

9702 PHYSICS TOPIC QUESTIONS

TOPIC: PHYSICAL QUANTITIES AND UNITS

SUB-TOPIC: ERRORS AND UNCERTAINTIES

SUB-SUB-TOPIC: DIFFERENCE BETWEEN SYSTEMATIC AND RANDOM ERRORS

- 1 (a) Distinguish between systematic errors and random errors.

systematic errors

.....

random errors

..... [2]

Mark Scheme:

- (a) systematic: e.g. constant error (in all readings)
cannot be eliminated by averaging
error in measuring instrument B1
- random: e.g. readings scattered (equally) about true value
error due to observer
can be eliminated by averaging
(*only if averaging not included for systematic*) B1 [2]