PENANG CHINESE GIRLS' HIGH SCHOOL
Trial Examination 2010
Form 5
Information and Communication Technology

Time: 2 ½ hours

INSTRUCTIONS

1. This question paper consists of three sections: Section A, Section B and Section C.
2. Answer all questions in Section A and Section B.
3. Answer Question 31 and either Question 32 or Question 33 in Section C.
4. Write your answers for Section A in the spaces provided in **Answer Sheet**.

SECTION A [36 marks]

1. The use of digital technology is to store, retrieve, manipulate, transmit and receive data. It allows people and orgnnisations to communicate and share information digitally.

   The text above best describes _____.

2. The following terms are related to computer security, ethics and privacy.

A.	Computer ethics
B.	Firewall
C.	Intellectual property
D.	Cyber law
E.	Privacy

Match the following definitions with the terms given by writing A, B, C, D or E.

(a)		The claim of individuals to be left alone, free from surveillance or interference from other individuals or organizations.
(b)		A set of moral standards used as a guideline for computer users.

3. FIGURE 1(a) and FIGURE 1(b) show the use of ICT in two fields.

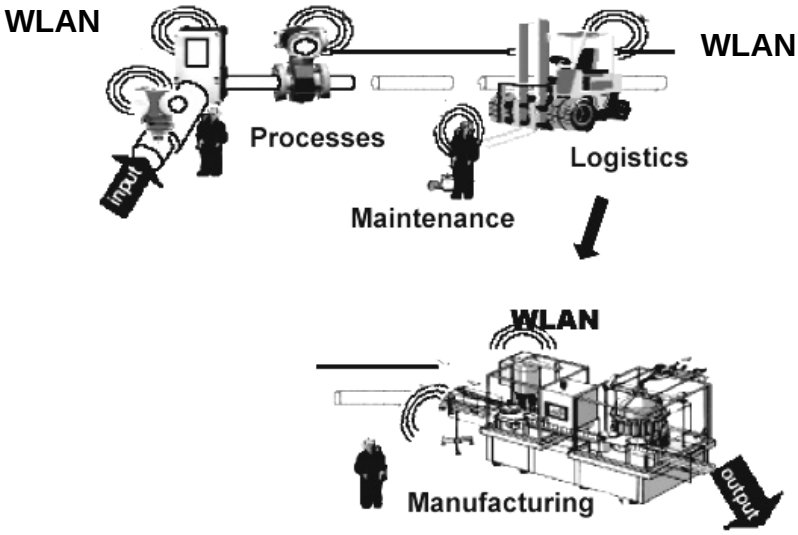


FIGURE 1(a)

FIGURE 1(b)

State the related field for FIGURE 1

(a)

(b)

4. State the need for intellectual property laws.

5.

Phase 1: Obtain information about the target organisation.
Phase 2: Scan for open ports and system vulnerabilities.
Phase 3: Figure out the encrypted password.
Phase 4: Gain access to the network resources.

The activities above describe the process of _____.

