



## SINGAPORE EXAMINATIONS AND ASSESSMENT BOARD

298 Jalan Bukit Ho Swee, Singapore 169565

<http://www.seab.gov.sg>

### GUIDELINES ON THE USE OF ELECTRONIC CALCULATORS IN NATIONAL EXAMINATIONS

- The calculators used in the national examinations should have the following minimum features:
  - four arithmetic operations (+, −, ×, ÷) including the order of operations and use of brackets;
  - fractional function which retains the fraction in the form 'a/b' and 'a b/c';
  - square root ( $\sqrt{\quad}$ ) and cube root ( $\sqrt[3]{\quad}$ ) functions; and
  - value of Pi ( $\pi$ ).
- The following guidelines are to be adhered to in the use of calculators in national examinations.
  - The calculator must be silent, with a visual display only.
  - The working condition of the calculator (including the power supply) is the responsibility of the candidates and any fault in the calculator will not be considered as justification for special consideration.
  - Candidates are not allowed to share calculators during the examination.
  - No calculators with an external storage function which can allow users to input and store data via external storage media, e.g. cards, tapes, and plug-in modules, are allowed.
  - No calculators with wireless communication capability with other machines, e.g. infra-red communication capability, are allowed.
  - Any enclosed instruction leaflets containing any mathematical formula, conversion table or instructions are strictly prohibited, and must not be taken into the examination venue. Any such information on the calculator that cannot be removed must be securely covered.
  - The original model number and brand must be indicated clearly on the calculator for verification purposes.
  - No calculators with capabilities for storing and displaying verbal information are allowed.
  - Information (including text or formulae) stored in the calculator's memory must be cleared before the examination.

#### Additional guidelines for scientific calculators

- No programmable calculators are allowed.
  - No calculators with permanent features of a programmed kind are allowed, e.g. calculators capable of numerical integration and/or numerical differentiation.
- Graphing calculators are allowed for use ONLY in subjects examined at H1, H2 and H3 Levels of the GCE A-Level Curriculum. Candidates are to note the following:
    - It is the candidates' responsibility to clear any information and/or programs stored in the graphing calculators before the examination.
    - No prepared programs may be taken into the examination room. Information (including text or formulae) and/or programs stored in the calculator's memory must be cleared before the examination.
    - No calculators with built-in symbolic algebra manipulations, symbolic differentiation or integration are allowed.
  - The use of any calculator with unacceptable features or for retrieval of information/programs during the examinations is an infringement of the regulations.
  - All previously approved calculators are allowed in the national examinations. The Singapore Examinations and Assessment Board reserves the right to withdraw the approval for these calculators in the examinations when there is a change in policy, syllabus or examination format.
  - The list of approved calculator models recommended for use in the national examinations is in Annex A.



**LIST OF APPROVED SCIENTIFIC CALCULATORS<sup>1</sup>**

The following scientific calculator models are suitable for:

- PSLE Mathematics and Foundation Mathematics Examinations
- GCE N(T), N(A), O and A-Level Examinations

S/N	Calculator Brand	Calculator Model	Approved Period
1	CASIO	FX 82MS	2003 – 2021
2		FX 85MS	2003 – 2021
3		FX 95MS	2003 – 2021
4		FX 96SG Plus	2013 – 2025
5		FX 97SG X	2018 – 2022
6		FX 350MS	2003 – 2021
7	CANON	F-960SG	2017 – 2021
8	SHARP	EL W531S	2010 – 2023
9		EL W531S II	2018 – 2022
10		EL W531S II Silver Edition	2021 – 2025
11		EL W531XM	2014 – 2023
12		EL 533X	2013 – 2024

**LIST OF APPROVED GRAPHING CALCULATORS<sup>1</sup>**

The following graphing calculator models are approved for use **ONLY** in subjects examined at H1, H2 and H3 Levels of the A-Level curriculum.

*Note: All graphing calculators must be reset prior to any examination.*

S/N	Calculator Brand	Calculator Model	Operating System	Approved Period <sup>1</sup>
1	CASIO	FX-9860GIIIs	OS 2.04 OS 2.09	2014 – 2022
2	TEXAS INSTRUMENTS	TI-84 Plus	OS 2.43	2006 – 2024
3		TI-84 Plus Silver Edition	OS 2.53MP	2006 – 2024
4		TI-84 Plus Pocket SE	OS 2.55MP	2012 – 2021
5		TI-84 Plus C Silver Edition	OS 4.0 OS 4.2	2015 – 2023
6		TI-84 Plus CE	OS 5.0.1 OS 5.1.5 OS 5.2.0 OS 5.2.2 OS 5.3.0 OS 5.3.1 OS 5.4.0 OS 5.6.0	2017 – 2024

<sup>1</sup> The calculator models on the list are in production and easily available for purchase. If there is no application for extension of the approved period for the calculator model, it will be moved to the list of previously approved calculators upon expiry. The onus is on the vendors to submit and apply for extension of the approved period if their models are still in production and easily available for purchase.

