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 2.0 out of 2.0

What is the resulting value of the following addition in Hexadecimal:

1A5 + B0F

Answer: | CB4 | ✔

The correct answer is: CB4

Response history

Step	Time	Action	State	Marks
1	16/03/23, 11:06	Started	Not yet answered	
2	16/03/23, 11:10	Saved: CB4	Answer saved	
3	**16/03/23, 12:59**	**Attempt finished**	**Correct**	**2.0**

Question **2**

Correct

Mark 5.0 out of 5.0

Convert the decimal number 215 to Base-5.

Answer:

| 1330 | ✔ |

The correct answer is: 1330

Response history

Step	Time	Action	State	Marks
1	16/03/23, 11:06	Started	Not yet answered	
2	16/03/23, 11:13	Saved: 1330	Answer saved	
3	**16/03/23, 12:59**	**Attempt finished**	**Correct**	**5.0**

Question **3**

Correct

Mark 2.0 out of 2.0

5326 is a base 8 (Octal) number.

A93 is a base 16 (Hexadecimal) number.

Convert both numbers to base 2 (binary), then find their sum.

Your answer should be in binary.

Answer:

| 1010101101001 | ✔ |

The correct answer is: 1010101101001

Response history

Step	Time	Action	State	Marks
1	16/03/23, 11:06	Started	Not yet answered	
2	16/03/23, 11:17	Saved: 1010101101001	Answer saved	
3	**16/03/23, 12:59**	**Attempt finished**	**Correct**	**2.0**

Question **4**

Correct

Mark 3.0 out of 3.0

What is the resulting value of the following subtraction in Hexadecimal?

C00 – BCD

Answer: | 33 | ✔

The correct answer is: 33

Response history

Step	Time	Action	State	Marks
1	16/03/23, 11:06	Started	Not yet answered	
2	16/03/23, 11:19	Saved: 33	Answer saved	
3	**16/03/23, 12:59**	**Attempt finished**	**Correct**	**3.0**

Question **5**

Correct

Mark 1.0 out of 1.0

Your new phone has 16GB of storage, how many bits are there?

Answer: | 137438953472 | ✔

1 gigabyte = 1024 megabytes

1 megabyte = 1024 kilobytes

1 kilobyte = 1024 bytes

1 byte = 8 bits

Therefore 16 * 1024 * 1024 * 1024 * 8 = 137438953472 bits

The correct answer is: 137438953472

Response history

Step	Time	Action	State	Marks
1	16/03/23, 11:06	Started	Not yet answered	
2	16/03/23, 11:22	Saved: 137438953472	Answer saved	
3	**16/03/23, 12:59**	**Attempt finished**	**Correct**	**1.0**

Question **6**

Correct

Mark 5.0 out of 5.0

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

1011111101 x 10

Answer: | 10111111010 | ✔

The correct answer is: 10111111010

Response history

Step	Time	Action	State	Marks
1	16/03/23, 11:06	Started	Not yet answered	
2	16/03/23, 11:26	Saved: 10111111010	Answer saved	
3	**16/03/23, 12:59**	**Attempt finished**	**Correct**	**5.0**

Question **7**

Correct

Mark 2.0 out of 2.0

7654 is a base 8 (Octal) number.

B52 is a base 16 (Hexadecimal) number.

Convert both numbers to base 2 (binary), then find their difference.

Your answer should be a positive, binary number.

Answer: | 10001011010 | ✔

The correct answer is: 10001011010

Response history

Step	Time	Action	State	Marks
1	16/03/23, 11:06	Started	Not yet answered	
2	16/03/23, 11:35	Saved: 10001011010	Answer saved	
3	**16/03/23, 12:59**	**Attempt finished**	**Correct**	**2.0**

Question **8**

Correct

Mark 2.0 out of 2.0

Convert the octal number 567 to base-10.

Answer: | 375 | ✔

The correct answer is: 375

Response history

Step	Time	Action	State	Marks
1	16/03/23, 11:06	Started	Not yet answered	
2	16/03/23, 11:38	Saved: 375	Answer saved	
3	**16/03/23, 12:59**	**Attempt finished**	**Correct**	**2.0**

Question **9**

Partially correct

Mark 1.5 out of 3.0

Mpho has forgotten the password to his laptop. Luckily, when Mpho chose his password, he wrote it down for safekeeping. To keep this written password a secret, Mpho decided to write it in binary.

