# 19. Current of Electricity

19.1 Electric current

19.2 Potential difference

19.3 Resistance and resistivity

19.4 Sources of electromotive force

 (a) show an understanding that electric current is the rate of flow of charged particles.

(b) define charge and the coulomb.

(c) recall and solve problems using the equation Q = It.

(d) define potential difference and the volt.

(e) recall and solve problems using V = W/Q.

(f) recall and solve problems using P = VI, P = I 2R.

(g) define resistance and the ohm.

(h) recall and solve problems using V = IR.

(i) sketch and explain the I-V characteristics of a metallic conductor at constant temperature,

a semiconductor diode and a filament lamp.

(j) sketch the temperature characteristic of a thermistor. (Thermistors will be assumed to be

of the negative temperature coefficient type.)

(k) state Ohm's law.

(l) recall and solve problems using R =ρl/A.

(m) define e.m.f. in terms of the energy transferred by a source in driving unit charge round a

complete circuit.

(n) distinguish between e.m.f. and p.d in terms of energy considerations.

(o) show an understanding of the effects of the internal resistance of a source of e.m.f. on the

terminal potential difference and output power.

# Paper 1 questions

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# Paper 2 questions

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