**PREVIOUSLY APPROVED CALCULATORS THAT STILL CAN BE USED<sup>2</sup>****SCIENTIFIC CALCULATORS****Brand : CASIO**

Previously Approved Models	FX 82AU	FX 82C	FX 82D	FX 82L	FX 82LB	FX 82SUPER
	FX 82SX	FX 82TL	FX 82W	FX 85N	FX 85S	FX 85V
	FX 85VH	FX 95 SG Plus	FX 100C	FX 100D	FX 100S	FX 100V
	FX 100Z	FX 115D	FX 115N	FX 115S	FX 115V	FX 135
	FX 350C	FX 350D	FX 350HA	FX 350HB	FX 350TL	FX 350TLG
	FX 350W	FX D400	FX 451M	FX 500MS	FX 570AD	FX 570AV
	FX 570CD	FX 570CV	FX 570S	FX 570Z	FX 820MS	FX 901
	FX 911S	FX 911SA	FX 911W	FX 911Z	FX 991D	FX 991N
	FX 991S	FX 991V	FX 992S	FX 992V	FX 992VB	

**Brand : CANON**

Previously Approved Models	F 200	F 401	F 402	F 500	F 501	F 502
	F 601	F 602	F 604	F 612	F 715S	F 720

**Brand : SHARP**

Previously Approved Models	EL 506L	EL 509G	EL 509L	EL 509MS	EL 509R	EL 509V
	EL 509VM	EL 509W	EL 509WM	EL 509WS	EL 509X	EL 510R
	EL 520G	EL 520L	EL 531GH	EL 531LH	EL 531P	EL 531RH
	EL 531V	EL 531VB	EL 531VH	EL W531M	EL 546G	EL 546L
	EL 546LV	EL 546VA	EL 553	EL 556G	EL 556L	

**Brand : TEXAS INSTRUMENTS**

Previously Approved Models	BA II PLUS	BA REAL ESTATE	BA 35 SOLAR	TI 25 STAT	TI 30X	TI 30XA
	TI 30XIIB	TI 30XIIS	TI 30 CHALLENGER		TI 30XSOLAR	TI 32 EXPLORER PLUS
	TI 34	TI 34II	TI 35X	TI 36XSOLAR		

**Brand : HEWLETT PACKARD**

Previously Approved Models	HP 6S	HP 6S SOLAR		HP 8S	HP 9S	HP 10B
	HP 10S	HP 10S+	HP 14B			

**Brand : AURORA**

Previously Approved Models	SC 110	SC 120	SC 150	SC 170	SC 200	SC 210
	SC 260	SC 500	SC 550			

<sup>2</sup> All previously approved calculator models, including those that no longer appear on the current approved list, can continue to be used for all national examinations unless there is a change in policy, syllabus or examination format. Under any of these situations, the Singapore Examinations and Assessment Board (SEAB) may withdraw the approval for use of these calculators in the examinations.

**Brand : FIAMO**

Previously Approved Models	SC 6	SC 20
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**Brand : HOSEKI**

Previously Approved Models	H 1030	H 1031
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**Brand : HUBBLE COMPUTING**

Previously Approved Models	SC 10B	SC 10C
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**Brand : KARCE**

Previously Approved Models	KC107	KC108	KC109	KC S187	KC S3500
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**GRAPHING CALCULATORS**

The following graphing calculator models are approved for use ONLY in subjected examined at H1, H2 and H3 Levels of the A-Level curriculum.

*Note: All graphing calculators must be reset prior to any examination.*

**Brand : CASIO**

Previously Approved Models	FX 9860G Slim	CFX 9850GC PLUS	FX 9860G
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**Brand : TEXAS INSTRUMENTS**

Previously Approved Models	TI-83 Plus
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<sup>2</sup> All previously approved calculator models, including those that no longer appear on the current approved list, can continue to be used for all national examinations unless there is a change in policy, syllabus or examination format. Under any of these situations, the Singapore Examinations and Assessment Board (SEAB) may withdraw the approval for use of these calculators in the examinations.