

[Dashboard](#)

/ [Session 1: Test 1](#)

Co

0
out of 100.00

Question 1
Correct
Mark 2.00 o

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

Answer: ✓

The correct answer is: \$\$\$xpppspppp

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:00	Saved: \$\$\$xpppspppp	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	2.00

Question **2**

Correct

Mark 2.00 out of 2.00

Convert the binary number 001011101 to base-10.

Answer: 

The correct answer is: 93

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:02	Saved: 93	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	2.00

Question 3

Correct

Mark 1.00 out of 1.00

Which of the following is an example of analog information?

Select one:

- ☐ a. Morse code
- ☐ b. The result of flipping a coin
- ☐ c. The result of a rolled dice
- ☐ d. Drawing a card from a deck of playing cards
- ☒ e. The frequency of a humans voice in air ✓

The correct answer is: The frequency of a humans voice in air

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:02	Saved: The frequency of a humans voice in air	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	1.00

Question **4**

Correct

Mark 3.00 out of 3.00

Convert the decimal number 215 to Base-5.

Answer: 

The correct answer is: 1330

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:03	Saved: 1330	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	3.00

Question 5

Correct

Mark 1.50 out of 1.50

How many characters could be represented by ASCII originally?

- ☐ a. 256
- ☒ b. 128 ✓
- ☐ c. 64
- ☐ d. 512

Your answer is correct.

The correct answer is:
128

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:03	Saved: 128	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	1.50

Question 6

Correct

Mark 1.00 out of 1.00

Which of the following does Machine Language refer to?

Select one:

- ☐ a. Programs written using selection and repetition block structures
- ☒ b. Programs written using binary ✓
- ☐ c. Programs written using structured control flow constructs
- ☐ d. Programs written using mnemonics
- ☐ e. Programs written using English-like statements

Your answer is correct.

The correct answer is: Programs written using binary

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:03	Saved: Programs written using binary	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	1.00

Question **7**

Correct

Mark 2.00 out of 2.00

Convert the base-9 number 67720 to base-3.

Answer: 

The correct answer is: 2021210200

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:07	Saved: 2021210200	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	2.00

Question **8**

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: 

The correct answer is: (1)22

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:07	Saved: 22	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	2.00

Question **9**

Correct

Mark 4.00 out of 4.00

What is the resulting value of the following addition in base-15:

EE+26

Answer: 125



The correct answer is: 125

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:08	Saved: 125	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	4.00

Question **10**

Correct

Mark 1.00 out of 1.00

Fourth generation computers were based on Very Large Scale Integrated Circuits.

Select one:

☒ True ✓

☐ False

The correct answer is 'True'.

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:09	Saved: True	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	1.00

Question **11**

Correct

Mark 1.00 out of 1.00

All electronic signals (both digital and analog) degrade as they move down a line.

Select one:

☒ True ✓

☐ False

The correct answer is 'True'.

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:09	Saved: True	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	1.00

Question **12**

Correct

Mark 1.50 out of 1.50

Give the 4 digit mantissa floating-point value of 0.05263.

- ☒ a. 5263×10^{-5} ✓
- ☐ b. 5263×10^0
- ☐ c. 0.5263×10^{-1}
- ☐ d. None of the above.

Your answer is correct.

The correct answer is:
 5263×10^{-5}

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:09	Saved: 5263×10^{-5}	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	1.50

Question 13

Correct

Mark 2.00 out of 2.00

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

Answer: 

The correct answer is: *C7*T4*G8A

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:10	Saved: *C7*T4*G8A	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	2.00

Question 14

Correct

Mark 2.00 out of 2.00

Convert the hexadecimal number AB to base-10.

Answer: 

The correct answer is: 171

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:11	Saved: 171	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	2.00

Question **15**

Incorrect

Mark 0.00 out of 3.00

Just like in base 10, numbers in other bases can be negative. What is the result of the calculation $-37-42$, if it is done in base 8?

Answer: 

The correct answer is: -101

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:58	Saved: 43	Answer saved	
3	4/04/22, 09:08	Attempt finished	Incorrect	0.00

Question **16**

Correct

Mark 4.00 out of 4.00

What is the resulting value of the following multiplication in binary:

10101010×100

Answer: 

The correct answer is: 1010101000

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:12	Saved: 1010101000	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	4.00

Question 17

Incorrect

Mark 0.00 out of 2.00

If we were to do Run-length encoding on gggggg--jjjjkkklmnhhh it would be?

- ☐ a. *g6--*j4kklnnhhh
- ☒ b. *g6--*j4kklnn*h3 ✗
- ☐ c. *g6*-2*j4*k2lnn*h3
- ☐ d. *g6*--2*j4*k2*l1*m1*n1*h3

Your answer is incorrect.

