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Second Term Test - 2025
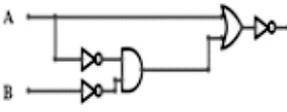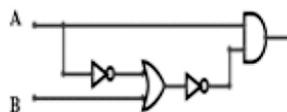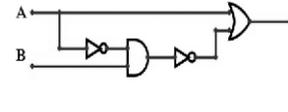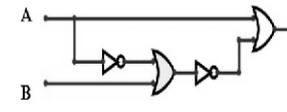
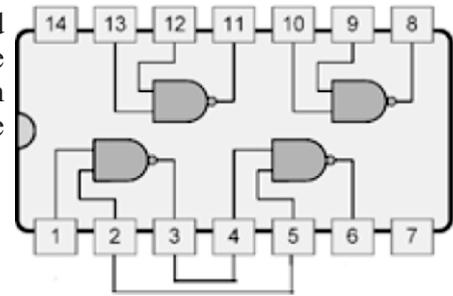| Grade 11 | Information and Communication Technology - I | Time : 01 hour |

Name / Index No.:

● **Answer all questions.**

01. The Sri Lanka Railways has introduced an online train seat reservation system to promote the tourism industry. Under which service category can this service be classified?
    (1) G2C   (2) G2B   (3) G2G   (4) G2E

02. Identify the correct answer of computer generations where keyboard usage, emergence of the internet, emergence of operating systems, and use of integrated circuits began respectively:
    (1) First generation, second generation, third generation, fourth generation
    (2) Second generation, fourth generation, third generation, third generation
    (3) Third generation, fifth generation, fourth generation, third generation
    (4) Third generation, fifth generation, third generation, third generation

03. Which one has the lowest ink cost among the following printers?
    (1) Laser printer   (2) Line printer
    (3) Dot matrix printer   (4) Thermal printer

04. Which is a **false** statement regarding Mesh Topology?
    (a) All computers must be active to function the network
    (b) Communication privacy is ensured
    (c) Highly efficient
    (d) Easy setup and maintenance due to separate links to each device
    (1) a and d   (2) a and b   (3) b and c   (4) b and d

05. The answer to the decimal number 123, which is represented in binary, octal, and hexadecimal, is?
    (1) 1111011, 173, 7B   (2) 1111011, 175, 7A   (3) 1110111, 173, 7A   (4) 1110111, 175, 7B

06. If the ASCII decimal value of the letter 'C' is 67, what is the correct ASCII code for the word "BAD"?
    (1) 1000011 1000001 1000101   (2) 1000010 1000011 1000101
    (3) 1000010 1000001 1000100   (4) 1000011 1000011 1000100

07. Which of the following is NOT equivalent to 8192MB?
    (1) 2^3 GB   (2) 2^{23} KB   (3) 2^{33} Byte   (4) 2^{35} bit

08. Which Boolean expression is equivalent to A (A'+B)? (Hint: Equivalent expressions have equivalent truth tables.)
    (1) AB'   (2) A'B   (3) AB   (4) A(AB')

09. The logic circuit equivalent to $(A\,(\overline{\overline{A}+B}))$ is?

10. The diagram shows the internal circuit diagram of an Integrated Circuit (IC), where pins 3 and 4, as well as pins 2 and 5, are connected externally. Accordingly, if inputs 1 and 0 are given respectively to pins 1 and 2, the outputs at pins 3 and 6 can be respectively

(1) 1, 0
(2) 0, 0
(3) 0, 1
(4) 1, 1

11. In a situation where multiple programs are running simultaneously on a computer and suddenly one program becomes unresponsive, which utility software can be used to terminate that program?
    (1) defragmentation
    (2) Task Manager
    (3) File Manager
    (4) Device drivers

12. Where is the BIOS program stored in a computer?
    (1) RAM
    (2) Secondary Memory
    (3) ROM
    (4) Volatile Memory

13. The ".exe" file extension belongs to which type of file?
    (1) Executable file
    (2) Word processing file
    (3) Database management file
    (4) Information processing file

