



2015 Computing

Intermediate 2

Finalised Marking Instructions

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Part One: General Marking Principles for: Computing Intermediate 2

This information is provided to help you understand the general principles you must apply when marking candidate responses to questions in this Paper. These principles must be read in conjunction with the specific Marking Instructions for each question.

- (a)** Marks for each candidate response must always be assigned in line with these general marking principles and the specific Marking Instructions for the relevant question. If a specific candidate response does not seem to be covered by either the principles or detailed Marking Instructions, and you are uncertain how to assess it, you must seek guidance from your Team Leader/Principal Assessor.
- (b)** Marking should always be positive ie, marks should be awarded for what is correct and not deducted for errors or omissions.

GENERAL MARKING ADVICE: Computing Intermediate 2

The marking schemes are written to assist in determining the “minimal acceptable answer” rather than listing every possible correct and incorrect answer. The following notes are offered to support Markers in making judgements on candidates’ evidence, and apply to marking both end of unit assessments and course assessments.

Part Two: Marking Instructions for each Question

Section I

Question		Expected Answer(s)	Max Mark	Additional Guidance
1	(a)	Byte	1 KU	
1	(b)	Gigabyte (Gb)	1 KU	
2		19	1 PS	
3		Floppy disks do not have enough storage capacity	1 PS	
4		<ul style="list-style-type: none"> • File • Print • Mail • Web • Application • CD-Rom <p style="text-align: center;">(Any one, 1 mark)</p>	1 KU	
5		<ul style="list-style-type: none"> • Computer has been infected with a virus • Over heating 	1 PS	
6		<ul style="list-style-type: none"> • sharing peripherals • communication between computers • data sharing • application sharing with licence <p style="text-align: center;">(Any one, 1 mark)</p>	1 KU	
7		A register	1 KU	
8		0 100	2 PS	

Question			Expected Answer(s)	Max Mark	Additional Guidance
9			<ul style="list-style-type: none"> • meaningful variable names • internal comments • spacing • procedures (modulivity) • indentations <p style="text-align: right;">(Any one, 1 mark)</p>	1 KU	
10			<ul style="list-style-type: none"> • easier for humans to understand • less errors made <p style="text-align: right;">(Any one, 1 mark)</p>	1 KU	
11			A loop completely inside another loop	1 KU	
12			Only allows acceptable input to the program	1 KU	
13			Analysis	1 KU	

[END OF SECTION I]

Section II

Question		Expected Answer(s)	Max Mark	Additional Guidance
14	(a)	<ul style="list-style-type: none"> Object – text; operation – font, style of text, size of text changed Object – image of coffee cup; operation – copied, pasted, scaled Object – image of coffee bean; copied, pasted, scaled, flipped, rotated <p>Object (1 mark) Operation (1 mark)</p>	2 PS	
14	(b)	<ul style="list-style-type: none"> Each pixel is stored as either a 1 (black) or 0 (white) or vice-versa <p>(1 mark)</p>	1 KU	
14	(c) (i)	<ul style="list-style-type: none"> totalcredits:= totalcredits+1; (2 marks) assignment (1 mark) increment (1 mark) 	2 PS	
14	(c) (ii)	Integer	1 PS	
14	(c) (iii)	totalcredits >8 (1 mark) AND (1 mark) day NOT Sunday (1 mark)	3 PS	
14	(d)	<ul style="list-style-type: none"> Mailing list Distribution list Groups <p>(Any one, 1 mark)</p>	1 PS	
15	(a)	The file can be opened by a number of different applications packages	1 PS	

Question			Expected Answer(s)	Max Mark	Additional Guidance
15	(b)		<ul style="list-style-type: none"> • Detects viruses • Removes viruses <p style="text-align: right;">(Any one, 1 mark)</p>	1 KU	
15	(c)	(i)	The clock speed of the processor (ticks 3.3 billion times per second)	1 KU	No user interface
15	(c)	(ii)	<ul style="list-style-type: none"> • File management • Memory management • Error reporting • Controlling peripherals <p style="text-align: right;">(Any one, 1 mark)</p>	1 KU	
15	(c)	(iii)	RAM is not permanent but Backing storage is used to store data permanently (Any one, 1 mark)	1 KU	
15	(d)		Data Protection Act	1 KU	
15	(e)	(i)	Structure diagram	1 KU	
15	(e)	(ii)	<ul style="list-style-type: none"> • Flow chart • Pseudocode <p style="text-align: right;">(Any one, 1 mark)</p>	1 KU	
15	(f)		The mistakes in the program code would be reported to the students as the program is being developed.	1 PS	
15	(g)		Edit/make changes to the program code after it has been completed	1 PS	

