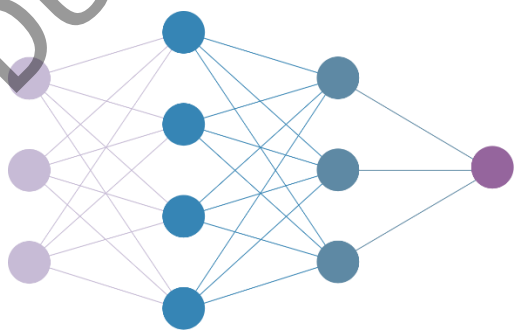
A/L ICT 2022 (Gr.13)

Marking Scheme

Term – 5 , 2022 Examination

Field Work Center (FWC)



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This document /scheme has been prepared for the use of marking examination paper.
Some changes and alternative answers would be made by the teachers.
Amendments to be included.

Part – I – Suggested Answers

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

* (49) - (TM) - open

Part – II A – Suggested Answers

Question No.		Marks
(1)(a)		**5 marks [0.5 x 10**

No.	Words	No.	Words
①	fieldset	⑥	textarea
②	legend	⑦	select
③	text	⑧	option
④	email / text	⑨	submit
⑤	tel	⑩	placeholder

(1)(b)(i)	Coffee - black hot drink Milk - white cold drink	**2 marks** *[0.5 for each line]*
(1)(b)(ii)		**3 marks** *[1 for each line]*

Name		Age
John	Smith	46
Eve	Jackson	21

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<table>
<tr><td>(2)(a)(i)</td><td>brown dog fox jumps lazy over the</td><td>2 marks</td></tr>
<tr><td>(2)(a)(ii)</td><td>Splits each word from the string "brown fox jumps over the lazy dog".
Displays the words splitted in alphabetical order.</td><td>2 marks</td></tr>
<tr><td>(2)(b)</td><td>Error 1: The link between the external entity ‘Student’ and data store ‘Book shelf’.
Correction: The link shold be passed through the process “Delivering books”.
Error 2: The link between the data store ‘Book title’ and data store ‘Book shelf’.
Correction: The link shold be passed through the process “Delivering books”.</td><td>4 marks
[1 for each]</td></tr>
<tr><td>(2)(c)(i)</td><td>1</td><td>0.5 marks</td></tr>
<tr><td>(2)(c)(ii)</td><td>0</td><td>0.5 marks</td></tr>
<tr><td>(2)(c)(iii)</td><td>Cannot detect.
Because the parity bit method can only detect one bit error, not burst errors (more than one bit errors).</td><td>1 marks
[0.5+0.5]</td></tr>
<tr><td colspan="3"></td></tr>
<tr><td>(3)(a)</td><td>
<table>
<tr><th>No.</th><th>True / False</th><th>No.</th><th>True / False</th></tr>
<tr><td>(i)</td><td>False</td><td>(iv)</td><td>True</td></tr>
<tr><td>(ii)</td><td>True</td><td>(v)</td><td>True</td></tr>
<tr><td>(iii)</td><td>True</td><td>(vi)</td><td>True</td></tr>
</table>
</td><td>3 marks
[0.5 for each line]</td></tr>
</table>

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(3)(b)	① Page ② Offset or displacement ③ Page table	**3 marks** [1 for each]
(3)(c)(i)	PCB is a data structure that contains information of the process related to it. or PCB stores many data items about process that are needed for efficient process management.	**1 marks**
(3)(c)(ii)	processID or Process Number	**1 marks**
(3)(c)(iii)	• Switching a process from one state to another. • When switching perform, it stores the old running process's states. • While a new process is running in the system, the previous process must wait in a ready queue. • The execution of the old process starts at that point where another process stopped it.	**2 marks** Or equivalent meaning .
(4) (a)(i)	3NF Because the table does not have any transitive dependencies or DepName attribute is a determinant and other attributes such as Manger is fully dependant on DepName.	**3 marks** *[1+2]*
(4)(a)(ii)	Yes. The table does not have any transitive dependencies or ID attribute is a determinant and other attributes such as FirstName and LastName are fully dependant on ID attribute.	**3 marks** *[1+2]*
(4)(b)(i)	It is a weak entity.	**1 marks**

