

ICT – 2016 (G.13) – March – 2016 FWC Examination – Marking Scheme



Part - I

(1)	2	(11)	2	(21)	5	(31)	1	(41)	4
(2)	2	(12)	2	(22)	4	(32)	5	(42)	2
(3)	3	(13)	2	(23)	5	(33)	1	(43)	3
(4)	5	(14)	3	(24)	5	(34)	5	(44)	5
(5)	5	(15)	5	(25)	2	(35)	4	(45)	2
(6)	5	(16)	4	(26)	1	(36)	1	(46)	2
(7)	5	(17)	4	(27)	2	(37)	4	(47)	3
(8)	2	(18)	3	(28)	3	(38)	4	(48)	3
(9)	3	(19)	4	(29)	5	(39)	2	(49)	5
(10)	1	(20)	1	(30)	1	(40)	4	(50)	1

Part – II A

*Note:- * Any other relevant answers.*

Question No.	Suggested Answers																					
(1) (a)	<table border="1"> <thead> <tr> <th></th> <th>IP address</th> <th>Class</th> <th>Network Number</th> <th>Host Number</th> </tr> </thead> <tbody> <tr> <td>(i)</td> <td>192.168.1.1</td> <td>C</td> <td>192.168.1</td> <td>1</td> </tr> <tr> <td>(ii)</td> <td>110.4.5.2</td> <td>A</td> <td>110</td> <td>4.5.2</td> </tr> <tr> <td>(ii)</td> <td>134.7.5.4</td> <td>B</td> <td>134.7</td> <td>5.4</td> </tr> </tbody> </table>		IP address	Class	Network Number	Host Number	(i)	192.168.1.1	C	192.168.1	1	(ii)	110.4.5.2	A	110	4.5.2	(ii)	134.7.5.4	B	134.7	5.4	3 marks [1 for each] / no partial marks
	IP address	Class	Network Number	Host Number																		
(i)	192.168.1.1	C	192.168.1	1																		
(ii)	110.4.5.2	A	110	4.5.2																		
(ii)	134.7.5.4	B	134.7	5.4																		
(1) (b)	255.255.255.240	2 marks or 0																				
(1) (c)	<table border="1"> <tr><td>Application Layer</td></tr> <tr><td>Presentation Layer</td></tr> <tr><td>Session Layer</td></tr> <tr><td>Transport Layer</td></tr> <tr><td>Network Layer</td></tr> <tr><td>Datalink Layer</td></tr> <tr><td>Physical Layer</td></tr> </table>	Application Layer	Presentation Layer	Session Layer	Transport Layer	Network Layer	Datalink Layer	Physical Layer	2 marks [0.5 x 4] or 0 marks													
Application Layer																						
Presentation Layer																						
Session Layer																						
Transport Layer																						
Network Layer																						
Datalink Layer																						
Physical Layer																						
(1) (d)	$+9_{10} = 1001_2$ $-7_{10} = 1001_2$ 0010₂ [discard 1]	3 marks [each step 1]																				

