

8. What is the printer type which is mostly used in point-of-sale (POS) in super markets?

1. Laser Printer 2. Thermal Printer 3. Ink Jet Printer 4. Line Printer

9. Which of the following is an example for phishing?

1. Stealing your personal information by sending you a fake email asking you to fill your data for a research.
2. Presenting a document created by someone else as his/her own work.
3. Misdirecting a user to a different website to collect information.
4. Getting advertisement emails about products or a service from an unknown person.

10. Consider the following statements which are described about characteristics of information.

- A- When you go to bank to get a loan, it's not suitable to submit a part of the documents needed for the loan.
B- When bank asked to submit your paysheet, it's not suitable to submit your previous years paysheets.

Which characteristics of information is described using the above-mentioned statements separately?

1. A- Accuracy B- Relevancy
2. A- Completeness B- Accuracy
3. A- Completeness B- Timeliness
4. A- Accuracy B- Timeliness

11. Consider the following statements regarding the world wide web (www)

- A- Internet is a service provided by www
B- Content Management System software can be used to design web pages.
C- Hexadecimal codes can't be used to represent colours in html files.

Which of the above statements are correct?

1. A only 2. B only 3. A and C only 4. A and B only

12. Which of the following activities is an example for "e-governance"?

1. Obtaining NIC card from department for registration of persons
2. Renew your vehicle revenue license online.
3. Obtain birth certificates at divisional secretariat offices
4. online shopping to buy groceries

13. Ruchith is editing a document he has created yesterday. Which of the following statements related to saving his file is correct?

1. 'Save' option saves the file with different name.
2. 'Save as' option saves the file with the same name or different name.
3. 'CTRL+V' key combination saves the file with the same name.
4. 'CTRL+C' key combination saves the file with the same name.

14. Which of the following statement/s related to MS PowerPoint is /are correct?

- A – You can type text directly into a PowerPoint slide but typing in text box is more convenient.
B – You can show or hide task pane from View >> Toolbars.
C – You can view a PowerPoint presentation only in Normal, Slide Sorter or Slide Show view.

Which of the above statement/s is/are true?

1. A only 2. B only 3. A and B only 4. A and C only

15. Which of the following waves are used for cellular phone, satellite, and wireless LAN communications?

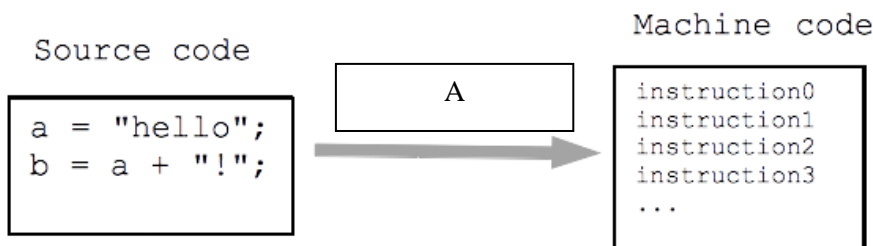
- A- Radio Waves B- Microwaves C- Infrared Waves

1. A only 2. B only 3. C only 4. A and B only

23. After you copied the formula in to B5 cell which of the following will appear on the cell?

1. =D1*E3*A5^3 2. =D\$1*E\$3*A2^3 3. =D\$1*E\$3*A5^3 4. =\$D\$1*\$E\$3*A5*A5

24. Below diagram shows how computer converts high level language in to machine language. Which of the following is not suitable as A?



1. Source Program 2. Interpreter 3. Assembler 4. Compiler

25. Consider the following table and find the correct html code?

1. <tr><td colspan="2"></td><td rowspan="2"></td></tr><tr><td></td><td></td></tr>
2. <tr><td rowspan="2"></td><td colspan="2"></td></tr><tr><td></td><td></td></tr>
3. <td><tr rowspan="2"></tr><tr colspan="2"></tr></td><td><tr></tr><tr></td>
4. <td><tr merge="2"></tr><tr merge="2"></tr></td><td><tr></tr><tr></td>
5. <th><td rowspan="2"></td><td colspan="2"></td></th><th><td></td><td></td></th>