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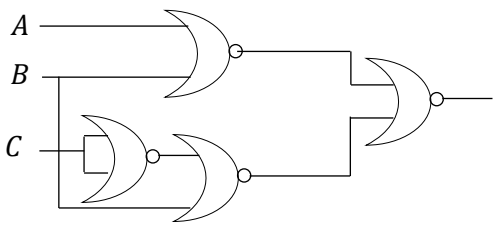
(4)(b)(ii)	BranchNo + Bcode	**1 marks**
(4)(b)(iii)	***Bank*** (<u>Bcode</u>, Name, Address) ***Branch*** (<u>BranchNo</u>, <u>Bcode</u>)	**2 marks [1+1]**

Part – II B – Suggested Answers

Question No.		
(5)(a)	$(A + B)(B + \bar{C})$	**2 marks**
(5)(b)	<table><tr><th>A</th><th>B</th><th>C</th><th>$A + B$</th><th>$\bar{C}$</th><th>$B + \bar{C}$</th><th>$(A + B).(B + \bar{C})$</th></tr><tr><td>0</td><td>0</td><td>0</td><td>***0***</td><td>***1***</td><td>***1***</td><td>***0***</td></tr><tr><td>0</td><td>0</td><td>1</td><td>***0***</td><td>***0***</td><td>***0***</td><td>***0***</td></tr><tr><td>0</td><td>1</td><td>0</td><td>***1***</td><td>***1***</td><td>***1***</td><td>***1***</td></tr><tr><td>0</td><td>1</td><td>1</td><td>***1***</td><td>***0***</td><td>***1***</td><td>***1***</td></tr><tr><td>1</td><td>0</td><td>0</td><td>***1***</td><td>***1***</td><td>***1***</td><td>***1***</td></tr><tr><td>1</td><td>0</td><td>1</td><td>***1***</td><td>***0***</td><td>***0***</td><td>***0***</td></tr><tr><td>1</td><td>1</td><td>0</td><td>***1***</td><td>***1***</td><td>***1***</td><td>***1***</td></tr><tr><td>1</td><td>1</td><td>1</td><td>***1***</td><td>***0***</td><td>***1***</td><td>***1***</td></tr></table>	**4 marks** *0.5 for each rows*
(5)(c)	$\bar{A}B\bar{C} + \bar{A}BC + A\bar{B}\bar{C} + AB\bar{C} + ABC$	**2 marks**
(5)(d)	$(A + B + C)(A + B + \bar{C})(\bar{A} + B + \bar{C})$	**2 marks**
(5)(d)		**5 marks**

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(6)(a)

Service Point Addressing
Segmentation and Reassembling
Connection Control
Flow Control

2 marks
Or equivalent answers

(6)(b)

Faster than TCP / less delay
Less overhead

1 marks
Or equivalent answers

(6)(c)

Departments	**Network address**	**Broadcast address**	**Subnet mask**	**Usable IP address range**
Information System	*192.248.16.0*	*192.248.16.31*	*255.255.255.224*	*192.248.16.1 - 192.248.16.30*
Production	*192.248.16.32*	*192.248.16.63*	*255.255.255.224*	*192.248.16.33 - 192.248.16.62*
Marketing	*192.248.16.64*	*192.248.16.95*	*255.255.255.224*	*192.248.16.65 - 192.248.16.94*
Accounting	*192.248.16.96*	*192.248.16.127*	*255.255.255.224*	*192.248.16.97 - 192.248.16.126*