14. Identify the classification of word processors under **cloud computing, proprietary (copyright)**, and **open-source software** respectively:
    (1) Google Docs, Libre Office Writer, Lotus123
    (2) Office365 Word, iWork Pages, Open Office Writer
    (3) Microsoft Word, Office365 Word, Lotus123
    (4) Office365 Word, Microsoft Word, iWork Pages

15. Consider the following statements related to presentation software:
    a) Unwanted slides can be easily hidden using the slide sorter view.
    b) All slides can be edited at once using slide layout.
    c) Use **Page UP** and **P** keys to go to previous slide in slideshow.
    d) Apply the same transition to all slides at once.
    Correct combination:
    (1) True, False, True, True
    (2) False, False, True, True
    (3) True, True, False, False
    (4) False, False, True, False

16. At present, many Organizations are transitioning from manual to computerized systems. Which of the following is NOT a benefit they expected from this change?
    (1) Use of new technical equipment
    (2) Increasing efficiency
    (3) Increasing the number of employees
    (4) Reducing paperwork

17. Which task(s) are performed by a systems analyst?
    a) Visiting production departments and observing it.
    b) Exchanging ideas with the employees of the organization
    c) Designing new systems
    d) Identification of dependency of each sub system
    (1) b only
    (2) a and c
    (3) a and b
    (4) All

18. Kumar is going to implement a billing system for his small retail business. Which system development methodology would be the most suitable for designing the system in this case?
    (1) Waterfall model
    (2) Prototype model
    (3) Spiral model
    (4) Iterative incremental model

19. Which is NOT a phase of the SDLC?
    (1) System maintenance   (2) System management
    (3) Identification of requirements   (4) Testing and debugging

20. Which is the incorrect statement about the database?
    (1) Information retrieval is very easy
    (2) Data analysis can be done efficiently
    (3) Facilities are provided for printing
    (4) Requires more storage space

21. A requirement for building a relationship between two database tables is,
    (1) All fields in both tables must be same
    (2) The primary key in both tables must be the same
    (3) No field need to be the same in both tables
    (4) At least one common field must exist in both tables

22. Suitable data types for following fields:

Index_no	DOB	Amount	Is Paid
A12345	25-05-04	Rs. 15000.00	✓

    (1) Number, Date & time, currency, Boolean   (2) Text, Date & time, Currency, Boolean
    (3) Number, time, amount, yes/no   (4) Text, date, number, yes/no

23. Which of the following can be used to describe a single column in a database table?
    (1) Data   (2) Field   (3) Data type   (4) Record name

24. Which of the following is NOT a Database Management system (DBMS) software?
    (1) My SQL   (2) FoxPro   (3) Oracle   (4) Firefox

25. Which is a Free and Open Source (FOSS) spreadsheet software?
    (1) Excel   (2) Numbers   (3) LibreOffice Calc   (4) Oracle

26. The keyboard shortcut to move from cell F33 to cell A1 in a spreadsheet is?
    (1) Ctrl + Home   (2) Ctrl + ARROW KEY   (3) HOME   (4) PAGE UP

27. If the following formula is entered in a spreadsheet cell =8+5^2/(8-3^1)*10. What is the result according to the operator precedence?
    (1) 117   (2) 58   (3) 338   (4) 50

● **Study the spreadsheet section given below and answer questions 28 and 29.**

28. If the formula =A$1*A2 is entered in cell A3 of the above spreadsheet and then copied to cell B3, what will be the resulting value?
    (1) 20   (2) 70
    (3) 10   (4) 50

29. If the formula **=$A1*A2** is entered in cell **A3** of the above spreadsheet and then copied to cell B3, what will be the resulting value?
    (1) 20   (2) 70
    (3) 10   (4) 50