26. Which of the following is the correct html code segment for adding a background colour?

1. <background>yellow<Background>
2. <body color = "yellow">
3. <body bg ="yellow">
4. <body bg color = "yellow">

27. Which of the following can use to add times to add time to slides in a MS PowerPoint presentation?

- 1.Slide Show Menu 2. Record Slide Show 3. Rehearse Timing Button 4. Custom Slide Show

28. Which of the following is not true about network topologies?

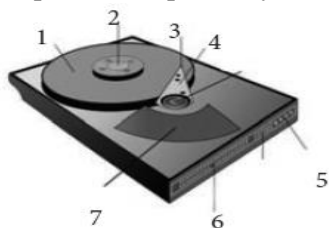
- A-Tree topology is an example of hybrid topology.
- B-In ring topology, data frames are transmitted from device to device around a closed loop in bidirectional path
- C-Star topology can't be used to the purpose of centralized management.

1. A only 2. B only 3. A and B only 4. B and C only

29. Which of the following statements will not help to reduce Digital Divide?

- 1.Increasing the taxes for smart devices.
- 2.Conducting awareness programs about ICT in rural areas.
- 3.Donating computers to schools in suburb areas
- 4.Conducting free ICT literacy course for elders in the community.

30. Consider the following inside image of a hard disk. Which of the following represents 1,2,3 Components respectively?



- 1. Platter, Spindle, Head
- 2. Spindle, Head, Platter

- 3. Head, Platter, Spindle
- 4. Platter, Spindle, Actuator

- Consider 31 to 34 are based on the following partly shown database tables that are used to store data about Clubs, Students and Memberships by students in different clubs in their school.

Table: Clubs (Contains the details of clubs in the school)

Club_ID	Club_Name	Chairman	Short_Description
01	Chemistry Club	1005	uplift the standard of chemistry among the students.
02	Gavel Club	1011	emerge as the key provider of high-value, experiential communication.
03	Interact Club	1001	Continue to serve the community whilst developing skills.
04	Entrepreneurs Club	1010	Ignite a passion to embrace entrepreneurship during school life.

Table: Students (Contains the details of the students in clubs and whether the each of the student is a hosteler or not.)

Student_Name	Student_ID	Grade	Hosteler
Pavan	1001	12	TRUE
Chirath	1003	09	TRUE
Ravindu	1010	12	TRUE
Rajeeva	1011	13	FALSE
Viran	1005	13	FALSE

Table: Memberships (Contains the details of the students who got membership in each club)

Club_ID	Student_ID	Member_Since
01	1005	2006
02	1011	2007
02	1003	2008
04	1010	2009

31. How many tuples are in the *Clubs* table?

- 1.2
- 2.3
- 3.4
- 4.5

32. What would be the most suitable filed as the primary key for the *Students* table & *Clubs* table respectively.

- 1. Student_Name & Club_ID
- 2. Student_ID and Club_Name
- 3. Student_ID and Club_ID
- 4. Club_ID and Student_ID

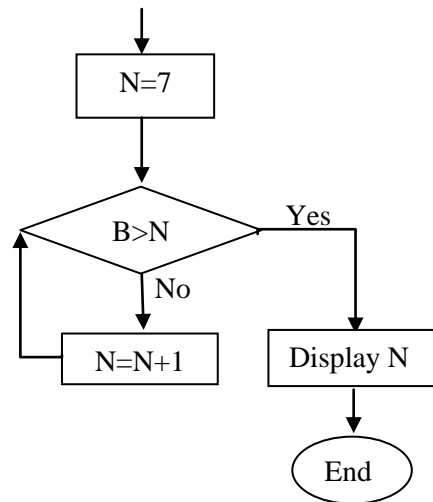
39. Which of the following represents the logic of the given flowchart?

1. N=7
IF B>N
 Display N
ELSE
 N=N+1
ENDIF

2. N=7
IF B>N
 N=N+1
ELSE
 Display N
ENDIF

3. N=7
REPEAT
 N=N + 1
UNTIL B >N
Display N

4. N=7
REPEAT
 N=N+1
UNTIL B<N
Display N



40. Which of the following is statements are true?

- A- Interpreter translates just one statement of the program at a time into a machine code.
- B- Java is an example of an Object-Oriented Programming.
- C- High Level language programs are faster than Low Level language programs.

