0478 and 0984(9-1)
COMPUTER SCIENCE
TOPIC QUESTIONS SET-5
SMART EXAM RESOURCES
Unit 1.1 Number Systems

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1. The library has a website that customers can use to search for a book.

The website has a background colour with the hexadecimal colour code **#F92A10**

The colour code is stored in two 12-bit binary registers. [6]

Show how the colour code would be stored in the registers.

F92

A10

2. The IP address of a computer is stored as a set of four 8-bit binary numbers.

The network administrator converts each binary number into hexadecimal.

(a) Complete the table to show the hexadecimal equivalent of the binary IP address. The first number has already been converted.

Binary IP address

11000100	00010000	11111110	00001001

Hexadecimal

C4			

(b) Explain why the network administrator uses hexadecimal.

.....

.....

.....

.....[2]

3. Jane answers an examination question about computers and data correctly.

Six different words or numbers have been removed from her answer.

Complete the sentences in Jane's answer, using the list given.

Not all items in the list need to be used.

- 2
- 10
- 16
- analogue
- binary
- denary
- digital
- hexadecimal

As humans, we process.....data, but a computer cannot process this type of data. For a computer to be able to process data it needs to be converted to.....data.

As humans, we mostly use a ..... number system; this is a base..... number system. Computers use a.....number system; this is a base.....number system. [6]

4. Dheeraj identifies three hexadecimal numbers.
Write the denary number for each of the three hexadecimal numbers:

2A .....

101 .....

21E .....

[3]

Working Space

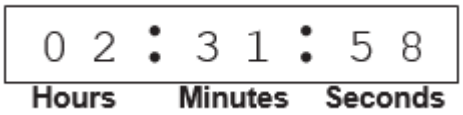
.....

.....

.....

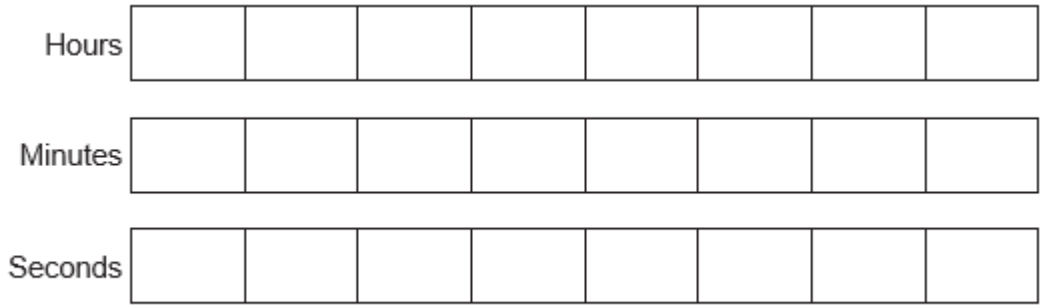
.....

5. A stopwatch uses six digits to display hours, minutes and seconds
The stopwatch is stopped at:



An 8-bit register is used to store each pair of digits.

(a) Write the 8-bit binary numbers that are currently stored for the **Hours**, **Minutes** and **Seconds**



[3]

(b) The stopwatch is started again and then stopped.

When the watch is stopped, the 8-bit binary registers show:

Hours	0	0	0	0	0	1	0	1
Minutes	0	0	0	1	1	0	1	0
Seconds	0	0	1	1	0	1	1	1

Write the denary values that will now be shown on the stopwatch

[3]

6. Jafar is using the Internet when he gets the message:

"D03, page is not available"

Jafar remembers that hexadecimal is often used to represent binary values in error codes. Convert the hexadecimal number in the error message into 12-bit binary

[3]