

**A/L ICT 2017 (Gr.13)**

**March – 2017 Examination**

**Field Work Center (FWC)**

**ICT**



**ICT – A/L 2017 (G.13) – March – 2017 FWC Examination – Marking Scheme**

**Part - I**

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

**Part – II A**

*Note:- \* Any other relevant answers.*

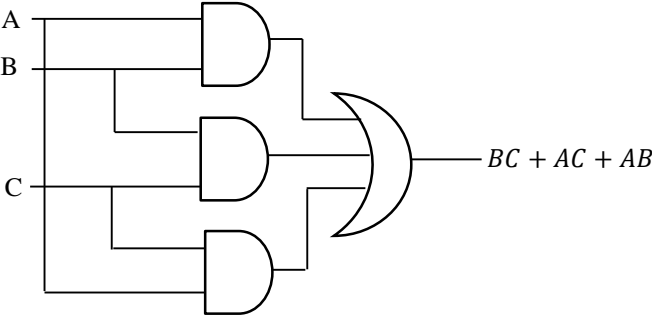
Question No.	Suggested Answers	
(1) (a)	<ul style="list-style-type: none"> <li>• Magnetic storage medium : Hard disk, Floppy disk, Zip disk</li> <li>• Optical storage medium : CD, DVD, Blu Ray Disc</li> <li>• Solid-state storage medium: SSD, Memory cards, Flash drive</li> </ul>	3 marks [1 x 3]
(1) (b)	$+8_{10} = 00001000_2$ $-6_{10} = 11111010_2$ <hr style="width: 20%; margin-left: 0;"/> $00000010_2 \text{ [discard 1]}$	3 marks [1 for each line]
(1) (c)	<p>Width of an address bus = 32 bits</p> <p>No. of address spaces / No. of addresses = <math>2^{32}</math></p> <p>Max. usable size of memory = <math>2^{32}</math> bytes</p> <p align="center">= 4 GB</p>	4 marks (1 x 4 – 1 for each point)
(2) (a)	<ul style="list-style-type: none"> <li>• Physical layer – Communication media</li> <li>• Application layer – e-mail service</li> <li>• Transport layer – TCP, UDP</li> <li>• Network layer – Routing, IP</li> </ul>	4 marks [ 1 x 4 ]

<b>(2) (b)</b>	<ul style="list-style-type: none"> <li>• TCP - providing <i>connection-oriented</i> service.</li> <li>• UDP - providing <i>connectionless</i> service.</li> </ul>	<b>2 marks [1 x 2]</b>
<b>(2) (c)</b>	<pre> &lt;dl&gt;     &lt;dt&gt; Singapore &lt;/dt&gt;     &lt;dd&gt; The land of dreams &lt;/dd&gt;     &lt;dt&gt; Thailand &lt;/dt&gt;     &lt;dd&gt; The land of smiles &lt;/dd&gt; &lt;/dl&gt; </pre>	<b>4 marks [0.5 x 8]</b>
<b>(3) (a)(i)</b>	<pre> h1 { font-type:arial; } - Wrong h1 { font-family:arial; } - Correct </pre>	<b>2 marks [1 x 2]</b>
<b>(3) (a)(ii)</b>	<pre> p { text-color : red ; } - Correct </pre>	<b>1 marks</b>
<b>(3) (b)</b>	<p>Output: 1 3 6 10 15</p>	<b>3 marks [or 0]</b>
<b>(3) (c)</b>	<pre> s = 0 n = 1 while n&lt;=10:     s = s+n     n = n+1 print (s) </pre> <p>* Alternative approach possible.</p>	<b>4 marks (or 0)</b>
<b>(4) (a)</b>	<p>Select stdid, address from Student</p>	<b>2 marks (or 0)</b>
<b>(4) (b)</b>	<p>Select Student.name, Subject.name, marks from Student, Subject, Marks where Student.stdid = Result.stdid and Subject.subid = Result.subid</p>	<b>3 marks (or 0)</b>
<b>(4) (c)</b>	<p>Insert into Student values ('S01', 'Perera', 'Galle') OR Insert into Student (stdid,name,address) values ('S01', 'Perera', 'Galle')</p>	<b>2 marks (or 0)</b>