3 marks

[*Each row takes 1 marks except first row****]***

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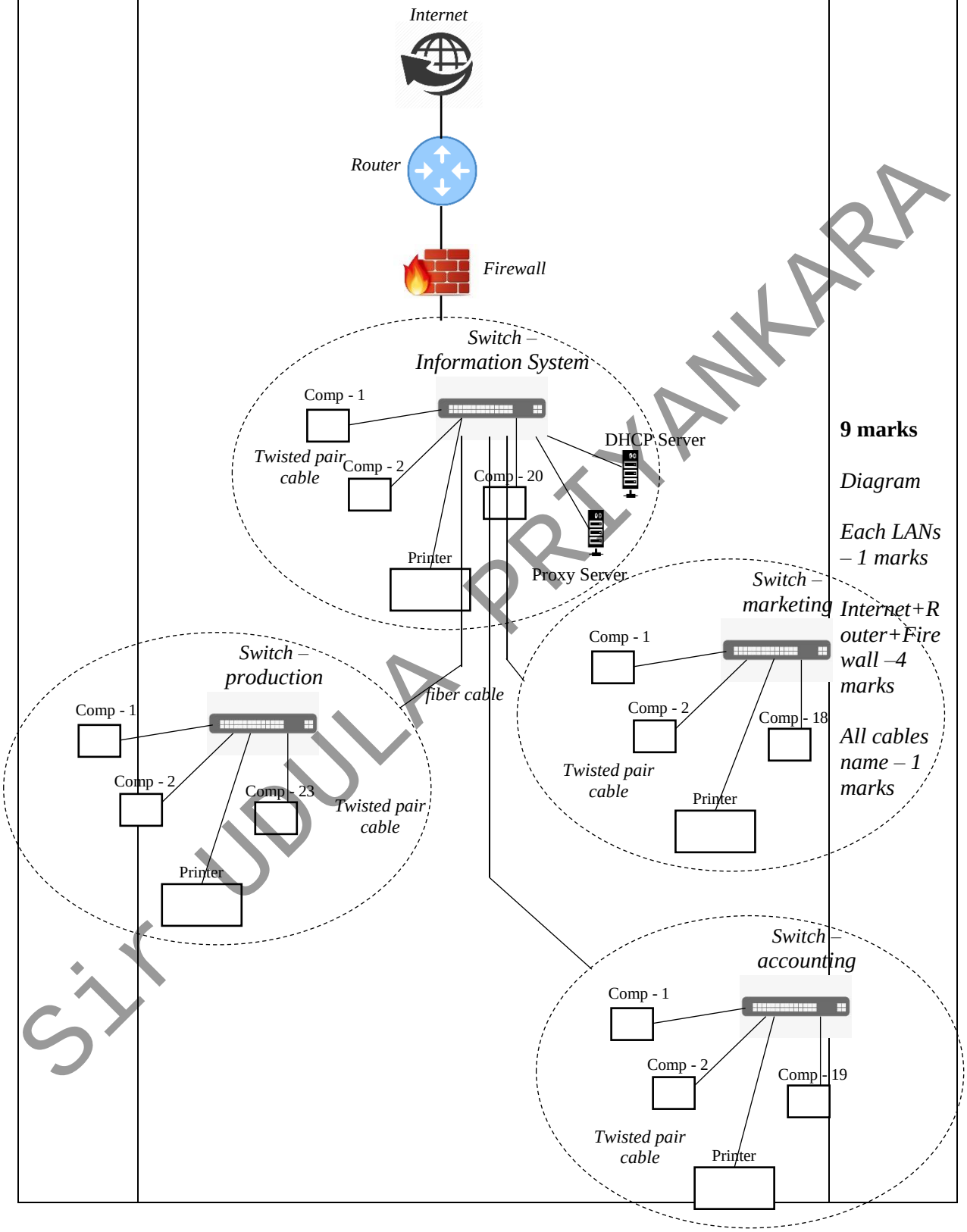

