

PROVINCIAL DEPARTMENT OF EDUCATION NORTH WESTERN PROVINCE THIRD TERM TEST 2020

Grade 10 INFORMATION & COMMUNICATION TECHNOLOGY - I One Hours

_	me / Index No. :	ICAI	TON TECHNOLOGI - 1 One Hour.
•	Answer all questions.		
• 01.	Underline the correct or most suitable answer In a modern industry which produces toy car market. What is the correct answer regardi respectively.	s when	insert relevant pars it issues a toy car to the
	(1) Input - Engine, wheels, Stearinwheel, body Process - Issuing to the market Output - Toy car	(2)	Input - The factory which produces motor cars Process - Assembling Output - Toy car
	Input - Engine, wheels, Stearinwheel, body Process - Assembling Output - Toy car	(4)	Input - The factory which produces motor cars Process - Issuing to the market Output - Toy car
02.	At present, which step hasn't been taken to traffic?	facilita	ate the transportation for avoiding the road
	(1) Closed Circuit TV(3) Parking Identification Placard	(2) (4)	Automatic Teller Machine Traffic Light Control System
03.	With the computer evolution, in thwere used to input data in generation.	_	
	(1) Key board and mouse, first	(2)	Touch screen and touch pad, fourth
	(3) Key board and mouse, fifth	(4)	Touch screen and touch pad, fifth
04.	What is the answer included only automatic co (1) Abacus, IBM 360, UNIVAC LARC, IBM (2) Adding Machine, Punch card system, Ab (3) Difference Engine, EDSAC, EDVAC, I (4) ENIAC, UNIVAC, PDP 11, Apple 11	M 701 pacus, A	Analytical Engine
05.	There are two types of computer memory, as	primar	y memory and secondary memory. Consider

- the following statements regarding primary memory.
 - A. Basic Input Output System Commands has been stored in ROM by the computer Data manufactures.
 - B. Firstly, Necessary data available for processing CPU is checked in Cached memory.

What is the **correct** answer according to above statements?

- (1) Statement A is correct and statement B is incorrect.
- (2) Statement A is incorrect and statement B is correct.
- (3) Both statement A and B are correct.
- (4) Both statement A and B are incorrect.
- 06. What is the unit of measuring the speed of central processing unit at present?
 - (1) Byte
- (2) Giga Hertz (GHz) (3) Terabyte (TB)
- (4) Nibble
- 07. The following chart shows statements regarding computer types in column A and its usages in column B.

A	В	
(1) Super computers	A A number of users get connected to one computer using a	
	number of terminals.	
(2) Mainframe computers	B A few users get connected to computers through a few	
	terminals	
(3) Mini computers	C Expensive and rare, Used for complex functions	
(4) Micro computers	D Used for personal usage.	

What is the correct answer after matching computer types with its usage?

- (1) 1-A (3) 1-C
- 2-B 2-D
- 3-C 3-B
- 4-D 4-A
- (2) 1-B

(4) 1-D

2-A

2-C

3-D

3-A

4-C

4-B

08. What is the correct answer naming following ports correctly?









В

C

D

- (1) A-Network port
- B-video port
- C-HDMI port
- D-parallel port

- (2) A-Network port B-parallel port
- C-HDMI port
- D-Video port D-video port

- (3) A-HDMI port (4) A-HDMI port
- B-parallel port B-video port
- C-Network port C-Network port
- D-parallel port
- 09. The following table shows several data transmission media in column A and events which those media used in column B.

A	В
(1) Microwave	A used to control wireless mouse
(2) Coaxial Cable	B transfer while reflecting light in modern telephone networks
(3) Fiber Optic	C Used in internet communication.
(4) Infared	D Used for TV antenna to transfer data.

- 10. A storage device which read and write data by laser beam is,
 - (1) Blu-ray disc
- (2) Floppy disc
- (3) Hard Disk
- (4) lash Pen)

- Several data transmission events are shown below. 11.
 - **A** Tharushi is listening to the radio.
 - **B** Nimasha and Malindi is engaging in a telephone conversation.
 - **C** Two policemen is engaging in a telephone conversation with a walkie-talkie machine.

What is the correct answer according to the above data transmission modes?