6. FIGURE 2 shows input and output devices.

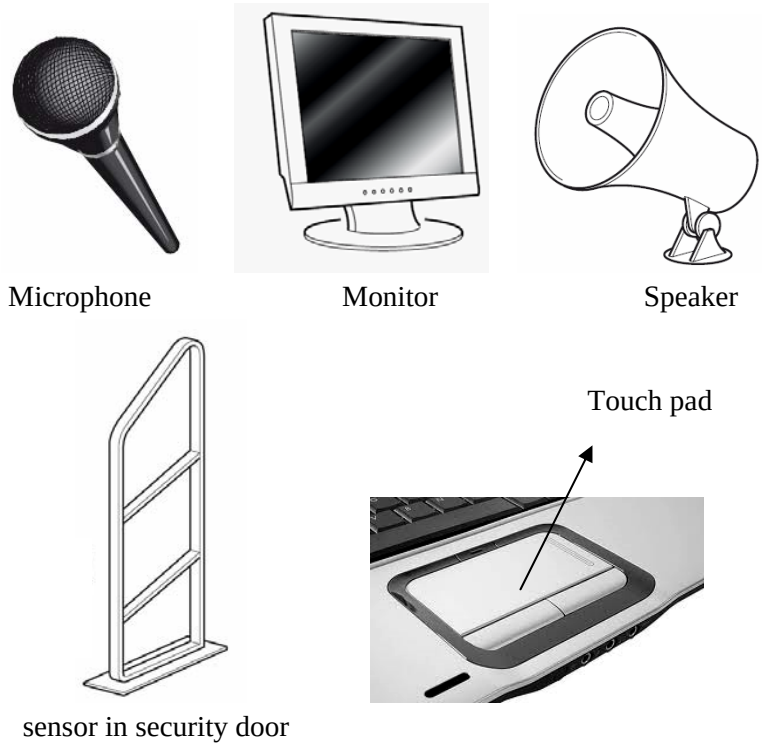


FIGURE 2

(a) Identify the output devices.

(b) Which device is used for capturing sound?

7. Choose the correct statements

I. The access time of a hard disk drive is measured in GHz.

II. A 100 TB hard disk drive has larger storage capacity than a 300GB hard disk drive.

III. The Pentium Dual-Core 2.93GHz processor performs faster than the Intel Pentium Dual Core 2.8GHz processor.

IV. A 64KB USB flash drive can be found in the market.

A. I, II
B. I, III
C. II, III
D. III, IV

8. FIGURE 3 shows a text file containing the words “Open Source Software”.

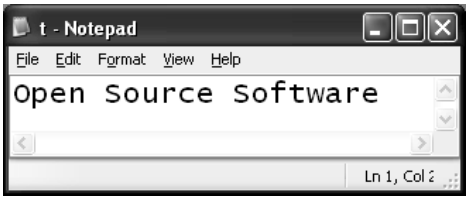


FIGURE 3

(a) State the file size.

(b) State one advantage of using proprietary software in comparison with open source software.

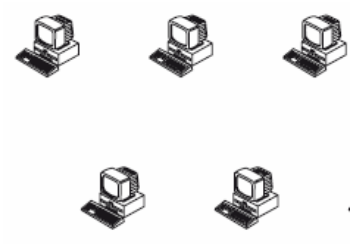
9. TABLE 1 lists the features in application software.

Drop cap	Transition	What-if analysis
Formula	Mail merge	Record narration
Chart	Animation scheme	Query

TABLE 1

Choose the features in presentation software.

10. Draw in the communication lines in the following diagram to form a ring topology.



11. TABLE 2 shows a list of terms used in computer network.

WAN	MAN	LAN
Intranet	Extranet	TCP/IP

TABLE 2

FIGURE 4 shows the network of Igawa Company.

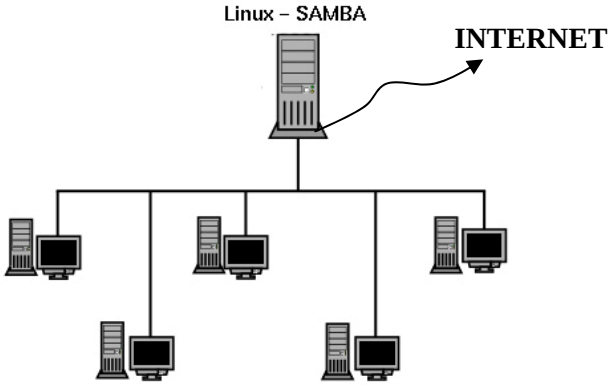


FIGURE 4

Choose the terms in Table 2.

(a) State the type of network shown in FIGURE 4.

(b) State the network communication technology used.