Question			Expected Answer(s)	Max Mark	Additional Guidance
16	(a)		The program code must be repeated 20 times, once for each lap	1 PS	
16	(b)		<ul style="list-style-type: none"> Find Minimum Find Min <p style="text-align: right;">(Any one, 1 mark)</p>	1 PS	
16	(c)		<ul style="list-style-type: none"> Floating point representation (1 mark) using Mantissa and Exponent (1 mark) 	2 PS	
16	(d)		Array	1 PS	
16	(e)		<ul style="list-style-type: none"> Built-in (calculations) A calculation that the software already knows how to carry out <p style="text-align: right;">(Any one, 1 mark)</p>	1 KU	
16	(f)	(i)	Allows communication between the two devices	1 PS	
16	(f)	(ii)	<ul style="list-style-type: none"> CD-R CD-RW DVD-R DVD-RW Blu-ray-R Blu-ray-RW <p style="text-align: right;">(Any one, 1 mark)</p>	1 PS	
16	(g)		Testing	1 PS	
16	(h)		Technical Guide	1 KU	

[END OF SECTION II]

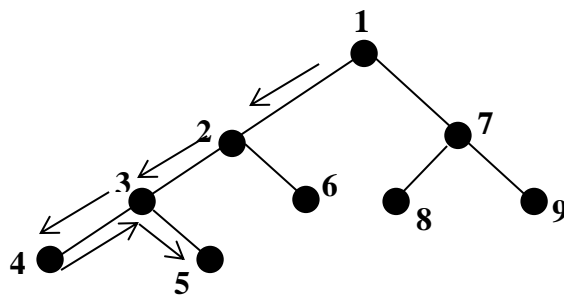
Section III

Part A – Artificial Intelligence

Question			Expected Answer(s)	Max Mark	Additional Guidance
17	(a)	(i)	<ul style="list-style-type: none"> • Noughts and crosses • Chess • Draughts <p style="text-align: right;">(Any one, 1 mark)</p>	1 KU	
17	(a)	(ii)	<ul style="list-style-type: none"> • The games can learn from mistakes • Solve problems <p style="text-align: right;">(Any one, 1 mark)</p>	1 PS	
17	(a)	(iii)	Copyright, Design and Patents Act	1 PS	
17	(b)		<ul style="list-style-type: none"> • User communicates with an unseen respondent (1 mark) • If the user cannot tell if it is a computer or a person then it is said to be intelligent (1 mark) 	2 KU	
17	(c)	(i)	<ul style="list-style-type: none"> • Expertise on healthy eating and exercise always available • Combines expertise of several experts eg nutritionists • Less chance of errors • Advice given to the users is consistent • Advice on healthy eating and exercise is available to many different users at the same time • Not biased <p style="text-align: right;">(Any two, 2 marks)</p>	2 KU	
17	(c)	(ii)	Who is responsible when advice given is incorrect?	1 PS	

Question			Expected Answer(s)	Max Mark	Additional Guidance
18	(a)	(i)	<ul style="list-style-type: none"> • Robot doesn't need humans to make decisions • Robot is able to adapt to new situations • Robot is able to learn from mistakes <p style="text-align: right;">(Any one, 1 mark)</p>	1 PS	
18	(a)	(ii)	<ul style="list-style-type: none"> • Smells • Temperature/heat • Vision • Motion <p style="text-align: right;">(Any one, 1 mark)</p>	1 PS	
18	(b)		Vision System	1 PS	
18	(c)	(i)	Train software to recognise voice	1 KU	
18	(c)	(ii)	<ul style="list-style-type: none"> • Accents • Background noise • Sore throat/cold <p style="text-align: right;">(Any one, 1 mark)</p>	1 KU	
18	(d)		Artificial neural systems are able to process complex problems and spot patterns	1 PS	
19	(a)	(i)	<ul style="list-style-type: none"> • No • False <p style="text-align: right;">(Any one, 1 mark)</p>	1 PS	
19	(a)	(ii)	<ul style="list-style-type: none"> • X = runsaver • runsaver <p style="text-align: right;">(Any one, 1 mark)</p>	1 PS	

