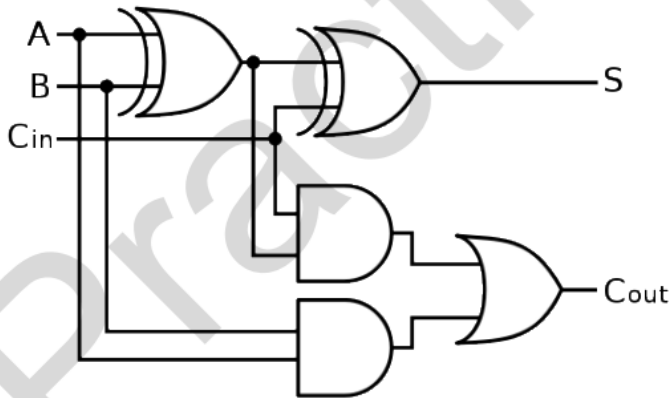


“3-a-day” A-Level Exam Practice Unit 1 (023)

Question 1

A set of logic gates are connected as below.



(i) Write a Boolean expression equivalent to S.

[1]

$S \equiv$

Question 2

(ii) Write a Boolean expression equivalent to C_{out} .

[2]

$C_{out} \equiv$

Question 3

A database stores information about songs on a music streaming service.

One of the tables called `Song` has the fields.

`Title`, `Artist`, `Genre`, `Length`

(a) Explain why none of these fields would be suitable as a primary key.

.....

.....

.....

.....

.....

[2]

The questions on this worksheet have been taken from the OCR A-Level Computer Science Practice Paper 1.1

Answer 1

$$S \equiv A \underline{\vee} B \underline{\vee} C_{in}$$

AO2.2

Accept XOR instead of $\underline{\vee}$

1

Accept \oplus instead of $\underline{\vee}$

Answer 2

$$C_{out} \equiv ((A \underline{\vee} B) \wedge C_{in}) \vee (A \wedge B)$$

AO2.2

Accept XOR instead of $\underline{\vee}$

2

Accept \oplus instead of $\underline{\vee}$

One mark for $((A \underline{\vee} B) \wedge C_{in})$

Accept AND instead of \wedge

One mark for $\vee (A \wedge B)$

Accept OR instead of \vee

Accept $+$ instead of \vee

Answer 3

- A primary key must have a unique value for every record
 - The values for all these fields could repeat.
- (1 per -)

AO1.1

(1)

AO1.2

(1)

2