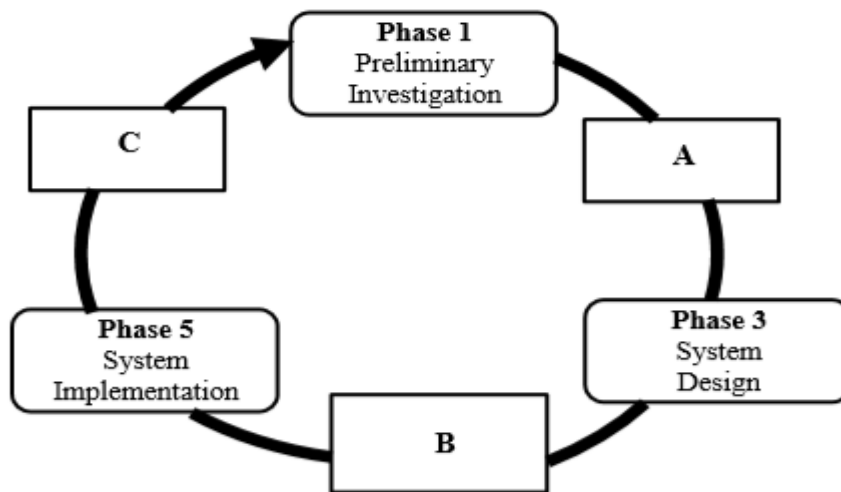


**BA SANGAM COLLEGE**  
**YEAR 13**  
**COMPUTER STUDIES**  
**WORKSHEET 1**

**1. Reference: FY13CE 2016**

The diagram given below illustrates the Systems Development Cycle. Use the diagram to answer questions (i) and (ii).



*Source: MOE A textbook for Year 13 Computer Studies 2016*

- (i) Name the **two** phases of the SDC marked **A** and **B** in the above diagram.
- (ii) Explain **one** activity which is carried out in **Phase 5**.

Study the information given below and answer the questions which follow:

	<p><i>A school that was severely damaged by Tropical Cyclone Winston on February 20<sup>th</sup> 2016 had a computer lab with 30 computers, a laser printer, a file server and network gateway</i></p> <p><i>The school administrator has recommended that a System Analyst be hired.</i></p>
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*Source: [www.fjitsun.com.fj](http://www.fjitsun.com.fj)*

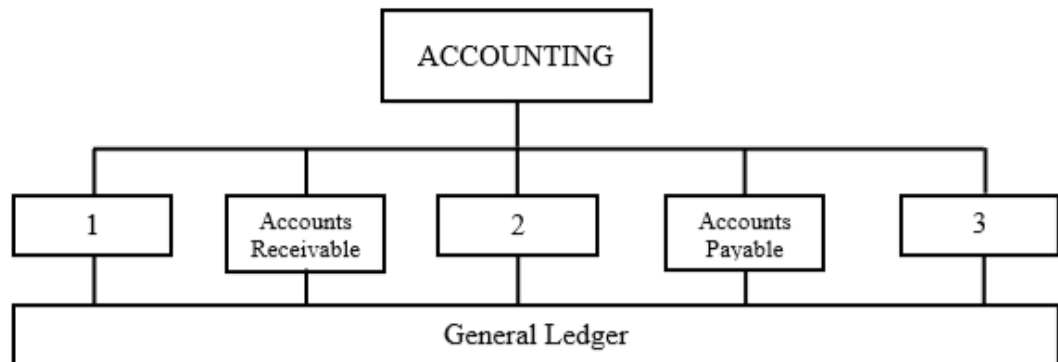
- (i) What would be the primary role of the System Analyst? **(1 mark)**
- (ii) Explain why the System Analyst would consult the computer teacher during the preliminary investigation phase. **(2 marks)**

- (iii) Explain **two** benefits that the school will have after the completion of the project.
- (b) Database Management System (DBMS) is a collection of programs that stores, modifies and extracts information from a database. Describe **two** features of hierarchical database model.
- (c) Name the **three** types of file organisation.

**2. Reference: FY13CE 2017**

**QUESTION 1 INFORMATION SYSTEM**

- (a) Use the diagram below to answer the questions which follow.



