

A/L ICT 2019 (Gr.13)

March – 2019 Examination



Field Work Center (FWC)

ICT



Part – I

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

Part – II A

Question No.		Marks																				
(1) (a)	 <p>(i) True (ii) False (iii) False (iv) True</p>	2 marks [0.5x4]																				
(1) (b)	<p>Marks</p> <table border="1"> <thead> <tr> <th>Subject</th> <th>Marks</th> </tr> </thead> <tbody> <tr> <td>ICT</td> <td>98 87</td> </tr> </tbody> </table>	Subject	Marks	ICT	98 87	1.5 marks [no partial marks]																
Subject	Marks																					
ICT	98 87																					
(1) (c)	<table border="1"> <thead> <tr> <th></th> <th>Selector</th> <th>Property</th> <th>Value</th> </tr> </thead> <tbody> <tr> <td>(i)</td> <td>h1</td> <td>color</td> <td>red</td> </tr> <tr> <td>(ii)</td> <td>p</td> <td>font-family</td> <td>verdana</td> </tr> <tr> <td>(iii)</td> <td>body</td> <td>background-color</td> <td>blue</td> </tr> <tr> <td>(iv)</td> <td>p</td> <td>text-align</td> <td>center</td> </tr> </tbody> </table>		Selector	Property	Value	(i)	h1	color	red	(ii)	p	font-family	verdana	(iii)	body	background-color	blue	(iv)	p	text-align	center	4 marks [4x1] [partial marks given] [one marks for one row]
	Selector	Property	Value																			
(i)	h1	color	red																			
(ii)	p	font-family	verdana																			
(iii)	body	background-color	blue																			
(iv)	p	text-align	center																			
(1) (d)	<p>(i) False (ii) True (iii) True (iv) True (v) False</p>	2.5 marks [0.5x5]																				

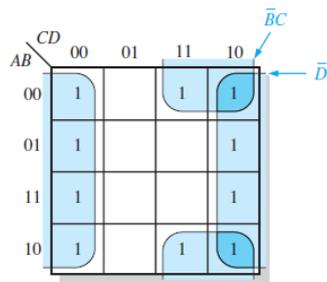
(2)(a)(i)	GUI	1 marks [case sensitivity]
(2)(a)(ii)	G U I O V A N R O S S U M	2 marks [case sensitivity with space]
(2)(b)	Before the loop Count is 1 Count is 2 Count is 3 Loop has ended	3.5 marks [exact output and no partial marks given]
(2)(c)(i)	Logical error / semantic error	0.5 marks
(2)(c)(ii)	Run time error	0.5 marks
(2) (d)	A - Customer B - Distributer C - Payment detail D - Payment slip E - Purchase order	2.5 marks [0.5 x 5]
		
(3)(a)(i)	A table should be in 2NF AND It has no transitive dependency OR Every key is a determinant	2 marks [no partial marks]
(3)(a)(ii)	Patient (PatientNo, PatientName) Test (TestType, Charge) Patient_Test (PatientNo,TestType, TreatmentDate)	2 marks [partial marks given]
(3)(b)(i)	INSERT INTO EMPLOYEE VALUES('e_05','Rajaratnam','SysEng.','IT',120000); OR INSERT INTO EMPLOYEE(EmpNo,EmpName,Position,Department,BasicSalary) VALUES('e_05','Rajaratnam','SysEng.','IT',120000);	1 marks [no partial marks]
(3)(b)(ii)	SELECT * FROM EMPLOYEE WHERE BasicSalary >= 60000;	1 marks [no partial marks]