Question			Expected Answer(s)	Max Mark	Additional Guidance
19	(b)		Match at line 10 Subgoal 1 rating (X,Y) Match at line 6 X=eatme, Y=4 (1 mark) Subgoal 2 rating(4>7) Subgoal fails (1 mark) Backtrack to subgoal rating (X,Y) Match at line 7 X=runsaver, Y=8 (1 mark) Subgoal 2 rating (8>7) Subgoal succeeds X=runsaver (1 mark)	4 PS	
19	(c)	(i)	is_a(news247, newsapp) (1 mark) rating(news247, 8) (1 mark)	2 PS	
19	(c)	(ii)	Maintenance	1 PS	
19	(d)		search keeps extending down the left hand node downwards until it reaches a solution (1 mark) or backtracks to an earlier point (1 mark)	2 KU	



[END OF SECTION III – PART A – ARTIFICIAL INTELLIGENCE]

Section III

Part B – Computer Networking

Question			Expected Answer(s)	Max Mark	Additional Guidance
20	(a)		To connect to the Internet	1 KU	
20	(b)	(i)	<ul style="list-style-type: none"> • Broadband • Fibre Optic <p style="text-align: right;">(Any one, 1 mark)</p>	1 KU	
20	(b)	(ii)	Faster data transmission	1 PS	
20	(c)		Given out his password (1 mark) There is no subject (1 mark)	2 PS	
20	(d)		<ul style="list-style-type: none"> • Webcam • Microphone • Digital camera • Digital Video camera <p style="text-align: right;">(Any one, 1 mark)</p>	1 PS	
20	(e)		<ul style="list-style-type: none"> • Search engine • Hyperlink from another website <p style="text-align: right;">(Any one, 1 mark)</p>	1 PS	
21	(a)		To navigate between web pages	1 KU	
21	(b)		Web browser	1 KU	
21	(c)		The domain name was owned by another company	1 PS	

Question			Expected Answer(s)	Max Mark	Additional Guidance
21	(d)		Use encryption	1 PS	
21	(e)	(i)	Regulation of Investigatory Powers Act	1 PS	
21	(e)	(ii)	<ul style="list-style-type: none"> • encryption keys are required to be released • houses, cars etc can be bugged • people can be followed • use of CCTV <p style="text-align: right;">(Any one, 1 mark)</p>	1 KU	
21	(f)		<ul style="list-style-type: none"> • If broadcast use used then the transmission would be available to all devices. • Less secure <p style="text-align: right;">(Any one, 1 mark)</p>	1 PS	
21	(g)		<ul style="list-style-type: none"> • Wireless Personal Network • WPAN • Bluetooth <p style="text-align: right;">(Any one, 1 mark)</p>	1 KU	
22	(a)		Database	1 PS	
22	(b)	(i)	A company that uses the Internet to conduct business	1 KU	
22	(b)	(ii)	<ul style="list-style-type: none"> • Advertising • Online sales • Online billing • Contact (communication) • Online meter readings <p style="text-align: right;">(Any one, 1 mark)</p>	1 PS	

Question			Expected Answer(s)	Max Mark	Additional Guidance
22	(b)	(iii)	<ul style="list-style-type: none"> Wider variety of goods/business potentially cheaper goods no need to travel to shop no need to wait in queues <p>not open 24/7, as in question</p> <p>(Any one, 1 mark)</p>	1 PS	
22	(c)		<ul style="list-style-type: none"> To log onto the network (as an authorised user) To prevent unauthorised access 	1 KU	
22	(d)		<p>Add social networking (the sites) (1 mark)</p> <p>to the filtering software list (1 mark)</p>	2 PS	
22	(e)		<ul style="list-style-type: none"> copies of data made on a regular basis kept in a separate place <p>(Any two, 2 marks)</p>	2 PS	
22	(f)		<ul style="list-style-type: none"> router has failed server has failed telecommunications channel has failed <p>(Any one, 1 mark)</p>	1 PS	

