AL/20/S/145

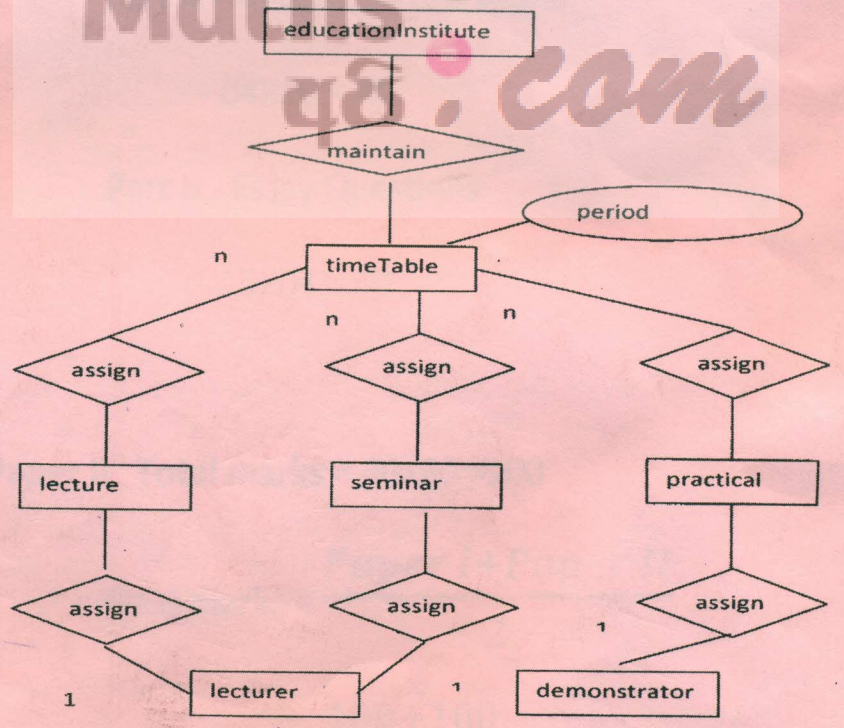
Confidential

Department of Examination - Sri Lanka

G.C.E. (A/L) Examination - 2016

20 – Information & Communication Technology

Marking Scheme



This has been prepared for the use of marking examiners. Some changes would be made according to the views presented at the Chief Examiners' meeting.

Amendments to be included

20 - Information & Communication Technology

Distribution of marks

Paper I

Time Duration 02 hours

Questions 50

Total Marks 50X2 = 100

Paper II

Time Duration 03 hours

Part A - Structured Questions

04X10 = 40

Part B - Essay Questions

15X04 = 60

Paper II Total marks = 40+60 =100

$$\textbf{Final marks} = \frac{Paper\ I + Paper\ II}{2}$$

$$= \frac{100+100}{2} = 100$$

රහස්‍යයි
அந்தரங்கமானது

අ.පො.ස.(උ.පෙළ) විභාගය - 2016
க.பொ.த (உயர் தர)ப் பரீட்சை - 2016

විෂයය අංකය } 20 විෂයය } තොරතුරු හා සන්නිවේදන තාක්ෂණය

ලකුණු දීමේ පටිපාටිය/புள்ளி வழங்கும் திட்டம் - I පත්‍රය/பத்திரம் I

ප්‍රශ්න අංකය வினா இல.	පිළිතුරු අංකය விடை இல.	ප්‍රශ්න අංකය வினா இல.	පිළිතුරු අංකය விடை இல.	ප්‍රශ්න අංකය வினா இல.	පිළිතුරු අංකය விடை இல.	ප්‍රශ්න අංකය வினா இல.	පිළිතුරු අංකය விடை இல.	ප්‍රශ්න අංකය வினா இல.	පිළිතුරු අංකය விடை இல.
01.	5	11.	2	21.	3	31.	2	41.	5
02.	3	12.	3	22.	2	32.	3	42.	4
03.	2	13.	4	23.	5	33.	1	43.	2
04.	5	14.	1	24.	2	34.	5	44.	4
05.	4	15.	1	25.	2	35.	4	45.	3
06.	3	16.	2	26.	4	36.	1	46.	2
07.	3	17.	1	27.	2	37.	1	47.	4
08.	2	18.	3	28.	4/1	38.	4	48.	1,2
09.	2	19.	4	29.	4	39.	3	49.	2
10.	2	20.	3	30.	2	40	4	50	4

විශේෂ උපදෙස්
விசேட அறிவுறுத்தல் } එක් පිළිතුරකට ලකුණු 02 බැගින් පුළුන් වීදම් 50
ஒரு சரியான விடைக்கு புள்ள வீதம்