(3)(b)(iii)	SELECT dept, SUM(BasicSalary), COUNT(EmpNo) FROM EMPLOYEE GROUP BY dept;	2 marks [no partial marks]
(3) (c)	No. Only one-bit change could be detected by odd parity bit method / burst errors cannot be detected by parity bit method.	2 marks [1+1]
(4) (a)	$15_{10} = 00001111_2$ $-24_{10} = 11101000_2$ $\underline{\quad\quad\quad}$ $\underline{\quad\quad\quad}$ 11110111_2	2 marks [each steps - 0.5+0.5+1]
(4) (b)	When power is turned on, POST is the diagnostic testing sequence that a computer's BIOS program runs to determine if the computer keyboard, random access memory, disk drives, and other hardware are working correctly .	2 marks [no partial marks]
(4) (c)	CMOS battery is used to retain / store the settings of the BIOS program.	2 marks [no partial marks]
(4) (d)	(i) <u>True</u> / False True / <u>False</u> (ii) <u>True</u> / False True / <u>False</u> (iii) <u>True</u> / False True / <u>False</u> (iv) True / <u>False</u> <u>True</u> / False	4 marks (1 x 4)

Part –II B

Question No.		
(1)(a)(i)	$A\bar{B}\bar{C}\bar{D} + \bar{A}\bar{B}\bar{C}\bar{D} + \bar{A}\bar{B}\bar{C}D + A\bar{B}\bar{C}D + \bar{A}\bar{B}CD + A\bar{B}CD + \bar{A}BCD + \bar{A}BCD + ABCD$ $+ A\bar{B}C\bar{D}$	3 marks [no partial marks]

(1)(a)(ii)



3 marks

[no partial marks given]

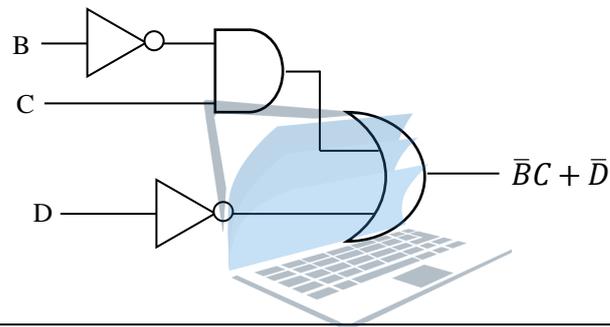
(1)(a)(iii)

$$\bar{B}C + \bar{D}$$

2 marks

[no partial marks given]

(1)(a)(iv)



2 marks
[no partial marks given]

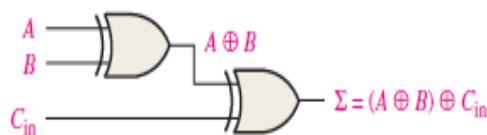
(1)(b)(i)

A	B	C _{in}	Sum
0	0	0	0
0	0	1	1
0	1	0	1
0	1	1	0
1	0	0	1
1	0	1	0
1	1	0	0
1	1	1	1

2 marks

[no partial marks given]

(1)(b)(ii)