	A	B	C
1	10	5	6
2	7	2	8
3			

30. Consider the following statements related to cloud computing services. What is the correct answer indicating A, B, and C respectively.
    A) Provides a development and runtime environment for software.
    B) Use of software installed on the Internet.
    C) Providing various resources through established large data centers.
    (1) Iaas, Saas, Paas   (2) Saas, Iaas, Paas   (3) Paas, Saas, Iaas   (4) Saas, Paas, Iass

3

31. Which cannot be seen in the email account?
    (1) Spam   (2) Inbox   (3) Outbox   (4) Draft

32. Which of the following statements regarding image compression is correct?
    a) In lossless compression, not every data unit that was originally in the file remains exactly the same when the file is decompressed.
    b) Lossy compression produces smaller files in size compared to those produced by lossless compression.
    c) The amount of data during storage, usage, and transmission is reduced by using lossy compression.
    (1) a only   (2) b and c only   (3) a and c only   (4) a and b only

33. Select the output of the Pascal statements given below as A and B,
    A - NOT(15 DIV 2 > 7)   B - (15 > 6) AND (15 DIV 2 > 7)
    (1) True, True   (2) True, False   (3) False, False   (4) False, True

34. Which of the following statements are correct?
    A) Reserved words can be used as identifiers in any language.
    B) If at least one statement is false, the entire AND statement becomes false.
    C) Procedures and functions must be declared before the main program starts.
    (1) A and B only   (2) B and C only   (3) A and C only   (4) All A, B, and C

35. The following is a sequence of marks obtained by a student in the Computer Science subject in the screening tests. The sequence of marks obtained by a student in the Computer Science subject is an array of numbers starting with 0. When the marks are entered 49 is given instead of 59. The student is required to correct the wrong number.

65	57	59	49	71	73	43

What is the correct statement to rectify this mistake ?
    (1) A[0] :=59;   (2) A[2]:=59;   (3) A[3]:=59;   (4) A[4]:=59;

- **Questions 36, 37 and 38 are based on the following 1 and 2 Pascal programs:**

36. What is the output of Figure1?
    (1) 0   (2) 5
    (3) 8   (4) 7

37. What is the output of Figure2 if input is 10?
    (1) 0125   (2) 5210
    (3) 012510   (4) 12510

38. What is the nested control structure shown in Figure2?
    (1) Selection within selection
    (2) Repetition within selection
    (3) Selection within repetition
    (4) Repetition within repetition

Program p1;	Program p2;
Var x: integer;	Var y,i: integer;
Begin	Begin
For x:= 0 to 5 do	read(y);
;	for i:=1 to y do
x:=x+3;	begin
write(x);	if y mod i=0 then
Readln;	write(i);
End.	end;
	Readln;
	End.
Figure 1	Figure 2

39. In the expression" **For P := 7 downto 2 do**" how many iterations are there?
    (1) 5   (2) 7
    (3) 8   (4) 6

40. What is the output of the given pascal program.
    (1) 06912
    (2) 36912
    (3) 0369
    (4) 02468

```
Program p2;
Var p: integer;
Begin
  for p:=1 to 13 do
  begin
    if p mod 3=0 then
      write(p);
  end;
  Readln;
End.
```

4

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Provincial Department of Education - NWP

දෙවන වාර පරීක්ෂණය – 2025
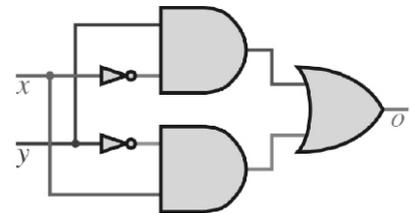**Second Term Test - 2025**

| Grade 11 | Information and Communication Technology - II | Time : 02 hours |

Name / Index No.:

- **Answer 05 questions, including the firs question and 04 others**
- **First questions carries 20 marks and each of the other questions carries 10 marks.**

(01) (i) (a) List the main components of a system.

(b) At a "Lankasalu" clothing store, when a customer selects several clothing items and goes to the payment counter, the cashier inputs the barcode of each item using a barcode reader, calculates the total bill, and prints the receipt. Describe the relevant input, process and output involved in this scenario and point the devices used for input and output.