- (1) A-Simplex
- B-Half Duplex
- C Full Duplex

- (2) A-Simplex
- B-Full Duplex
- C Half Duplex

- (3) A-Full Duplex
- B-Simplex
- C-Half Duplex

- (4) A-Full Duplex
- B Half Duplex
- C Simplex
- Several statements regarding devices which connect computer networks are shown below.
 - A. Hub can be used to connect two computer networks.
 - At present, Wi-Fi adapters are used to build a speed internet connection for mobile phones.
 - The translation of Analog signal to digital signal and digital signal to analog signal is converted by the modem.

What is the answer included only correct statements?

- (1) Only A and B
- (2) Only A and C
- (3) Only B and C (4) All A, B and C
- The following table shows the computer network topologies in column A and the specialties of using those topologies in column B

A		В
(1) Bus topology	A Connect computers through a main cable.	
(2) Ring topology	В	Connect computers by centralizing a switch or hub.
(3) Star topology	C It is costly and complex network connection.	
(4) Mesh topology	D	The breakdown of one computer can lead to the breakdown of
		the entire network.

- (1) 1-B 2-D 3-C 4-A
- (2) 1-A 4-C 2-D 3-B
- (3) 1-D 2-A 3-C 4-B
- (4) 1-C 2-B 3-A 4-D
- Which security system can be installed as hardware and software for the secure of a computer system?
 - (1) Antivirus software

(2) Surge protector

(3) Firewall

- (4) Closed circuit TV
- What is the figure represented a tree topology?









- What is the correct answer from the statements given bellow?
 - A Data and commands in computers are stored as binary.
 - B The number 326 is valued both decimal and binary number systems.
 - $C 310_8$ is equant to 10001001_2 .1.
- Only A

- (1) Only A
- (2) Only B
- (3) Only A and C
- (4) All A, B and C1

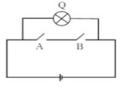
- 17. What is the octal equivalent of decimal number 159_{10} ?
 - $(1) 235_8$
- $(2) 232_{8}$
- $(3) 230_8$
- $(4) 236_8$
- 18. Which answer is represented the descending order of 10011001, 115, 160, and 1C, numbers?
 - (1) $160_{10}.10011001_2, 115_8.1C_{16}$
- (2) $1C_{16}115_{8}10011001_{2}160_{10}$
- (3) $10011001_2, 115_8, 1C_{16}, 160_{10}$
- (4) $1C_{16}$, 10011001_{2} , 115_{8} , 160_{10}
- 19. How many bits are used to represent the octal number 657 in binary formation?
 - (1) 12
- (2) 16
- (3) 8

- (4) 9
- 20. When representing ASCII value, the ASCII value of B is 1000010. What is the answer to represent characters A and H in ASCII values respectively?
 - (1) 1011000 and 1000000

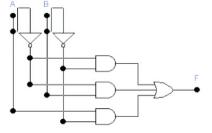
(2) 100000 and 1001000

(3) 1001000 and 1000001

- (4) 1010000 and 1001001
- 21. Saraka has got Rs.50/= from his father and Rs.25/= from his mother to buy a ball. What is the binary equivalent of the total price of he has got?
 - $(1) 10000100_2$
- (2) 1000011,
- (3) 1000101,
- (4) 1001011,
- 22. What is the correct logic gate represent the operation of the logic circuit shown from below figure?
 - (1) AND
- (2) NAND
- (3) NOR
- (4) OR



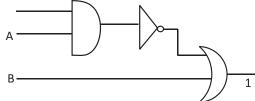
- 23. What is the logical expression which output by shown below circuit with gates?
 - (1) $(\overline{A}.\overline{B})+(A.B)+(A.B)$
 - (2) $(A.\overline{B})+(A.B)+(A.\overline{B})$
 - (3) (A.B).(A.B).(A.B)
 - (4) $(\overline{A}.\overline{B})+(\overline{C}.A)+(A.\overline{B})$



- 24. What is the gate that is included in the following truth table?
 - (1) OR
 - (2) NOR
 - (3) AND
 - (4) NAND

- A B Q
 0 0 1
 0 1 0
 1 0 0
 1 1 0
 1 1 0
- 25. What is the gate that the output of a logia gate is false(0), when only all inputs are true (1)?
 - (1) AND gate
- (2) NAND gate
- (3) OR gate
- (4) NOR gate

- 26. Find the value that should give respectively for input A and B to be the output 0 in below logic circuit.
 - (1) 0 and 1
- (2) 1 and 1
- (3) 1 and 0
- (4) 0 and 0



- 27. What is the answer included only system software?
 - (1) Operating system, utility software, graphic software
 - (2) Official software, operating system, language translators
 - (3) Utility software, device drivers, operating system
 - (4) Official software, graphic software, web browsers

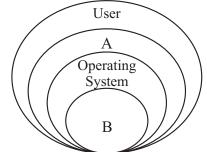
Grade 10

INFORMATION & COMMUNICATION TECHNOLOGY - I - CONTINUATION

- 28. Consider the following statements regarding operating systems.
 - A. It is a major software that gives the connection between user and hardware.
 - B. All the devices which are connected to the computer, are managed.
 - C. There are two interfaces as Graphical User Interface and Command Line Interface.