1. A and B only

2. B and C only

3. A and C only

4. A, B and C all


Model Paper - November 2020
Grade 11
**Information & Communication
Technology – I,II**
80 E I,II
Three hours

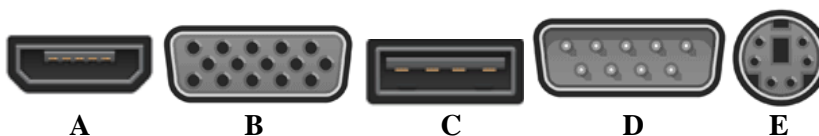
- Answer Five (05) questions only, including the first question and four others.
- First question carries 20 marks and each of the other questions carries 10 marks.

1. (i) Hex colors are a way of representing colors from various color models through hexadecimal values. Write the appropriate Hex Color code for the following RGB color combination.

R	G	B
125	240	57

- (ii) An Air conditioner machine with motion and temperature sensors are located in side a closed room. The AC machine turns on automatically when someone is the room and room temperature is greater than 25°C ($T > 25^{\circ}\text{C}$). The motion sensor turns from OFF (0) to ON (1) when someone is inside the room. The temperature sensor turns from OFF (0) to ON (1) when temperature is greater than 25°C . Manual switch can be used to power ON the AC machine under any scenarios. Draw a logic circuit to relating to the above scenario.

- (iii) The given below ports labeled A to E are found in computers.



Write down the relevant label of the port related to the following tasks.

- (a) Which port(s) can be used to connect a monitor to the system unit using a cable?
 (b) What is/are the port(s) later on replaced by C labeled port?
- (iv) Darshana is a Mathematics lecturer at University of Kelaniya and since the covid-19 pandemic situation, he conducts online lectures using his mobile phone with built in front camera as his laptop's web camera is broken. Sometimes he records the lessons and save them on the phone's SD card.
 (a) Write one input device and one storage device in the above scenario.
 (b) One of his fellow lectures suggest him to use his mobile phone camera as a web camera for his laptop to conduct online lectures using laptop. Do you agree with his colleague's statement if yes give reasons?
- (v) Network topology is the way a network is arranged, including the physical or logical description of how links and nodes are set up to relate to each other.
 (a) Draw a diagram of mesh topology that includes three personal computers, a printer and a router.
 (b) Give an example of a hybrid topology and name the topologies included in the hybrid topology you named.
- (vi) Consider the following phrase before and after formatting using word processing software:

Before formatting: 2nd term school vacation was extended due to covid-19 pandemic.

After formatting: 2nd term school vacation was extended due to **COVID-19** pandemic.

Write down the word processing software tools required for the above formatting.

- (vii) A hardware shop sells garden tools and stores details of these in a database table named TOOLS. **Code** is the primary key in the TOOLS table.

Code	Description	Price (Rs.)	Quantity_Stock	Quantity_Ordered
HS20	Hose (20 m)	3000	15	3
GFLG	Garden Fork	6000	10	1
GSLG	Garden Spade	7000	8	2
LMHD	Lawn Mover	12000	6	0

- (a) Write the purpose of the primary key in the TOOLS table.
 (b) List the output from the data shown in the table TOOLS that would be given by this query by example.

Field:	Code	Description	Price (Rs.)	Quantity_Stock	Quantity_Ordered
Table:	TOOLS	TOOLS	TOOLS	TOOLS	TOOLS
Sort:					Descending
Show:	<input checked="" type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>
Criteria:				<10	
Or:					

- (viii) Write down the answers for the following Pascal related questions.

- (a) Write down the output of the following code segment?

```
p:=1;
q:=9;
for i:=q-p to q+p do
begin
write(i*i*i,' ');
end;
```

- (b) Write a pascal statement to assign the 5th element of an array variable X to its 3rd element?

- (ix) choosing from the words given in brackets, select the suitable word that should be used to fill in each blank of the following statements labeled A to D. In your answer, write only the statements label and selected word for the blank.

A-Crop/Trim tool can be used to remove unnecessary sections in edge of images and reduce number of in an image

B-The size of a video file can be compressed by reducing the.....of image in a frame.

