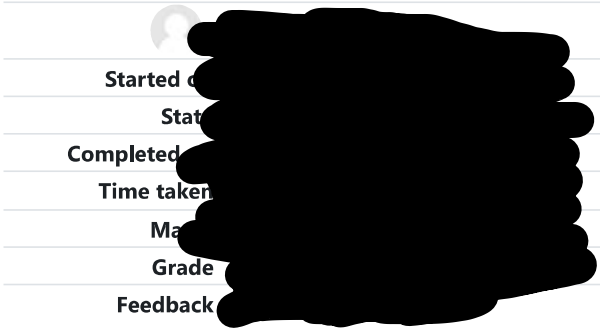

You are a highly motivated student, who takes full responsibility for your learning. A reflective learner, who recognises areas for development and is committed to personal improvement. An organised learner who always completes class work and homework to a very high standard.

Question **1**

Correct

Mark 2.00 out of 2.00

With a total range of 0-99 with 0-49 for positive numbers and 50-99 for negative numbers, compute the following 10 complements sum: 48-26. If you choose to indicate the overflow, please indicate it in brackets.

Answer: (1)22 ✔

The correct answer is: (1)22

Response history

Step	Time	Action	State	Marks
1	27/03/23, 18:44	Started	Not yet answered	
2	27/03/23, 18:46	Saved: (1)22	Answer saved	
3	**27/03/23, 19:24**	**Attempt finished**	**Correct**	**2.00**

Question **2**

Correct

Mark 1.00 out of 1.00

Find the string that led to the code: *$4xx*p3s*p4

Answer: $$$$xxpppspppp ✔

The correct answer is: $$$$xxpppspppp

Response history

Step	Time	Action	State	Marks
1	27/03/23, 18:44	Started	Not yet answered	
2	27/03/23, 18:47	Saved: $$$$xxpppspppp	Answer saved	
3	**27/03/23, 19:24**	**Attempt finished**	**Correct**	**1.00**

Question **3**

Correct

Mark 4.00 out of 4.00

Suppose you are given a **ternary machine** (base-3) with 6 "placeholders" to store a number (base 3 bits i.e. [0-2][0-2][0-2][0-2][0-2][0-2]).

What is the **3s complement** of the base 10 number: **-6**.

Give your answer in base 3 and ignore any overflows.

Remember to give your answer with exactly the number of "placeholders" (or base-3 bits) to store the number.

Answer: 222210 ✔

The correct answer is: 222210

Response history

Step	Time	Action	State	Marks
1	27/03/23, 18:44	Started	Not yet answered	
2	27/03/23, 19:24	Saved: 222210	Answer saved	
3	**27/03/23, 19:24**	**Attempt finished**	**Correct**	**4.00**

Question **4**

Correct

Mark 1.00 out of 1.00

There are 386 students enrolled in the BCO course, how many bits are required to represent all the different students?

- a. 9 ✔
- b. 10
- c. None of the above
- d. 8

Your answer is correct.

The correct answer is:
9

Response history

Step	Time	Action	State	Marks
1	27/03/23, 18:44	Started	Not yet answered	
2	27/03/23, 18:51	Saved: 9	Answer saved	
3	**27/03/23, 19:24**	**Attempt finished**	**Correct**	**1.00**

Question **5**

Correct

Mark 1.00 out of 1.00

Write the floating point number $567567*10^{-5}$ as a real number.

(You may choose to round-off two decimal places)

Answer: 5.68 ✔

The correct answer is: 5.67567

Response history

Step	Time	Action	State	Marks
1	27/03/23, 18:44	Started	Not yet answered	
2	27/03/23, 18:52	Saved: 5.68	Answer saved	
3	**27/03/23, 19:24**	**Attempt finished**	**Correct**	**1.00**

Question **6**

Correct

Mark 2.00 out of 2.00

Encode the following string with a run-length code: CCCCCCCTTTTGGGGGGGGA

Answer: *C7*T4*G8A ✔

The correct answer is: *C7*T4*G8A

Response history

Step	Time	Action	State	Marks
1	27/03/23, 18:44	Started	Not yet answered	
2	27/03/23, 18:53	Saved: *C7*T4*G8A	Answer saved	
3	**27/03/23, 19:24**	**Attempt finished**	**Correct**	**2.00**

Question **7**

Correct

Mark 3.00 out of 3.00

Using 2s complement notation with a word length of 6 bits, let A=111110 and B=000010.