12. Cable Y is made from strands of glasses. It carries signals using pulses of light. Name Cable Y.

13. FIGURE 5 shows the specifications of Minah's personal computer and her brother's laptop.

Laptop
Intel Core i3-350M Processor (3M Cache, 2.26GHz)
2GB 1333MHz DDR3 SDRAM
14.1" WXGZ Anti Glare LED Display
Integrated 2.0 Mega Pixel Camera with Microphone
8X DVD+/-RW Drive
250GB (7200rpm) Hard Drive
Intek Centrino Advanced-N 6200 (802.11 a/b/g/n) Hard Mini Card
56K v.92 Internal Modem ----------> **DEVICE X**

Personal Computer
Intel Core 2 Quad Processor (6M L2 Cache, 2.66GHz)
Dell 20" E2010H wide screen Flat LCD Monitor
4GB NECC DDR3 SDRAM
250GB rpm SATA Hard Drive
16X DVD-ROM
Belkin F5D7000 Wireless-G 54Mbps PCI Destop Adapter.
10/100/1000 Gigabit Ethernet

FIGURE 5

(a) State True / False to the following statement.

Minah's personal computer can be configured to connect to a network using wired connection

(b) State a device that Minah needs to purchase if she intends to establish a wireless network at home.

(c) State the function of DEVICE X.

14. Which of the following statement is NOT an advantage of using WYSIWYG web editor?

A. Developer can visualize the design.

B. HMTL programming knowledge is not necessary.

C. Developer can create web pages easily.

D. The web page contains junk HTML code.

15. TABLE 3 shows the outcome of a multimedia development phase.

ITEMS	Response(s)
Project Title	SMN's 90th Anniversary
Problem Statement	Produce an information and interactive multimedia presentation
Objectives	To introduce the history, achievements and the development of SMN.
Possible Solutions	Multimedia project contains text, audio, high quality video, animation and images.
Target Audience	The visitors on the anniversary day.

TABLE 3

State the phase.

16. FIGURE 6 shows an interface of a multimedia application.

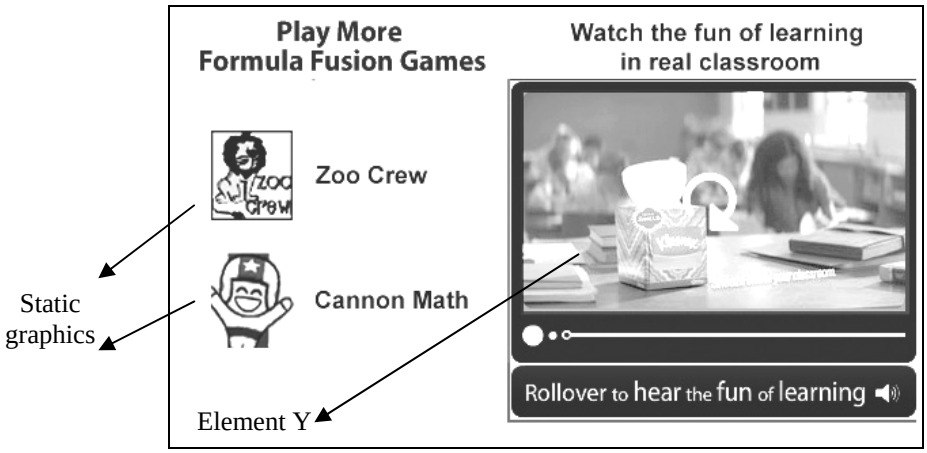


FIGURE 6

(a) State one multimedia element that is not incorporated into the application.

(b) State the type of software used to create element Y.

17. FIGURE 7 shows how a translator works.

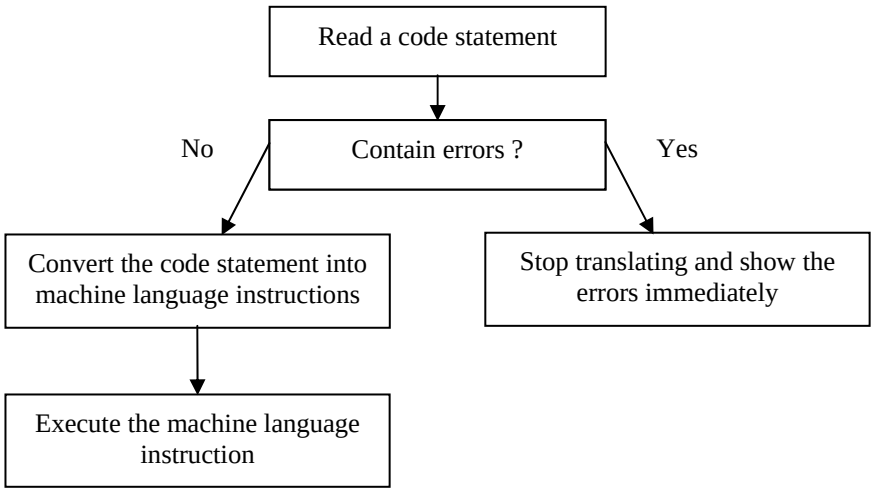


FIGURE 7

State the translator.