Mpho's password in binary is: 1111, 0, 10010, 10010, 10110, 1110, 10001, 11.

By using the table below which illustrates a map between decimal values and characters, help Mpho find his password.

A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
0	1	2	3	4	5	6	7	8	9	10	11	12	13	14

S	T	U	V	W	X	Y	Z
18	19	20	21	22	23	24	25

Answer: PASSWORD ✔

The correct answer is: password

Response history

Step	Time	Action	State	Marks
1	16/03/23, 11:06	Started	Not yet answered	
2	16/03/23, 11:41	Saved: PASSWORD	Answer saved	
3	**16/03/23, 12:59**	**Attempt finished**	**Partially correct**	**1.5**

Question **10**

Correct

Mark 3.0 out of 3.0

Do the following subtraction in Base-7:

4653-1124

Answer: | 3526 | ✔

The correct answer is: 3526

Response history

Step	Time	Action	State	Marks
1	16/03/23, 11:06	Started	Not yet answered	
2	16/03/23, 11:43	Saved: 3526	Answer saved	
3	**16/03/23, 12:59**	**Attempt finished**	**Correct**	**3.0**

Question **11**

Correct

Mark 1.0 out of 1.0

Which of the following options is the binary equivalent of the decimal (based 10) number 47? Then what is the result when you take away (subtract) the binary number 100111 from it?

- ○ a. **101001, 1110**
- ● b. **101111, 1000** ✔
- ○ c. **101101, 1101**
- ○ d. **10111, 1100**
- ○ e. **110011, 1001**

Your answer is correct.

The correct answer is:
101111, 1000

Response history

Step	Time	Action	State	Marks
1	16/03/23, 11:06	Started	Not yet answered	
2	16/03/23, 11:46	Saved: 101111, 1000	Answer saved	
3	**16/03/23, 12:59**	**Attempt finished**	**Correct**	**1.0**

Question **12**

Correct

Mark 5.0 out of 5.0

Convert the decimal number 1521 into octal.

Answer: | 2761 | ✓

The correct answer is: 2761

Response history

Step	Time	Action	State	Marks
1	16/03/23, 11:06	Started	Not yet answered	
2	16/03/23, 11:48	Saved: 2761	Answer saved	
3	**16/03/23, 12:59**	**Attempt finished**	**Correct**	**5.0**

Question **13**

Correct

Mark 1.0 out of 1.0

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

642371

Select one:

- ○ a.   Base-5
- ◉ b.   Base-8 ✔
- ○ c.   Base-6
- ○ d.   Base-7
- ○ e.   Base-9

The correct answers are: Base-7, Base-8

Response history

Step	Time	Action	State	Marks
[1](#)	16/03/23, 11:06	Started	Not yet answered	
[2](#)	16/03/23, 11:49	Saved: Base-8	Answer saved	
3	**16/03/23, 12:59**	**Attempt finished**	**Correct**	**1.0**

Question **14**

Correct

Mark 2.0 out of 2.0

Write the binary number 1110001011 in Hexadecimal(Base 16) and in Decimal(Base 10).

Use a comma to separate both your answers.

Answer: | 38B,907 | ✔

The correct answer is: 38B,907

Response history

Step	Time	Action	State	Marks
1	16/03/23, 11:06	Started	Not yet answered	
2	16/03/23, 11:53	Saved: 38B,907	Answer saved	
3	**16/03/23, 12:59**	**Attempt finished**	**Correct**	**2.0**

Question **15**

Correct

Mark 2.0 out of 2.0

What is the resulting value of the following addition in base-14:

DD+9A

Answer: | 199 | ✔

The correct answer is: 199

Response history

Step	Time	Action	State	Marks
1	16/03/23, 11:06	Started	Not yet answered	
2	16/03/23, 11:55	Saved: 199	Answer saved	
3	**16/03/23, 12:59**	**Attempt finished**	**Correct**	**2.0**

Question **16**

Correct

Mark 3.0 out of 3.0

Do the following subtraction in base-5:

4432-1234

Answer: | 3143 | ✔

The correct answer is: 3143

Response history

Step	Time	Action	State	Marks
1	16/03/23, 11:06	Started	Not yet answered	
2	16/03/23, 11:56	Saved: 3143	Answer saved	
3	**16/03/23, 12:59**	**Attempt finished**	**Correct**	**3.0**

