A/L ICT Marking Scheme
2018 – March Term Examination
2019 (Gr.12) Batch

Field Work Center(FWC)
Thondaimanaru

ICT

Part I

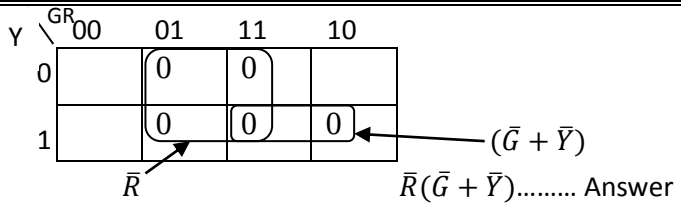
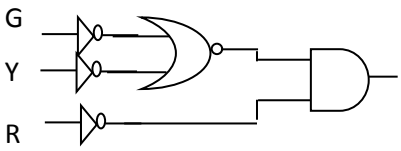
1.	4	11.	5	21.	5	31.	3
2.	3	12.	3	22.	4	32.	5
3.	1	13.	4	23.	2	33.	3
4.	5	14.	2	24.	3	34.	2
5.	5	15.	3	25.	4	35.	1
6.	3	16.	5	26.	3	36.	5
7.	4	17.	4	27.	5	37.	2
8.	3	18.	4	28.	5	38.	2
9.	3	19.	3	29.	4	39.	1
10.	1	20.	2	30.	2	40.	3

(1x40 = 40marks)

Part II A

Question No	Suggested Answers	Marks
1) a)	18_{10} = 00010010 23_{10} = 00010111 -23_{10} = 11101001	1 1 1
1) b)	18_{10} - 23_{10} = 00010010 11101001 11111011	 1 1 1
1) c)	Indentify the sign of the final decimal number by MSB(both positive or negative) MSB is 0 , it is positive Convert to decimal MSB is 1. it is negative Take the sign as negative Get the binary number invert bit version Add 1 to the LSB convert number to decimal	1 1 1 1
2) a)	Process is a program in execution program can have multiple processes	1 1
2) b)	Operating system helps to make computer hardware available to the application programs. Without OS we cannot access computer hardware.	2 1
2) c)	Application Software - GIMP. Vectorian, Corel Draw OS - Isuru Linux, Android, DOS	1 ½ 1 ½
2) d)	Time sharing, Multi programming	1, 1

3) a)	Physical Layer – Layer 1 Data Link Layer – Layer 2 Network Layer – Layer 3 Transport Layer – Layer 4 Session Layer – Layer 5 Presentation Layer -– Layer 6 Application Layer – Layer 7	All are correct order give 3, otherwise no marks
3) b)	A/21 is 255.255.248.0 – Subnet Mask 172.16.64.0 – Network address	2 2
3) c)	You need 5 subnets, each with at least 16 hosts. The mask 255.255.255.240 provides 16 subnets with 14 hosts this will not work. The mask 255.255.255.224 provides 8 subnets, each with 30 hosts. This is the best answer.	1 2
4) a)	2 – Transistor 3 – Integrated Circuit 4- micro chips/VLSI	1X3=3
4) b)	Hardware, Software, Firmware, Live ware	4x ½=2
4) c)	Plug and play	2
4) d)	<table><tr><td></td><td>SRAM</td><td>DRAM</td></tr><tr><td>Speed</td><td>**Fast** / Slow</td><td>Fast / **Slow**</td></tr><tr><td>Memory density</td><td>High / **Low**</td><td>**High** / Low</td></tr><tr><td>Refreshing</td><td>Yes / **No**</td><td>**Yes** / No</td></tr></table>	Each row has 1 mark, total 3 marks
Part II B		
1) a)	G – Green Light R – Red Light Y – Yellow Light Alternative Road – X <table><tr><td>G</td><td>R</td><td>Y</td><td>X</td></tr><tr><td>0</td><td>0</td><td>0</td><td>1</td></tr><tr><td>0</td><td>0</td><td>1</td><td>1</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>0</td></tr><tr><td>1</td><td>0</td><td>0</td><td>1</td></tr><tr><td>1</td><td>0</td><td>1</td><td>0</td></tr><tr><td>1</td><td>1</td><td>0</td><td>0</td></tr><tr><td>1</td><td>1</td><td>1</td><td>0</td></tr></table>	1 Truth table - 4
1) b)	$X = (G + \bar{R} + Y)(G + \bar{R} + \bar{Y})(\bar{G} + R + \bar{Y})((\bar{G} + \bar{R} + Y)((\bar{G} + \bar{R} + \bar{Y})$	1

1) c)		2
1) d)		2
2) a)	Created(New), Ready, Running, Swapped out and waiting, Blocked, Swapped out and blocked, Terminated **7 are correct – 4 marks,** **6,5 are correct – 3 marks** **4,3 are correct - 2marks** **2,1 are/is correct – 1 mark**	4
2) b)	Ready, Running, Blocked	1 ½
2) c)	Store the current state of the running process in the PCB. Load the state of the process to ne continued to the CPU from the PCB. Transfer the control to the process to be continued.	1 1 1
2) d)	$2^6 = 64$	1 ½
3) a)	Big Data is defined as **data too large** and **complex to capture**, **process**, and **analyze** using **current computing architecture**	2
3) b)	Broad cast, Point to Point	2
3) c)	Simplex. Data flow in single direction	½ , ½
3) d)	1) Protocol 2) Personal Area Network 3) MAC address 4) Pulse Code Modulation	½ ½ ½ ½

3) e)	Gateway • It is a passage to connect two networks together that may work upon different networking models • It basically works as the messenger agents that take data from one system, interpret it, and transfer it to another system. bridge • filtering content by reading the MAC addresses of source destination • Interconnecting two LANs working on the same protocol. **Give marks for one function**	1 ½ 1 ½