

A level Electronics Written Examinations Components 1 and 2



Assessment Objectives

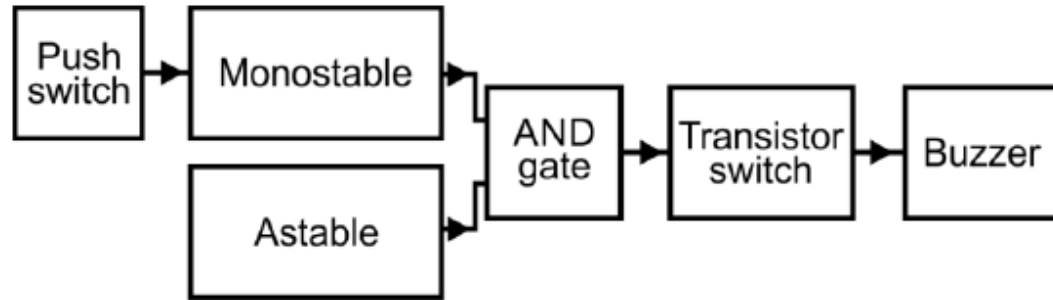
	Objective	Weighting
AO1	Demonstrate knowledge and understanding of the ideas, techniques and procedures of electronics	30%
AO2	Apply knowledge and understanding of the ideas, techniques and procedures of electronics	40%
AO3	Analyse problems and design, build, test and evaluate electronic systems to address identified needs	30%

Written examinations

The questions will include:

- Demonstration of knowledge and understanding of the ideas, techniques and procedures of electronics
- Applying knowledge and understanding of the ideas, techniques and procedures of electronics
- Analysing problems and designs, and evaluating electronic systems to address identified needs
- A minimum of 30% of marks are for mathematical skills per series
- Synopticity requirements between components
- One quality of extended response (QER) question per paper

2. The following alarm system sets off a buzzer when the monostable is triggered.



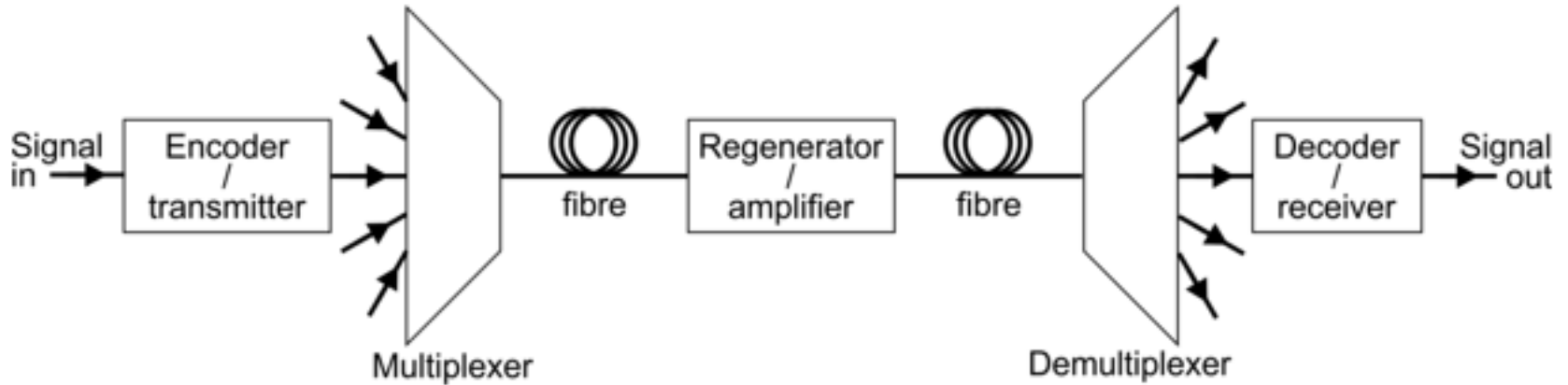
- The monostable output remains at logic 1 for 10 seconds after it is triggered.
- The astable has an equal mark-space ratio and a period of 2 seconds.

(a) The monostable is triggered. Describe the behaviour of the buzzer over the next 15 seconds. [2]

AO2

Drawing together
knowledge of logic and
timers across components

6. The block diagram shows a typical optical communication system.



(a) Two commonly used light sources for the optical signal are LEDs and laser diodes. Give two advantages of a laser diode compared to a LED. [2]

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New topic

AO1

AO1

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(d) A network engineer is designing a communications network for a university campus.

She has to decide between using multimode and monomode optical fibres for the communications link.

Evaluate the advantages and disadvantages of each for use in this system.
[6 QER]

AO1 & 3

QER