Which is the answer that includes correct statements?

- (1) Only A and B.
- (2) Only A and C
- (3) Only B
- (4) All A, B and C
- 29. What is the answer when showing the task of the utility software, disk defragmentation and disk formatting respectively?
 - (1) Deployment of the sectors relevant to store data and correct unsystematically storages in hard disk
 - (2) Correct unsystematically storages in hard disk and deployment of the sectors relevant to store data.
 - (3) Divided the hard disk into multiple drivers as C: D: and deployment of the sectors relevant to store data.
 - (4) Control all data in the activation of the computer and deployment of the sectors relevant to store data.
- 30. What is the answer for A and B that shows regarding computer software to complete the following incomplete diagram?
 - (1) Application software and utility software
 - (2) Utility software and Hardware
 - (3) Application software and hardware
 - (4) Hardware and utility software



- 31. What is the answer that shows two software that can be done word processing through cloud computer concept?
 - (1) Microsoft Word, Open Office Writer
- (2) Google docs, Office 365 Word
- (3) Operating System, Utility software
- (4) Microsoft word, Google docs
- 32. What is the answer of the formula =12*2/6-3+1, when it is inserted in an electronic spreadsheet cell?
 - (1) 5
- (2) 2
- (3) 4

(4) 8

Imagine that this is a part of relational database of business information system which imported vehicles into Sri Lanka is shown below. This company imports vehicles monthly. Answer the questions from 33 to 35 regarding this.

CC_Code	CC_Value
A	660
В	1300
С	1500

Table 1: engine Table

Vehicle_Name	Vehicle_Code	CC_Code
Susiuki WagonR	1001	A
Honda Vezel	1002	С
Susiuki Every	1003	A
Honda Fit	1004	В

Table 2 : Vehicle Table

Month	Vehicle_Code	Imported
January	1002	150
February	1001	225
January	1004	216
May	1003	161
April	1001	290
May	1002	225

Table 3: Import Table

33.	Which can be denote as a pri (1) CC Code in engine tabl (3) Imported in Imported T	e	(2) Vehicle Name in Vehicle Table(4) CC Code in Vehicle Table	
34.	Tables can be joined by a fo base?	reign key easily. Wl	nich can be denotedas the foreign key	in this data
	(1) CC Value in Engine tab(3) Vehicle code in Import		(2) Vehicle Name in Vehicle Table(4) CC Code in Engine Table	
35.	tables should be updated to e	enter that data?	C Value 1496 engine capacity is impor	ted, which
	(1) Engine Table and Impo(3) Vehicle Table and Engi		Vehicle Table and Import Table Engine Table, Vehicle table and Import	rt Table
36.	system. B. A large number of data	it necessary times e	a base management. fficiently is a basic feature of manual stored by using a electronic data base. If data redundancy has occurred in an	
	The correct statements are (1) Only A and B (2)	Only A and C	(3) Only B and C (4) All A, E	and C
37.			tasking a presentation software is the columns when they are shown resp	_
	Command	Tasks		
	A Zoom	1. A relative slid	e or link to a web page.	
	B Hyperlink .	2. An animation	event.	
	C C Paste	3. Run the created	l presentation.	
	D From Beginning	4. Copy a selected	l part in another area.	
		4-A 4-B	(2) 1-A 2-D 3-B 4-C (4) 1-C 2-B 3-A 4-D	
38.	A. Enlarge the topics that sB. Point out spelling and gC. Present the facts in a deWhich statements are correct	should be highlighte grammar mistakes co tailed manner in eac	rrectly.	
39.	Which is not a feature of election (1) Time management (3) Can't get the attraction (3)	-	than normal presentation? (2) not delaying subject matters (4) Can't present creatively.	
40.	Who has been taken the procomputer education in Sri La (1) Mr.Abhaya Induwara (3) Mr.Rathnajeewan Hoo	anka?	he ICTA and UCSC institutions to d (2) Mr.V.K.Samaranayaka (4) Mr.Arther C.Cleak	evelop the