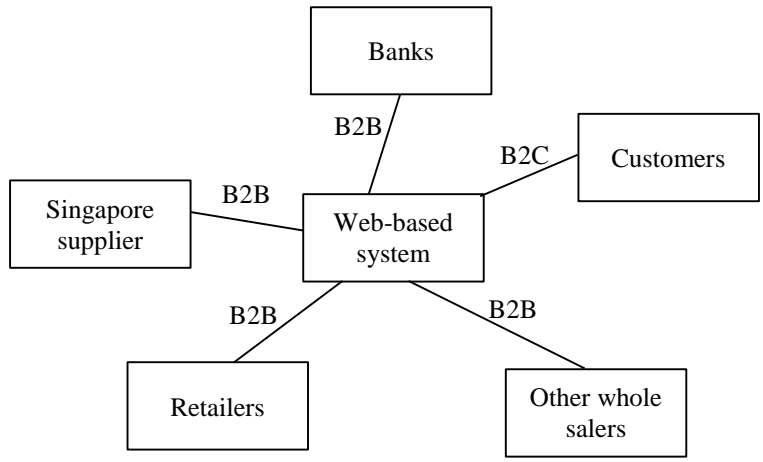
(2) (a)	Java: <input type="checkbox" name = "language" value = "java" checked > Python: <input type="checkbox" name = "language" value = "python" checked >	3 marks [1.5 x 2]								
(2) (b)	<table border="1" data-bbox="389 517 831 745"> <thead> <tr> <th>Column A</th> <th>Column B</th> </tr> </thead> <tbody> <tr> <td>h1</td> <td>Element</td> </tr> <tr> <td>text-color</td> <td>Property</td> </tr> <tr> <td>red</td> <td>Value</td> </tr> </tbody> </table>	Column A	Column B	h1	Element	text-color	Property	red	Value	2 marks [1 for one or two correct, 2 for all correct]
Column A	Column B									
h1	Element									
text-color	Property									
red	Value									
(2) (c)	<ul style="list-style-type: none"> • Interviews and discussion • On-site observation • Questionnaire 	2 marks [1 for one or two correct, 2 for all correct]								
(2) (d)	<pre> for i in range (1, 5): for j in range (0, i): print (' * ', end= ' ') print (' ') </pre>	3 marks [1 for each blank]								
(3) (a)	Swapped out & Waiting Swapped out & Blocked	3 marks [1.5 x 2]								
(3) (b)	Yes. G2C is an e-commerce model in which Government provides goods and services for citizens through the world wide web / Internet. Sri Lanka Railway department provides ticket reservation facility for people through its website.	3 marks [1 + 2]								
(3) (c) (i)	<ul style="list-style-type: none"> ✓ Can be processed together and saves the idle of the time. ✓ No regular user interaction is necessary. ✓ Allows the system to focus on other activities till the transactions are getting ready for processing. 	2 marks								
(3) (c)(ii)	<ul style="list-style-type: none"> ✓ Processed as they occur so data up to date at all times. ✓ Data input errors are immediately observed. 	2 marks								

(4) (a)	The attribute “qualifications” is <i>multi-valued /repeating groups</i> hence the table is not in 1NF.	2 marks
(4) (b)	Students (<u>StaffID</u> , StaffName) Qualifications (StaffID , Qualification)	2 marks
(4) (c) (i)	CREATE TABLE Employee (EmpID VARCHAR(6) PRIMARY KEY, VARCHAR Name(15), Address VARCHAR(30), Salary int (10)) OR CREATE TABLE Employee (EmpID VARCHAR(6), VARCHAR Name(15), Address VARCHAR(30), Salary int (10), PRIMARY KEY(EmpID))	4 marks [or 0 marks]
(4) (c)(ii)	SELECT EmpID, Salary FROM Employee WHERE EmpID = ‘E02’	2 marks