මුළු ලකුණු 2×50 = 100
மொத்தப் புள்ளிகள்

Information and Communication Technology(20 E)

Part I

2016

Q.No	Answer		Q.No	Answer
1	5		26	4
2	3		27	2
3	2		28	1/4
4	5		29	4
5	4		30	2
6	3		31	2
7	3		32	3
8	2		33	1
9	2		34	5
10	2		35	4
11	2		36	1
12	3		37	1
13	4		38	4
14	1		39	3
15	1		40	4
16	2		41	5
17	1		42	4
18	3		43	2
19	4		44	4
20	3		45	3
21	3		46	2
22	2		47	4
23	5		48	1,2
24	2		49	2
25	2		50	4

Information and Communication Technology(20 E)

Part II A

2016

Q.No	Model Answer	Marks
1 (a)	(i) When **clicked on 'Cover Page'**, the image named **'coverPage.jpg'** is **displayed/opened** on a **new tab/window.**	1
	(ii) When **clicked on 'Content'** the document **'content.html'** is **displayed/open** on the **same window/tab** (overwriting the content).	1
	(iii) *[When **clicked** on the **image** **'figures.jpg'**]* [the document **'figures.html'** is **displayed/opened** on the **same window/tab** (overwriting the content on that page).]	1 1
	Note : Do not consider the case-sensitivity of the names(Content, Cover Page, coverPage.jpg,content.html,figures.jpg,figures.html)	
1 (b)	External style sheets/External/External CSS Note : Do not give any marks if more than one mechanism is given	1
1 (c)	**<style** type= "text/css"> **h2{** color: red; text-align: center; **}** **p{** font-family:"Courier New"; font-size: 14px; **}** **p{**font : 14px "Courier New"; **}** **Note : Order is important if both values are given together** **</style>** Note: 1) If the type is given the correct type text/css should be given within quotes(double or single). 2) Single quote is also allowed in places where double quotes are used. 3) ~~All CSS properties and values are case sensitive~~ px can replaced by pt	1 1 1 1 1

2 (a)	C2C: I sell my **camera online/through internet/website** to an **African buyer.** B2C: Paypal like service.	2 1
2 (b)	To secure the payers sensitive data (security) Guarantee [for the delivery] and [the payment to the seller].	1 1 1
2 (c)	Reliability You may not get the item at all not get the item you have ordered get a poor quality item Security Any other person may rob your credit card details. Privacy The buyer may use your credit card number to steel money or expose it/personal details to others Note : Any two answers are acceptable.	1 1 1 1 1 1
3 (a)	Closed System (1) Inputs (Water) is available within the system (2) Outputs (Oxygen and Hydrogen) release to the system.	2 2 2
3 (b)	(1) Accuracy/Any problem caused by accuracy (2) Efficiency/Any problem caused by efficiency	1 1
3 (c)	Compare : Both are I-P-O systems (Example : Both can process data) Contrast : Human brain is more intelligent than an information system Or any other acceptable reason (examples : Natural vs Artificial; accuracy; reliability; emotional.....) Note: There should be an answer for each class.	1 1

4 (a)	(i) Nothing/no output It has a never-ending(infinite) loop	 1 1

	(ii)
	total = 0
	i = 1
	while (i <= 10):
	  total = total + i
	  i = i + 1
	print(total)
	Note :
	The program should be executable and print 55 as the final value.
		
		2
		
		1

4 (b)	Address size = 16 bit Max number of unique addresses possible = 2^{16} Max number of bytes addressable = 2^{16} Max usable size of memory = $2^{16} = 2^6 \times 2^{10}$ = 64 KB Note : Correct answer 1 mark Correct computation 4 marks	4

Information and Communication Technology(20 E)

Part II B

2016

Q.No	Model Answer	Marks
1	Truth table	4
		1

K1	K2	K3	L
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

Note:

In the truth table the symbols K1,K2,K3,L should be used or should be defined.