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නම	:	දුරකථන අංකය	:	
තනතුර	:	අත්සන	:	

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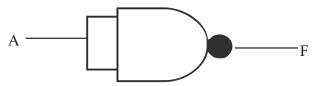
	THIRD TERM TEST 2020
Grade 1	0 INFORMATION & COMMUNICATION TECHNOLOGY - II One & Half Hour
Name / In	ndex No.:
• Answe	er Three (03) questions only, including first question and two others.
(01) (i)	Consider the following note which includes the E-Government related applications an services performed for citizens.
	A Renewal of the license of the motor car owned by Ruchira.
	B Call 1919 and obtaining the services of government information centre
	C Downloading the government gazette notifications and circulars from internet
	D Mr.Nimsara obtain the application required for his promotion online.
	In the above-mentioned tasks, for which stakeholders are provided the services under

the E-Government?

- Sandun went to the post office to pay the water and electricity bills of the house. After (ii) paying the bills he received a printed bill from the post office. He took it and gave it to his mother. When printing the bill, the cashier of the post office used some computer devices. Write
 - (a) Two input devices
 - Two output devices (b)
- (iii) Calculate the following sumsrelated with number systems with relevant steps.
 - (a) Convert the binary 101011₂ to its decimal equivalent.
 - (b) Convert Hexa- decimal A9₁₆ to its binary equivalent.
- (iv) (a) Copy the following table and complete it with Most Significant Digit (MSD) and Least Significant Digit (LSD)

Number	Most Significant Digit (MSD)	Least Significant Digit (LSD)
3450		
0.0035		

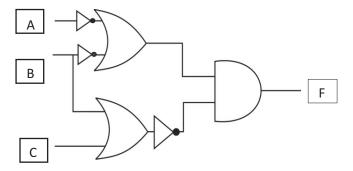
- (b) Convert the following Binary Coded Decimal Values (BCD) to its Decimal values.
 - (a) 100101110011_{BCD}
- (b) 001110000011_{BCD}
- (v) Consider the following Logic gate.



Draw the Truth Table for this Gate.

(Use only two columns as A and F)

(a) Write the logical equation that gives the F output of the following Truth Table



(vi) Write down the letter and the number as a pair for the answer after matching the statements in column A and terms in column B.

A	В
P. Utility Software	Linux
Q. Managing Hardware	Microsoft Word
R. operating System with Graphical User Interface.	Disk Defragmentation
S. An Application Software.	Memory Management

- (vii) Mention two advantages of working with a word processing software under Cloud Computer concept and name two Software that can be used.
- (viii) Write down two disadvantages of Data Duplication in an Electronic Data Base.
- (ix) Given below are some of the various data fields which are used in data bases. Copy this table in your answer sheet and enter the data types of the different fields respectively.

Field	Data Type
Subject Codes	
Medical fees	
Number of passengers	
Registered or not	

(x) Write down 2 demerits of the usage of Information & Communication Technology.

- (02) (a) All school students as well as university students lost educational opportunities for a long period of time due to recent Covid-19 global epidemic. As a solution for this, Majority of teachers and students engaged in distant education using Information and Communication Technology.
 - (i) What is Distant Education?
 - (ii) Name two technical devices that you need to use Distant Education.
 - (iii) Show two features of this education system.
 - (iv) Mention in short, two advantages that you can experience by engaging in Distant Education.
 - (v) Write two problems that you had to face when using Distant education.

(Marks 1x5=05)

- (b) If the following statements are true put (\checkmark) mark and false put (X) mark.
 - (i) Gazette service through E-government is available to the citizens of that country.

(ii) Contacting a specialist by talking on the phone to reserve a date and time is a part of Remote health care.

