

# APPROVED SCIENTIFIC CALCULATORS FOR THE 2019 HIGHER SCHOOL CERTIFICATE EXAMINATIONS

Approved June 2019.

The scientific calculators listed below are approved for use in the Higher School Certificate examinations. The examinations in which scientific calculators are permitted are listed in the [exam equipment list](#).

**New specifications for approved calculators will apply from 2020.**

The Casio fx-100AU and Casio fx-100AU PLUS models will not be approved for use in NSW HSC examinations after 2019.

Approved calculators for the 2019 HSC examinations	
Brand	Model
ABACUS	SX-II MATRIX a
ABACUS	SX-II MATRIX n
CANON	F717SGA
CASIO	fx-82AU
CASIO	fx-82AU PLUS
CASIO	fx-82AU PLUS II
CASIO	fx-100AU
CASIO	fx-100AU PLUS
HEWL-PACK	HP8S
HEWL-PACK	HP10S
Brand	Model
HEWL-PACK	HP10S+
JASTEK	JasCS1
JASTEK	JasCS EVO
RSB	FB 350MS
SCHOLAR	DS-82MS
SCHOLAR	KD-350MS
SCHOLAR	D1-5
SCHOLAR	SC-150MX
SCHOLAR	SC-250MX
Brand	Model
SHARP	EL-531THWH
SHARP	EL-531THGR
SHARP	EL-531XHBWH
SHARP	EL-531XHBPK

Instruction booklets or cards (eg reference cards) on the operation of calculators are NOT permitted in the examination room. Candidates are expected to familiarise themselves with the calculator's operation beforehand.

Calculators must have been switched off for entry into the examination room.

## Features of approved calculators and features that are not permitted

### Features of approved calculators

In addition to the features of a basic (four operation) calculator, a scientific calculator typically includes the following:

- fraction keys (for fraction arithmetic)
- a percentage key
- a  $\pi$  key
- memory access keys
- an EXP key and a sign change (+/-) key
- square ( $x^2$ ) and square root ( $\sqrt{\phantom{x}}$ ) keys
- logarithm and exponential keys (base 10 and base e)
- a power key ( $a^x$ ,  $x^y$  or similar)
- trigonometrical function keys with an INVERSE key for the inverse functions
- a capacity to work in both degree and radian mode
- a reciprocal key ( $1/x$ )
- permutation and/or combination keys ( ${}^n P_r$ ,  ${}^n C_r$ )

- cube and/or cube root keys
- parentheses keys
- statistical operations such as mean and standard deviation
- metric or currency conversion

### Features that are NOT permitted include:

- programmable (any calculator that can have a sequence of operations stored and then executed automatically is considered programmable and hence not allowed)
- capable of storing alphanumeric data input by a user (this does not exclude calculators with memories that are used to store intermediate numerical results obtained during calculations and required later)
- capable of storing, manipulating or graphing functions entered in symbolic form (this includes calculators with a graphic display capacity)
- capable of performing 'hard-wired' numerical routines for operations such as differentiation and definite integration, and the solution of equations
- capable of performing 'hard-wired' symbolic manipulations such as addition of algebraic expressions, binomial expansion and symbolic differentiation.
- 'soft' or hard-wired QWERTY keyboards
- capable of expressing surds in their simplest form