Boolean expression

L = K1'.K2.K3 + K1.K2'.K3 + K1.K2.K3' + K1.K2.K3 — 2

Simplified Boolean expression

L = K1.K2 + K2.K3 + K3.K1 — 5

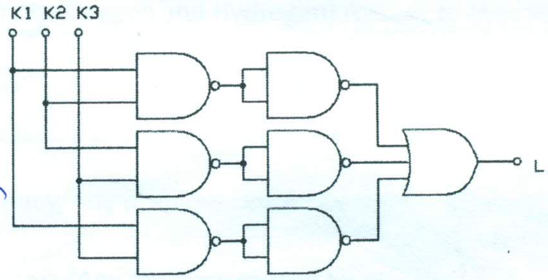
Note :

Correct rules 2 marks

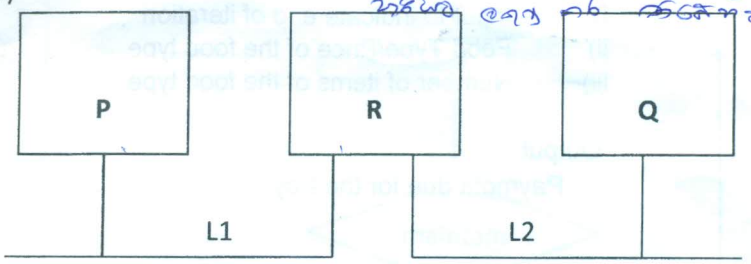
Correct computation 2 marks

Correct answer 1 mark

Circuit using given gates — 3



Note : Connections should be marked by dots or jumpers

2	a)  **Note :** **Router is in both LANs and L1 and L2 are separate LANs – 3 Marks** **P and Q are in different LANs L1 and L2 – 2 Marks. This must be marked only when the first part is correct.**	5
	b) Q. IP address indicates the final destination and it does not specify the intermediate routers/gateways.	2 3
	c) R. The frame F2 is originated at the router R and therefore the source MAC address in frame F2 is the MAC address of R.	2 3
3	a) B2E An online service provided by the bank to its employees **Note : Final mark should be 0,1 or 3**	1 2
	b) • Manage their personal activities need to be done during work hours without leaving the workplace • Get information better and faster, easily	2 2
	c) Yes/No. **Note : If the answer is No justification must be given.** It is expected to enhance their efficiency and satisfaction as it enhances the balance between the employees' work and personal life. **Note : Justification should support Yes/No claim**	1 4
	d) • Content selection and suggestion • Content prioritization • Alerting	1 1 1

4

a) Inputs

i) Input to indicate end of iteration 1

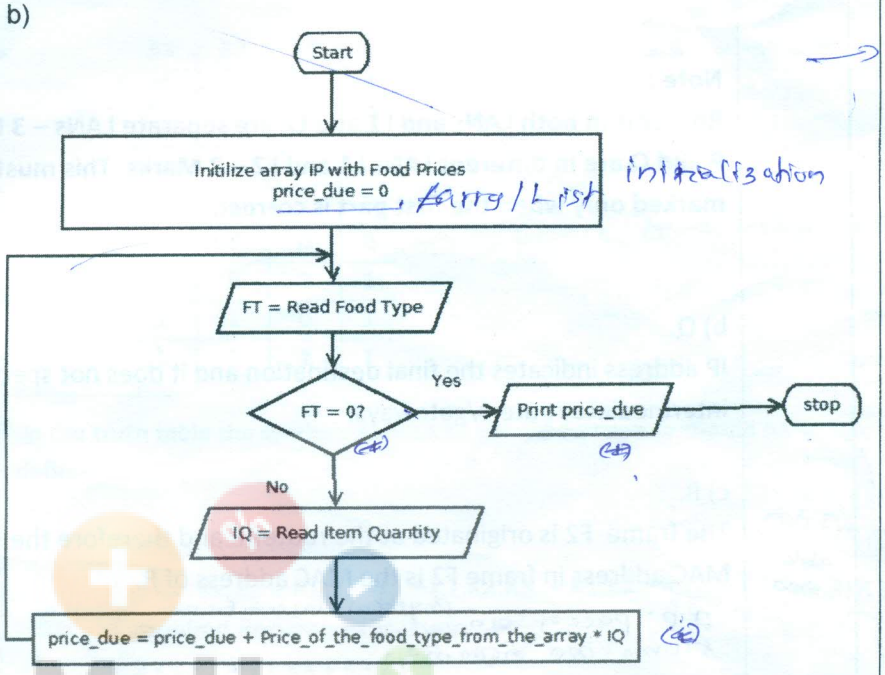
ii) Food Type/Price of the food type 1

iii) Number of items of the food type 1

Output

Payment due for the tray. 1

b)



1

1

1

1

1

1

Start/end : 1 Mark

Correct Initialization : 1 Mark 1

Correct Inputs : 1 Mark

Correct Loop : 1 Mark

Correct Computation : 1 Marks

Output : 1 Mark

c)

```
price_due = 0.0
IP = [10.00,12.00,15.00,10.00,25.00,45.00,50.00,25.00,10.00,12.00]
FT = int(input("Enter food type : "))
while FT !=0:
        IQ = int(input("Enter item Quantity : "))
        price_due = price_due + IP[FT-1] * IQ
        FT = int(input("Enter food type : "))
print(price_due)
```

