## SOLUTION 1

a.    A company's IT strategy is normally linked to its overall corporate strategy and vision. The disadvantages that may go with the absence of an IT strategy will include:

   i.    Costs – There is the likelihood of incompatible and /or failed systems that do not integrate IT and business requirements, leading to a waste of resources.

   ii.   Automation – Economies will not be achieved because the appropriate level of automation will not be achieved, particularly relative to the industry.

   iii.  Future upgrades, additions and replacement – in the absence of IT strategy, it is not possible to integrate IT into the overall business plan. Future requirements of All Fresh Ltd cannot, as a result, be adequately planned and budgeted for.

   iv.   Standards – there will be no support for hardware and software standards and so a co-ordinated approach will not be taken. This has obvious problems for the subsequent sharing of data, files and applications.

   v.    Competitive advantage – by not developing on IT strategy, All Fresh Ltd will not be able to gain competitive advantage as it will not be able to offer enhanced service facilities to and from its customers in terms of product information.

   vi.   Stability – without an IT strategy there is no sense of stability, and expensive system changeovers become evident as the company moves from one project to the next without an overall guiding framework. This has obvious repercussions in term of training and disruption of activities.

b.
   i.    Senior Manager: -To tap his skills at producing overall policy directives.
   ii.   He will serve as the representative of senior management on the team.
   iii.  IT Professional: - to advice on technical issues.
   iv.   IT User: - will ensure user commitment. Likely to bring on board the needed enthusiasm.

**SOLUTION 2**

a.      The opinion is not tenable because in the business environment, information is to be provided based on user needs rather than an imposition of one's ideas. It is therefore necessary to:

   i.      Discuss user needs thoroughly and ensure these are well understood.
   ii.     Document and go over user needs and seek confirmation from user.
   iii.    Using design review and walk through (user validation) approach, design the system that will provide the information.
   iv.     As much as possible, avoid requirements creep whereby user keeps varying requirements when the design process is nearing completion.
   v.      Test system with test data that include valid and live data provided by user.
   vi.     Encourage user to carry out acceptance testing.
   vii.    Encourage user to recommend updates and maintenance as and when these become necessary.

b.      A turnkey system is one that is:
   i.      Carried out by an external team, usually as a project;
   ii.     Undertaken with user participation;
   iii.    Fully tested with users;
   iv.     Thoroughly explained to users through well-planned user training;
   v.      Eventually handed over to users

   Subsequently, a decision will have to be made on who-developers or users will have responsibility of the maintenance of the system.
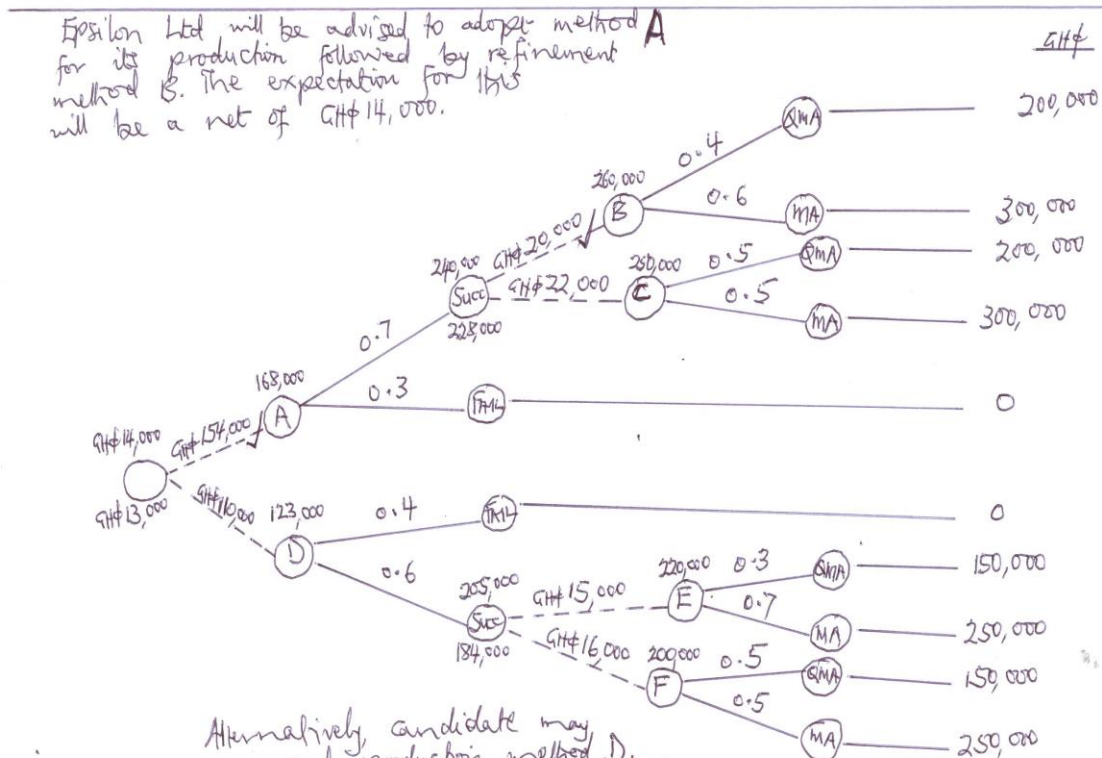