18. Which of the following operators are logical operators?

A. +, /, -

B. +, >, -

C. OR, <, /

D. NOT, AND

19. State True / False to the following statement.

In structured programming, the main program is analysed and then decomposed into several manageable modules.

20. FIGURE 8(a) shows the input interface of a program.

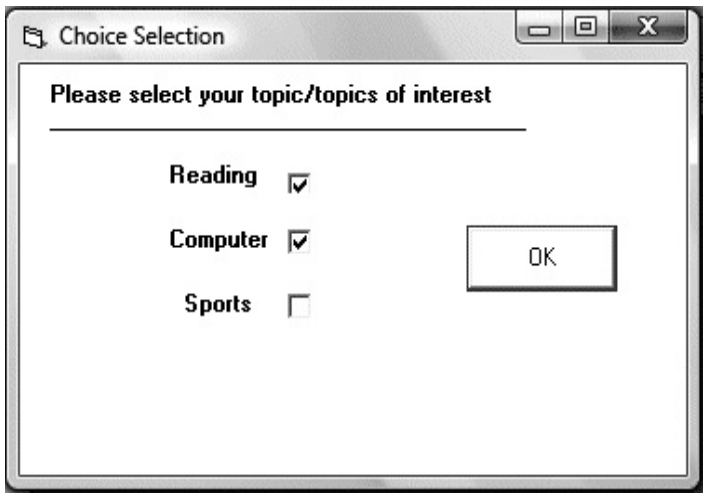


FIGURE 8(a)

FIGURE 8(b) shows the output based on the user input in FIGURE 8(a)

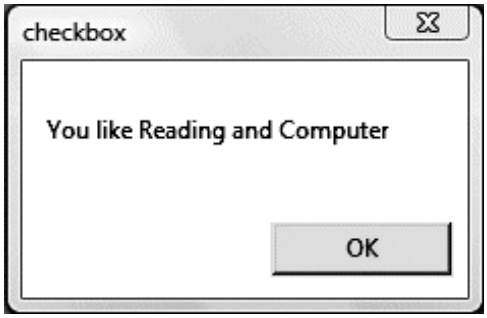


FIGURE 8(b)

(a) State the control structure used in the program.

(b) State the data type for the values of check boxes.

21. The following is the code segment of a program.

```
Private Sub cmdResult_Click()
CONST FACTOR = 100
Dim lengthInCM as double

lengthInCM = Val(txtlengthInM.Text)  * FACTOR
lblOutput.Caption=  lengthInCM

End sub
```

(a) Identify the constant used in the program.

(b) If the user enters the value 2.4 for its input, what is the output?

22. Choose the correct answer.

Transaction Prcessing System	Management Information System
Expert System	Executive Information System

The type of information system which helps senior managers monitor organizational performance, track activities of competitors, spot problems, identify opportunities, and forecast trends is _____.

23. *"A set of interrelated components working together to collect, process, store and distribute information to support decision making."*

The statement above defines _____.

A. Data

B. Database

C. Information System

D. Database Management System

24. TABLE 4 shows one of the files in a database.

X

Book Name	Quantity	Sale Price	Cost
All Too Human	1	70.00	65.00
Histories	8	55.40	49.20
The Prince	11	62.90	56.00
The Odyssey	2	82.00	75.20

TABLE 4

Each horizontal row of the file, X is known as _____.

25. The GYMAX manufacturing company keeps personal information about its employees in a database.

This is part of the database.