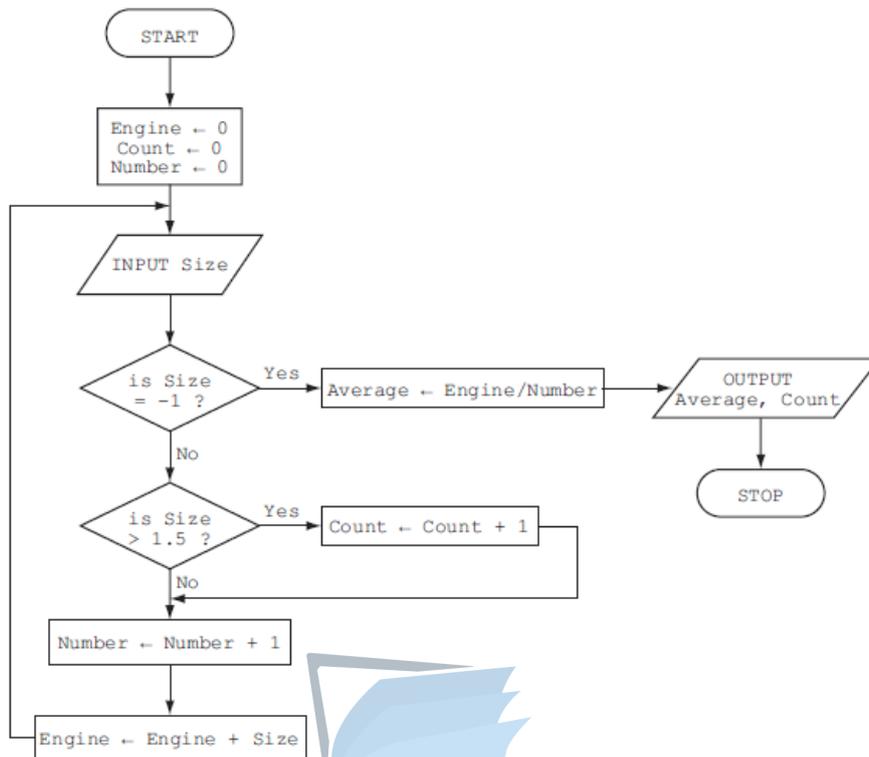


3 marks

[no partial marks given]

(2)(a)	<p>Services expected by the user from a system or services provided to the user by the system.</p> <ul style="list-style-type: none"> • Data about books should/shall be able to store by the user • Data about members should/shall be able to store by the user • Data about book borrowing should/shall be able to store by the user • Details on barcode should/shall be able to read by the user 	5 marks [definition - 2+ others - 3]
(2)(b)	<p>Constraints / limitations of the system.</p> <ul style="list-style-type: none"> • Security – enough data security should/shall be able to have by the user system • User-friendly – enough data security should/shall be able to have by the user 	4 marks [definition - 2+ others - 2]
(2)(c)	Parallel implementation	2 marks
(2) (d)	<p>Advantage</p> <ul style="list-style-type: none"> • Less risky / more security <p>Disadvantage</p> <ul style="list-style-type: none"> • High cost 	4 marks [2+2]
(3)(a)	<p>Inputs</p> <ul style="list-style-type: none"> - Engine size <p>Outputs</p> <ul style="list-style-type: none"> - Average engine size - No. of engines with more than 1.5 size 	3 marks [1+1+1]

(3)(b)



6 marks
(or any acceptable logic)

Partial marks given

(3) (c)

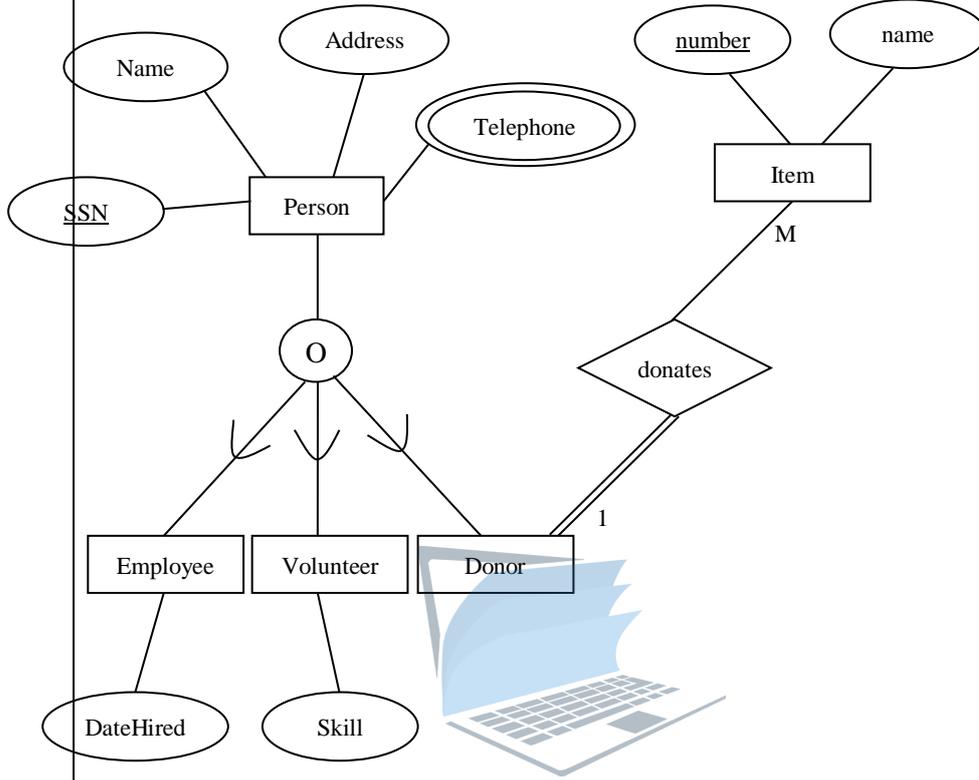
```
engine=0
count=0
number=0
size=int(input("Enter engine size:"))
while (size!=-1):
    if size>1.5:
        count=count+1
        number=number+1
        engine=engine+size
    size=int(input("Enter engine size:"))
average=engine/number
print(average,count)
```