[END OF SECTION III – PART B – COMPUTER NETWORKING]

Part C – Multimedia Technology

Question			Expected Answer(s)	Max Mark	Additional Guidance
23	(a)	(i)	Graphic can be rescaled (resized) without pixelating	1 KU	
23	(a)	(ii)	<ul style="list-style-type: none"> • Objects are editable • Layers can be used <p style="text-align: right;">(Any one, 1 mark)</p>	1 KU	
23	(a)	(iii)	SVG	1 KU	
23	(b)		Graphics card	1 KU	
23	(c)	(i)	<ul style="list-style-type: none"> • VRML • WML <p style="text-align: right;">(Any one, 1 mark)</p>	1 KU	
23	(c)	(ii)	<ul style="list-style-type: none"> • More difficult to edit • Larger file size as more attributes are added <p style="text-align: right;">(Any one, 1 mark)</p>	1 PS	
23	(d)		<ul style="list-style-type: none"> • User doesn't have to remember complex instructions • One key press can carry out many commands <p style="text-align: right;">(Any one, 1 mark)</p>	1 PS	
24	(a)		Can edit to pixel level	1 PS	

Question			Expected Answer(s)	Max Mark	Additional Guidance
24	(b)	(i)	<ul style="list-style-type: none"> • JPEG • PNG <p>Not gif as unsuitable for high quality photographs</p> <p>(Any one, 1 mark)</p>	1 KU	
24	(b)	(ii)	Compression is used	1 PS	
24	(c)		<ul style="list-style-type: none"> • Reduce the colour bit depth • Reduce resolution <p>(Any one, 1 mark)</p>	1 PS	
24	(d)	(i)	Smaller file size	1 PS	
24	(d)	(ii)	Lag in recording, so jerky motion	1 PS	
24	(e)		<ul style="list-style-type: none"> • MP4 • AVI <p>(Any one, 1 mark)</p>	1 PS	
24	(f)	(i)	Content can be put into templates etc so less development time required	1 PS	
24	(f)	(ii)	<ul style="list-style-type: none"> • coding expertise required and the photographer may be a novice • the photographer can't view the effect of the change as it happens • it's not WYSIWYG <p>(Any one, 1 mark)</p>	1 PS	
24	(g)		<ul style="list-style-type: none"> • No need to download photos or videos from website • Instant access to photos and videos on site • Customers can edit etc own photos and videos and hence save costs (photographer not paid to do so) <p>(Any one, 1 mark)</p>	1 PS	

Question			Expected Answer(s)	Max Mark	Additional Guidance
25	(a)		<ul style="list-style-type: none"> • Microphone • Sound card <p style="text-align: right;">(Any one, 1 mark)</p>	1 PS	
25	(b)		Compression is used so smaller file size	1 PS	
25	(c)		Volume is decreasing	1 PS	
25	(d)	(i)	<ul style="list-style-type: none"> • Instrument • Pitch • Volume • Duration • Tempo <p style="text-align: right;">(Any one, 1 mark)</p>	1 KU	
25	(d)	(ii)	<ul style="list-style-type: none"> • Many notes can be produced from many instruments • Recorded sound can be stored and used • Changes to sounds can be made very quickly <p style="text-align: right;">(Any one, 1 mark)</p>	1 PS	
25	(d)	(iii)	<ul style="list-style-type: none"> • Quality may not be matched to traditional instruments • Inferior sound produced • Sounds generated not deemed to be “real” for live music <p style="text-align: right;">(Any one, 1 mark)</p>	1 PS	
25	(e)		<ul style="list-style-type: none"> • Sound card not working/not installed • Headphones not working/not connected • Speakers not working/ not connected <p style="text-align: right;">(Any one, 1 mark)</p>	2 PS	

[END OF SECTION III – PART C MULTIMEDIA TECHNOLOGY]

[END OF MARKING INSTRUCTION]