The correct answer is:

*g6--*j4kklnnhhh

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:13	Saved: *g6--*j4kklnn*h3	Answer saved	
3	4/04/22, 09:08	Attempt finished	Incorrect	0.00

Question **18**

Correct

Mark 2.00 out of 2.00

Solve the following subtraction in hexadecimal: FF11 – AB1. (Give your answer in hexadecimal.)

Answer: F460



The correct answer is: F460

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:14	Saved: F460	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	2.00

Question **19**

Incorrect

Mark 0.00 out of 6.00

What is the result of multiplying the following **base-3** values?

22121 x 1212

Answer: 120221122



The correct answer is: 120220122

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:19	Saved: 120221122	Answer saved	
3	4/04/22, 09:08	Attempt finished	Incorrect	0.00

Question **20**

Correct

Mark 1.00 out of 1.00

When we convert binary to Octal, we can make use of a grouping, as 3 binary digits represent 1 octal digit, if we want to convert binary to base 64 using the same approach, how large should our groups of binary digits be?

- ☐ a. 64
- ☐ b. 5
- ☒ c. 6 ✓
- ☐ d. 32

Your answer is correct.

The correct answer is:

6

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:19	Saved: 6	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	1.00

Question **21**

Correct

Mark 3.00 out of 3.00

Compute the following base-6 addition: $532.124 + 231.112$

Answer: ✓

The correct answer is: 1203.24

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:20	Saved: 1203.240	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	3.00

Question **22**

Correct

Mark 1.00 out of 1.00

Using the positional notation formula, presented in the notes, what is the value of d for d_3 when positional notation is applied to the integer 1304?

- ☐ a. 1000
- ☐ b. 30
- ☐ c. 300
- ☐ d. 4
- ☒ e. 3 ✓
- ☐ f. 304
- ☐ g. 0

Your answer is correct.

The correct answer is:

3

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:21	Saved: 3	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	1.00

Question **23**

Correct

Mark 2.00 out of 2.00

Convert 2021 from base-4 representation into Hexadecimal.

Answer: 89



The correct answer is: 89

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:22	Saved: 89	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	2.00

Question **24**

Incorrect

Mark 0.00 out of 4.00

What is the resulting value of the following multiplication in binary:

1010 x 1010

Answer: 1110100



The correct answer is: 1100100

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:23	Saved: 1110100	Answer saved	
3	4/04/22, 09:08	Attempt finished	Incorrect	0.00

Question **25**

Correct

Mark 1.00 out of 1.00

Which of these is true about electronic signals?

- ☐ a. The voltage of a signal (both digital and analog) fluctuates due to environmental effects,
- ☐ b. A digital signal has only a high or low state,
- ☐ c. As soon as an analog signal degrades, information is lost,
- ☒ d. All of the above. ✓

Your answer is correct.

The correct answer is:

All of the above.

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:23	Saved: All of the above.	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	1.00

Question **26**

Correct

Mark 3.00 out of 3.00

Convert 11.9 from base 10 to base 2. Stop after 5 places to the right of the radix point.

Answer: 1011.11100



The correct answer is: 1011.11100

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:25	Saved: 1011.11100	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	3.00

Question **27**

Correct

Mark 3.00 out of 3.00

The following numbers are written in base 2 complements with an eight bit word:

A = 11110100 and B = 00001011

What B - A in base 2s complement arithmetic ?

Answer: 00010111



The correct answer is: 00010111

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:27	Saved: 00010111	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	3.00

Question **28**

Correct

Mark 2.50 out of 2.50

Suppose there are 35 241 students currently at WITS.

What is the minimum number of bit required to represent each student at WITS?

Answer: 16



The correct answer is: 16

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:28	Saved: 16	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	2.50

Question **29**

Incorrect

Mark 0.00 out of 2.50

We have a list of numbers from 0 to 499, what is the least number of bits needed to expand the list by adding negative representations of itself?

- ☐ a. 1
- ☐ b. 2
- ☐ c. 0
- ☒ d. 499 ✖

Your answer is incorrect.

The correct answer is:

1

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:28	Saved: 499	Answer saved	
3	4/04/22, 09:08	Attempt finished	Incorrect	0.00

Question **30**

Correct

Mark 0.50 out of 0.50

What is the original text for the following Run length encoded text: t*x5?

- ☐ a. txtxtxtxtx
- ☒ b. txxxxx ✓
- ☐ c. t*xt*xt*xt*xt*x
- ☐ d. ttttt

Your answer is correct.

The correct answer is:
txxxxx

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:28	Saved: txxxxx	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	0.50

Question **31**

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 10s complement representation of -29.

Select one:

- ☐ a. Underflow
- ☒ b. 71 in range ✓
- ☐ c. 29 in range
- ☐ d. Overflow
- ☐ e. -71 in range

The correct answer is: 71 in range

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:29	Saved: 71 in range	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	2.00

Question **32**

Correct

Mark 2.00 out of 2.00

Express the base-3 fraction 211.211 as a fraction in base-10.