9 marks

Diagram

Each LANs – 1 marks

Internet+Router+Firewall –4 marks

All cables name – 1 marks

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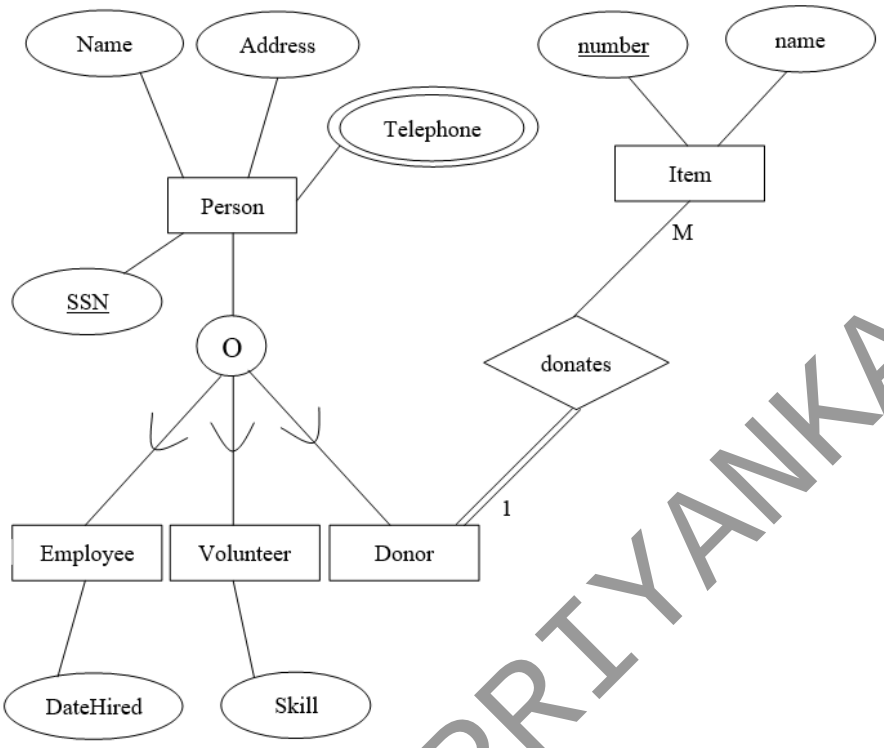
(7)(a)		**9 marks** [**5 marks** for entities 5 x 1] **[0.5 marks** for overlap relationship] **[1.5 marks** for relationships & cardinalities] **[2 marks** for attributes & primary keys of entities]
(7)(b)(i)	INSERT INTO Customer VALUES(‘C01’,’Nathiya’,’ 0212224243’,’Colombo’); Or INSERT INTO Customer (CustomerID,CustomerName,ContactNo,City) VALUES(‘C01’,’Nathiya’,’ 0212224243’,’Colombo’);	**2 marks**
(7)(b)(ii)	DELETE FROM Customer WHERE CustomerID = ‘C05’;	**2 marks**
(7)(b)(iii)	SELECT * FROM Customer ORDER BY CustomerName ASC; Or SELECT * FROM Customer ORDER BY CustomerName;	**2 marks**

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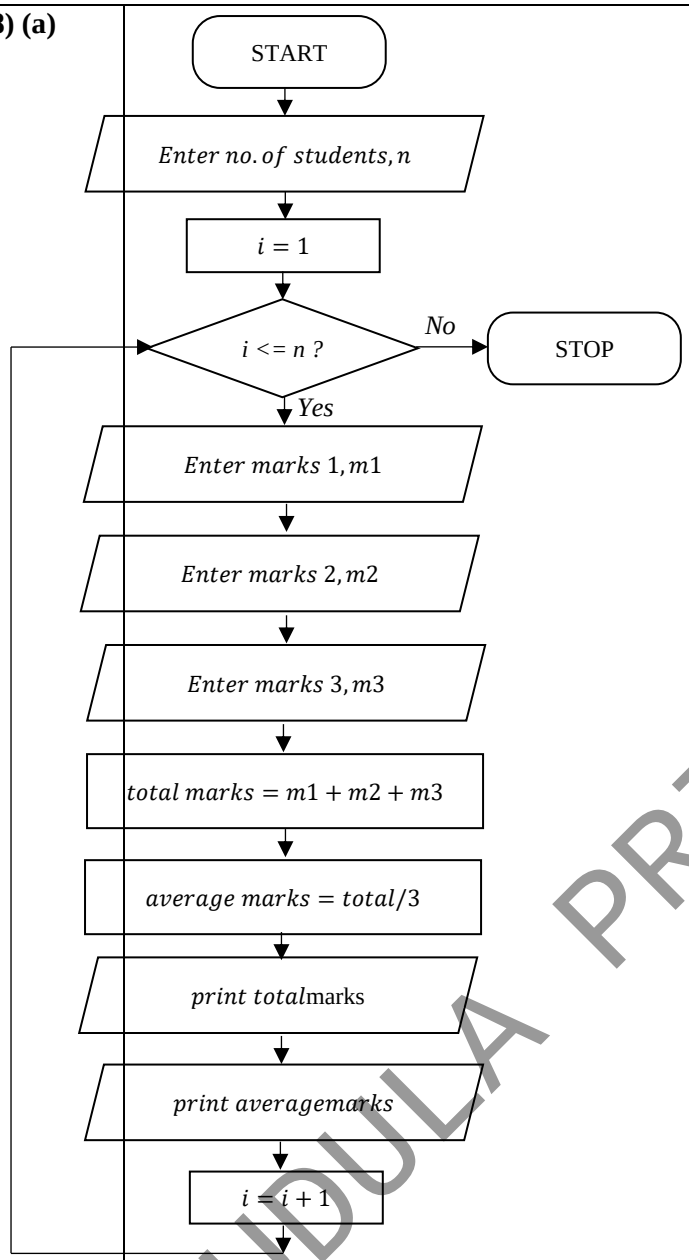
(8) (a)