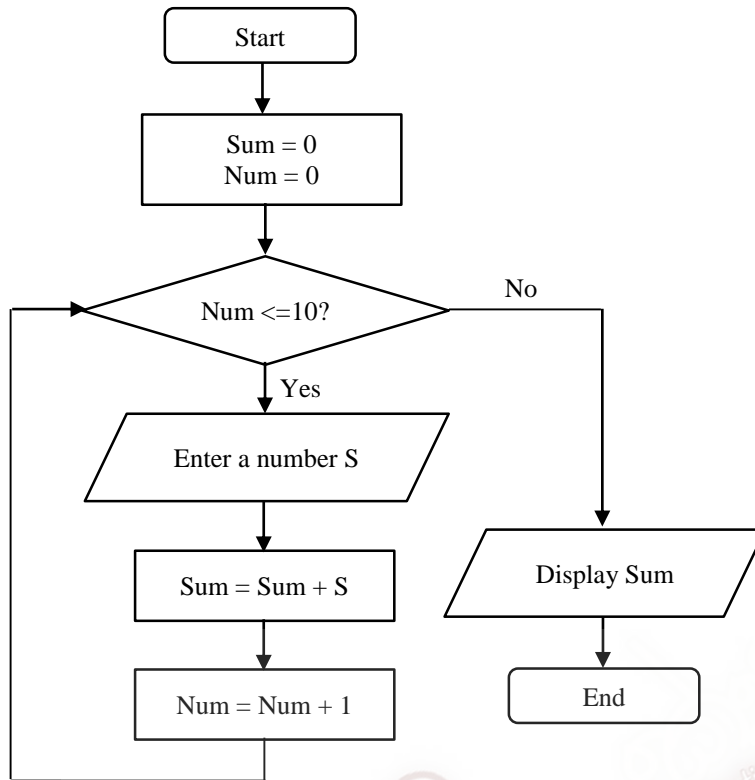
<b>(4) (d)</b>	Create table Student (stdid varchar(10), name varchar(25), address varchar(50), primary key(stdid)) <b>OR</b> Create table Student (stdid varchar(10) primary key, name varchar(25), address varchar(50))	<b>3 marks (or 0)</b>
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**Part –II B**

Question No.																																						
<b>(1) (a)(i)</b>	$\overline{A + B} = \bar{A} + \bar{B}$ $\overline{A \cdot B} = \bar{A} + \bar{B}$	<b>6 marks</b> [no order for rows – reduct 1 mark, no labels – reduct 1 marks]																																				
<b>(1) (a)(ii)</b>	$A + (B + C) = (A + B) + C$ $A \cdot (B \cdot C) = (A \cdot B) \cdot C$																																					
<b>(1) (b)(i)</b>	<table border="1" style="margin-left: auto; margin-right: auto;"> <thead> <tr> <th>A</th> <th>B</th> <th>C</th> <th>Output (W)</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>	A	B	C	Output (W)	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	<b>3 marks</b>
A	B	C	Output (W)																																			
0	0	0	0																																			
0	0	1	0																																			
0	1	0	0																																			
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1	1	1	1																																			
<b>(1) (b)(ii)</b>	$\bar{A}BC + A\bar{B}C + AB\bar{C} + ABC$	<b>3 marks</b> [no rules given – reduct 1 marks]																																				
<b>(1)(b)(iii)</b>	$\bar{A}BC + A\bar{B}C + AB\bar{C} + ABC$ $\bar{A}BC + A\bar{B}C + AB(\bar{C} + C)$ Distributive Law $\bar{A}BC + A\bar{B}C + AB \cdot 1$ Inverse Law $\bar{A}BC + A\bar{B}C + AB$ Identity Law $\bar{A}BC + A(\bar{B}C + B)$ $\bar{A}BC + A(C + B)$ $\bar{B}C + B = C + B$ $\bar{A}BC + AC + AB$ $C(\bar{A}B + A) + AB$ $C(B + A) + AB$ $BC + AC + AB$	<b>3 marks</b>																																				

<b>(1)(b)(iv)</b>		
<b>(2) (a)</b>	<ul style="list-style-type: none"> <li>• Flow control.</li> <li>• Connection-oriented communication.</li> <li>• Reliability service.</li> <li>• Congestion avoidance.</li> </ul> <p>Or any other accepted answers.</p>	<b>3 marks [1 x 3]</b>
<b>(2) (b)</b>	30 hosts [ $2^5 - 2 = 30$ ]	<b>2 marks</b>
<b>(2) (c)(i)</b>	DHCP server <i>resolves IP addresses dynamically</i> / automatically to the machines.	<b>2 marks (or 0)</b>
<b>(2) (c)(ii)</b>	<p>Proxy server <i>shares the Internet connection</i> among computers/users.</p> <p>OR</p> <p>Proxy server is a server that acts as an <i>intermediary for requests</i> from clients <i>seeking resources</i> from other servers.</p>	<b>2 marks (or 0)</b>
<b>(2) (d)</b>	<p>An <i>agent</i> is a computer system/software that is <i>situated in an environment</i>, and that is capable of <i>autonomous action</i> in this environment on behalf of its user in order to <i>meet its design</i> objectives.</p> <ul style="list-style-type: none"> <li>• e-Commerce / bidding agents.</li> <li>• Buyer agents / Shopping agents.</li> <li>• Auction agents.</li> <li>• User / personal agents.</li> <li>• Data mining agents.</li> <li>• Monitoring and surveillance agents.</li> <li>• Learning agents.</li> </ul> <p>Or any other accepted answers.</p>	<b>6 marks [3+1.5 x 2]</b>
<b>(3) (a)</b>	<ul style="list-style-type: none"> <li>• Object-oriented programming.</li> <li>• Structured programming (Functional / procedural programming).</li> <li>• Unstructured programming.</li> </ul>	<b>2 marks</b>

