

Synopsys Placement Papers 2026

15 MCQs with answer key · Free download

Questions

Q1. [CS Fundamentals] Average time complexity of binary search on a sorted array is: [Synopsys paper]

- A) $O(\log n)$
- B) $O(n)$
- C) $O(1)$
- D) $O(n \log n)$

Q2. [CS Fundamentals] Which data structure is best for LRU cache? [Synopsys paper]

- A) HashMap + Doubly Linked List
- B) Array only
- C) Binary heap only
- D) Queue only

Q3. [Reasoning] You have 3 boxes: apples, oranges, apples&oranges - all labeled wrong. You pick one fruit from the box labeled apples&oranges. It is an apple. Correct labels? [Synopsys paper]

- A) apples; oranges; apples&oranges respectively after remapping
- B) Cannot determine
- C) All stay wrong
- D) Only apples correct

Q4. [Quantitative] [Synopsys #5] If 25% of a number is 45, the number is:

- A) 180
- B) 90
- C) 225
- D) 45

Q5. [Quantitative] [Synopsys #3] If 25% of a number is 43, the number is:

- A) 172
- B) 86
- C) 215
- D) 43

Q6. [Quantitative] [Synopsys #9] If 25% of a number is 49, the number is:

- A) 196
- B) 98
- C) 245
- D) 49

Q7. [Quantitative] [Synopsys #6] If 25% of a number is 46, the number is:

- A) 184
- B) 92
- C) 230
- D) 46

Q8. [Quantitative] [Synopsys #12] If 25% of a number is 52, the number is:

- A) 208
- B) 104
- C) 260
- D) 52

Q9. [Quantitative] [Synopsys #8] If 25% of a number is 48, the number is:

- A) 192
- B) 96
- C) 240
- D) 48

Q10. [Quantitative] [Synopsis #11] If 25% of a number is 51, the number is:

- A) 204
- B) 102
- C) 255
- D) 51

Q11. [Quantitative] [Synopsis #4] If 25% of a number is 44, the number is:

- A) 176
- B) 88
- C) 220
- D) 44

Q12. [Quantitative] [Synopsis #1] If 25% of a number is 41, the number is:

- A) 164
- B) 82
- C) 205
- D) 41

Q13. [Quantitative] [Synopsis #7] If 25% of a number is 47, the number is:

- A) 188
- B) 94
- C) 235
- D) 47

Q14. [Quantitative] [Synopsis #10] If 25% of a number is 50, the number is:

- A) 200
- B) 100
- C) 250
- D) 50

Q15. [Quantitative] [Synopsis #2] If 25% of a number is 42, the number is:

- A) 168
- B) 84
- C) 210
- D) 42

Answer Key & Explanations

Q1. A

Halves search space each step.

Q2. A

$O(1)$ lookup + $O(1)$ move-to-front.

Q3. A

Classic Google/Microsoft puzzle pattern: labeled mixed is actually apples.

Q4. ?

$x * 0.25 = b \Rightarrow x = 4b$.

Q5. ?

$x * 0.25 = b \Rightarrow x = 4b$.

Q6. ?

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Q7. ?

$x * 0.25 = b \Rightarrow x = 4b$.

Q8. ?

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Q9. ?

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Q14. ?

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Q15. ?

$x * 0.25 = b \Rightarrow x = 4b$.

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