C-FPS is used to identify theof a quality video.

D-In audio production defines how many times per second a sound is sampled.

[*sampling rate, resolution, frame rate, pixels*]

- (x) Determine whether the following statements are **TRUE** or **FALSE**

- (a) Every Network Interface Card has a hardware address that's known as an IP Address.
 (b) Domain Name System (DNS) is a naming database in which internet domain names are located.
 (c) Router can't be used to connect two networks together.
 (d) TCI/IP is the communication protocol used by internet.

2. (i) Write answers for the following.

- (a) A person can contract covid-19 even touching money by hand. Suggest one thing he could do to avoid touching money and do transactions.
- (b) Due to drought season Lahiru has to face sudden power cuts, and since that his computer suddenly shuts down. Write down one thing that he could do to prevent this.
- (c) An engineer wants to take some necessary files place to place but he doesn't have a flash drive to take those files with. Suggest a method to get these files from any place without using a peripheral device.
- (d) Some of Samantha's personal photos were published on internet without her permission to blackmail her. Write down where can she complaint about this incident.
- (e) Write one way in which a person can protect his computer from unauthorized access by the users on the internet.

(ii) A computer user may experience many physical health problems from using computers extensively over a prolonged period of time in an inefficient manner. The following shows possible reasons (labeled A to D) and health issues (labeled E to H) develop by them.

A-Poor workstation (desk) design, bad posture and sitting for long periods of time.

B- Looking at the computer monitor at the same distance point for long periods of time.

C-Incorrect use of computer mouse and keyboard.

D-Prolonged use of computers may lead to an overall sedentary lifestyle that lacks adequate physical activity.

Identify the most suitable health issue for the above reasons from the labelled list (E – H) given below.

Write down the possible label and the matching health issue label.

List: [E-Computer vision syndrome, F-Obesity, G-Musculoskeletal disorder, H-Carpel Tunnel Syndrome]

(iii) Explain the purpose of Digital Bridge and write 2 examples to create a digital bridge in the society.

1. Following are the partly shown tables of the relational database of an online restaurant booking system which allows customers to make a reservation for a table.

CustomerName	CustomerID	MobileNumber
Kasun	C001	713456745
Chamara	C002	763446675
Dileepa	C003	789856234
Ajeevan	C004	756723964
Ashane	C005	712206795
Malanka	C006	772866745

Table: Customer (Includes the information of customers)

TableID	NoOfSeats
T01	4
T02	4
T03	6
T04	6
T05	10
T06	10
T07	6

CustomerID	TableID	Date	Time
C001	T03	25.11.2020	6.00 P.M
C002	T05	25.11.2020	8.00 P.M
C002	T06	25.11.2020	8.00 P.M
C003	T03	26.11.2020	8.00 A.M
C004	T07	24.11.2020	8.00 A.M
C005	T01	26.11.2020	1.00 P.M
C006	T01	24.11.2020	1.00 P.M

Table: Table
(Includes the information of tables in the restaurant)

Table: Reservation (Includes the information of reservations)

- (i) (a) Write down the *foreign key/s* of the **Reservation table**.
 (b) Write down how these tables will related to each other using their *keys* and *fields*
 (c) Considering the above tables, identify and write down the cardinality between following relations
 (i) **Customer** and **Reservation**
 (ii) **Reservation** and **Table**
- (ii) Which table(s) need(s) to be updated to accommodate the following changes?
 (a) **Malanka** has made another reservation for a table (**TableID: T04**) on 24th of November at 1.00 P.M.
 (b) Restaurant has decided to add another table (**TableID: T08**) to the dining area, which can accommodate 6 seats.
- (iii) (a) Write down the new record(s) to be added to the relevant table(s) for the change mentioned in part (ii)(a). Use the format: [table name-> (field1, field2, ...)] for each record.
 (b) A new customer called Rajiva (**CustomerID:C007**) has made a reservation on 26th of November at 7.00 P.M. Write down the new record(s) to be added to the relevant table(s) for the above change. Use the format: [table name-> (field1, field2, ...)] for each record.

4. (i) Consider the following statements with blanks and identify the most suitable term to fill each blank from the list given below. Write down the statement letter and the missing term.

