose of CAN Network is to allow any ECU to communicate within the entire system, without causing an overload to the controller computer. This statement is

**ANS: TRUE**

1. Setting up a LIN Network is cheaper compared to setting up a CAN Network. This statement is:

**ANS: TRUE**

**UNIT 4: MODEL BASED SYSTEM DESIGN**

1. In logical arrays, any non-zero value is converted to logical 1 (TRUE) and zeroes are converted to logical 0 (FALSE)

**ANS: TRUE**

**UNIT 5: FUNCTIONAL SAFETY AND DIAGNOSTICS**

1. "In an ADAS ECU, Target object detection function is excecuted before Sensor fusion function"

**ANS: FALSE**

1. "S-functions in Matlab is used to wrap up a c-program as simulink block"

**ANS: TRUE**

1. "Diagonistics is applicable only for Sensors"

**ANS: FALSE**

1. "Circuit continuity diagonstics is done by out of range values"

**ANS: TRUE**

1. "Virtual Sensor values is also used for OBD Diagonstics"

**ANS: TRUE**

1. "OBD III is also called as Remote Diagonstics"

**ANS: TRUE**

1. FTA is a deductive failure analysis which focuses on one particular undesired event and provides a method for determining causes of this event.

**ANS: TRUE**