Part –II B

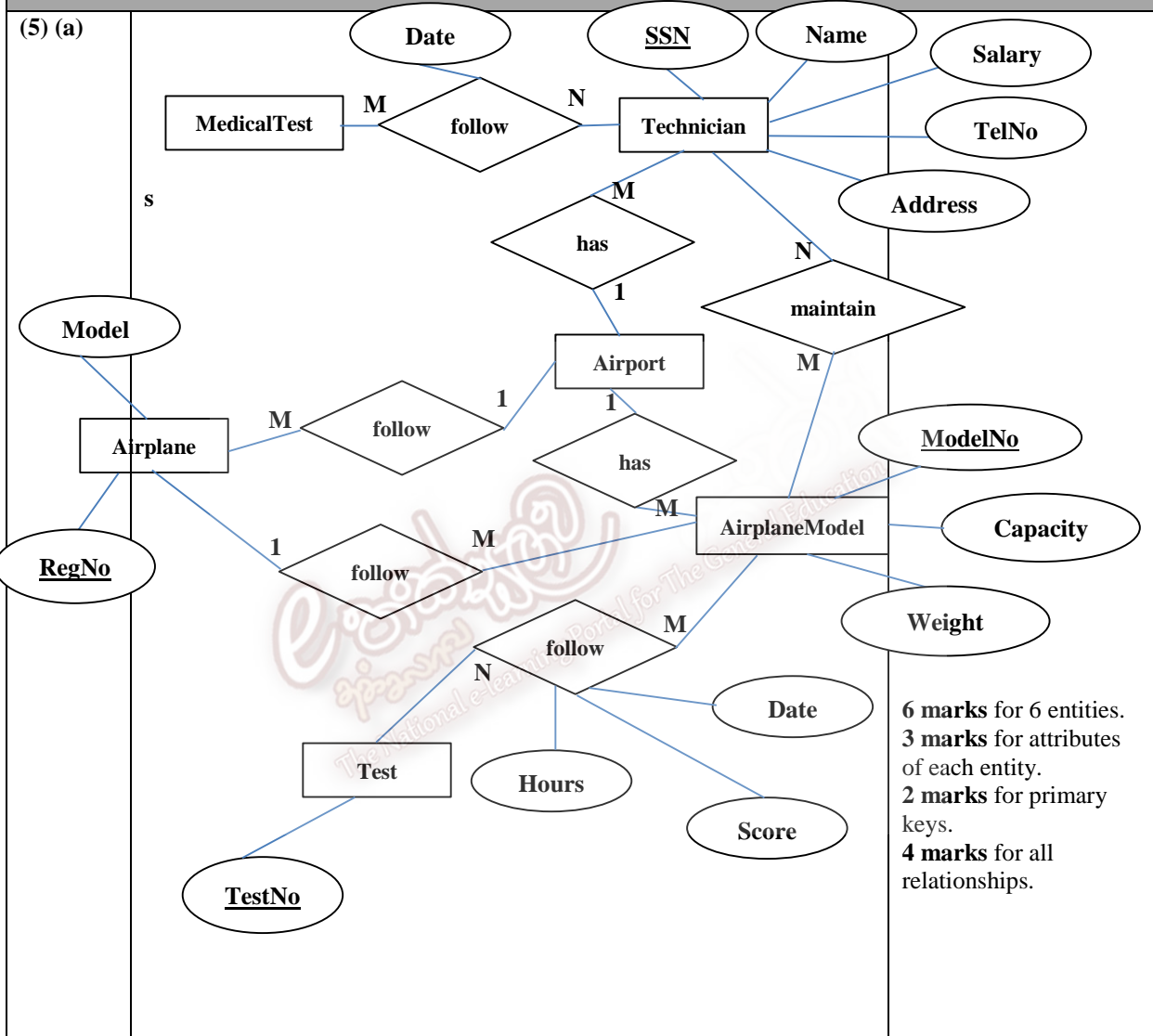
Question No.																																						
(1) (a)	<table border="1"> <thead> <tr> <th>A</th> <th>B</th> <th>C</th> <th>Output (X)</th> </tr> </thead> <tbody> <tr><td>0</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>0</td><td>0</td><td>1</td><td>0</td></tr> <tr><td>0</td><td>1</td><td>0</td><td>0</td></tr> <tr><td>0</td><td>1</td><td>1</td><td>1</td></tr> <tr><td>1</td><td>0</td><td>0</td><td>0</td></tr> <tr><td>1</td><td>0</td><td>1</td><td>1</td></tr> <tr><td>1</td><td>1</td><td>0</td><td>1</td></tr> <tr><td>1</td><td>1</td><td>1</td><td>1</td></tr> </tbody> </table> <p>A – Alisha, B – Bala, C – Coorey</p>	A	B	C	Output (X)	0	0	0	0	0	0	1	0	0	1	0	0	0	1	1	1	1	0	0	0	1	0	1	1	1	1	0	1	1	1	1	1	6 marks [no order for rows – reduct 1 mark, no labels – reduct 1 marks]
A	B	C	Output (X)																																			
0	0	0	0																																			
0	0	1	0																																			
0	1	0	0																																			
0	1	1	1																																			
1	0	0	0																																			
1	0	1	1																																			
1	1	0	1																																			
1	1	1	1																																			
(1) (b)	$\bar{A}BC + A\bar{B}C + AB\bar{C} + ABC$	3 marks																																				
(1) (c)	$\bar{A}BC + A\bar{B}C + AB\bar{C} + ABC$ $\bar{A}BC + A\bar{B}C + AB(\bar{C} + C)$ [Distributive Law] $\bar{A}BC + A\bar{B}C + AB.1$ $[(\bar{C} + C) = 1]$	3 marks [no rules given – reduct 1 marks]																																				