6 marks
(or any acceptable program)
Partial marks given

[variables initialization – 1, input – 1, while condition – 1, if condition – 1, processes – 1, output – 1] With perfect syntax

(4)(a)	<table border="1"> <thead> <tr> <th></th> <th>Circuit Switching</th> <th>Packet Switching</th> </tr> </thead> <tbody> <tr> <td>Dedicated physical path - தனிப்பயன் பொளதிகபாதை</td> <td>Yes</td> <td>No</td> </tr> <tr> <td>Packets arrive in order - பொட்டலங்கள் ஒழுங்குவரிசையில் வந்தடைதல்</td> <td>Yes</td> <td>No</td> </tr> <tr> <td>Packets follow the same route - பொட்டலங்கள் ஒரே பாதையில் தொடருதல்</td> <td>Yes</td> <td>No</td> </tr> <tr> <td>Fixed use of bandwidth - நிலைத்த பட்டையகல பயன்பாடு</td> <td>Yes</td> <td>No</td> </tr> </tbody> </table>		Circuit Switching	Packet Switching	Dedicated physical path - தனிப்பயன் பொளதிகபாதை	Yes	No	Packets arrive in order - பொட்டலங்கள் ஒழுங்குவரிசையில் வந்தடைதல்	Yes	No	Packets follow the same route - பொட்டலங்கள் ஒரே பாதையில் தொடருதல்	Yes	No	Fixed use of bandwidth - நிலைத்த பட்டையகல பயன்பாடு	Yes	No	6 marks [3x2] or any other acceptable answers			
	Circuit Switching	Packet Switching																		
Dedicated physical path - தனிப்பயன் பொளதிகபாதை	Yes	No																		
Packets arrive in order - பொட்டலங்கள் ஒழுங்குவரிசையில் வந்தடைதல்	Yes	No																		
Packets follow the same route - பொட்டலங்கள் ஒரே பாதையில் தொடருதல்	Yes	No																		
Fixed use of bandwidth - நிலைத்த பட்டையகல பயன்பாடு	Yes	No																		
(4)(b)	<table border="1"> <thead> <tr> <th>UDP</th> <th>TCP</th> </tr> </thead> <tbody> <tr> <td>Connection-orientated service இணைப்பு அடிப்படையற்ற சேவை</td> <td>Connection-orientated service இணைப்பு அடிப்படையுடைய சேவை</td> </tr> <tr> <td>Unreliable service நம்பகத்தன்மையற்ற சேவை</td> <td>Reliable service நம்பகத்தன்மையுடைய சேவை</td> </tr> </tbody> </table>	UDP	TCP	Connection-orientated service இணைப்பு அடிப்படையற்ற சேவை	Connection-orientated service இணைப்பு அடிப்படையுடைய சேவை	Unreliable service நம்பகத்தன்மையற்ற சேவை	Reliable service நம்பகத்தன்மையுடைய சேவை	4 marks [2+2] or any equivalent explanation												
UDP	TCP																			
Connection-orientated service இணைப்பு அடிப்படையற்ற சேவை	Connection-orientated service இணைப்பு அடிப்படையுடைய சேவை																			
Unreliable service நம்பகத்தன்மையற்ற சேவை	Reliable service நம்பகத்தன்மையுடைய சேவை																			
(4)(c)(i)	255.255.255.224	2.5 marks																		
(4)(c)(ii)	<table border="1"> <thead> <tr> <th>Subnet No</th> <th>Start address</th> <th>End address</th> </tr> </thead> <tbody> <tr> <td>1</td> <td>192.168.40.32</td> <td>192.168.40.63</td> </tr> <tr> <td>2</td> <td>192.168.40.64</td> <td>192.168.40.95</td> </tr> <tr> <td>3</td> <td>192.168.40.96</td> <td>192.168.40.127</td> </tr> <tr> <td>4</td> <td>192.168.40.128</td> <td>192.168.40.159</td> </tr> <tr> <td>5</td> <td>192.168.40.160</td> <td>192.168.40.191</td> </tr> </tbody> </table>	Subnet No	Start address	End address	1	192.168.40.32	192.168.40.63	2	192.168.40.64	192.168.40.95	3	192.168.40.96	192.168.40.127	4	192.168.40.128	192.168.40.159	5	192.168.40.160	192.168.40.191	2.5 marks [0.5x5] 0.5 for each row
Subnet No	Start address	End address																		
1	192.168.40.32	192.168.40.63																		
2	192.168.40.64	192.168.40.95																		
3	192.168.40.96	192.168.40.127																		
4	192.168.40.128	192.168.40.159																		
5	192.168.40.160	192.168.40.191																		