Employee No	Name	Job Title	Salary
10020	Leong Yun Yee	Engineer	5,500.00
10212	Amanda Lim Wei Tein	Production Manager	9,510.00
10231	Habib bin Halim	Senior Engineer	6,500.00
12982	Man Siew Li	Supervisor	3,000.00
08921	Jimmy Lau Yi Wei	Packer	1,000.00
12031	Sim Kai Wen	Packer	1,200.00
10217	Lim Hock Seng	Technician	2,100.00

(a) State the primary key.

(b) Write down the query result based on the following condition.

Field:	name	Employee no	Job Title	salary
Table:	Table1	Table1	Table1	Table1
Sort:				
Show:	✔	✔	✔	✔
Criteria:		Like "1*"	"Packer"	

SECTION B [20 marks]

QUESTION 26

FIGURE 9 shows two different types of storage.

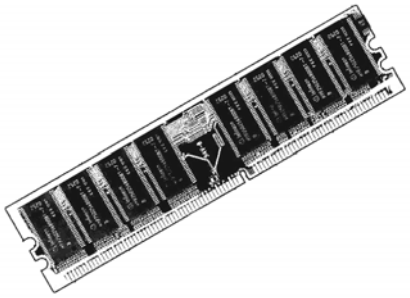
Y	X
	

FIGURE 9

(a) State two differences between X and Y. [2 marks]

(b) Give two reasons why Y is a popular choice for computer users. [2 marks]

QUESTION 27

Info Genius Company is assigned by the Ministry of Education to produce an ICT teaching courseware. This learning courseware must be able to make the learning process more fun and interesting.

(a) What type of interactivity is suitable for this multimedia project? Justify your answer. [2 marks]

(b) Give two benefits to the teachers and students if the courseware is delivered over the web. [2 marks]

QUESTION 28

Music Warehouse is a company that sells CDs by mail order. Sue, the owner of the company has used a database management software to create the **CATEGORY** and **PRODUCT** tables for the stock records.

Category Code	Category Name	Category Description	Picture
1	Pop	Justin Timberlake Gwen Stefani	Graphic of pop
3	Classical	Bach, Beethoven, Chopin	Graphic of classical
4	Opera	Tosca, Carmen, Rigoletto, La Traviata	Graphic of opera
1	Country	Slim Dusty, Olivia Newton John	Graphic of country

TABLE 4 (a)

Product ID	Product Name	Category Code	Unit Price	Quantity in Stock
1	Gwen Stefani Live	1	15.50	23
2	Bach Strings	3	19.60	15
3	Viva Carmen	4	23.00	9
4	Maroon 5 Unplugged	1	11.75	34

TABLE 4(b)

(a) Identify the mistake done by Sue in Table 4(a). Give one reason for your answer. [2 marks]

(b) Why is the attribute "**Category Code"** needed in TABEL 4(b)? [2 marks]