5 marks

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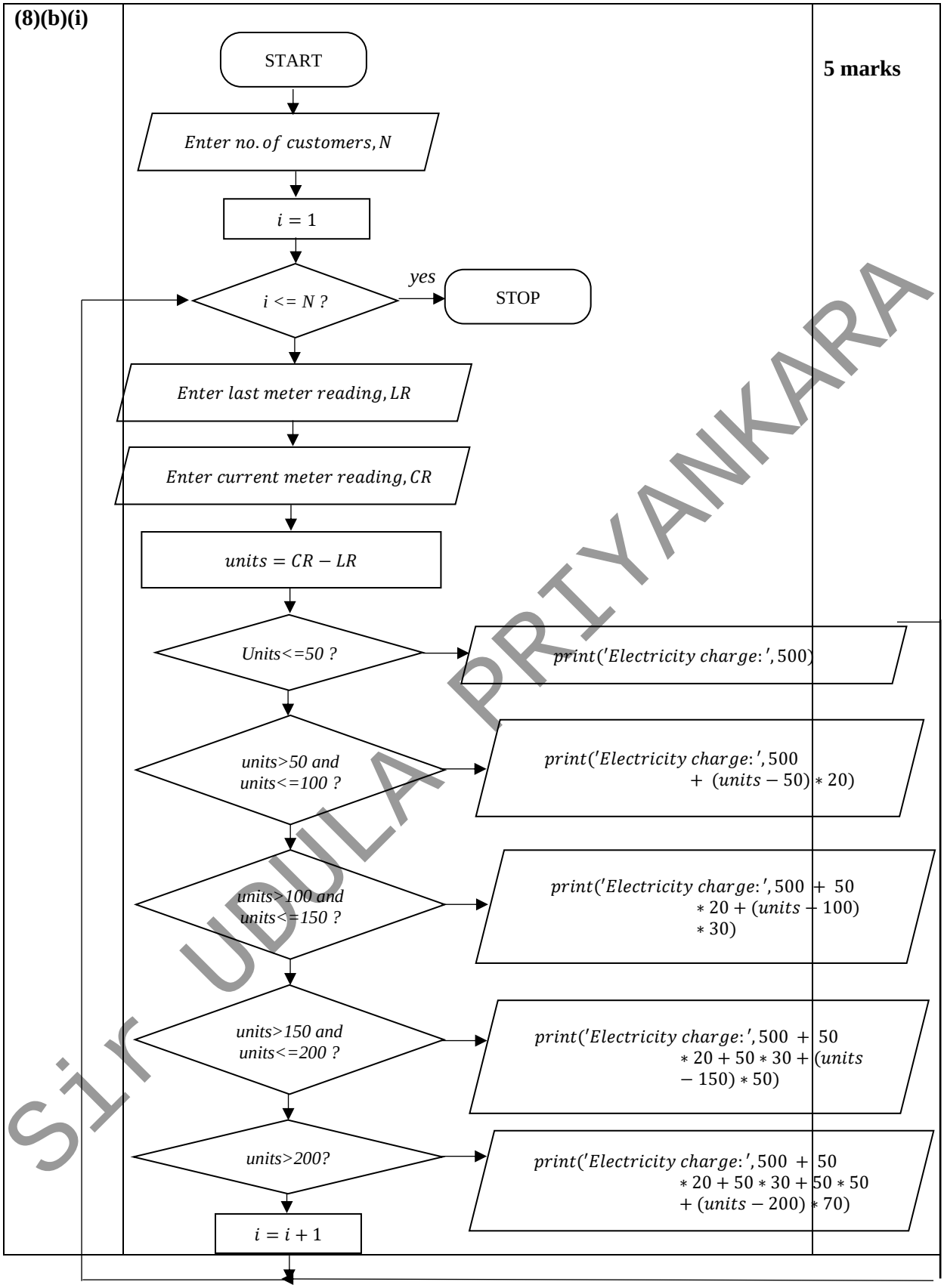
(8)(b)(i)