Source: *personal collections*

- (i) Name the given computer-based information system. **(1 mark)**
- (ii) Name the activities of the accounting department marked 1, 2 and 3. **(3 marks)**
- (iii) Describe why the General Ledger shows a financial performance of a company. **(2 marks)**
- (b) Differentiate between strategic model and tactical model in relation to planning. **(2 marks)**
- (c) Explain how the Office Automation System (OAS) support secretaries and clerks. **(2 marks)**

**QUESTION 2      SYSTEM ANALYSIS AND DESIGN      (10 marks)**

- (a) In Phase 2 of the Systems Development Cycle, data is collected and analysed by the system analyst in an organisation.
- (i) State **one** method of gathering data. **(1 mark)**
  - (ii) Identify **one** tool which is used to analyse data collected. **(1 mark)**
  - (iii) Explain the final step that the system analyst will carry out in this phase. **(2 marks)**
- (b) In Phase 3, designing of alternative systems are normally carried out.
- Explain each of the three feasibility studies. **(3 marks)**

**3. Reference: FY13CE 2018**

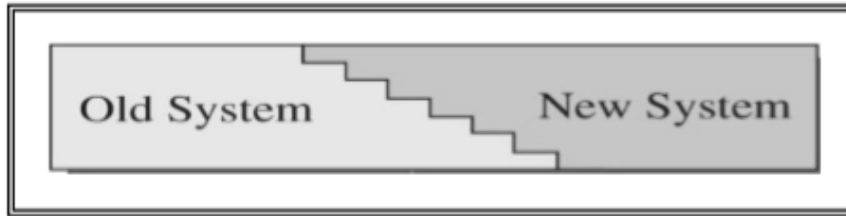
**QUESTION 1**

- (a) List the **two** tasks conducted by a research department of an organisation.
- (b) Explain the role of a Chief Executive Officer in an organisation.
- (c) Differentiate between a **periodic report** and a **demand report** in relation to the time they are produced.
- (d) State the **two** tasks carried out in the systems maintenance phase in the systems development life cycle.

**QUESTION 2**

- (a) State the role of a knowledge worker.
- (b) Discuss **one** alternative to the System Analysis and Design with an example.

- (e) Study the diagram shown below and answer the questions that follow.



Source: [www.google.com.au/search?](http://www.google.com.au/search?)

- (i) Name the conversion method shown above.
- (ii) State the type of organisation the conversion is appropriate for.

### QUESTION 3

- (a) Differentiate between a **transaction file** and a **master file** in relation to their content.
- (b) Describe **one** advantage of having a database in an organisation.
- (c) Discuss **one** security concern regarding the use of a database with an example and its security measure.

### QUESTION 4

- (a) Study the picture shown below and answer the question that follows.

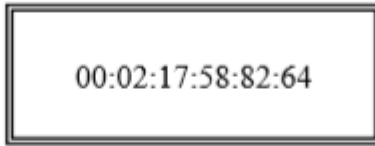


Source: [www.computerhope.com/jargon/](http://www.computerhope.com/jargon/)

Describe the purpose of the tool shown above.

- (b) Explain **one** step that you can perform if you press the power button of the computer and nothing happens.

- (c) Study the address shown below and answer the question that follows.



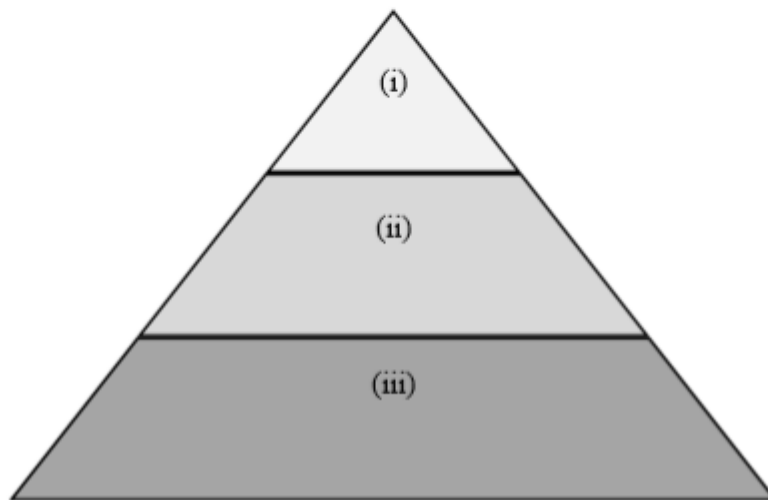
Explain the Transmission Control Protocol address shown above.

- (d) Describe device driver.