(ii) Identify the type of printer used by a conductor on a passenger bus to print bus tickets, and mention two advantages of using that printer.

(iii) When setting up a computer network using cables, various topologies are used. Identify the topology described in brackets and draw a network diagram consisting of 5 computers in that topology.
(Data is transmitted from one device to the next. All computers must be active. At a time, only one computer can communicate.)

(iv) Construct the **Boolean expression** for this logic circuit. Draw the **truth table** as well.

(v) Providing a **user interface** is a main function of an operating system. Identify **two types of user interfaces** and mention **two differences** between them.

(vi) Regarding a **word processing software**, indicate whether the following statements are **True or False.**
(a) Only one table can be inserted into a document.   (......)
(b) Only images saved on the computer can be inserted into a document.   (......)
(c) The Mail Merge feature allows printing multiple documents at once of the same format using pre-prepared data.   (......)
(d) The total of numerical values in a table can be calculated.   (......)

(vii) From the given tool list, choose the appropriate tools required to perform the following tasks related to **presentation software**, and provide your answers in the format (**question number → answer**).
   Tool List : Slide Layout / Slide Master / Animation / Workspace / Slide Transition / Normal View
(a) Used to change the **layout, shape, color, etc.** of **all slides** in a presentation at once.
(b) Allows for the **management of entering or exiting objects** on a slide.
(c) Applying **visual effects and sound** when transitioning from one slide to another.
(d) Structures designed in a way that makes it easier to **insert content** into a slide as needed.

(viii) Consider the tables in a **database application** and describe the possible **relationship types** between them. Present your answers in the format: (**Question letter → Relationship type**)
(P) Every child has one mother by birth, but one mother can have multiple children.

(Q) A company that owns several passenger buses employs one or two drivers for each long-distance bus. A driver does not have a regular bus and, depending on the service requirement, drivers may have to drive different buses of the company.

(R) Under the new digital education system, the government provides every child with a **laptop computer**, and it is allocated for use **only by that child**.

(S) In a library, a member can borrow only **two books** at a time. After a book is returned, it can be borrowed by another member.
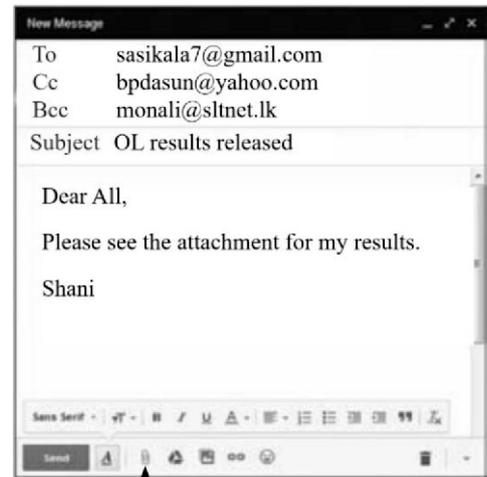
(ix) The Pascal array is declared as: **var telno : array [1..99] of string;**

Answer the following questions:

(a) State the **name of the array** and its **data type**.

(b) What is the **maximum number of phone numbers** that can be stored?

(c) If the phone number 0711234567 is to be stored at the **25th position** in the array starting from the beginning, write **only the Pascal code segment** required to do that.

(x) A part of an email being composed is shown in the image. Based on it, mark each of the following statements as **True or False**:

(a) The above email can only be seen by sasikala7@gmail.com. (.......)

(b) monali@sltnet.lk received the email, but others are unaware of it. (.......)

(c) The Send button transfers the email from Drafts to Inbox. (.......)

(d) bpdasun@yahoo.com can know that this email was received by sasikala7@gmail.com. (.......)

New Message

To	sasikala7@gmail.com
Cc	bpdasun@yahoo.com
Bcc	monali@sltnet.lk
Subject	OL results released

Dear All,

Please see the attachment for my results.

