Unit 13 - Week 11

Assignment 11

The due date for submitting this assignment has passed.
As per our records you have not submitted this assignment.

Due on 2019-10-16, 23:59 IST.

1) An irredundant cover of a boolean function is always the same as its minimum cover *1 point*

- TRUE
- FALSE

No, the answer is incorrect.
Score: 0
Accepted Answers:
FALSE

2) Which of the following are true for the REDUCE operation used in logic optimization algorithm (ESPRESSO)? *1 point*

- The REDUCE operation increases the total number of implicants.
- The REDUCE operation decreases the total number of implicants.
- The REDUCE operation does not change the total number of implicants.
- The REDUCE operation reduces the size of the cube corresponding to one or more implicants.

No, the answer is incorrect.
Score: 0
Accepted Answers:
The REDUCE operation does not change the total number of implicants.
The REDUCE operation reduces the size of the cube corresponding to one or more implicants.

3) All the elements of which of the following MUST be covered by the implicants after a valid IRREDUNDANT operation during logic optimization (ESPRESSO)? *1 point*

- ON-set
- Don't care-set
- OFF-set
- Both ON-set and Don't care-set

No, the answer is incorrect.
Score: 0
Accepted Answers:
ON-set

4) As an immediate consequence of the ELIMINATE transformation of multi-level logic optimisation, the literal count may increase *1 point*

- TRUE
- FALSE

No, the answer is incorrect.
Score: 0
Accepted Answers:
TRUE

5) In the Logic Network representation used for multi-level logic optimisation, the nodes could represent: *1 point*

- Primary inputs
- Primary outputs
- Local boolean functions
- Nets

No, the answer is incorrect.
Score: 0
Accepted Answers:
Primary inputs
Primary outputs
Local boolean functions

6) When we interchange the order of two adjacent variables in a ROBDD during sifting transformation, the effect of the transformation is limited to two levels *1 point*

- TRUE
- FALSE

No, the answer is incorrect.
Score: 0
Accepted Answers:
TRUE

7) When a literal is tentatively changed to 'don't care' in the EXPAND operator of 2-level logic optimisation: *1 point*

- The resulting function is always valid
- The resulting function could be invalid
- The operation always leads to another implicant becoming redundant
- The operation sometimes does not result in any implicant becoming redundant

No, the answer is incorrect.
Score: 0
Accepted Answers:
The resulting function could be invalid
The operation sometimes does not result in any implicant becoming redundant

8) The intersection of two implicants of a boolean function is the largest cube contained in both the implicants *1 point*

- TRUE
- FALSE

No, the answer is incorrect.
Score: 0
Accepted Answers:
TRUE

9) Which of the following are true regarding the multi-level logic optimisation transformations? *1 point*

- SUBSTITUTION is a special case of ELIMINATE
- EXTRACTION is a special case of SUBSTITUTION
- ELIMINATE is a special case of SUBSTITUTION
- SUBSTITUTION is a special case of EXTRACTION

No, the answer is incorrect.
Score: 0
Accepted Answers:
SUBSTITUTION is a special case of EXTRACTION

10) The REDUCE operator attempts to convert a non-prime implicant to a prime implicant *1 point*

- TRUE
- FALSE

No, the answer is incorrect.
Score: 0
Accepted Answers:
FALSE