5 marks



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(8)(b)(ii)	*N = int(input('Enter no. of customers:'))* *i = 1* *while i <= N:* *LR = int(input('Enter last meter reading:'))* *CR = int(input('Enter current meter reading:'))* *units = CR - LR* *if units <= 50:* *print('Electricity charge:',500)* *elif units > 50 and units <= 100:* *print('Electricity charge:',500 + (units-50)*20)* *elif units > 100 and units <= 150:* *print('Electricity charge:',500 + 50*20+(units-100)*30)* *elif units > 150 and units <= 200:* *print('Electricity charge:',500 + 50*20+50*30+(units-150)*50)* *elif units > 200:* *print('Electricity charge:',500 + 50*20+50*30+50*50+(units-200)*70)* *i = i + 1*	**5 marks**
(9)(a)(i)	Parallel. Because old system is running with the new system for a period of time.	**2 marks**
(9)(a)(ii)	• Users can can compare the output of the old system with the output of the new system, to ensure correctness. • There is little risk of data loss because the known-good system is running. • More security.	**2 marks**
(9)(a)(iii)	• Users must take more time to enter data into two different systems. • Data could be different in two different systems if there is intensive data entry. • More expensive	**2 marks**
(9)(b)	*Functional requirements – செயல்சார் தேவைப்பாடுகள்*: **A,B,E,H** *Non-functional requirements – செயல்சாரா தேவைப்பாடுகள்*: **C,D,F,G**	**4 marks** *0.5 marks for each*
(9)(c)(i)	It is a formal testing according to user needs Display "Even number" ness processes conducted to determine whether a system satisfies the acceptance criteria or not. Done by the enduser / customer /authorized people with the help of software de Display "odd number"	**3 marks [2+1]**

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(9)(c)(ii)	• Waterfall is a Liner /Sequential Life Cycle Model whereas Agile is a continuous iteration of development. • Agile model is known for its flexibility whereas Waterfall is a structured software development model. • Agile follows an incremental approach whereas the Waterfall is a sequential design process. • Agile performs testing concurrently with software development whereas in Waterfall methodology testing comes after the "build" phase. • Agile allows changes in project development requirement whereas Waterfall has no scope of changing the requirements once the project development starts.	**2 marks [1+1]**
(10)	<html> <head> <title> MusiK </title> </head> <body> MusiK Store <hr> String instruments - Violin - Guitar - Acoustic guitar - Electric guitar - Banjo <img src="banjo.jpg" alt="banjo" width="200" height="200"> For purchasing : <fieldset> <legend> Login/Register </legend> Name: <input type="text" name="fname"> Password: <input type="text" name="fname"> <input type="submit" name="sbt" value="Register"> <input type="submit" name="lgn" value="Login"> <input type="reset" name="rst" value="Clear"> </fieldset>	**1 marks**
	For further details: MusiK Store </body> </html>	

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Final Marks Distributions

Part – I	2 x 50 = 100 marks	**Total: 200 / 2 = 100 marks**
Part – II A	10 x 4 = 40 marks	
Part – II B	15 x 4 = 60 marks	