(3) (b)



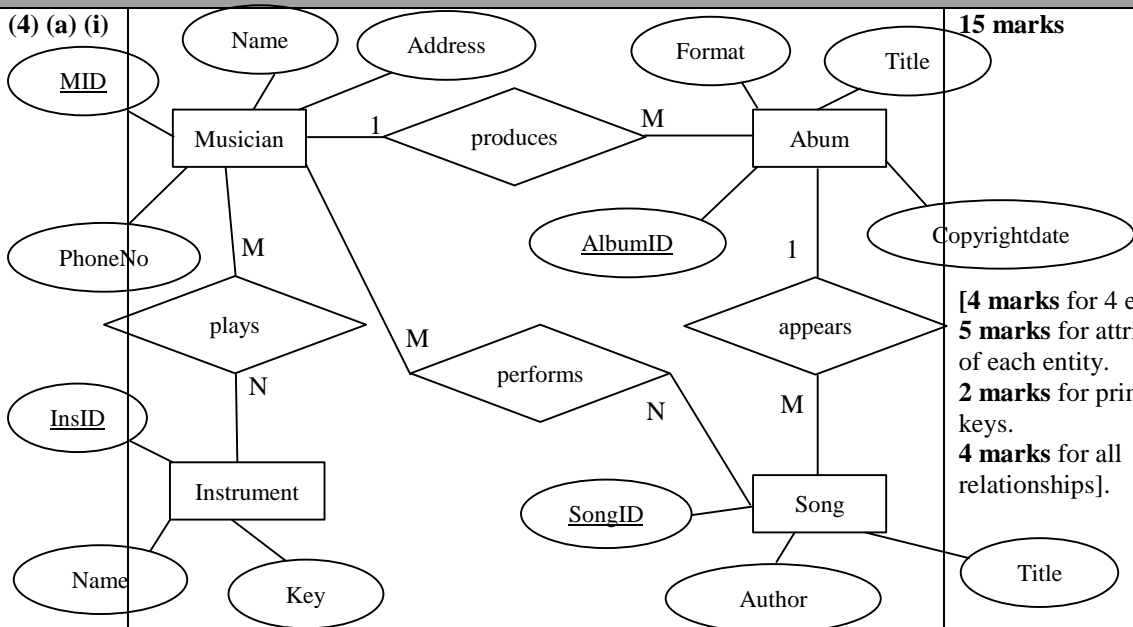
6 marks [partial marks could be given] Alternative approach possible.

(3) (c)

```
Sum= 0
Num= 1
while Num<=10:
    S= int(input('Enter a number:'))
    Sum= Sum+S
    Num= Num+1
print('Total = ', Sum)
```

7 marks [partial marks could be given] Or other approaches possible. Variables declaration – 2 marks Condition – 1 marks Input – 1 marks Two statements – 2 marks Print – 1 marks

(4) (a) (i)



15 marks [4 marks for 4 entities. 5 marks for attributes of each entity. 2 marks for primary keys. 4 marks for all relationships].

(5) (a)	<p>&lt;p&gt; - tag defines a <b>paragraph</b>. Adds some white space <b>before and after</b> a paragraph.</p> <p>&lt;img&gt; - Images are defined with the &lt;img&gt; tag.</p>	<p><b>3 marks [1.5 x 2]</b></p>
(5) (b)	<pre>&lt;html&gt; &lt;head&gt; &lt;title&gt; Bird Park - Hambantota &lt;/title&gt; &lt;/head&gt; &lt;body&gt; &lt;h1&gt; Bird Park - Hambantota &lt;/h1&gt; &lt;p&gt; &lt;img src="bird.jpg" alt="bird" width="400" height="240"&gt; &lt;/p&gt; The position of Sri Lanka in the Indian Ocean at the southernmost &lt;br&gt; tip of the Indian subcontinent is of great importance for long &lt;br&gt; distance migrant shorebirds. Birds Research Centre &amp; Resort, &lt;br&gt; Asia's largest Birds Research Centre exhibits over 200 birds species. &lt;br&gt; &lt;p&gt; For more information: &lt;a href="http://www.birdsibr.com"&gt; Bird Park &lt;/a&gt; &lt;/p&gt; &lt;/body&gt; &lt;/html&gt;</pre>	<p><b>12 marks [partial marks given]</b></p> <p>h1 – 2 marks</p> <p>p – 1 marks</p> <p>img – 3 marks</p> <p>br – 2 marks for all</p> <p>a – 2 marks</p> <p>html structure – 2 marks</p>
(6)		<p><b>15 marks [1 x 15 – entity, system, and data flows each get 1 mark]</b></p>

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

**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**

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