Exam 3 At

Started: Jul 9 at 11:49pm

Quiz Instructions

Dear students,

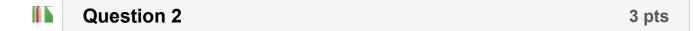
It was a pleasure meeting every single one of you. I really appreciate you taking this course with me. I hope you enjoy your summer and please stay safe. Good luck with the exam.

Notes on this exam:

- Exam is closed books and notes.
- No calculators or website should be used since I am asking for the answers in a particular format.
- there are 16 questions and you have about 7 minutes per question. please manage your time
- This is a timed exam and you have 120 minutes to finish it.
- You can only take the exam one time.
- Read each question carefully before answering each question
- each question needs to be solved on a paper to get the correct answer.
- manage to finish the exam on time since I do not open the exam under any condition.
- · you will not get to see the correct answers on this exam through Canvas

Question 1	3 pts
Convert the desimal value of 224 to its binary number	
Convert the decimal value of 234 to its binary number.	
a. $2^7 + 2^4 + 2^5 + 2^3 + 2$	
b. $2^7 + 2^6 + 2^5 + 2^3 + 2^2$	
c. $2^7 + 2^6 + 2^5 + 2^3 + 2$	
d. $2^7 + 2^6 + 2^5 + 2^3 + 2^2$	
⊙ C	
○ a	
○ d	

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$^{\prime}$	7	h
V.	-)	υ



what is the two's complement for -12 using 8 bits. Convert it to a binary two's complement then write it in base 16.

- a. 0C
- b. F4
- c. F3
- d. F1
- O C
- \bigcirc d
- O a
- 6

Question 3 3 pts

Convert the value 5836 to its base 8 and represent it in the following format

a.
$$1*8^4 + 1*8^3 + 4*8^2 + 2*8 + 4*8^0$$

b.
$$1*8^4 + 2*8^3 + 3*8^2 + 1*8 + 5*8^0$$

c.
$$1*8^4 + 2*8^3 + 8^2 + 1*8 + 4*8^0$$

d.
$$1*8^4 + 3*8^3 + 3*8^2 + 1*8 + 4*8^0$$

O b

Question 4

3 pts

Convert the decimal value 25.62 to its binary in the given format

a.
$$2^4 + 2^3 + 2^0$$
 . $2^{-1} + 2^{-2} + 2^{-4} + 2^{-5} + 2^{-6} + 2^{-7}$

$$b.2^4 + 2^3 + 2^0$$
 . $2^{-1} + 2^{-2} + 2^{-5} + 2^{-6} + 2^{-7}$

c.
$$2^4 + 2^3 + 2^0$$
 . $2^{-1} + 2^{-4} + 2^{-5} + 2^{-6} + 2^{-8}$

d.
$$2^4 + 2^3 + 2^0$$
 . $2^{-1} + 2^{-4} + 2^{-5} + 2^{-6} + 2^{-7}$

O b

O a

 \bigcirc c

d

Question 5

3 pts

Convert the 8-bit floating point number represented by the hex value 35 to its binary scientific notation (1 bit for sign, 3 bits for exponent, 4 bits mantissa).

what is the Mantisa , what is the biased exponent , what is the value in scientific notation

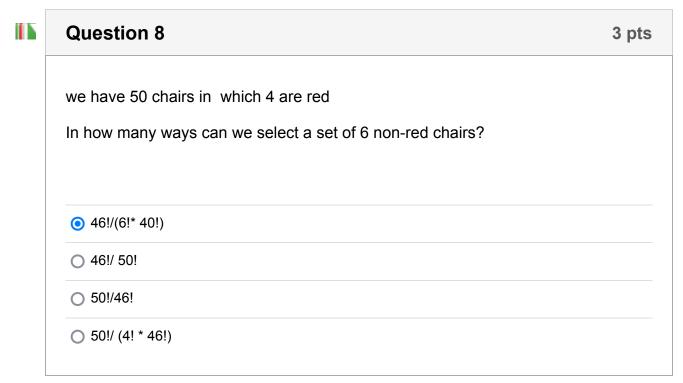
b. 0110 , 5 ,
$$1.0110 * 2^2$$

d. 0111, 4, 1.111 * 2 ²	
⊙ b	
○ a	
○ d	
○ c	
Question 6	3 pts
Convert the following 8-bit floating point number to its scientific notation: the sign, 3 bits for the exponent, 4 bits for the mantissa) 110111111 a. $-1.1011 * 2^7$ b. $1.1011 * 2^4$ c. $1.1011 * 2^7$ d. $-1.1111 * 2^2$	(1 bit for
O p	
○ c	
O a	
⊙ d	

U.F

Question 7 3 pts

	e 5 different flights going from LA to Sacramento today. How many we need so that at least two of them are in the same flight?	
O 18		
O 11		
O 10		
6		



We have 50 chairs, In how many ways can we select a set of 8 chairs containing exactly two red chairs. 50!/(8! * 42!) 4!/(2! * 2!) * 46!/(6!* 40!)

O 50!/48!			
O 50!/42!			
Question 10	3 pts		
we have 50 chairs. In how many ways can we select a at least one red chair?	a set of four chairs containing		
O 46!/(4! * 42!)			
O 46!/42!			
o 50!/(4!*46!) - 46!/(4! -42!)			
O 50!/46! - 46! / 42!			
Question 11	3 pts		
Jack has three pair of pants which are gray, blue and different shirts.	black. Jack also has 6		
a. How many different choices does he have every tim	ne he wants to dress up.		
b. in a month with thirty days, at least days in the month he needs to wear the same thing.			

O 9,3

O 18,3

0 9,2

18, 2

Find the number of ways 5 large books , 4 medium-size books and 3 small-size books can be placed on a shelf where all books of the same size are together. | 5!*4!*3! | 5!*4!*3!*3! | 5!*4!*3!*3!

Question 14 3 pts

In a survey of 155 people, it was found that 65 visited France, 45 visited Germany, 42 visited England, 20 visited both France and Germany, 25 visited both France and England, 15 visited both Germany and England, 8 visited all three countries.

How many people did not visit any country?

O 53			
55			
O 52			
O 50			

Question 15 3 pts

which one of the following is a partition for the set {red, blue, green, orange}

a. {red}, {blue, green}, {orange}

b. {red, blue}, {blue, orange, green}

c. {red},{blue}, {green},{orange}

d. {}, {red, blue, green, orange}

o a,c,d

o a

o b

o c

o d

Question 16 3 pts

which one of the following relations on A = $\{1,2,3\}$ is an equivalence relation

a.
$$\{(1,1),(2,2),(3,3)\}$$

$$b.\{(1,1), (2,2),(3,3),(2,3), (3,3)\}$$

c.
$$\{(1,2),(2,1),(1,1),(2,2),(3,3)\}$$

d. {(1,2),(2,1)	}			
o a,c				
Оа				
o b,c				
O a, b				

Quiz saved at 1:29am

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