#### 4. Reference: FY13CE 2019

##### QUESTION 1

- (a) An information system has six parts. List any **two** parts that assists in the running of an organisation.
- (b) Differentiate between an **accounts receivable** and **accounts payable** in an organisation.
- (c) Each level of management has different information needs. Use the diagram below to draw the information flow at each level.



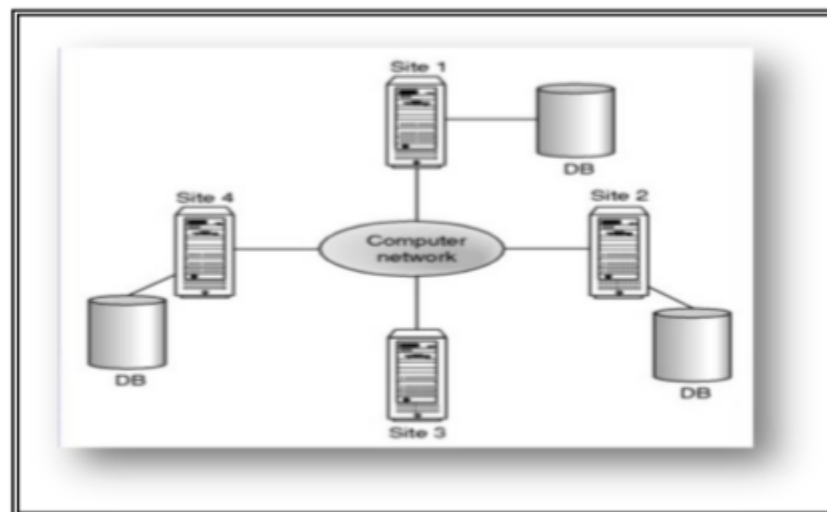
- (d) Explain **one** role of an information worker in an organisation.
- (e) State **one** purpose of a transaction processing system.

## QUESTION 2

- (a) State **one** role of a systems analyst.
- (b) State three tasks carried out by the systems analyst during phase 2 of the Systems Development Life Cycle.
- (c) In Systems Maintenance, explain **one** importance of carrying out systems audit.
- (d) Differentiate between **direct approach** and **parallel approach** in relation to systems conversion.
- (e) Explain **one** advantage of using prototyping over the systems development life cycle.

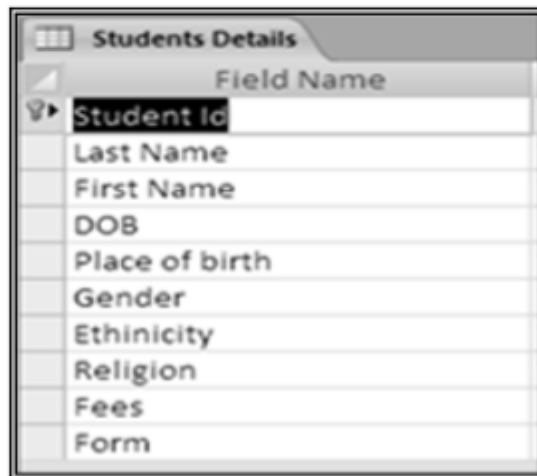
## QUESTION 3

- (a) Define data redundancy.
- (b) Study the diagram shown below and answer the questions that follow:



Source: *Computer Studies Year 13*, Ministry of Education, 2016.

- (i) Name the type of database shown above.
- (ii) State **one** advantage of using the above database in an organisation.
- (c) One type of file organisation is known as index sequential file organisation. Describe the index sequential file organisation.
- (d) State **one** role of a database administrator.
- (e) Study the data dictionary given below and answer the questions that follow.

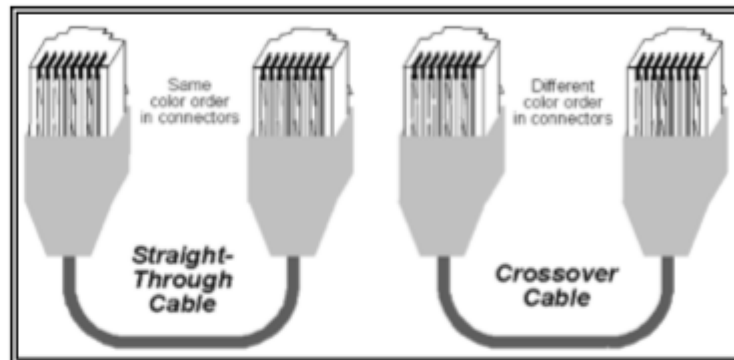


Field Name
Student Id
Last Name
First Name
DOB
Place of birth
Gender
Ethnicity
Religion
Fees
Form

- (i) Identify the following:
- I. table name
  - II. unique identifier
- (ii) Explain **one** importance of the data dictionary in Database Management System.