Question **17**

Correct

Mark 5.0 out of 5.0

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

10101010 x 100

Answer: | 1010101000 | ✔

The correct answer is: 1010101000

Response history

Step	Time	Action	State	Marks
1	16/03/23, 11:06	Started	Not yet answered	
2	16/03/23, 11:59	Saved: 1010101000	Answer saved	
3	**16/03/23, 12:59**	**Attempt finished**	**Correct**	**5.0**

Question **18**

Correct

Mark 3.0 out of 3.0

What is the resulting value of the following addition in base-19:

AGD+97

Answer: B71 ✔

The correct answer is: B71

Response history

Step	Time	Action	State	Marks
1	16/03/23, 11:06	Started	Not yet answered	
2	16/03/23, 12:10	Saved: B71	Answer saved	
3	**16/03/23, 12:59**	**Attempt finished**	**Correct**	**3.0**

Question **19**

Correct

Mark 1.0 out of 1.0

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

99A

Select one:

○ a.   Base-12

○ b.   Base-9

○ c.   Base-8

○ d.   Base-10

◉ e.   Base-11 ✔

The correct answer is: Base-11

Response history

Step	Time	Action	State	Marks
1	16/03/23, 11:06	Started	Not yet answered	
2	16/03/23, 12:10	Saved: Base-11	Answer saved	
3	**16/03/23, 12:59**	**Attempt finished**	**Correct**	**1.0**

Question **20**

Correct

Mark 2.0 out of 2.0

Do the following sum in base-9:

8463+8888

Answer: | 18462 | ✔

The correct answer is: 18462

Response history

Step	Time	Action	State	Marks
1	16/03/23, 11:06	Started	Not yet answered	
2	16/03/23, 12:11	Saved: 18462	Answer saved	
3	**16/03/23, 12:59**	**Attempt finished**	**Correct**	**2.0**

Question **21**

Correct

Mark 2.0 out of 2.0

Convert the hexadecimal number AB to base-10.

Answer: | 171 | ✔

The correct answer is: 171

Response history

Step	Time	Action	State	Marks
1	16/03/23, 11:06	Started	Not yet answered	
2	16/03/23, 12:12	Saved: 171	Answer saved	
3	**16/03/23, 12:59**	**Attempt finished**	**Correct**	**2.0**

Question **22**

Correct

Mark 2.0 out of 2.0

Convert the binary number 100101 to Octal(base 8).

Answer: | 45 | ✔

The correct answer is: 45

Response history

Step	Time	Action	State	Marks
1	16/03/23, 11:06	Started	Not yet answered	
2	16/03/23, 12:12	Saved: 45	Answer saved	
3	**16/03/23, 12:59**	**Attempt finished**	**Correct**	**2.0**

Question **23**

Correct

Mark 1.0 out of 1.0

Which is the lowest base that '5197' could belong to?

Select one:

- i.   8
- ii.   C
- iii. B
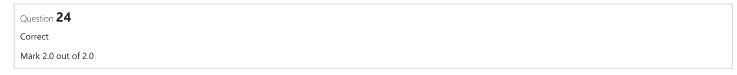- iv.   A ✔
- v.   9

Your answer is correct.

Every digit of a base-n number must lie between 0 and n-1.

The correct answer is:
A

Response history

Step	Time	Action	State	Marks
1	16/03/23, 11:06	Started	Not yet answered	
2	16/03/23, 12:13	Saved: A	Answer saved	
3	**16/03/23, 12:59**	**Attempt finished**	**Correct**	**1.0**

Question **24**

Correct

Mark 2.0 out of 2.0

What is the resulting value of the following addition in base-13:

ABB + A21

Answer: | 180C | ✔

The correct answer is: 180C

Response history

Step	Time	Action	State	Marks
1	16/03/23, 11:06	Started	Not yet answered	
2	16/03/23, 12:13	Saved: 180C	Answer saved	
3	**16/03/23, 12:59**	**Attempt finished**	**Correct**	**2.0**

Question **25**

Correct

Mark 3.0 out of 3.0

Do the following subtraction in Base-4:

3121-221

Answer: | 2300 | ✔

The correct answer is: 2300

Response history

Step	Time	Action	State	Marks
1	16/03/23, 11:06	Started	Not yet answered	
2	16/03/23, 12:14	Saved: 2300	Answer saved	
3	**16/03/23, 12:59**	**Attempt finished**	**Correct**	**3.0**

Question **26**

Correct

Mark 2.0 out of 2.0

Convert the base-13 value 15A to base-10.

