A/L ICT Marking Scheme

2019 – November

2021 (Gr.12) Batch

Field Work Center (FWC)

Thondaimanaru

ICT

Part I – Answers

(1)	**2**	**(11)**	**3**	**(21)**	**2**	**(31)**	**5**
(2)	**4**	**(12)**	**5**	**(22)**	**5**	**(32)**	**3**
(3)	**5**	**(13)**	**2**	**(23)**	**4**	**(33)**	**2**
(4)	**3**	**(14)**	**2**	**(24)**	**2**	**(34)**	**3**
(5)	**3**	**(15)**	**5**	**(25)**	**3**	**(35)**	**1**
(6)	**1**	**(16)**	**1**	**(26)**	**3**	**(36)**	**3**
(7)	**4**	**(17)**	**4**	**(27)**	**5**	**(37)**	**3**
(8)	**5**	**(18)**	**5**	**(28)**	**4**	**(38)**	**1**
(9)	**3**	**(19)**	**1**	**(29)**	**1**	**(39)**	**4**
(10)	**2**	**(20)**	**3**	**(30)**	**2**	**(40)**	**1**

Part – II A Answers

Ques. No.	Suggested answers	Marks
(1) (a)	• **Magnetic storage technology** – Hard disk, Floppy disk, Zip drive, Jaz drive, Magnetic tape • **Optical / Laser storage technology** – CD, DVD, Blu-ray disc • **Solid-state / semi-conductor storage technology** – SSD, Flash drive, memory card	**3 marks [1 x 3]** if no example, give deduct 0.5 for each
(1) (b)	A – Data collection - *தரவு சேகரிப்பு* B – Input and validation *உள்ளீடு மற்றும் செல்லுபடியாக்கல்* C – Data processing - *தரவு முறைவழியாக்கம்* D – Output and storage - *வருவிளைவு மற்றும் சேமிப்பு*	**2 marks [0.5 x 4]**
(1) (c)	**(i)** True **(ii)** False **(iii)** True **(iv)** True **(v)** True	**2.5 marks [0.5 x 5]**

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(1) (d)

$29_{10} = 00011101_2$ ← 0.5

$-18_{10} = 11101110_2$ ← 0.5

00001011_2 ← 1

[discard carry bit 1] ← 0.5

2.5 marks

(2) (a)

(i) ②

(ii) ⑦

(iii) ④

(iv) ⑥

(v) ⑤

2.5 marks [0.5 x 5]

(2) (b)

	Application software	**System software**
(i)	Internet Explorer	Ms-Windows
(ii)	Adobe Photoshop	Mac OS X
(iii)	GIMP	Fedora Linux

3 marks [0.5 x 6]

[deduct marks for additional answers**]**

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(2) (c)

(i) Computer hardware is a ***physical (tangible)*** component of a computer system.

(ii) Computer software is a ***set of instructions*** to the computer system.

3 marks [1.5 x 2]

(2) (d)

Any examples from Library system

Data : BookID, Book Title, Author, etc.

Information: Total n o. of books borrowed in a particular day/month/year, etc.

Any related example could be accepted.

1 marks for one correctness 1.5 marks for two correctness **[1.5 marks]**

(3)(a)

$ABC + AB\bar{C} + \bar{A}BC + A\bar{B}C$

$AB(C + \bar{C}) + \bar{A}BC + A\bar{B}C$ 0.5 [distributive /absorption Law]

$AB.1 + \bar{A}BC + A\bar{B}C$ 0.5 [inverse Law]

$AB + \bar{A}BC + A\bar{B}C$

$B(A + \bar{A}C) + A\bar{B}C$ 0.5 [identity Law]

$B(A + C) + A\bar{B}C$ 0.5 $[A + \bar{A}C = A + C]$

$AB + BC + A\bar{B}C$

$AB + C(B + A\bar{B})$

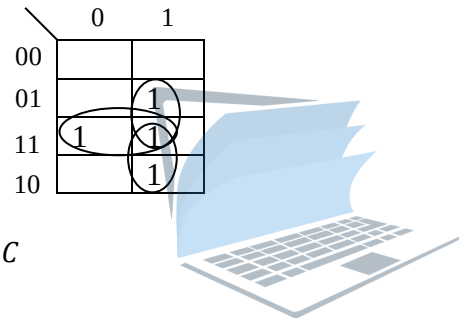
$AB + C(B + A)$

$AB + BC + AC$ 0.5

3 marks [2.5+0.5]

[give 2.5 marks for any two rules]

(3)(b)



$AB + BC + AC$

2 marks [1+1]

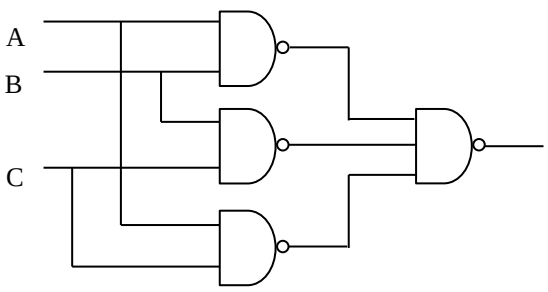
(3)(c)