#### QUESTION 4

- (a) State **two** reasons for upgrading and installing new hardware components.
- (b) State **one** purpose of an IP Address.
- (c) Study the diagram below and answer the questions that follow.

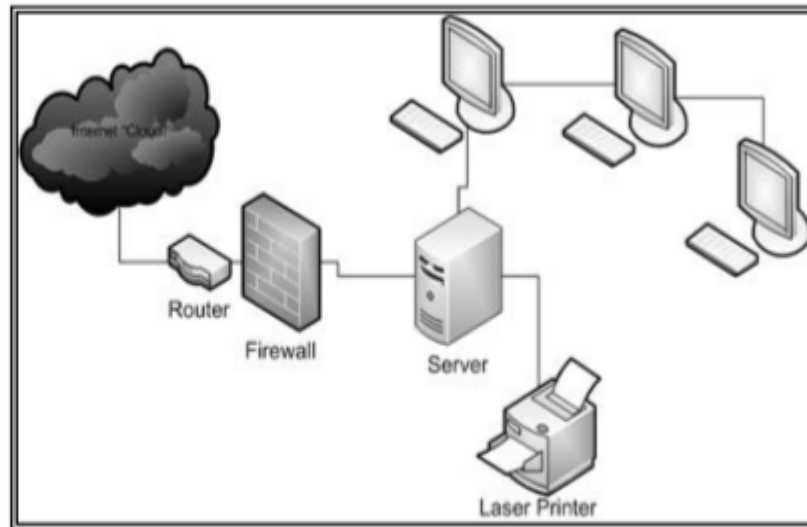


Source: *Computer Studies Year 13*, Ministry of Education, 2016.

- (i) Differentiate between a **straight through cable** and a **cross over cable**.
- (ii) State **one** use of a cross over cable.



(d) Study the following diagram and answer the questions that follow.



Source: *Computer Studies Year 13*, Ministry of Education, 2016.

- (i) Describe **one** advantage for the network shown above.
- (ii) Explain **one** function of a firewall in a network.

5.

**QUESTION 1**

**INFORMATION SYSTEMS**

- i. A soft drink company decides to branch out into a new business segment.
  - a. Which department would be responsible for this?
  - b. They finally agree to venture into the bottled water business. Which activity of the department you named in (a) above was responsible for assisting in determining this?
- ii. The accounting department handles six activities. Five of these are sales order processing, accounts receivable, inventory and purchasing, accounts payable and General Ledger. Identify and explain the sixth activity.
- iii. Differentiate between the responsibilities of a middle level manager and a top level manager.

- iv. Why is the information flow in the middle level of management both vertical and horizontal?
- v. One type of information system is Knowledge Work Systems. What are KWS's? Give an example of where KWS may be used.
- vi. Office Automation Systems (OASs): are designed primarily to support data workers. What do these systems primarily focus on?

**QUESTION 2**

**SYSTEMS ANALYSIS AND DESIGN**

- i. Why is a report prepared at the end of each of the initial phases in SAD?
- ii. One of the phases of SAD is System Design. Using an example explain the three steps involved in this phase.
- iii. Out of all the Conversion methods, pilot and phased approaches are the most favoured. When would you use the pilot approach for implementation?
- iv. There are a few alternatives Systems Analysis and Design.
  - a. One alternative is prototyping. Why would you use prototyping? Give one reason.
  - b. Identify and describe the other alternative to Systems analysis and Design.