QUESTION 29

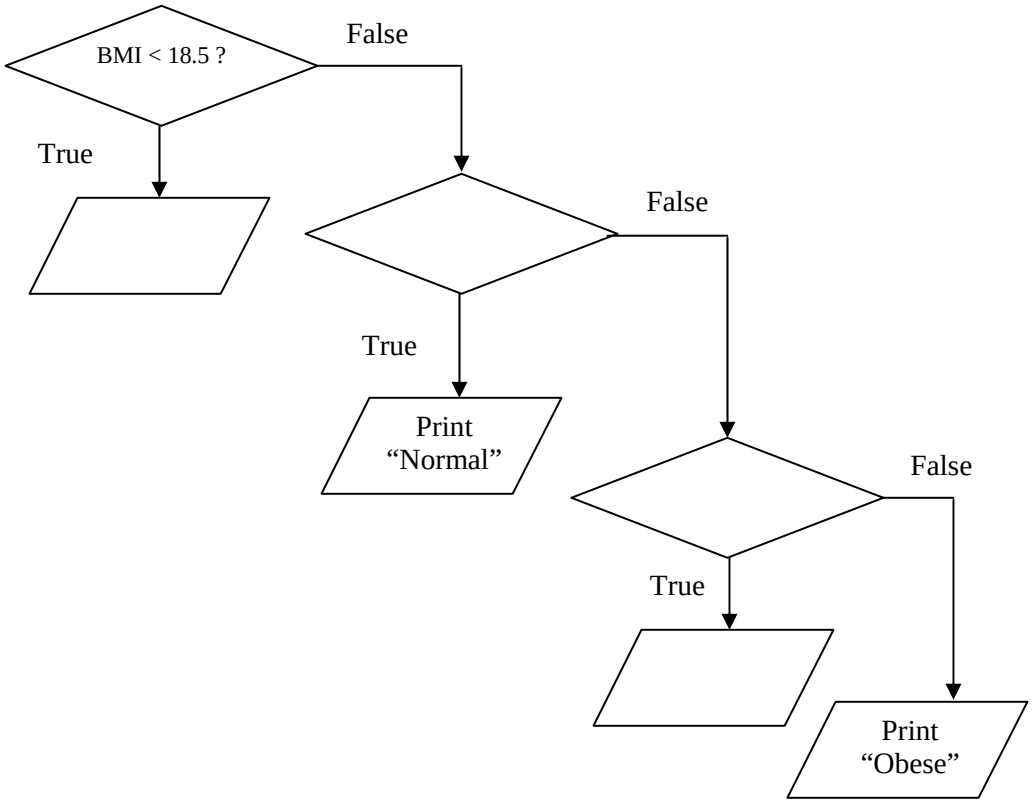
Body Mass Index (BMI) is a calculation that uses your height and weight to determine the amount of body fat you have. This index can be calculated using the following formula:

$$BMI = \frac{mass\ in\ kg}{(height\ in\ meter)^2}$$

According to the World Health Organisation (WHO), an adult who has a BMI of less than 18.5 is considered as underweight, while a BMI greater than 25 is considered as overweight and above 30 is considered as obese.

You are required to design a program to classify an adult as underweight, normal, overweight or obese.

Redraw and complete the decision-making structure below.



[4 marks]

QUESTION 30

FIGURE 10 shows the network floor plan of a hairdressing salon.