Provide your answer in radix point form (e.g. 6.32).

Round off two decimal places.

Answer:



The correct answer is: 22.81

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:30	Saved: 22.81	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	2.00

Question **33**

Correct

Mark 1.00 out of 1.00

Vacuum tubes ...

Select one:

- ☐ a. were light bulbs used between the 1951-1959.
- ☐ b. is a technology we largely used today.
- ☐ c. are devices which can be used to clean your house.
- ☐ d. replaced the transistor.
- ☒ e. were large, not very reliable, and generated a lot of heat. ✓

The correct answer is: were large, not very reliable, and generated a lot of heat.

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:30	Saved: were large, not very reliable, and generated a lot of heat.	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	1.00

Question **34**

Correct

Mark 2.00 out of 2.00

How many different objects can be represented in computer memory using 8 bits?

Answer: 

The correct answer is: 256

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:30	Saved: 256	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	2.00

Question **35**

Incorrect

Mark 0.00 out of 2.00

Convert -10 in decimal to binary using 6 bit 2s complement representation.

Answer: 

The correct answer is: 110110

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:31	Saved: 000110	Answer saved	
3	4/04/22, 09:08	Attempt finished	Incorrect	0.00

Question **36**

Correct

Mark 2.00 out of 2.00

Compress the text, aaaaadddrrppphkkkkk, using Run-Length Encoding.

- ☐ a. a*5d*4rrp*4hk*6
- ☐ b. *a5*d4*r2*p4*h1*k6
- ☐ c. *a4*s4rr*p4h*k6
- ☒ d. *a5*d4rr*p4h*k6 ✓

Your answer is correct.

The correct answer is:

*a5*d4rr*p4h*k6

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:32	Saved: *a5*d4rr*p4h*k6	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	2.00

Question **37**

Correct

Mark 1.00 out of 1.00

A computer system is a dynamic collection of ... used to solve problems and interact with the environment?

- ☐ a. Motherboard, CPU, and memory.
- ☐ b. Speakers, mouse, and keyboard.
- ☐ c. Software, information, and data.
- ☐ d. Hardware, software, and information.
- ☒ e. Hardware, software, and data ✓

Your answer is correct.

The correct answer is:

Hardware, software, and data

Response history


Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:32	Saved: Hardware, software, and data	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	1.00

Question **38**

Correct

Mark 3.00 out of 3.00

Compute the following base-6 subtraction: $532.124 - 231.112$

Answer: 

The correct answer is: 301.012

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:33	Saved: 301.012	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	3.00

Question **39**

Correct

Mark 1.00 out of 1.00

What is the relationship between 3 and 9 that makes converting between bases easy?

- ☐ a. 3 is a factor of 9.
- ☒ b. $3^2 = 9$. ✓
- ☐ c. Both are odd numbers.
- ☐ d. Both numbers are below 10.

Your answer is correct.

The correct answer is:
 $3^2 = 9$.

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:33	Saved: $3^2 = 9$.	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	1.00

Question **40**

Correct

Mark 1.00 out of 1.00

High-level languages...

Select one:

- ☒ a. Have a strong abstraction from the details of the computer. ✓
- ☐ b. Contain binary numbers.
- ☐ c. Include languages such as machine language and assembler.
- ☐ d. Have a weak abstraction from the details of the computer.
- ☐ e. Can execute in the CPU without any translator.

The correct answer is: Have a strong abstraction from the details of the computer.

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:34	Saved: Have a strong abstraction from the details of the computer.	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	1.00

Question **41**

Correct

Mark 5.00 out of 5.00

What compression ratio do you obtain when compressing the following string: ss\$\$\$\$kddddddnnnndTTTTT

Give your answer as a ratio (eg. 13/25).

Answer: 16/23



The correct answer is: 16/23

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:35	Saved: 16/23	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	5.00

Question **42**

Correct

Mark 2.00 out of 2.00

Convert 13 in decimal to binary using 6 bit 2's complement representation.

Answer: 001101



The correct answer is: 001101

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:36	Saved: 001101	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	2.00

Question **43**

Correct

Mark 2.50 out of 2.50

Do the following subtraction in Base-5:

4332-1234

Answer: 

The correct answer is: 3043

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:37	Saved: 3043	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	2.50

Question **44**

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: -26-13. If you choose to indicate the overflow, please indicate it in brackets.

Answer: 

The correct answer is: (1)61

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:38	Saved: 61	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	2.00

Question **45**

Incorrect

Mark 0.00 out of 4.00

Convert the decimal fraction 0.2 to a fraction in base-3.

NB. Indicate the recurring part in brackets.