Shani

(02) "Below is a portion of a spreadsheet showing the monthly sales at the 'Juice Bar' fruit beverage shop. Based on this, answer the questions that follow."

	A	B	C	D	E	F	G
1				Monthly Sales Details			
2		Price of a glass of drink (Rs)					
3	Avocado	Rs.110.00					
4	wood-apple	Rs.100.00					
5	Mixed fruits	Rs.120.00					
6	Sales Description						
7	week	No of glass (avacado)	Income from avocado drinks	No of glass (wood apple)	Income from wood apple drinks	No of glass (Mixed fruits)	Income from Mixed fruits drinks
8	1 week	150	Rs.16,500.00	135	Rs.13,500.00	200	Rs.24,000.00
9	2 week	200	Rs.22,000.00	125	Rs.12.500.00	195	Rs.23,400.00
10	3 week	138	Rs.15,180.00	116	Rs.11,600.00	180	Rs.21,600.00
11	4 week	175	Rs.19,250.00	165	Rs.16,500.00	125	Rs.15,000.00
12							
13	total income of each beverage		Rs.72,930.00		Rs.54,100.00		Rs.84,000.00
14	maximum income of each beverage		Rs.22,000.00		Rs.16,500.00		Rs.24,000.00
15	minimum income of each beverage		Rs.15,180.00		Rs.11,600.00		Rs.15,000.00
16	average value of income from all beverage sales during the month		Rs.17,585.83				
17							
18							

(i)   Write the formula that can be used in cell **C8** to calculate the revenue from **guava juice** sales in the **first week**. (Assume revenue for the other weeks is calculated similarly based on the first week.)

(ii)   If the above formula is used to calculate the fourth week revenue from guava juice, write the formula that should appear in cell C11.

(iii)   Use a function to write the formula that can be used in cell E13 to calculate the total revenue from wood apple juice sales over four weeks.
        Note: When writing your answer, use the format =function(cell1:cell2).

(iv)   Using functions, write the formulas that should be entered into:
        Cell G14 to find the highest revenue from mixed fruit juice, and
        Cell C15 to find the lowest revenue from guava juice

(v)   Write the formula that can be used in **cell C16** to calculate the **average revenue** from all types of juices for a week, using the format = function2(cell3:cell4,cell5:cell6,cell7:cell8).

(vi)   Name the formatting tool that can be used to display the heading **"Monthly Sales Report"** across multiple columns in the spreadsheet, as shown.

(vii)   Among the following chart types, which one is most suitable to clearly display the weekly revenue from each type of juice as given in the spreadsheet?
        (Line chart, Pie chart, Column chart, X-Y chart

(03)   Following is an extract of database used in a private hospital containing the details of doctors and patients.

Patients Table

Patient_ID	First Name	Address	Age
0521	Kumar	Wariyapola	40
0522	Aruna	Narammala	38
0523	Shamali	Ibbagamuwa	34
0524	Vimal	Galagedara	45
0525	Vihara	Alawwa	23
0526	Naduni	Mawatagama	26

Patient-Doctor Table

Patient_ID	Doctor_ID
0523	D02
0523	D03
0521	D01
0524	D01
0525	D02
0527	D04

Doctors Table

Doctor_ID	Doctor's Name	Specialty
D01	Dr. Vajira (Male)	Cancer
D02	Dr. Nisansala (Female)	Obstetrics & Gynecology
D03	Dr. Prasad (Male)	Obstetrics & Gynecology
D04	Dr. Nimesha (Female)	Physical Diseases
D05	Dr. Upul (Male)	Heart Diseases

(i)   Name the suitable data types for each field in the Patients table.

(ii)   Define 'Primary Key"? Write a suitable field with the table name where it can be used as the primary key.

(iii)   Who are the patients receiving treatment from Dr. Nisansala?

