2002 HIGHER SCHOOL CERTIFICATE EXAMINATION

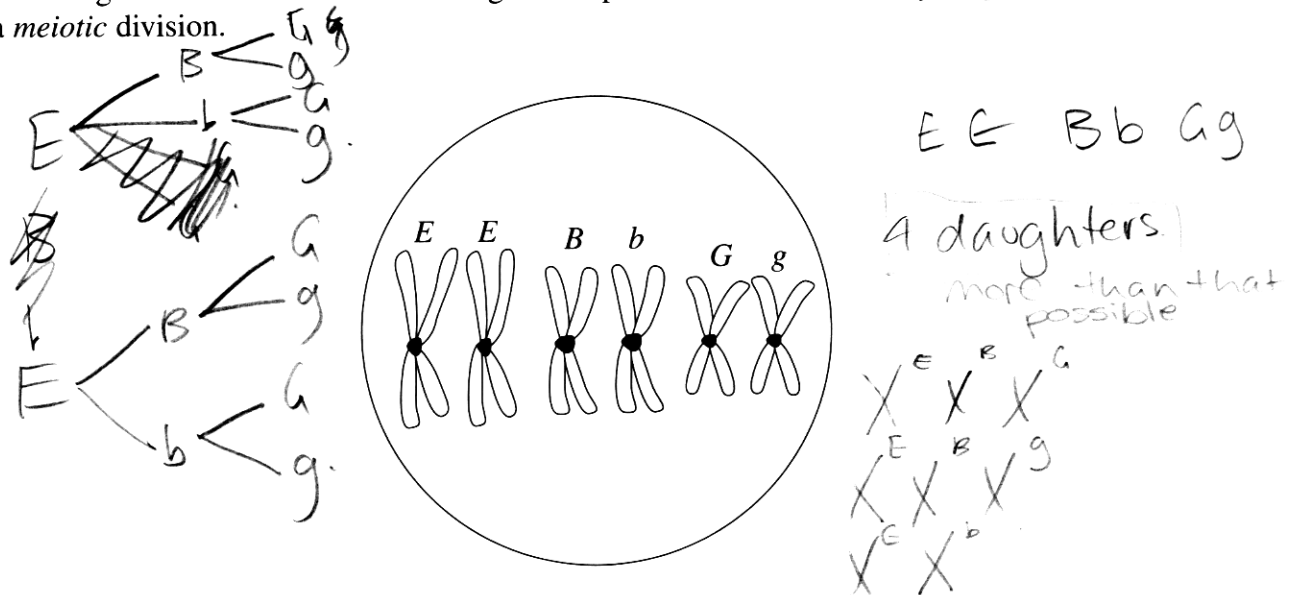# Biology

Section I – Part B (continued)

Marks

Question 22 (4 marks)

The diagram shows a cell containing three pairs of chromosomes just prior to   **4**
a *meiotic* division.

Assuming that random segregation occurs, construct a table that lists the possible
genotypes that could be produced and states the expected frequency for each
genotype.   Genotype table.

	Bg	BG	bg	bG
E	EBg	EBG	Ebg	EbG
E	EBg	EBG	Ebg	EbG

expected frequency,

EBg — $\frac{1}{4}$

EBG — $\frac{1}{4}$

Ebg — $\frac{1}{4}$

EbG — $\frac{1}{4}$

EE Bb Gg

4 daughters.
more than that
possible

– 17 –

16