Note :

1 mark : price due initialization

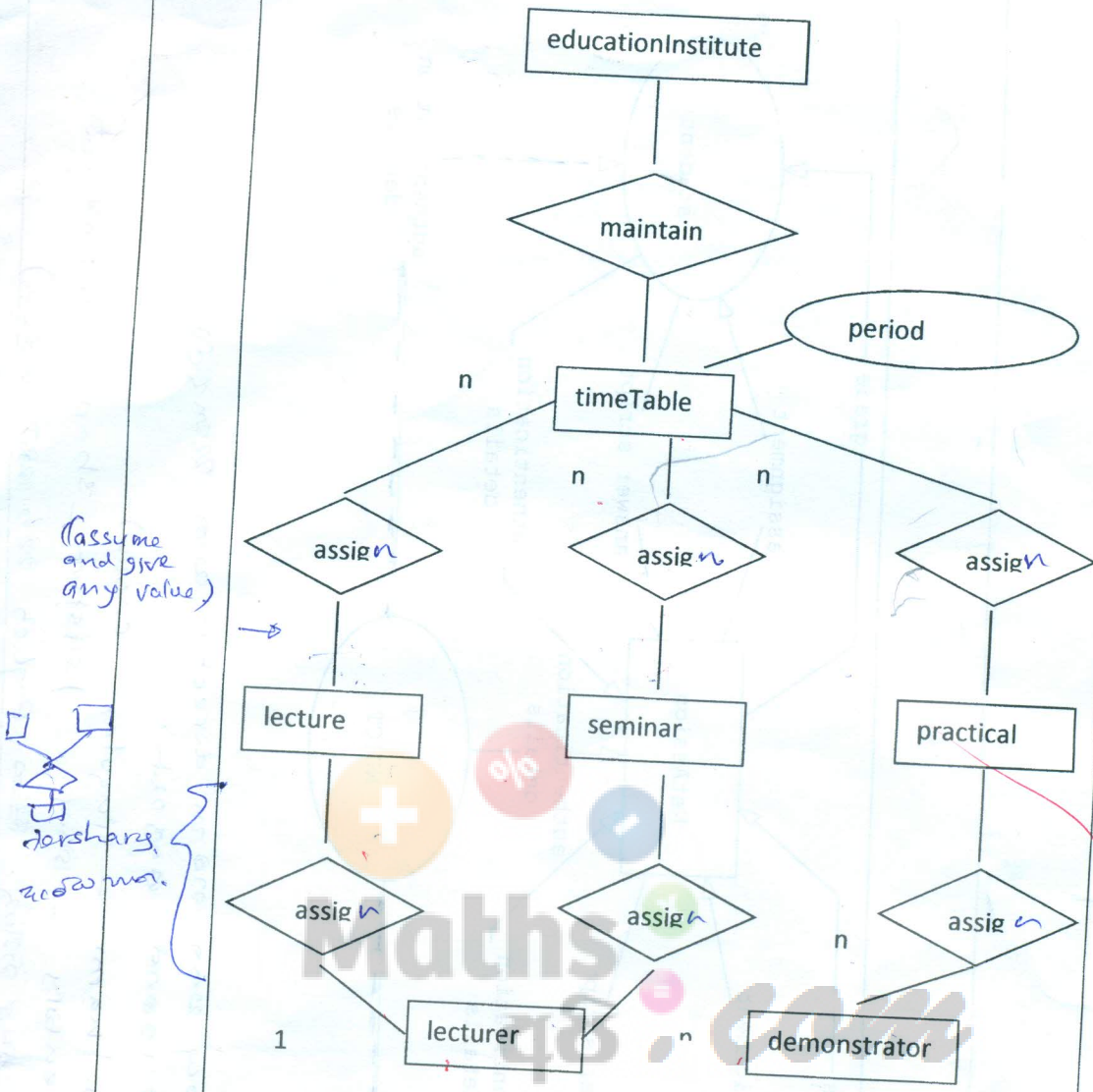
1 mark : array initialization

1 mark : input food type and Quantity

1 mark : correct loop

1 mark: correct computation

5



Note :

Each entity 1 marks (7 total)

Each relationship with cardinality (if information is available) (7 total)

The attribute of Timetable 1 mark

6

(1 mark for each component)