(iv)   Mr. Upul from Nikaweratiya brought his wife, Mrs. Upuli, who is 31 years old, to Dr. Prasad's Obstetrics and Gynecology clinic for the first time under Patient ID 0527. Which table(s) should be updated accordingly? Show the updated record(s).

(v)   Dr. Disanayaka, a specialist in physical diseases, was registered under Doctor ID D06 and started duties at the hospital. Which table(s) should be updated accordingly? Show the updated record.

(vi)   What is the relationship between the Patients table and the Doctors table?

3

(04) (i) Read the following statements and indicate whether they are TRUE or FALSE

    (a) When analyzing a problem, its inputs, processes, and outputs are identified separately.

    (b) During the study of an algorithm's functionality, two types of control structures can be identified.

    (c) In an algorithm, executing a sequence of steps one after another from top to bottom is referred to as selection.

    (d) In the Pascal programming language, case sensitivity is not considered for identifiers.

    (e) Result of evaluating the Pascal expression $5 + 8 \bmod 4$ is 7.

    (f) The FOR DO loop structure is used when the number of repetitions is known beforehand.

(ii) Below is a Pascal program written by a student to input a number and determine whether it is a prime number (a number with only two factors) or not. Write the corresponding pseudo code based on the given Pascal program:

```
Program primeno;
var N,I,C:integer;
begin
  C:=0;
  writeln('Enter No');
  read(N);
  for I:=1 to N do
   begin
     if N mod I=0 then
       C:=C+1;
   end;
   if C=2 then
    writeln(N,' is a Prime Number')
   else
    writeln(N,' is Not a Prime Number');
   readln;
 end.
```

(iii) According to the above program, write the output when the following numbers are entered:
37, 23, 52, 30

(iv) Based on the Pascal program that uses an array named N, write its output:

```
Program P_1;
Var N:array[0..4] of integer;
    I:integer;
  begin
    N[0]:=30;
    N[1]:=N[0] div 4;
    N[2]:=N[0] mod 6;
    N[3]:=N[1]-2;
   N[4]:=40;
   For I:=0 to 3 do
    writeln(N[I]);
   readln;
  end.
```

4

(05) Sirithunga is a businessman who runs a wholesale and retail footwear business. The organization involves several types of transactions such as purchases, sales, bulk selling, warehousing, and credit sales. The manager of the business has suggested to Sirithunga that a computerized system is essential to improve business operations.

(i) Mention 2 advantages Sirithunga can gain by using a computerized automated system:

(ii) List 4 methods that can be used to gather information to meet user requirements:

(iii) Match the following steps of the System Development Life Cycle (SDLC) with appropriate examples:

SDLC Step	Example
1. Coding the solution	a. Identifying the main hardware for the new system
2. Designing the solution	b. Using questionnaires to gather requirements
3. Implementing the system	c. Gradually installing the system in each department of the organization
4. Identifying the requirements	d. Developing the system software using a suitable programming language

(iv) What type of system implementation is described when both the old manual system and the new computerized system are used together? What is one benefit of it?

(v) Explain 2 disadvantages you see in the waterfall model.

(06) Below is a list of operating systems found by Ravindu while browsing the internet,

Windows 11	Android	FreeDos	ATM
Calculator	Ms Dos	Fedora	Unix
FreeRTOS	Windows Server	Linux Server	Windows 1.0

(i) What is an operating system?

(ii) Operating systems are classified according to their functionality.

(a) Write 04 types of operating systems include in this classification.

(b) Catagorize the operating systems given in the list according to above classification.

(iii) Describe the type of hardware management performed by the operating system in the following scenarios.

(a) Protecting the computer from malicious software.

(b) Providing the necessary facilities to play music while editing a document.

(c) Saving the file named as **Document.docx** to the **"Documents"** folder on the computer.

(d) Connecting a wireless printer to a computer in an organization.

(iv) Briefly describe the function of the following utility software:

(a) Disk scanning

(b) Disk defragmentation

(c) Disk formatting

(d) Task manager

5

(07) (i) Arrange the following steps that describe how the internet works in the correct order. (Writing the corresponding label letter is sufficient.)