(iii) Machine Language can be considered as a computer language of the first generation of computers. ()

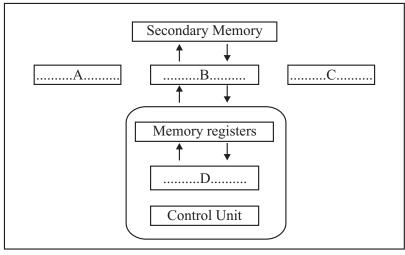
(Marks 1x3=03)

(c) Select the names from the given list which are relevant to the statements in part A in the following table and write In column B

	Part (A)	Part (B)
a	The first female programmer of the world	
b	The founder of world-famous Facebook	
c	Software used to draw house plans in the industrial sector	
d	A good solution to maintain proper temperature for crops	

(CAD / Mark Zuckerberg / Greenhouses / Joseph Jacquard / Photoshop / Charles Babbage / Automated Water Supply / Ada Augusta Lovelace) (Marks 0'5 X4=02)

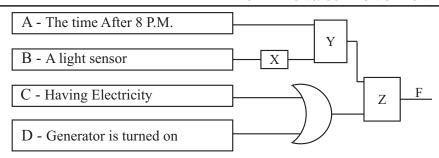
(03) (a) The following diagram shows an overview of the flow of data and instructions on a computer system.



		(i)	NameA,B,C,D	parts of the di	agram.	(04 Marks)
		(ii)	Copy this diagram	n in your answ	er sheet and indicate ho	w commands/ control signals
			are issued with do	tted lines.		(02 Marks)
		(iii)	Classify the follow	wing devices a	s input and outputs'	
			A Joy Stick		Lauret Daniana	
			B projector		Input Devices	
			C plotter		Output Devices	
			D Optical Char	acter Recogni	tion	(02 Marks)
	(b)	Selec	ct the word in brack	ets that is relev	ant to the blanks in the f	ollowing paragraph.
		comminforcomming 2)	mon sight that data rmation is call munication / data municating data from the is called as 3) and 4)	is exchanged to led as 1) a transmission om one system	hrough technological domain and for that a data (a process / a moto another system, trans	ncient time .At present, it is a evices. Exchanging data and(data source ,data receiver and edium) are needed. When smitting data to one direction (full duplex / half-duplex) ommunication. (02 Marks)
(04)	(a)			-	· ·	– Network institution to buy ouse and 20 LED bulbs.
			Keyboard	Rs.450 ₁₀		
			Mouse	Rs. 556 ₈		
			LEDBulb	Rs. 111 ₂		
		(i)		_	to buy all above acces	ssories in decimal numbers? (01 Mark)
		(ii)	After giving Rs.10 numbers.	000 to the shop	o owner, write the balan	ce that Tharaka got in binary (02 Marks)
		(iii)	Tharaka bought 0 26 bulbs that Than			g money. Write the cost of all (02 Marks)
	(b)	sanct the en	uary from wild and nvironment is dark in put is 1 when the t	imals. The electric ime is passed	etric fence is activated or ricity or if the generator (after) 8 P.M. in the pre-	a village bordering the Yala only after 8 P.M. or whenever is turned on. arranged timer. Furthermore, gives out the output value 1

Name the gates suitable for $X\,,Y,Z\,$ in the following circuit .

(i)



- (ii) Write the Boolean expression For "F" output using A, B, C, D in the above circuit with gates. (01 Mark)
- (iii) Draw the Truth Table for the Boolean expression A. (B+A) (02 Mark)
- (05) Following are few tables related to a relational data base of a project management system of an organization.

NIC No.	Name	Pro_managerid
887002513V	A.B. Silva	1001
901240225V	D.M. Aberathne	1002
811320216V	D.B. Samarasinghe	1003
782430128V	S. Ananda	1004

Projected	Pro-managerid	Start Date
Pro001	1002	2017
Pro002	1001	2019
Pro003	1002	2020
Pro004	1003	2020

Table: Employee

Project-Employee

Projected	Pro_managerid	Start Date
Pro001	1001	2017
Pro002	1002	2019
Pro003	1003	2020
Pro004	1004	2020

Project-Employee

- (i) (a) What is the primary key that can be in the employee table (01 Mark)
 - (b) What is the foreign key in projects table? (01 Mark)
- (ii) What table/tables need to be updated to make the following changes
 - (a) Recruitment of a new employee named S.K.Sandun (NICNo:836453458V) to the institution. (01 Mark)
 - (b) Appoint employee S.K.Sandunas the project manager in project number 4 (Pro004) (01 Mark)
- (iii) To enter the new record to make the above
 - (a) change in relevant tables. use the following format and write

Name of the table (field1, field 2,...)

(Note: Imagine employee number of S.K.Sandun is 1005)

(iv) This organization appointed Mr. D.B. Samarasinghe as the project manager of the Housing project (Prd005) started in 2020. To enter the new record to make the changes in relevant tables. use the following format and write

Name of the table (field 1, field 2,...)