A	B	C	AB	BC	AC	AB+BC+AC
0	0	0	0	0	0	0
0	0	1	0	0	0	0
0	1	0	0	0	0	0
0	1	1	0	1	0	1
1	0	0	0	0	0	0
1	0	1	0	0	1	1
1	1	0	1	0	0	1
1	1	1	1	1	1	1

3.5 marks

[0.5 for each column]

(3)(d)



1.5 marks Or 0

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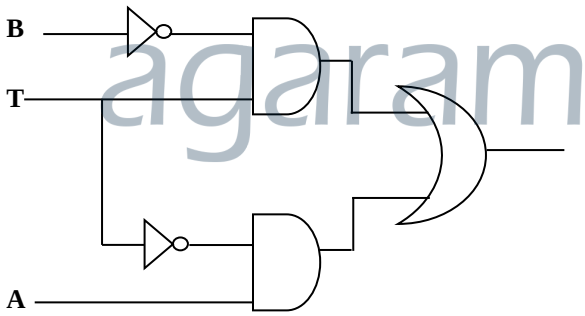
(4) (a)	❶ அறிவுறுத்தல்களைக் கொணர்தல் (fetching instructions) ❷ செய்நிரல் எண்ணியினது அதிகரிப்பு (increment of program counter) ❸ அறிவுறுத்தல்களைக் குறியவிழ்த்தல் (decoding instructions) ❹ அறிவுறுத்தல்களை நிறைவேற்றுதல் (executing instructions)	**4 marks** **[1 x 4]**
(4) (b)	• Loading basic device drivers • POST – Power On Self Test process • Settings (date/time)	**3 marks** **[1.5 x 2]**
(4) (c)		**3 marks** **[1 x 3]**

Part –II B Answers

Question No.	Suggested Answers	Marks
(1) (a)	$T\bar{B} + A\bar{T}$	**3 marks** **Or 0**
(1)(b)		**3 marks** **Or 0**
(1)(c)		**4 marks** **[0.5 x 8 – every column takes 0.5 marks]**

A	T	B	$\bar{B}$	$T\bar{B}$	$\bar{T}$	$A\bar{T}$	$T\bar{B} + A\bar{T}$
0	0	0	1	0	1	0	0
0	0	1	0	0	1	0	0
0	1	0	1	1	0	0	1
0	1	1	0	0	0	0	0
1	0	0	1	0	1	1	1
1	0	1	0	0	1	1	1
1	1	0	1	1	0	0	1
1	1	1	0	0	0	0	0

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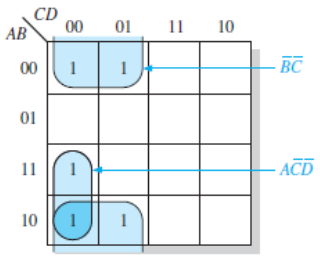
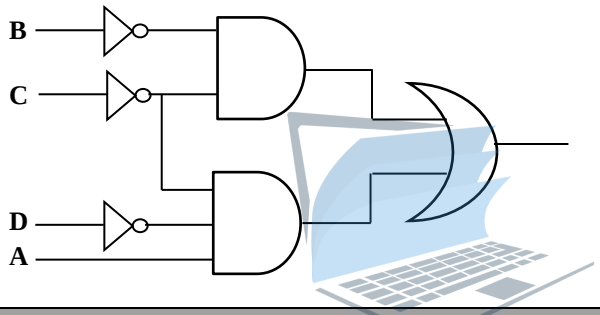
(2)(a)	$A\bar{B}\bar{C} + AB\bar{C}\bar{D} + \bar{A}\bar{B}\bar{C}D + \bar{A}\bar{B}\bar{C}\bar{D}$ $A\bar{B}\bar{C}\,(D + \bar{D}) + AB\bar{C}\bar{D} + \bar{A}\bar{B}\bar{C}D + \bar{A}\bar{B}\bar{C}\bar{D}$ $A\bar{B}\bar{C}D + A\bar{B}\bar{C}\bar{D} + AB\bar{C}\bar{D} + \bar{A}\bar{B}\bar{C}D + \bar{A}\bar{B}\bar{C}\bar{D}$	**2 marks [1 for each line]**
(2)(b)	 $\bar{B}\bar{C} + A\bar{C}\bar{D}$	**5 marks** **[3 for K-map and 2 for simplified Boolean expression]**
(2)(c)		**3 marks 0r 0**
(3) (a)	• Inconsistency and duplication of data – *தரவு ஒருங்கிசைவின்மையும், மறுபதிவும்* • Human errors / inaccuracy – *மனித வழுக்கள் / துல்லியமின்மை* • Delay in processing – *முறைவழியாக்க தாமதம்* • Inefficiency – *வினைத்திறனற்றது*	**4 marks [2 x 2]**
(3) (b)	• Attendances of each student could be easily managed / up-to-date • The Internet usage of students could be controlled with limit • Academic details of each student could be easily managed / up-to-date *Any related example could be accepted.*	**3 marks [1.5 x 2]**
(3) (c)	• Data privacy issues or • Security issues	**2 marks**
(3) (d)	• Data encryption or • Username / password pair *Any related example could be accepted.*	**1 marks**

Part – I 1 x 40 =40 marks **Part – II A** 10 x 4 = 40 marks **Part – II B** 10 x 2 = 20 marks

Total = 100 marks

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