Eg. the number $0.22222222 = 0.(2)$

Eg. the number $0.66912912912912 = 0.66(912)$

Answer: 

The correct answer is: 0.(0121)

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:39	Saved: 0.(01)	Answer saved	
3	4/04/22, 09:08	Attempt finished	Incorrect	0.00

Question **46**

Correct

Mark 2.00 out of 2.00

Will the run-length compression method done in class work on numeric data?

Select one:

☐ True

☒ False ✓

The correct answer is 'False'.

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:39	Saved: False	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	2.00

Question **47**

Correct

Mark 1.00 out of 1.00

Which one is an example of first generation computer?

- ☐ a. IBM 360
- ☒ b. ENIAC ✓
- ☐ c. CDC 3600
- ☐ d. IBM 370/168

Your answer is correct.

The correct answer is: ENIAC

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:40	Saved: ENIAC	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	1.00

Question **48**

Correct

Mark 1.00 out of 1.00

Write the real number 678910 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 $1.23 \times 10E6$. (which is $12300 \times 10E2$ with a mantissa of five digits).

Answer: 

The correct answer is: $67891 \times 10E1$

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 09:04	Saved: $67891 \times 10E1$	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	1.00

Question **49**

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: 

The correct answer is: 5.67567

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:41	Saved: 5.67567	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	1.00

Question **50**

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 10s complements representation of -13.

Answer:



The correct answer is: 87

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:42	Saved: 87	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	2.00

Question **51**

Correct

Mark 1.00 out of 1.00

Parallel computing refers to:

Select one:

- ☒ a. increasing processing speed by the collaborative effort more many central processing units and/or memory units. ✓
- ☐ b. improving performance by increasing the number of computer screens so more programmers can look at the problem.
- ☐ c. improving performance by replacing the central processing unit with the latest one on the market.
- ☐ d. using a new network architecture in a single central processing unit to improve speed.
- ☐ e. using multiple resources with one memory unit.

The correct answer is: increasing processing speed by the collaborative effort more many central processing units and/or memory units.

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:43	Saved: increasing processing speed by the collaborative effort more many central processing units and/or memory units.	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	1.00

Question **52**

Correct

Mark 1.00 out of 1.00

The number of digits in floating point representations stays constant.

Select one:

☒ True ✓

☐ False

The correct answer is 'True'.

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:43	Saved: True	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	1.00

Question **53**

Correct

Mark 2.50 out of 2.50

Using base 4, what is $123 + 222 + 100$?

Answer: 1111



The correct answer is: 1111

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:44	Saved: 1111	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	2.50

Question **54**

Correct

Mark 2.00 out of 2.00

Convert 101201 from base 3 to base 9.

Answer: 351



The correct answer is: 351

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:46	Saved: 351	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	2.00

Question **55**

Correct

Mark 1.00 out of 1.00

Is the perception of light brightness from the sun an example of a analogue or a discrete data type?

Select one:

- ☐ a. Discrete
- ☒ b. Analogue ✓

The correct answer is: Analogue

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:46	Saved: Analogue	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	1.00

Question **56**

Correct

Mark 1.00 out of 1.00

What is the lowest base in which the following number would be a possible representation?

2449

Select one:

- ☐ a. Base-8
- ☒ b. Base-10 ✓
- ☐ c. Base-9
- ☐ d. Base-11
- ☐ e. Base-7

The correct answer is: Base-10

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:46	Saved: Base-10	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	1.00

Question **57**

Correct

Mark 2.00 out of 2.00

Convert the binary number 101010101110110101110101 to base-16.

Answer: 

The correct answer is: AAED75

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:49	Saved: AADC75	Answer saved	
3	4/04/22, 08:53	Saved: AAED75	Answer saved	
4	4/04/22, 09:08	Attempt finished	Correct	2.00

Question **58**

Correct

Mark 2.00 out of 2.00

Find the string that led to the code: *C5*T5*G7ATAAG

Answer: 

The correct answer is: CCCCCTTTTGGGGGGGATAAG

Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:49	Saved: CCCCCTTTTGGGGGGGATAAG	Answer saved	
3	4/04/22, 09:08	Attempt finished	Correct	2.00

Question 59

Partially correct

Mark 10.00 out of 12.00

Using 2s complement notation with a word length of 6 bits, let $A=011011$ and $B=100100$.

Compute the following using complements arithmetic.

NB. Do not indicate the overflow. You must write a number for all the allowed bits in the representation.

$A+B =$



$-B =$



$-A =$



$A-B =$



$B-A =$



$-(-A) =$



Response history

Step	Time	Action	State	Marks
1	4/04/22, 08:00	Started	Not yet answered	
2	4/04/22, 08:52	Saved: part 1: 111111; part 2: 011100; part 3: 100101; part 4: 110111; part 5: 101001; part 6: 011011	Answer saved	
3	4/04/22, 09:08	Attempt finished	Partially correct	10.00

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