THE HONG KONG ASSOCIATION FOR COMPUTER EDUCATION

INFORMATION AND COMMUNICATION TECHNOLOGY
MOCK EXAMINATION 2018

PAPER 2 (C)

MARKING SCHEME

1 (a)	(i)	GIF supports lower colour depth which is suitable for graphical design draft. / GIF supports text-based graphics and line art where edges are sharper. / GIF supports lossless compression which is suitable for graphical design draft / edges are sharper. / GIF supports smaller file size.		1
	(ii)	(1) It supports higher colour depth (up to 64-bit).		1
		(2) It achieves better image compression (smaller file size).		1
	(iii)	Converting the bitmap graphics into vector graphics,		1
		so that the design will be stored in the form of mathematical formulas,		1
		and it can be magnified without loss of image quality.		
(b)	(i)	$(44.1\times1000\times16\times2\times60)\div8\div1024\div1024$		1M
		$= 10.1$ MB　(acceptable range: 10.0 – 10.6)		1A
	(ii)	Human beings are not easily aware of the increase of audio data with sampling rate greater 44.1 kHz.		1
	(iii)	Sampling rate:22.05 kHz (>= 8 kHz)		1
		Sample size:8 bits　(>= 4 bits)		1
	(iv)	$60 \times 60 \times 3840 \times 2160 \times 24 \div 8$ bytes		1M
		$=85,430$ MB　(accept 85,000 MB to 90,000 MB)		1A
	(v)	Using streaming technology / Change to use Setting A or B Download the whole file before watching Compression of the original video		1

Increasing the bandwidth

	(vi)	The compression ratio is larger, i.e. smaller in file size. /	1
		No extra plugin is required.	
		/ It supports streaming technology.	
	(vii)	Setting A	1

2	(a)	(i)	$44.1 \times 1000 \times 16 / 8 \times 2 \times 10 / 1024 / 1024$	1M
			= 1.68 MB	1A
		(ii)	MP3 supports compression. /	1
			The file has a smaller file size.	
	(b)	(i)	500 kbps $\times$ 3 $\times$ 60 = 10.7 MB	1
			The actual file size is much smaller because data compression is used in the video.	1
		(ii)	Window size / menu bar / status bar / toolbar / title bar / address field (location)	1x3
			/ Set the position (top, left) / Make it resizable	
	(c)	(i)	Navigation bar / button	1
		(ii)	Embed the video HTML code on the page in the Frame C.	1
		(iii)	Embed the video HTML code on the page in the Frame C and set the attribute 'loop'	1
		(iv)	Embed the video HTML code on the page in the Frame B or Frame A.	1
	(d)	(i)	Fingerprint scanning, iris scanning, retinal scanning, hand geometry, palm veins, voice/speech	1
		(ii)	If any one of the login method is out of order due to hardware failure, user still can login by using alternative method.	1
		(iii)	Method 3. The number of combination/ samples is the largest compared with that of method 1 and method 2. (accept with reasonable explain)	1
			Method 1. Facial recognition is unqiue except twins.	
3.	(a)		Defines a title in the browser toolbar	1
			/ provides a title for the page when it is added to favourites	
			/ displays a title for the page in search-engine results	
			It shows 'AlphaGo	DeepMind' in the browser toolbar.	1
	(b)		Menu list	1
			Using less space to show more items by hiding some items.	1
	(c)	(i)	Mouse over / Mouse in	1
			The effect can draw the attention of user.	1
		(ii)	Plug-in of video player is not compatible / has not been installed in the browser.	1
			Plug-in of video player should be installed in the browser.	1
		(iii)	The bandwidth is low / the data transfer rate is low / the network traffic is high. / low	1

		processing speed of CPU / many background task / low GPU RAM	
		Increase the bandwidth / use a better network connection. / upgrade the CPU or GPU RAM	
(d)	(i)	80x80, 120x120, 152x152, 167x167	1
	(ii)	The photo will be not stretched with different dimensions due to the setting of different browsers.	1
(e)	(i)	https transmits all data by using a public key encryption technology in a secure way while http transmits all data in plain text in a very insecure way. / SSL	1
(e)	(ii)	Prevent eavesdroppers intercepting and interpreting the data packet during transmission。 / Ensure the data sent from the server is not modified. / Verify the identity of the server.	1 x2
4. (a)		Dynamic web page	1
		The traffic condition shown in the web page can be updated when the web page is reloaded by user clicking another location to change some variable content immediately.	1
(b)	(i)	It achieves better image compression. It supports greater colour depth. It supports interlacing. It is a lossless image compression format. It is non-patented. It supports transparency/ a transparent background. It supports animation.	1×2
	(ii)	Animated GIF, HTML5, JavaScript, <BLINK>, CSS, Flash	1
(c)	(i)	Server-side script – The real time data of traffic condition is stored in the database in the server.	1 + 1
	(ii)	Client-side script – The history of searching result is stored in the cookies of the browser. The checking/response time on the client-side is shorter.	1 + 1
(d)		Clearly display the menu of the map	1
		User-friendly navigation	1
		Description of the use	1
(e)		A button to locate the current location of the user	1
		User-friendly navigation	1
		Description of the use	1