MIS & Management of Change   ICT4   <u>Total: 55 Marks</u>

1 The introduction or development of an information system will result in change that must be managed.
a. What is a Management Information System? (*2*)

a system to convert data from internal and external sources into information (1)
⬚ communicated in an appropriate/understandable form (1)
⬚ for use by managers at different levels (1)
⬚ to use the information produced (1)
⬚ to enable them to make effective decisions/ for control/planning purposes (1) a system to convert data from internal and external sources into information (1)
⬚ communicated in an appropriate/understandable form (1)
⬚ for use by managers at different levels (1)
⬚ to use the information produced (1)
⬚ to enable them to make effective decisions/ for control/planning purposes (1)

b. Describe **three** areas that will need effective management. *(6)*

*b. 1 for area (**a**), 1 for description/example/expansion (**e**) to any **3 x (2,1,0)***
(Non-dependant marks Area Example expansions, accept others)

Staffing. Keeping current employees involved
Attitude of existing employees, resistance to change/ de-motivation if fear redundancy
Organisational structure may flatten as a result/close (or open) departments
Employment work pattern longer(shorter) hours/ shift work required
 (e.g. Call centre 24-hour operation)
Employee work conditions staff move around/get re-trained
Internal procedures (or any example of such)
New working practices
Re-skilling (of existing employees)
Assess training needs/ have to take on specialist staff
(Not allowed as areas:ϕ Changeoverϕ Conversion of dataϕ Costsϕ Legislation)

2 The structure of an organisation can influence the flow of information through it. Explain **two** effects that the structure of an organisation could have on the flow of information. *(4)*
1 for the effect on flow, 1 for description/example/expansion related to structure to any **2 x (2,1,0)** Look for the effect first, then look for the why or how in relation to structure. If states, with no structure or no well-defined structure, then give as a bod.
Effects are:
ϕ Time (slower/faster)
ϕ Accuracy (distorted)
ϕ Style (formal/informal)
ϕ Types
ϕ Quality
Examples:
⬚ Hierarchical, or pyramid shape organisation has longer more formal paths for information flow (1) may take longer (1)

□ Flatter, matrix/mesh shape tends to allow shorter routes (1), information may be less reliable/idea of Chinese whispers (1)

3 Managements understanding and involvement can play an important part in the introduction of a Management Information System (MIS).
Give **three** actions that managers could take to increase the chances of a MIS being successful. For each action, state how it would help to ensure success. *(6)*

*(1 for action (**a**), 1 for description/statement/expansion of **how** it would help (**h**). **Any 3 x (2,1,0) Non-dependant marks)***
□ Ensuring the right amount of management knowledge of ICT and its capabilities/having awareness or training sessions (a) so that they do not make excessive demands that are not technically possible (h)
□ Ensuring emphasis is on business process, not on low level data processing (a) regularly checking that the development will deliver what is required by the business (h)
□ Making only appropriate demands on development and ICT team (a) by not expecting them to take short cuts to deliver a sub-standard product (h)
□ Allowing development team to adhere to standards (a) not pressurising then to produce a .quick and dirty. solution that would become un-maintainable (h)
□ Have all parties working as a team (a) allowing good communication between managers, users and development team (h)
□ Allowing the development team to have enough time to complete each stage properly (a) by not pressurising them to cut corners (h)
□ Making sure there are no problems with changeover (a) by ensuring that all training and documentation is complete and that all other departments are ready (h)
□ Ensuring the right amount of user involvement/communication throughout the development cycle (a) and making sure that all parties are available for consultation (h)
□ Allowing for and ensuring the right staff/resources are available to the project team at all stages (a) e.g. Users for acceptance testing (h)

4 Failure of a Management Information System (MIS) can sometimes be caused by a lack of communication between management, users and the development team.
Give **three** factors, other than lack of communication, which might cause an MIS to fail. (3)
I per factor. Any 3 x 1
□ inadequate analysis/other phase
□ emphasis on computer system/ not on info needs of users
□ concentration on low level data processing
□ not giving managers what they need/not meeting requirements
□ lack of management knowledge of ICT and its capabilities
□ lack of team work
□ lack of standards
□ Incomplete documentation
□ problems with changeover/procedures not ready
□ staff not prepared/ change in roles/ training not taken place etc
□ lackof consideration for post-implementation maintenance
□ excessive management demands