(v) What tables should be used to write a query to find the name of the manager of Colombo harbor project? (02 Marks)

Grade	10	An	swer Pap	er	INFORMAT	TION & CO	MMUNICA	TION TEC	CHNOLOGY
01.(1)	02. (2)	03.(3)	04. (4)	05. (3)	06. (2)	07. (1)	08. (2)	09. (3)	10.(1)
11.(2)	12. (3)	13. (2)	14. (3)	15. (3)	16. (1)	17. (4)	18. (1)	19. (4)	20.(2)
21. (4)	22. (3)	23. (4)	24. (2)	25. (2)	26. (3)	27. (3)	28. (4)	29. (2)	30.(3)
31. (2)	32. (2)	33. (1)	34. (3)	35. (4)	36. (3)	37. (2)	38. (1)	39. (3)	40.(2)
									(40 marks)

(01) (i) A To Citizens

B To Citizens

C To Citizens

- D To Citizens
- (ii) (a) Keyboard Mouse, Touch screen, Touch pad
 - (b) Printer, Computer monitor.
- (iii) (a) 101011₂

(b) A9₁₆

A 9

1010 1001

101010012

(iv) (a)	Number	Most Significant Digit (MSD)	Least Significant Digit (LSD)	
	3450	3	0	
	0.0035	3	5	

(b) (a) 100101110011_{BCD}

(b) 001110000011_{BCD}

1001 0111 0011

0011 1000 0011

9 7 3

3 8 3

973

383

(v) (a)

A	F
0	1
1	0

- (b) $\overline{A} + \overline{B}$. $\overline{B} + \overline{C}$
- (v) P 3, Q 4, R 1, S 2
- (vi) There is no need to install word processing software on the computer.
 - Doesn't need to allocate space in computer memory
 - Getting the facilities to save a file in the space on internet.
 - Being able to open or edit a document from any computer with internet facility.

Grade 10 Answer Paper INFORMATION & COMMUNICATION TECHNOLOGY - II

(viii) Causing Data Redundancy, Losing Data Consistency, Minimal Data accuracy,

(ix)	Field	Data Type
	Subject Codes	Text
	Text	Currency
	Medical Fees	Number
	Currency	Boolean

- (x) Correct 2 answers like Addiction, Building unsuitable friendships through social media etc.
- 02. (A) (i) Following a course of your choice from anywhere anytime using Internet.
 - (ii) Devices like web camera, microphone
 - (iii) The ability to learn from any convenient place.

Online assignment and questionnaire

Give marks to relevant correct answers of this type.

(iv) The ability to connect to the learning units at convenient time.

The ability to use subject matters again and again.

Online Library facilities

Give marks to correct answers like these..

(v) Requirement of regular internet connection.

Having to spend more money.

Causing problems in low speed internet connections.

Give marks for correct facts of this type

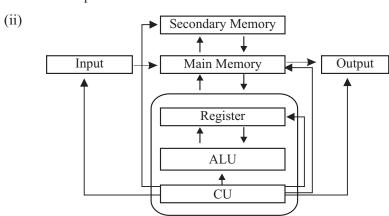
- (B) i) x
- ii) x
- iii) 🗸
- (C) a) Ada Augusta Lovelace
- b) Mark Zuckerberg

c) CAD

d) Greenhouses

03. (A) (i) A- Input Devices

- B Main Memory
- C Output Devices
- D Arithmetic and Logical Unit



(iii) Input Devices - Joy Stick, Optical Character Recognition Output Devices - Projector, Plotter

Grade 10

Answer Paper

INFORMATION & COMMUNICATION TECHNOLOGY - II

(B) 1. Data Communication

2. Medium

3. Medium

4. Walkies Talkies

04. (A)

(i) 450 + 366 + 140 = 956

(ii) $1000 - 956 = 44_{20}$

101100,

(iii) $26 \times 7 = 182$

266,

(B)

(i) $X = NOT \quad Y = OR \quad Z = AND$

(ii) $(A + \overline{B}) \cdot (C + D)$

(iii)

A	В	Ā	$B + \overline{A}$	$A.(B + \overline{A})$
0	0	1	1	0
0	1	1	1	0
1	0	0	0	0
1	1	0	1	1

05. (i) (a)

b) pro_managerID

(ii) (a) Employee - Table

NICNo.

b) Employee - Table

(iii) Employee Table

83645458V, S.K. Sandun, 1005

(iv) Employee Table

pro005, Housing, 1003

Employee Table

pro005, 1003, 2020

(v) Employee Table