Compute, using complements arithmetic: -A

Answer: 000010 ✔

The correct answer is: 10

Response history

Step	Time	Action	State	Marks
1	27/03/23, 18:44	Started	Not yet answered	
2	27/03/23, 18:55	Saved: 000010	Answer saved	
3	**27/03/23, 19:24**	**Attempt finished**	**Correct**	**3.00**

Question **8**

Correct

Mark 3.00 out of 3.00

Using 2s complement notation with a word length of 6 bits, let A=111110 and B=000010.

Compute, using complements arithmetic: -B

Answer: 111110 ✔

The correct answer is: 111110

Response history

Step	Time	Action	State	Marks
1	27/03/23, 18:44	Started	Not yet answered	
2	27/03/23, 18:56	Saved: 111110	Answer saved	
3	**27/03/23, 19:24**	**Attempt finished**	**Correct**	**3.00**

Question **9**

Correct

Mark 2.00 out of 2.00

Using 2s complement notation with a word length of 6 bits, let A=111110 and B=000010.
Compute, using complements arithmetic: B-A

Answer: 000100 ✔

The correct answer is: 000100

Response history

Step	Time	Action	State	Marks
1	27/03/23, 18:44	Started	Not yet answered	
2	27/03/23, 18:58	Saved: 111100	Answer saved	
3	27/03/23, 19:13	Saved: 000100	Answer saved	
4	**27/03/23, 19:24**	**Attempt finished**	**Correct**	**2.00**

Question **10**

Correct

Mark 1.00 out of 1.00

Using 2s complement notation with a word length of 6 bits, let A=111110 and B=000010.

Compute, using complements arithmetic: -(-A).

Answer: 111110 ✔

The correct answer is: 111110

Response history

Step	Time	Action	State	Marks
1	27/03/23, 18:44	Started	Not yet answered	
2	27/03/23, 18:59	Saved: 111110	Answer saved	
3	**27/03/23, 19:24**	**Attempt finished**	**Correct**	**1.00**

Question **11**

Correct

Mark 1.00 out of 1.00

Write the real number 0.002567 in floating point notation **with a mantissa of five digits.**

When answering the above question use the E notation to express the powers of 10. For example, 1.23*10^6 is represented as 1.23*10E6. (which is 12300*10E2 with a mantissa of five digits).

Answer: 25670*10E-7 ✔

The correct answer is: 25670*10E-7

Response history

Step	Time	Action	State	Marks
1	27/03/23, 18:44	Started	Not yet answered	
2	27/03/23, 19:02	Saved: 25670*10E-7	Answer saved	
3	**27/03/23, 19:24**	**Attempt finished**	**Correct**	**1.00**

Question **12**

Correct

Mark 2.00 out of 2.00

Using 2s complement notation with a word length of 6 bits, let A=111110 and B=000010.

Compute, using complements arithmetic: A-B.

Answer: 111100 ✔

The correct answer is: 111100

Response history

Step	Time	Action	State	Marks
1	27/03/23, 18:44	Started	Not yet answered	
2	27/03/23, 19:10	Saved: 111100	Answer saved	
3	**27/03/23, 19:24**	**Attempt finished**	**Correct**	**2.00**

Question **13**

Correct

Mark 2.00 out of 2.00

Using 2s complement notation with a word length of 6 bits, let A=111110 and B=000010.

Compute, using complements arithmetic: A+B

Answer: 000000 ✔

The correct answer is: 000000

Response history

Step	Time	Action	State	Marks
1	27/03/23, 18:44	Started	Not yet answered	
2	27/03/23, 19:11	Saved: 000000	Answer saved	
3	**27/03/23, 19:24**	**Attempt finished**	**Correct**	**2.00**

◄ Data Representation II: Lecture Slides

Jump to...

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