**SOLUTION 3**

a.      Computer software may be categorised as ;
   i.      Application software – these perform specific productive tasks for users.
   ii.     Firmware – the set of micro-instructions burnt into the Read-Only Memory (ROM) of primary storage.
   iii.    Middleware – this controls and co-ordinates distributed systems.
   iv.     System software – this collection of instructions interface with hardware and users to provide the necessary services for application software.
   v.      Test ware – an umbrella or container term for all utilities and application software that may be used to test a software package.

b.      Total System
   The 'total system' approach considers that all systems are somehow linked to each other, and thus interdependent. The area of contact between them is known as the interface. Within the total system it is possible to identify various sub-systems.

The business firm has a number of functional divisions, and each one of these will have specialised departments which, in turn, have sections and sub-sections. The more sub-sections there are, the more possible links there are between them.

All these sub-sections, as units, are required to play their parts effectively to achieve the objectives and goals of the firm.

**QUESTION 4**

Epsilon Ltd will be advised to adopt method A for its production followed by refinement method B. The expectation for this will be a net of GH¢14,000.

GH¢

Alternatively, candidate may recommend production method D, followed by refinement method E for a net of GH¢13,000 expectation. This is because Epsilon Ltd. can then save an additional GH¢44,000 in order to forgo the mere GH¢1000 extra expectation.

**QUESTION 5**

a.    Explanation of terms
   i.    A **knowledge engineer** 'mines' the knowledge of experts and converts the details into IF-THEN-ELSE production rules that are then used to build the knowledge database of the expert system.

   ii.    The **knowledge acquisition module** is the software with which the knowledge of the expert system is updated with relevant up-to-date material.  It gives the expert system the ability to 'learn'.

   iii.    **Backward chaining logic** is an inference process by which the expert system makes an assumption and then attempts to identify the facts that will prove it. It is often called 'goal proving'.
   It starts with a list of goals and works backwards to see if there are data which allow it to conclude any of these goals. An inference engine using backward chaining would search the inference rules until it finds one which has a THEN clause that matches a desired goal. If the IF clause of that inference rule is not known to be true, then it is added to the list of goals.

**b.    Features of a Transaction Processing System (TPS)**
• The inputs to the system are transaction data, while outputs comprise   processed transactions.
•  Principally, it is of use to supervisory managers since it deals with day-to-day issues.
•  It produces detailed reports on specific information about routine activities.
•  Each department or functional unit usually has its own TPS.

**SOLUTION 6**

a.    A code is an ordered collection of symbols designed to provide unique identification of an entity or attribute.  The purpose of codes is to facilitate the identification and retrieval of items of information.

b.    A group code is a combination of two or more sub-codes. Each sub-code is called a field of the group code. Group codes are often used as product codes in sales catalogues.  Examples

| Type of code | Example | Where |
|---|---|---|
| Telephone number | AAA-BBB-CCCCCCC | AAA = Country code<br>BBB = Area code<br>CCCCCCC = Local number |
| Bank account number | AAA-BBB-CCCCCCC | AAA = Branch code<br>BBB = Account code<br>CCCCCCC = Account number |
| Product code | LL-VVVV-PPPP | LL = Location code<br>VVVV = Vendor number<br>PPPP = Product code |
| Computer Access code | NN-XXXX-T | NN = User initials<br>XXXX = Access number<br>T = Access type |

c. **Computer Aided Systems/Software Engineering (CASE)** tools are automated software products that support the drawing and analysis of system models and associated specifications.

   Some of these tools also provide prototyping and code generation capabilities. Examples of CASE tools include: Excelerator, Hyper analyst, Knowledge ware, Framework, First case Architect

## SOLUTION 7

a. BPR is the fundamental re-thinking and radial design of business processes to achieve dramatic improvements in critical contemporary measures of performance such as cost, quality, service and speed. BPR does not merely ask how a process has been executed in the past but rather considers the objective(s) of the process. Where the objective(s) is (are) not being met, there is a strong reason to re-enginer the process.

b. PMS helps the project manager in ways including:
   - Planning - it can be used to enter activities, estimates, precedence and resources, to automatically produce the network diagram and a Gantt Chart and analyse them. The software also allows simple "what if" experiments with the objective of meeting the required delivery date.
   - Estimating - it allows the entry of actual data which can be used to improve future estimates.
   - Monitoring – actual data entered can be used to monitor the progress of the project and re-plan the rest of the work. During re-planning, the critical path may change and it is important to know this.

- Reporting – Most PMS packages have comprehensive reporting requirements which allow managers to point out the progress and status of the project.

Standard progress reports can be produced automatically, ensuring that precious project time is not wasted in producing such reports.

c.      PC - based PMS packages include:

   i.      Harvard Project Manager
   ii.     Microsoft's Project
   iii.    Scitor's Project Scheduler
   iv.     Computer Associate's CA – Super Project
   v.      Time line
   vi.     Primavera's Project Planner and Monte Car Lo
   vii.    Project Management Solution's  Risk
   viii.   Artemis Management Systems' 7000 and 9000.