Make sure NOT to give any marks for management/user involvement or consultation (lack of communication in the stem)

5 With the aid of an example, state what is meant by *informal and informal information*.
<u>Formal:</u> A system with fully documented procedures/agreed procedures/planned procedures/structured procedures (1)
• Stating stages of flow/control/exception handling/distribution (1)
• Such as Business letter, memorandum, formal (agenda/regular) meeting, meeting minutes, email, SMS messages (1)
• NOT plain (unqualified) /letter or meeting
(b)<u>Informal</u>:
• Information that naturally arises/not structured/ad-hoc (1)
• Such as a phone call, personal conversation, during a meeting or by observation, e-mail, bulletin board, special interest group, texting (1)
• NOT memo   (6)

6 When an organisation introduces a new information system, changes may occur that affect employees. State **four** changes that may occur and for each one explain a possible effect on the employees of the organisation. (*8*)

1 for area for change (c), 1 for effect (e) to max 4 x (2,1,0)

Area that may change	Example effects – accept others [Only accept an effect once]
Organisational structure	Departments may merge, or disappear
Employment work pattern	longer(shorter) hours/ shift work may be required
Employee work conditions	staff move around/working out of comfort zone
Internal procedures (or any example of such)	new working practices that have to be learnt/ so training must be given
New jobs / job changes/ completely new system	May need reskilling/may have to take on specialist staff
Staff positions/levels change or go	May involve redeployment/redundancies
Staff morale/attitudes	resistance to change/fear of change needs managing/need to keep staff involved/communications

7 Give **one example** of the use of a Management Information System within an organisation, clearly stating its purpose. (*3*)

A supermarket CEO may take a report showing the comparative performance of all the supermarkets in the country (1) to decide the long term strategy/make strategic decisions (1)

• An MD could use an MIS to analyse financial information, such as the income of a supermarket, (1) to see whether the store is making money or not, thus aiding the decision to keep the store open. (1)
− Must have a suitable strategic example for 1st mark
− Need the idea that higher management working at strategic level for 2nd mark (or an extension of the example)

8 Describe three factors that should be considered when discussing the introduction of a new information system. (6)
1 for area (**a**), 1 for description/example/expansion (**e**) to any **3 x (2,1,0)**
(Non-dependant marks Area Example expansions, accept others)

Staffing Keeping current employees involved
Attitude of existing employees resistance to change/ de-motivation if fear redundancy
Organisational structure may flatten as a result/close (or open) departments
Employment work pattern longer(shorter) hours/ shift work required
(e.g. Call centre 24-hour operation)
Employee work conditions staff move around/get re-trained Internal procedures (or any example of such)new working practices
Re-skilling (of existing employees)assess training needs/ have to take on specialist staff
Not allowed as areas:
ϕ *Changeover*
ϕ *Conversion of data*
ϕ *Costs*
ϕ *Legislation*

9. Many commercial organisations already operate using computer-based information systems, yet they often introduce new systems to replace current ones.

(a). State three reasons why a feasibility study might recommend the replacement or updating of an existing information system. *(3)*
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  – **Technical feasibility: the technology exists to implement the proposed system, it is a practical proposition.**
  – **Economic feasibility: proposed system is cost-effective – benefits do not outweigh costs, it's worth going ahead.**
  – **Legal feasibility: there is no conflict between the proposed system and legal requirements – e.g. the Data Protection Act.**
  – **Operational feasibility: the current work practices and procedures are adequate to support the new system.**
  – **Schedule feasibility: the time it will take the system to develop can be done in a desired time-frame.**

10. Give an explanation of each of the other steps taken in an analysis of a system. (*8*)

Include descriptions of:
Design, Implementation, Testing, Maintenance, Evaluation.