- (a) are companies that provide space on a server owned or leased for use by clients, as well as providing Internet connectivity, typically in a data center.
 (b) is an identification string that defines a realm of administrative autonomy, authority or control within the Internet.
 (c) is used to transfer large files from one computer to another using internet.
 (d) is commonly used to logically separate a website into sections.
 (e) Opera GX is an example for who uses their for online gaming purposes.
 (f) is a server side scripting language that is embedded in HTML. It is used to manage dynamic content, databases, session tracking, even build entire e-commerce sites.
 (g) Using you can design a web page even though you don't have knowledge about programming languages.
 (h) is a software that relevant HTML document is automatically prepared in a separate interface while the designer is finishing the web page using a graphical interface.

List: [php, web hosts, Drupal, Subdomain, Bluegriffon, FileZilla, web browser, domain name, IP address, HTTPS, MySQL, ISP, python]

(ii) The HTML source of the web page shown in **Figure 1** is given in **Figure 2** with certain missing tags labelled 1 to 12.

Child abuse crisis in Sri Lanka



Dear sons and daughters, there are many issues to be aware of in this society where you live, as it is not a pleasant world as you dream. There can be many hidden vicious people around you. You should learn how to protect yourselves form specially, your must be aware of child abuse. "Abusing" basically means the improper usage of children. There are four types of improper usage.

Four Types

1. Sexual Abuse
2. Physical Abuse
3. Emotional Abuse
4. Neglecting

Child Abuse Statistics

Year	Number of complaints
2016	9535
2017	9202
2018	9266

Reference: [NATIONAL CHILD PROTECTION AUTHORITY-Help and Advice](#)

Figure 1: The web page

```

<!DOCTYPE html>
<html>
<head>
<h1> <1>Child abuse crisis in Sri Lanka</1></h1>
</head>
<body>
<center><img 2="child.jpg" 3="Child-Abuse" width="250" height="200"></center>
<p>Dear sons and daughters, there are many issues to be aware of in this society where you live,
as it is not a pleasant world as you dream. There can be many hidden vicious people around you.
You should learn how to protect yourselves form specially, your must be aware of child abuse.
<4>" Abusing"</4> basically means the improper usage of children. There are four types of
improper usage.</p>
<5>Four Types</5>
<6>
    <li>Sexual Abuse</li> <li>Physical Abuse</li>
    <li>Emotional Abuse</li> <li>Neglecting</li>
</6>
<table 7="1">
    <8>Child Abuse Statistics</8>
    <9><10>Year</10><th>Number of complaints</th></9>
    <tr><td>2016</td><td>9535</td></tr>
    <tr><td>2017</td><td>9202</td></tr>
    <tr><td>2018</td><td>9266</td></tr>
</table>
<p>Reference: <11 12="http://www.childprotection.gov.lk">
NATIONAL CHILD PROTECTION AUTHORITY-Help and advice<11></p>
</body>
</html>

```

Figure 2: The HTML Source code

Select the correct tags for labels 1-12 of **Figure 2** from the lists given below. Write down each label number and the corresponding HTML tag.

List: {h2, center, img, a, src, href, th, ol, ul, td, tr, b, u, caption, border}

5. Consider the following spreadsheet segments which contains of salary obtain by employees in a company. This spreadsheet used to compute the overtime pay for each employee and the final Net Pay for each employee.

ABD Enterprise								
Payroll								
Date	24/11/2020							
Emp. Number	Emp. Name	Basic Salary	Hourly Rate	OT Hours Worked	OT Pay	Gross Pay	G.S Tax	Net Pay
E001	Gihan	34000		12			1500	
E002	Priyanka	30500		15			1500	
E003	Champika	31000		18			1500	
E004	Dinuka	39000		15			1500	
E005	Ashoka	42500		16			1500	
E006	Tharindu	41500		14			1500	
Hourly Rate =	1%							