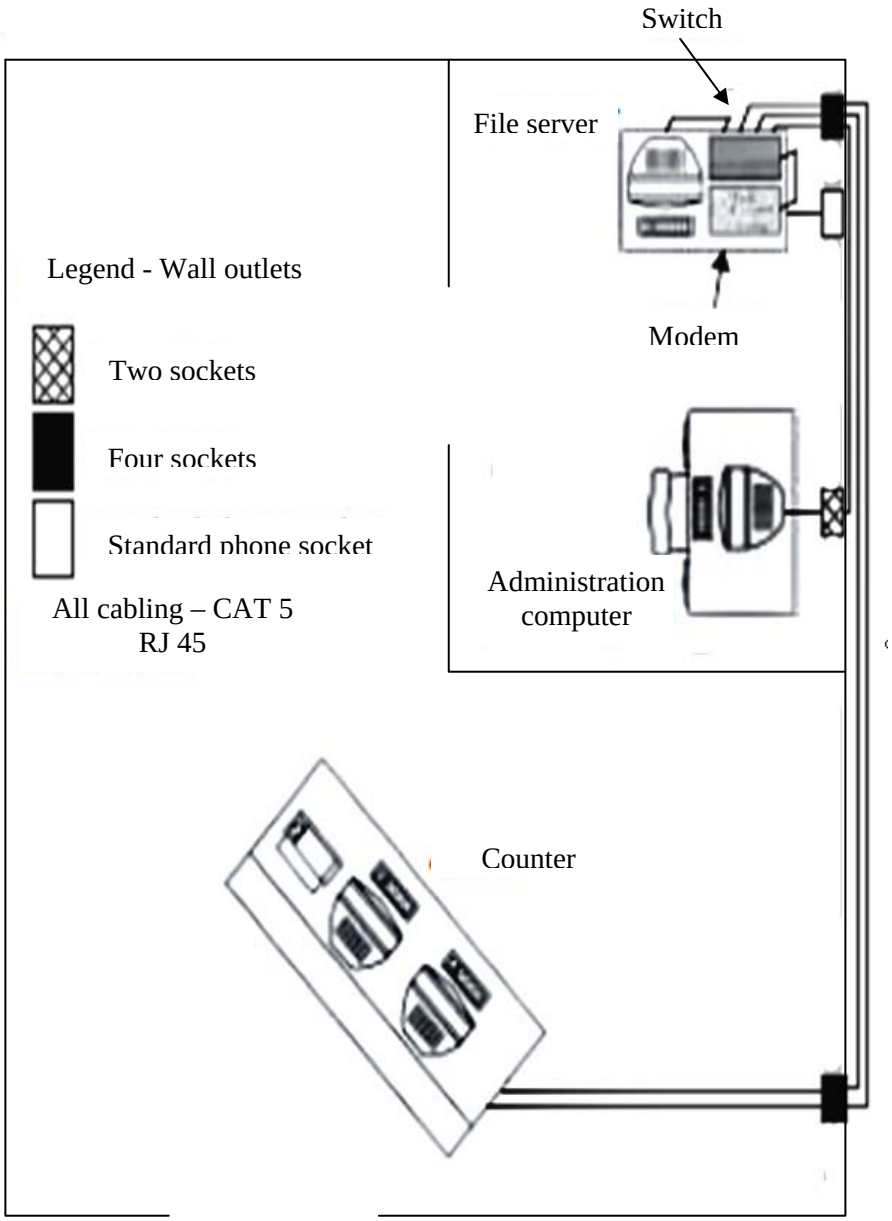


FIGURE 10

a. State the network topology. Justify your answer. [2 marks]

b. Explain the network architecture. [2 marks]

SECTION C [14 marks]

QUESTION 31

A sports club offers a wide range of games for its members. Every club member is allowed to choose up to two games from the games offered.

Recently, the club has planned to create a database to collect all the information about its members so that the club is able to contact its members if necessary and know the games joined by each member.

(a) State the type of relationship between MEMBER and GAME. Give a reason for your answer. [2 marks]

(b) Design a data capture form to collect all the information the club needs. [5 marks]

QUESTION 32

Every year, your school Parent-Teacher Association will offer financial aid to Form One students under the school adoption programme. A student will be selected under the programme if she fulfills all the following requirements:

Criteria	
Family's income	Less than RM 1000
Academic Results	6As or 7As in UPSR

You are required to develop a program to determine the students who are eligible for the financial aid.

Identify the input, process and output of the program. [7 marks]

QUESTION 33

A company wants to set up a training room for its employees. The manager has just purchased 10 units of computers, a 24-port network switch, a network printer, and two realms of CAT 5E UTP cable. He wants to take either Room 101 on the ground floor or Room 201 on the second floor as the training room. As the ICT coordinator, you are asked to plan a network for the room.

Based on the situation given, answer all the questions.

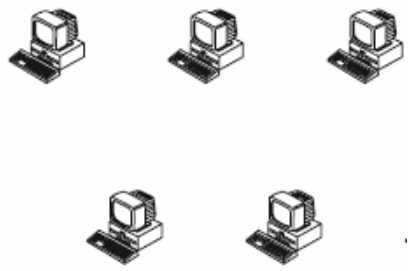
(a) Which room would you choose to be set up as training room? Explain your answer. [3 marks]

(b) Draw the network layout. [4 marks]

Prepared by OLP & YCY Checked by YCY Approved by

Answer Sheet

NAME: _____( ) CLASS: _____

Question No.		Candidate's Answer	Marks
1			1
2	(a)		2
	(b)		3
3	(a)		4
	(b)		5
4			6
5			7
6	(a)		8
	(b)		9
7			10
8	(a)		11
	(b)		12
9			13
10			14
11	(a)		15
	(b)		16

Question No.		Candidate's Answer	Marks
12			17
13	(a)		18
	(b)		19
	(c)		20
14			21
15			22
16	(a)		23
	(b)		24
17			25
18			26
19			27
20	(a)		28
	(b)		29
21	(a)		30
	(b)		31
22			32
23			33
24			34
25	(a)		35
	(b)		36