Answer: 244   ✔

The correct answer is: 244

Response history

Step	Time	Action	State	Marks
1	16/03/23, 11:06	Started	Not yet answered	
2	16/03/23, 12:15	Saved: 244	Answer saved	
3	**16/03/23, 12:59**	**Attempt finished**	**Correct**	**2.0**

Question **27**

Correct

Mark 2.0 out of 2.0

Do the following sum in base-7:

643+125

Answer: 1101   ✔

The correct answer is: 1101

Response history

Step	Time	Action	State	Marks
1	16/03/23, 11:06	Started	Not yet answered	
2	16/03/23, 12:15	Saved: 1101	Answer saved	
3	**16/03/23, 12:59**	**Attempt finished**	**Correct**	**2.0**

Question **28**

Correct

Mark 2.0 out of 2.0

Do the following sum in base-6:

5432+4531

Answer: | 14403 | ✔

The correct answer is: 14403

Response history

Step	Time	Action	State	Marks
1	16/03/23, 11:06	Started	Not yet answered	
2	16/03/23, 12:16	Saved: 14403	Answer saved	
3	**16/03/23, 12:59**	**Attempt finished**	**Correct**	**2.0**

Question **29**

Correct

Mark 3.0 out of 3.0

Do the following subtraction in binary:

11011- 10101

Answer: | 110 | ✔

The correct answer is: 110

Response history

Step	Time	Action	State	Marks
1	16/03/23, 11:06	Started	Not yet answered	
2	16/03/23, 12:17	Saved: 110	Answer saved	
3	**16/03/23, 12:59**	**Attempt finished**	**Correct**	**3.0**

Question **30**

Correct

Mark 2.0 out of 2.0

Mbali has been invited to her first sleepover. Her mom drives her for 1011101km to and from the mall to buy some snacks, then she later drops her off at her friend's house which takes her an extra 11111km to get there.

(All the above numbers are in binary)

What's the total distance that she traveled in base 10?

Select one:

- i.   144 km
- ii.   124 km ✔
- iii. 217km
- iv.   134 km
- v.   104 km
- vi.   114 km

Your answer is correct.

1011101 + 11111 = 1111100

1111100 is 124 in base 10

Total distance = 124 km

The correct answer is:

124 km

Response history

Step	Time	Action	State	Marks
1	16/03/23, 11:06	Started	Not yet answered	
2	16/03/23, 12:17	Saved: 124 km	Answer saved	
3	**16/03/23, 12:59**	**Attempt finished**	**Correct**	**2.0**

Question **31**

Correct

Mark 3.0 out of 3.0

Do the following sum in base-3:

21211+1122

Answer: [100110]   ✔

The correct answer is: 100110

Response history

Step	Time	Action	State	Marks
1	16/03/23, 11:06	Started	Not yet answered	
2	16/03/23, 12:18	Saved: 100110	Answer saved	
3	**16/03/23, 12:59**	**Attempt finished**	**Correct**	**3.0**

Question **32**

Correct

Mark 1.0 out of 1.0

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

6431

Select one:

○ a.   Base-6

◉ b.   Base-7✔

○ c.   Base-5

○ d.   Base-9

○ e.   Base-8

The correct answer is: Base-7

Response history

Step	Time	Action	State	Marks
[1]	16/03/23, 11:06	Started	Not yet answered	
[2]	16/03/23, 12:18	Saved: Base-7	Answer saved	
3	**16/03/23, 12:59**	**Attempt finished**	**Correct**	**1.0**

Question **33**

Correct

Mark 5.0 out of 5.0

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

1111 x 1101

Answer: | 11000011 | ✔

The correct answer is: 11000011

Response history

Step	Time	Action	State	Marks
1	16/03/23, 11:06	Started	Not yet answered	
2	16/03/23, 12:19	Saved: 11000011	Answer saved	
3	**16/03/23, 12:59**	**Attempt finished**	**Correct**	**5.0**

Question **34**

Correct

Mark 3.0 out of 3.0

Do the following subtraction in Base-5:

4332-1234

Answer: | 3043 | ✔

The correct answer is: 3043

Response history

Step	Time	Action	State	Marks
1	16/03/23, 11:06	Started	Not yet answered	
2	16/03/23, 12:19	Saved: 3043	Answer saved	
3	**16/03/23, 12:59**	**Attempt finished**	**Correct**	**3.0**

Question **35**

Correct

Mark 3.0 out of 3.0

Do the following subtraction in Base-6:

44532-2314

Answer: | 42214 | ✔

The correct answer is: 42214

Response history

Step	Time	Action	State	Marks
1	16/03/23, 11:06	Started	Not yet answered	
2	16/03/23, 12:20	Saved: 42214	Answer saved	
3	**16/03/23, 12:59**	**Attempt finished**	**Correct**	**3.0**

Question **36**

Correct

Mark 1.0 out of 1.0

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

FF3

Select one:

○ a.   Base-16 ✔

○ b.   Base-14

○ c.   Base-13

○ d.   Base-15

○ e.   Base-12

The correct answer is: Base-16

Response history

Step	Time	Action	State	Marks
1	16/03/23, 11:06	Started	Not yet answered	
2	16/03/23, 12:20	Saved: Base-16	Answer saved	
3	**16/03/23, 12:59**	**Attempt finished**	**Correct**	**1.0**

Question **37**

Correct

Mark 5.0 out of 5.0

Convert the base-10 value **256** to base-3.

Answer: | 100111 | ✔

The correct answer is: 100111

Response history

Step	Time	Action	State	Marks
1	16/03/23, 11:06	Started	Not yet answered	
2	16/03/23, 12:20	Saved: 100111	Answer saved	
3	**16/03/23, 12:59**	**Attempt finished**	**Correct**	**5.0**

Question **38**

Correct

Mark 2.0 out of 2.0

Convert the binary number 001011101 to base-10.

Answer: | 93 | ✔

The correct answer is: 93

Response history

Step	Time	Action	State	Marks
1	16/03/23, 11:06	Started	Not yet answered	
2	16/03/23, 12:21	Saved: 93	Answer saved	
3	**16/03/23, 12:59**	**Attempt finished**	**Correct**	**2.0**

Question **39**

Correct

Mark 3.0 out of 3.0

What is the resulting value of the following subtraction in base-18?

C00-H3

Answer: | B0F |

✔

The correct answer is: B0F

Response history

Step	Time	Action	State	Marks
1	16/03/23, 11:06	Started	Not yet answered	
2	16/03/23, 12:21	Saved: B0F	Answer saved	
3	**16/03/23, 12:59**	**Attempt finished**	**Correct**	**3.0**

Question **40**

Correct

Mark 2.0 out of 2.0

What is the result of the following **octal** addition?

2345 + 7612

Answer: | 12157 |

✔

The correct answer is: 12157

Response history

Step	Time	Action	State	Marks
1	16/03/23, 11:06	Started	Not yet answered	
2	16/03/23, 12:22	Saved: 12157	Answer saved	
3	**16/03/23, 12:59**	**Attempt finished**	**Correct**	**2.0**

Question **41**

Correct

Mark 1.0 out of 1.0

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

20951

Select one:

- ○ a. Base-9
- ○ b. Base-12
- ○ c. Base-11
- ○ d. Base-8
- ◉ e. Base-10 ✔

The correct answer is: Base-10

Response history

Step	Time	Action	State	Marks
1	16/03/23, 11:06	Started	Not yet answered	
2	16/03/23, 12:22	Saved: Base-10	Answer saved	
3	**16/03/23, 12:59**	**Attempt finished**	**Correct**	**1.0**

Question **42**

Correct

Mark 1.0 out of 1.0

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

ABC

Select one:

- ○ a.   Base-11
- ○ b.   Base-12
- ● c.   Base-13 ✔
- ○ d.   Base-14
- ○ e.   Base-10

The correct answer is: Base-13

Response history

Step	Time	Action	State	Marks
1	16/03/23, 11:06	Started	Not yet answered	
2	16/03/23, 12:22	Saved: Base-13	Answer saved	
3	**16/03/23, 12:59**	**Attempt finished**	**Correct**	**1.0**

◄ 2. COMS1015A/COMS1019A Binary Numbers (COMPLETE)

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