Exam: Assesment: Bic: KC 3.2
Submitted: 01/28/2023 05:07:52 PM
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Attempt: 1
Your score on this attempt: 6.000 out of 6 (100.00%)
Graded Score: 6 out of 6 (100.00%)
Completion Time: 23 minutes 15 seconds

Question 1:
Assume that s, p, and w occupy 9 bits each. For each of the VAs given below, determine s, p, w, and pw as integers:

VA = 24: s = ___(1) p = ___(2) w = ___(3) pw = ___(4)

Type: Fill In The Blank

Points Awarded: 1.000/1.000

User Answer(s):

- 0 (1)
  Rationale: 24 as a 32-bit binary number is 00000|000000000|000000000|000011001. The horizontal bars show the separation between s, p, and w. Only w has a nonzero value, 24. Consequently, pw is also 24.
- 0 (2)
- 24 (3)
- 24 (4)

Question 2:
Assume that s, p, and w occupy 9 bits each. For each of the VAs given below, determine s, p, w, and pw as integers:

VA = 512: s = ___(1) p = ___(2) w = ___(3) pw = ___(4)

Type: Fill In The Blank

Points Awarded: 1.000/1.000

User Answer(s):

- 0 (1)
  Rationale: 512 as a 32-bit binary number is 00000|000000000|000000001|000000000. Only p has a nonzero value, 1. The 18 bits of pw correspond to decimal 512.
- 1 (2)
- 0 (3)
- 512 (4)

Question 3:
Assume that s, p, and w occupy 9 bits each. For each of the VAs given below, determine s, p, w, and pw as integers:

VA = 2098193: s = ___(1) p = ___(2) w = ___(3) pw = ___(4)

Type: Fill In The Blank

Points Awarded: 1.000/1.000

User Answer(s):

- 8 (1)
  Rationale: 2098193 as a 32-bit binary number is 00000|000001000|000000010|000010001. The first 5 bits are ignored and the following 9-bit strings correspond to decimal values 8, 2, and 17 respectively. The 18 bits that jointly represent pw correspond to decimal 1041.
- 2 (2)
- 17 (3)
- 1041 (4)

Question 4:
Assume that PM[0] = 25 and PM[16] = 4000
Determine if the address is valid: VA = 24

Type: Multiple Choice

Points Awarded: 1.000/1.000

User Answer(s):

- valid

Rationale: s = 0 and pw = 24. The size of segment 0 is PM[0] = 25. Since 24 < 25, the address 24 is valid.

Question 5: Assume that PM[0] = 25 and PM[16] = 4000
Determine if the address is valid: VA = 512

Type: Multiple Choice

Points Awarded: 1.000/1.000

User Answer(s):

- invalid

Rationale: s = 0 and pw = 512. The size of segment 0 is PM[0] = 25. Since 512 > 25, the address 512 outside of the segment and thus invalid.

Question 6: Assume that PM[0] = 25 and PM[16] = 4000
Determine if the address is valid: VA = 2098193

Type: Multiple Choice

Points Awarded: 1.000/1.000

User Answer(s):

valid

Rationale: s = 8 and pw = 1041. The size of segment 8 is PM[16] = 4000. Since 1041 < 4000, the address is valid.