

IMIS December 2013

Outline Solutions

Answer 1

Transaction Processing Systems are generally found in the back office ① they process sales ① or purchase ① orders, invoices ① and other day to day operational support ①. Outputs are summarised ① and passed upwards ① to the Information Systems. One mark *per pointer up to five marks.*

(5 marks)

Answer 2

Japan provides a useful contrast ① to many as Japan values face to face communication ① as extremely important ① (for example the seven ranked levels of formality for saying "hello". Cultural wariness ① of trusting information to computers ① hence relinquishing control ① may be a factor, the perceived lack of respect ① of male dominated cultures versus a more "Amazonian" given the global spread of students this needs to be explained or made more obvious society, ① individualistic cultures ① versus Kibbutzim ①, Chechian tribal values which are priority over State values ① ~~and so forth~~ ①-. *Each valid pointer highlighting factor to gain one mark ①, maximum 5 marks.*

(5 marks)

Answer 3

One mark for any suitable "need". Typical responses tabled below.

Need	Commentary
Infrastructure	Needs to be available
Implementation	Needs to be sufficiently large or piloted
Architecture	Not all users need to be connected all the time
Involvement	Users need to be involved
Expert	Need to use wireless experts
Paradigm	Wi-Fi is different users need exposure

Miscellaneous Other factors will be accepted if relevant and well explained.

(5 marks)

Answer 4

~~This needs to be rewritten so that it is more obviously related to the question. The way that marks are awarded needs to be more explicit.~~

Explanations of the form: the technique of repeatedly clicking automatically by means of dedicated software or manually with the aid of cheap labour, with the deliberate intention to defraud pay for clicks sites without the intention to seek the advice/purchase/query offered, *to gain two marks*². Corporate clicking with the intention to downgrade a competitor's site will be accepted ² for two marks. Without mechanisms to prevent this abuse, site integrity¹, popularity rating¹, search engine ratings or other similar factors) ¹ site integrity will be compromised to gainmax of 3 marks.

(5 marks)

Answer 5

Two marks for each definition and one mark for a rationale opinion. Typical responses tabled below:

Term	Definition
Efficiency	The ratio of input to output, a measure of the extent to which a system achieves its intended transformation, preferably with a minimum of resources
Efficacy	A measure of how close a system comes to achieving its intended transformation
Efficiency +Ve	Can be accepted as the most important factor as it reduces the use of resources but:
Efficacy +Ve	This can be offered as the significant factor as it achieves the "finest" result

(5 marks)

Answer 6

Portal is a recent term (1997) to describe a single point¹ web based access¹ to disparate data sources¹ such as discussion boards, document sharing, internal¹ & external sources¹. *Up to Two marks*. The sub set Vertical Portal (also known as a Vortal) allows access to industry targeted¹ news, events, URL links¹ vendors *et al* with a targeted vertically focus, in summary "a one stop shop" ¹ *Three marks for cogent responses. Be more specific in the way that marks are awarded.*

(5 marks)

Answer 7

One mark for differences such as measurable and quantifiable, probably being assigned a monetary value versus qualitative (but still important) difficult factors to measure. Typical savings benefits can be chosen from the table below. One mark for each **1** to a maximum of 5 marks.

Cost savings	Intangible benefits
Hardware	Improved asset use
Software	Improved planning
Services	Improved job satisfaction
Personnel	Increased flexibility
Telecommunications	Improved corporate image

(5 marks)

Answer 8

Possible devices are listed below, one mark for each distinct device and up to 2 marks for the usefulness.

Helmet mounted	
Device ¹	Usefulness ²
Screen	Display of safety information
Camera	Monitors activity ahead of the worker/driver for subsequent use
Translator	Speech recognition/translation. Currently inefficient
Wrist mounted	
Keyboard	Provides some freedom for grasping objects while typing
Watch like	Potential Wi-Fi communications

(5 marks)

Section B

Answer 9

- (a) The expected rationale placing for the factory quadrant¹ is the need for cost effective¹ information infrastructure¹ with a short term¹ operational¹ need to maintain output¹. *Maximum 5 marks.*
- (b) Assuming the Factory quadrant is dependent upon technology¹, technology advances¹ (1) Moore postulates increasing complexity¹ decreasing costs¹ decreasing size¹ hence new systems are likely to be both cheaper¹ and more efficient¹ leading to competitive advantage¹ *maximum five marks*
- (c) Support quadrant (example suggested agriculture) follows rather than leads² historically not a heavy investor in infrastructure² inertia suggest this will continue² Quality of discussion² *Other factors may be offered² to the maximum of ten marks*

(20 marks)

Answer 10

- (a) Demonstrating awareness of Black Box¹ be more explicit about what is required with discussion of the how Black Box analysis allows concentration on the inputs², the outputs²; that internal workings can be ignored (for the moment)² allowing what is achieved by the Box to be a focus¹. *Maximum five marks.*
- (b) Demonstrating awareness of White Box¹ with its emphasis on the internal workings² of a system, as well as the inputs & outputs. White Box requires greater depth² of understanding but may be preceded by a Black Box analysis¹. *Maximum five marks.*
- (c) The modal response is likely to focus upon given the distances² the interchanges² the expenditure needed for a given distance² it would be possible to offer fares based upon analysis of the nodes² whilst optimising revenue by displaying the shortest journey to the customers² hence improving the throughput. Other possibilities may be offered depending upon the ingenuity of the candidates. *Maximum ten marks.*

(20 marks)

Answer 11

(a) One mark per pointer up to three marks per type with indicative pointers listed below. These may be supported by back office systems.

Customer facing	Customer interaction, call centres, help desks, automated help systems, automated information flow
Customer touching	Customers interact directly with applications, self service systems, promotional campaigns
Customer centric	Analysis of results to improve CRM, data warehouses, data mining, data reports
Online networking	Personal relationships, chat rooms, discussion lists, forums

Maximum twelve marks

(b) E-CRM a relatively recent term which encompasses a range of systems primarily designed to analysis customer buying patterns. A knowledge of patterns allows targeted restocking targeted promotions better shelf utilisation. Systems that may be noted may include electronic touch points e.g. POS terminals, email, loyalty cards

Maximum 8 marks (20 marks)

Answer 12

Item	Pointers	
Public Key Encryption	Encrypted publically decrypted privately	Very secure
Secure Socket Layer	Client/server encrypt & decrypt	Useful for web servers
Digital Certificates	Secure details held in data files	Provides confidence & authenticity
Deep Packet Inspection	Sorts high priority business task from the mundane	Avoids clogging systems with mundane tasks

Maximum of 8 marks

(b) Formulae provide a guide as to where to devote effort given all systems cannot be protected by prioritising the areas where effort should be put.

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Maximum of 6 marks

(c) Cultural attitudes will be accepted explain this in detail, discussions will contrast the need for protecting vulnerability versus need for security, attitudes may change following unforeseen external events legislative factors may dictate

(20 marks)

Answer 13

Typical comments are listed below, any four areas may be selected and carry equal weighting.

Data from the business environment	Handling structured ②unstructured data ②from multiple sources ②for analyses and action ②
Business intelligence infrastructure	Underlying data bases ②maintaining captured data ②data warehousing ②
Managerial users and methods	Hardware ②software system ②methods ② are only as good as the humans using them ②
Delivery platforms	MIS ②DSS ESS ②are typical tools to deliver the results
User interface	Mobility means older interfaces no longer as useful ②heads up displays ②social networks ②becoming the norm

(20 marks)