Label	Description
A	Sends a request to the web server that has the IP address.
B	The web browser displays the HTML web page.
C	The web browser sends the URL to the DNS server.
D	The web browser opens and enters the universal resource locator (URL).
E	The web server returns a stream of HTML data back.
F	The DNS server converts the name shown in the URL to an IP address.

(ii) Fill in the blanks with the correct protocol based on its function:

Usage	Protocol
(a) File transfer	
(b) Email exchange	
(c) HTML document transfer	
(d) Sending the Error message notification	

(iii) Fill in the blanks using suitable words from the list:

The internet is a (i) .... and is built on the (ii) .... architecture. The ownerless internet is managed by (iii) .... Every web page on the internet is uniquely identified by the (iv) .... The main service that provides information on the internet is called (v) .... To uniquely identify various resources on the web page, the (vi) .... is used.

(WWW, protocol, domain name, client and server, wide area network, uniform resource locator (URL), metropolitan area network)

(iv) Provide short answers to the following questions:

(a) What are the functions of the following GIMP software shortcut keys?

(1) SHIFT+U

(2) SHIFT+B

(b) Explain the main difference between Raster graphics and Vector graphics and give an example of software for each graphic type.

Answer Paper - Part I

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

(1 x 40 = 40 marks)

Part - II (Structured Questions)

1	i. a	Input, Processing, Output	1 mark, No partial marks
	b	Input – Barcode – Barcode Reader Processing – Billing Output – Printed Bill – Printer	0.5marks for I/O/P, 0.5 marks for naming devices
	ii	Thermal Printer Advantages (any two correct): No ink, Low cost, Efficiency	1 Marks 0.5 Marks x 2
	iii	Ring Topology	Correct Name - 1 mark Correct Diagram - 1 mark
	iv	X'Y + XY'	1 mark

X	Y	F		1 mark
0	0	0		
0	1	1		
1	0	1		
0	1	0		

	v	CLI	GUI		Identification – 1 mark Differences – 1 mark
		Remembering commands	WMIP concepts work		
		Hard to use	Easy to use		
		Less attractive	Attractive		

	vi	A – False, B – False, C – True, D – True	0.5 x 4 Marks
	vii	A – Slide Master B – Animation C – Slide Transition D – Layout	0.5 x 4 Marks
	viii	P – one to many, Q- many to many, R – one to one, S – many to many	0.5 x 4 Marks
	ix	a – data type - string name-telno b-99 c – telno[25] :='0711234567' ;	0.5 Marks 0.5 Marks 1 mark (no partial marks)
	x	A – False B – True C – False D – True	0.5 x 4 Marks
2		i =B8*B$3 or =B8*$B$3	(2 Marks)
		ii .= B$3 * B11 or = B3 * B11	(1 marks)
		iii =sum(E8:E11)	(2marks)
		iv =Max(G8:G11)	(1 marks)
		=Min(C8:C11)	(1 marks)
		v =Average(C8:C11,E8:E11,G8:G11)	(1 marks)

		vi - Merge and Center vii Column Chart	01 mark 01 mark
3		(i) Patient ID – text First Name – text Address – text Age – text or number	0.5 x 4 = 2
		(ii) A field or a combination of fields that uniquely identifies each record in a table is called a Primary Key.	01 mark
		Patient table – Patient_ID / Doctor table – Doctor_ID (iii) Shamali and Vihara	01 mark 0.5 x 2 = 01 mark
		(iv) Patient table – Patient ID / Doctor table – Doctor ID	01 mark

Patient Table

Patient ID	First Name	Address	Age	
0527	Mrs. Upuli	Nikaweratiya	31	01 mark

Patient–Doctor Table

Patient ID	Doctor ID	
0527	D03	01 mark

(v) Doctors Table

Doctor ID	Name	Specialization	
D06	Dr. Dissanayake	Physical Disease Expert	01 mark