- Write down the formula that should be written in cell D5 to find the hourly rate. The hourly rate is 1% of basic salary, $Hourly\ Rate = Basic\ Salary * 1\%$. [Note: use cell B12 to get 1%]
- If this formula is copied to cells D6 to D10, write down the formula that will appear in cell D9.
- Write down the formula that should be written in cell F5 to find the Overtime pay (OT Pay). The Overtime Pay is multiplication of hourly rate and OT hours worked, $OT\ Pay = Hourly\ Rate * OT\ Hours\ Worked$.
- Write down the formula that should be written on G5 to calculate the gross pay for Gihan in the form of $=function1(cell1, cell2)$. [Gross Pay = Basic Salary + OT Pay.]
- Write down the formula that should be written on respective cell to calculate Net Pay for **Dinuka**. [Net Pay = Gross Pay - G. S Tax].
- Name the most suitable chart type in the spreadsheet software to show the Net Pay of employees in the company on the month of November.

6. Assume that the ICT of your school asked you to develop a new Library Information System for school library to replace the old computer-based system. Since the reliability of the new system is a very important factor, your IT teacher asked you to decide a suitable deployment approach.

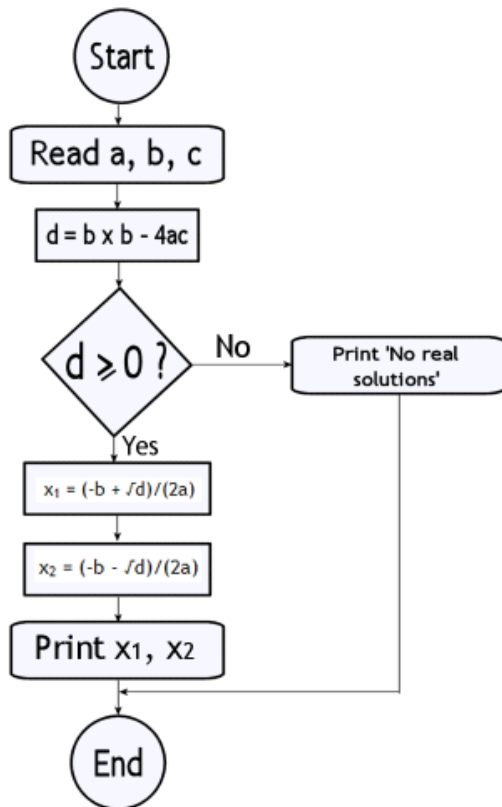
- Sate one method that can be used to gather the requirements of the system.
- When identifying requirements, we categorize them into two categories what are they?
- Write two activities done in the *designing the solution* phase in related to the Library Information System.
- You have decided to use the *Iterative Incremental Model* to develop the new system.
 - Write down one advantage of using this method compared to other methods.
 - Write down an alternative deployment approach to the *Iterative Incremental Model*.
- Principal asked to test the final system involving librarians and deploy the final system first only in the School's primary section library and find the suitability of the new system to the school.
 - What are the four stages of testing and debugging?
 - Write down the most appropriate method to deploy the new system according to the principal's guideline.

7. (a) Define one dimensional array using pascal programming language to include marks of science subject of 50 students according to given details below.

Name of the array: ScienceMarks

Data type: Integer

(b) The format of the quadratic equation is given as $ax^2 + bx + c = 0$. The flowchart given below represents the process of getting solution for x .



In pascal Programming language *sqrt* function returns the square root of a number. Consider the following pascal program relevant to the flowchart and fill in the banks with.

```

Program Qequation(input,output);
var
a,b,c,d,x1,x2 :.....;
begin
write('Enter value for a:');
readln(a);
write('Enter value for b:');
readln(b);
write('Enter value for c:');
readln(c);
.....;
if (.....) then
begin
x1:=(-b+sqrt(d))/2*a;
x2:=(-b-sqrt(d))/2*a;
writeln('x1= ',x1:5:2);
writeln('x2= ',x2:5:2);
.....;
end
  
```

```
else
begin
  writeln('No real roots');
  readln();
end;
end.
```

(c) Determine whether the following statements are TRUE or FALSE

- (i) The Pascal programming has procedural paradigm features and structured programming as well.
- (ii) Object oriented programming is based on objects which consists of data only.
- (iii) In object-oriented programming, a class cannot create objects of same type.
- (iv) Learning Management System can be created by a programming language either using structured approach or object approach.
