<u>General Information on Application for Approval of Calculators for Use in National Examinations</u>

Distributors/vendors who wish to obtain approval for a scientific or graphic calculator for use in national examinations are to submit the completed application form (Annex A) and <u>TWO</u> sets of the calculator with the user manuals in English to the Singapore Examinations and Assessment Board.

1. Fees

Scientific calculator: \$267.50 (inclusive of 7% GST) Graphic calculator: \$481.50 (inclusive of 7% GST)

The fee is valid for this year and is subject to change and the prevailing GST rate. All payments are non-refundable.

2. Evaluation Criteria

General criteria for all calculators

The calculator must:

(a) come only with a visual display. The device should not have any audio or speaker output.

The calculator must not:

- (b) have 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.
- (c) have remote communication capability with other machines, e.g. infra-red communication capability.
- (d) have any capability for storing and displaying visual and verbal information.

Additional criteria for graphic calculators

The calculator must not:

- (e) have built-in symbolic algebra manipulations.
- (f) be capable of symbolic differentiation and integration.

Additional criteria for scientific calculators

The calculator must:

- (g) have the four arithmetic operations $(+, -, \times, \div)$ including the order of operations and use of brackets.
- (h) have a fractional function which retains the fraction in the form 'a/b' and 'a b/c'.
- (i) have the square root ($\sqrt{}$) and cube root ($\sqrt[3]{}$) functions.
- (j) be able to give the value of Pi (π) .

The calculator must <u>not</u>:

- (i) be programmable.
- (k) have any permanent features of a programmed kind, e.g. numerical integration calculations; numerical derivative calculations; matrix calculations; formula memory; table function; irrational number form.
- (I) be able to display graphical representation of functions or data, e.g. calculators with data banks or graphic displays.

3. Validity Period

SEAB updates the list of approved calculators yearly in November / December.

Approval for use in national examinations is valid only for <u>5 years for a specific model</u> starting from the examination year following the year of application.

Applications should be submitted before 1st August to ensure that the processing can be done in time for the yearly update of the list of approved calculators.

Vendors are to write in to request any extension to the validity period <u>4 months</u> before the expiry date.

4. Obligations of Vendors

Approval given is subject to the following conditions:

- (a) no modification is to be made to the approved calculator;
- (b) no formulae or instruction is to be printed on any part of the approved calculator;
- (c) the approved calculators can be <u>easily</u> purchased in shops in Singapore;
- (d) contact information (phone and postal address) given to SEAB is up-to-date and vendors shall respond to any queries from SEAB within 2 weeks.

5. Withdrawal of approval

Failure to comply with the above-mentioned obligations may result in withdrawal of the approval. SEAB may also withdraw the approval if there is a change in the policy, syllabus or examination format.

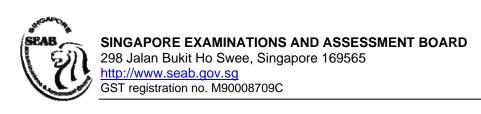
6. Application Form

Send in your completed application form (Annex A) together with <u>two</u> sets of the calculator and any additional information to support the application as well as payment (in cheque or through direct credit) to:

Singapore Examinations and Assessment Board Blk A, Assessment and Research Division (Admin Unit) 298 Jalan Bukit Ho Swee Singapore 169565 Attention: Ms Norhuda Jumat

Vendors will be informed of the outcome of their application before the end of November.

You may contact Ms Norhuda Jumat at 6377 7657 or email her at Norhuda_Jumat@seab.gov.sg for further enquiries.



Signature and Date

APPLICATION FOR AP	PROVAL OF	CALCULATOR	RS FOR USE IN NATIONAL	EXAMINATION	S	
 An applicant will ne 	ed the releva	nt company info	rmation and payment mode	to complete this	form	
■ The estimated time to complete the form is 20 minutes						
 Please read the Ge 	neral Informa	ntion on Applicat	ion for Approval of Calculato	ors for Use in Na	tional	
Examinations before	e submitting t	his application				
4. Contact Details						
1 Contact Details Company's Name:			Contact Person :			
Company's Address:			Contact Number :			
			Fax Number :			
Singa	apore ()	Email Address :			
2 Details of Calculator	•					
Brand/Model of Calculator +		Examination Level	Distributor/Vendor	1 st year of production	Type Please tick (✓)	
					☐ Scientific	
					Calculator	
					☐ Graphic	
					Calculator	
+ If there is any additional in	nformation to su	upport this applica	l tion, please attach it with this ap	plication.		
3 Payment						
Type Amoun		Please tick (✓) as appropriate.				
	(with 7% GST)	☐ Cheque num	nber			
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Scientific Calculator	S267.50	(DBS/POSB/OCBC/UOB etc)				
		OR □ Direct credit				
Graphic Calculator	\$481.50					
			to:	at Daniel		
			Singapore Examinations and Assessment Board DBS Bank Account No.: 003 - 901079 - 6			
(The fee is valid for this y	ear and is su		and the prevailing GST rate			
		FOR OFFICIA	L USE ONLY			
		This is to acknowledge receipt of the above payment and calculators				
		Reference No.:				
Company's Stamp		Name & designation:				
		Date:				