(5)



15 marks

[7.5 marks
for entities
5x1.5]

[1.5 marks
for overlap
relationship]

[2 marks
for
relationships
&
cardinalities]

[4 marks
for attributes
& primary
keys of
entities
8x0.5]

Note:

- ✓ Entity – Singular Noun
- ✓ Relationship – Verb
- ✓ Proper symbols
- ✓ State if any assumptions made

தமிழ்மொழி மூலமான மாணவர்கள் ER வரிப்படத்தினை தமிழ்மொழி மூலமான சொற்களை மாத்திரம் பயன்படுத்தி வரைதல் வேண்டும். ஆங்கிலப் பதங்கள் தரப்பட்டிருந்தால் அவற்றினைப் பயன்படுத்தலாம். மொழிமாற்றம் செய்தலாகாது.

(6)(a)	<pre><html> <head> <title> Registration</title> </head> <body> <h1> Enter details: </h1> <form method="post" action="registration.php"> <p> Enter name: <input type="text" name="fname"> </p> <p> Enter e-mail: <input type="text" name="email"> </p> <input type="submit" name="sbt" value="Submit"> </form> </body> </html></pre>	7 marks [partial marks given] [html, head,title, body -1, h1-1, form -1, name-1, email-1, button-1, overall perfect -1 marks]
(6)(b)	<pre>h1 { color:blue; text-align:center; border-style:solid; }</pre>	3 marks [partial marks given] selector -1, declaration -2 marks
(6)(c)	<pre><link rel="stylesheet" type="text/css" href="reg.css"></pre>	2 marks or 0
(6)(d)	<pre><?php echo \$_POST['fname']; echo \$_POST['email']; ?></pre>	3 marks [GET can be used instead of POST] [partial marks given] [each step -1 marks]

Final Marks Distributions

Part – I 2 x 50 = 100 marks

Part – IIA 10 x 4 = 40 marks

Part – IIB 15 x 4 = 60 marks

Total: 200 / 2 = 100 marks