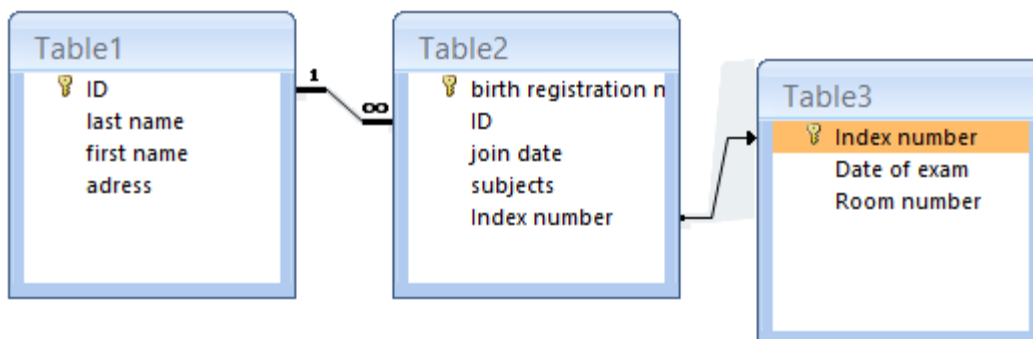
employees record	
Field Name	Data Type
employee id	Text
last name	Text
first name	Text
address	Text
city	Text

**QUESTION 3**  
**DATABASES**

i. Use the given image to answer this question.

Employee id is a special type of field. Identify and describe this type of field.

- ii. Differentiate between batch and real-time processing.
- iii. Explain the following terms related to databases.
  - a. Data definition sub-system
  - b. Data maintenance
- iv. Using an example, explain index sequential file database organization.
- v. Explain the relationship between a company database and a distributed database. You can use only an example to write the explanation.
- vi. Use the following image to answer the questions that follow.



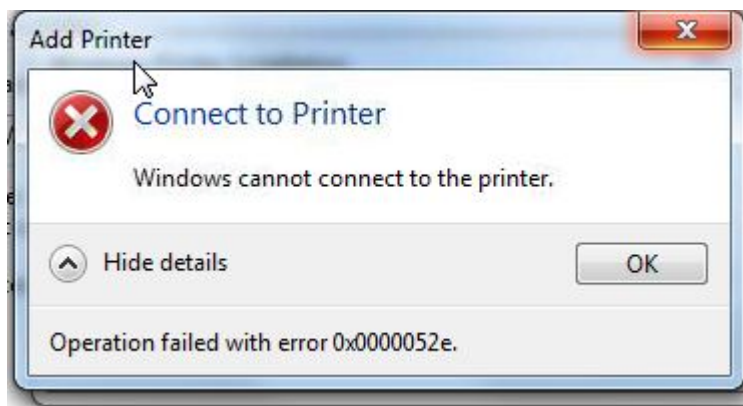
a. The marking labeled x denotes the \_\_\_\_\_ between Table1 and Table2.

- b. Why are all three tables linked as such?

#### QUESTION 4

#### INSTALLING HARDWARE AND SOFTWARE

- i. What is the difference between a SIMM and DIMM?
- ii. What is the CMOS?
- iii. Why would you create partitions on a hard disk when you install and operating system?
- iv. RAM is available as DDR, DDR2 and DDR4. Expand DDR.
- v. What is the purpose of the ping command?
- vi. When would you use a crossover cable over a straight through cable?
- vii. The following Windows error message is displayed when you try to connect to a network printer.



- a. Why would this message be displayed?
- b. How would you resolve this issue?

## **ESSAY**

### **QUESTION 1**                      **SYSTEMS ANALYSIS AND DESIGN**

System Analysis and Design is a 6-step procedure.

Smarty Shoes Company is a multinational company which employs more than 1000 people. Currently the company uses a manual system for recording its employee details. Upon hearing the benefits of a computerized system the company has requested you to design a new computerized database system for recording their employees' details.

Using the first three phases of the systems life cycle:

- Discuss how you would carry out the **three** tasks for each phase.
- Use examples where applicable.

### **QUESTION 2**                      **DATABASES**

DBMS programs are designed to work with data that is logically structured or arranged in a particular way. This arrangement is known as the database model. These models define the rules and standards for all the data in a database. There are five common database models. Two older models are the hierarchal and network database organization.

- Identify and explain the three recent database organizations. Draw a diagrammatic representation for each database organization you have identified.
- Discuss two advantages of a having a database.
- Discuss one disadvantage of a having a database.

### **QUESTION 3**                      **INSTALLING HARDWARE AND SOFTWARE**

There must be a good reason for an organization to decide to spend money on installing new hardware components and software. The benefits should outweigh the costs.

- What do I.T support Technicians primarily do?
- Identify and discuss the three key reasons for installing new hardware components.
- Write an example for each reason given above.
- Identify two key safety procedures during installing hardware and software.
- List at least one way to avoid the problems arising from neglecting each of the safety procedures written above.

**THE END**