	$\bar{A}BC + A\bar{B}C + AB$ $\bar{A}BC + A(\bar{B}C + B) \quad [(\bar{B}C + B) = (C + B)]$ $\bar{A}BC + A(C + B)$ $\bar{A}BC + AB + AC$ $B(\bar{A}C + A) + AC$ $B(C + A) + AC$ $BC + AB + AC$	
(1) (d)		3 marks
(2) (a)	<ul style="list-style-type: none"> • They can better manage their supply chain. • As they deal with many other companies, easy to manage operations. • They can easily expand to other countries. • Another channel and selling (online). • B2B partnership. • Can do proactive decision making on trends and new products. • Effective order processing. 	3 marks
(2) (b)	<ul style="list-style-type: none"> • Buyer agents or shopping bots • User or personal agents • Monitoring-and-surveillance agents • Data-mining agents 	2 marks + 2 marks
(2) (c)	<ul style="list-style-type: none"> • can help customers to determine what to buy to satisfy a specific need. • helps consumers decide what product best fits their profile and requirements. • Once the consumer has decided what to buy, it will help in doing comparisons, usually of prices from different vendors. • can notify the customers and even provide assistance. • Profiling customers using shopping agents. 	4 marks
(2) (d)		4 marks



(3)	<pre> def GetMax(): global a,b,c f1 = open ('FileIn.txt','r') f2 = open ('Result.txt','w') line = f1.readline() data = (line.strip()).split(",") a = (data[0]) b = (data[1]) c = (data[2]) GetMax() def Show(): if (a>b): if (a>c): print(a) else: print(c) else: if(b>c): print(b) else: print(c) Show() [Alternative methods can be with all the requirements asked in question] </pre>	<p>2 marks – defining function GetMax():</p> <p>2 marks – defining function Show():</p> <p>1 mark – calling function GetMax():</p> <p>1 mark – calling function Show():</p> <p>2 marks – defining f1 with open & FileIn.txt</p> <p>2 marks – defining f2 With open & Result.txt</p> <p>2 marks – splitting three numbers from text file FileIn.txt</p> <p>3 marks – proper if --- else – nested if --- with comparing three numbers.</p>
(4) (a) (i)	<p>A mail server is an application that receives incoming e-mail from users and forwards outgoing e-mail for delivery using a client - server application architecture.</p>	<p>3 marks</p>
(4) (a)(ii)	<p>Web server is a software /hardware that accepts and supervises the HTTP requests. Primary function of a web server is to store, process and deliver web pages to clients.</p>	<p>3 marks</p>
(4) (b)	<p>TCP, UDP</p>	<p>3 marks [1.5 x 2]</p>

(4) (c) (i)	2^{16} Bytes = 64 KB	3 marks
(4) (c)(ii)	0 to $2^{16} - 1$	3 marks



(6)(a) (i)	Defines the document's body. Contains all the contents of an HTML document such as text, hyperlinks, image, table, etc.	1 mark
(6)(a) (ii)	Inserts a single line break.	1 mark
(6)(a)(iii)	Defines a paragraph.	1 mark

	Add some space before and after each <p> element.	
(6) (b)	<pre> <html> <head> <title> e-Book Store </title> </head> <body> <h1> Book Selection </h1> <h4> Select Category of Books </h4> <input type="radio" name="ra" value="eng"> Engineering
 <input type="radio" name="ra" value="ele"> Electronics
 <input type="radio" name="ra" value="com"> Computer Science <p> <input type="submit" value="Checkout" name="check"> </p> <p> </p> Back to Home Page </body> </html> </pre>	<pre> <html>, <head>, <title>, <body> tags – 2 marks <h1> - 1 mark <h4> - 1 mark <p> - 1 mark Three radio button – 2 marks Button – 1 mark Image – 2 marks Hyperlink – 2 marks Total = 12 marks </pre>

Note: - Teachers are expected to follow this marking scheme strictly for marking. (In the answers given, key words with **Bold** must be in the answer scripts of students).

Part – I 2 x 50 = 100 marks

Part – II A 10 x 4 = 40 marks

Part – II B 15 x 4 = 60 marks

200 / 2 = 100 marks