(vi) Many-to-Many Relationship — 01 mark

4	i	A. True B. False C. False D. True E. False F. True	0.5 x 6 = 3

	ii	Left column	Right column

Left column:
```
Begin
  C=0
  Display('Enter No')
  Input(N)
  For I=1 to N
       If N mod I=0 then
             C=C+1
       Endif
  Next I
       If C=2 then
         Display(N,' is a Prime Number')
       Else
          Display(N,' is Not a Prime Number')
       Endif
  End
```

Right column:
```
Begin
  C=0
  Display('Enter No')
  Input(N)
  I=1
  While I <= N
          If N mod I=0 then
                 C=C+1
          Endif
          I=I+1
  End While
  If C=2 then
          Display(N,' is a Prime Number')
  Else
          Display(N,' is Not a Prime Number')
  Endif
End
```

		Begin
		          C=0
		          Display('Enter No')
			Total 4 Marks
			1 mark for Read no
			1 mark for iteration

		Input(N)
		I=1
		Repeat
		  If N mod I=0 then
		      C=C+1
		  Endif
		I=I+1
		Until I > N
		If C=2 then
		Display(N,' is a Prime Number')
		Else
		Display(N,' is Not a Prime Number')
		Endif
		End
			1 mark for if condition
			1 mark for display output
			
			විකල්ප අවස්ථා 03න් පිළිගත හැකි එකක් සඳහා ලකුණු ලබා දෙන්න

	iii.	37 **is a Prime Number** 23 **is a Prime Number** 52 **is Not a Prime Number** 30 **is Not a Prime Number**	0.5 x 4 = 2
	iv	30 7 0 5	1 mark for complete answer

5		i. Advantages
		    Less errors due to processing by computer program
		    Efficient processing
		    Store data in small space
		    Easy backup
		    Password security
			02 marks

		ii. Observation
		     Interview
		     Questionnaire
		     Prototyping
			02 marks

		iii. 1-d 2-a 3-c 4-b	02 marks
		iv. Parallel installation reduces risk –	02 marks

		v. Characteristics of Waterfall Model:
		     Final result visible only at the end
		     Result may change at final stage
		     Steps are sequential and not revisited
		         (Valid answers get 2 marks)
			02 marks

6		i. Operating Systems
		    Software that connects user and hardware is the operating system
		ii. (a) Single-user, Multi-user, Multitasking, Real-time
		
		  (b) Single-user MS-DOS, FreeDOS, Windows 1.0
		      Multi-user – Windows Server, Linux Server, Unix
		      Multitasking – Windows 11, Fedora, Android, Unix
		      Real-time – ATM, Calculator, FreeRTOS
			1 mark
			
			1 mark
			
			4 marks

	iii.	A. Security Management B. Process Management C. File Management D. Network Management	0.5 x 4 = 2 marks
	iv	Tools : Disk Check – Scans for bad sectors Disk Defragment – Combines small free spaces Disk Formatting – Prepares disk with OS-specific format Task Manager – Shows running processes and system status	2 marks
7	i)	(1) D, C, F, A, E, B	2 correct – 0.5 marks 3–4 correct – 1 mark 5 correct – 1.5 marks All 6 correct – 02 marks
	ii)	i) - FTP ii) - SMTP iii) - HTTP iv) - ICMP	(0.5 x 4) = 2 marks
	iii)	Fill in the blanks: 1. Wide Area Network 2. Client and Server 3. Protocols 4. Domain Name 5. World Wide Web 6. Uniform Resource Locator	0.5 x 6 = 3 marks
	iv)a)	1. Graphics enhancement – darkening or sharpening 2. Fill selected area with color or pattern	0.5 x 2 = 1 mark
	b)	Raster graphics – made from pixels of various colors Vector graphics – made from lines or curves	1 mark

		Examples:
		    Raster – GIMP, Photoshop
		    Vector – CorelDRAW, Adobe Illustrator
			0.5 x 2 = 1 mark