H2 – INFORMATION SYSTEMS STRATEGY
SOLUTIONS & MARKING SCHEME   JUNE 2013

PART A.

Answer A1.

Describe or draw the 'business diamond' as a framework for understanding the design of an organisation.
The key elements linked in a diamond are:
Business processes
Tasks and structures
Management and measurement systems
Values and beliefs
Listing is insufficient as the key is that these are linked, which will be clear in a diagram and will need to be described if a diagram is not used.
(1 mark for a description of each of the four elements + 1 mark for emphasising the linkage)

Answer A2.

A product repair company is aiming to speed up the processing of repairs to benefit its customers. Explain how the application of IS may achieve this and the effect it may have on other parts of the firm's value chain.
Any sensible explanation of IS contributing to faster repairs (on-line details of requirements, on-line diagnostics, etc). Recognising that the key is not just faster repairs per se, but that this should be noticed by the customer. Noting that another part of the value chain could be spare part ordering which could affect the speed of completing a repair. So aiming to speed up the actual repair necessitates a speed up in another part of the chain, i.e. spare part ordering or stock level maintenance.
(2 marks for good ideas for IS contributing to faster repairs, 2 marks for the impact on other parts of the chain, 1 mark for stressing that faster repairs are not significant unless they impact on the customer)

Answer A3.

Define a 'knowledge map' and describe FOUR classifications of knowledge.
Definition such as a guide to where knowledge exists and an inventory of the knowledge assets available. Otherwise may be expressed as a list of people, documents and databases informing employees of where to go to find help.
Description of four classifications:
Process knowledge
Factual knowledge
Catalogue knowledge
Cultural knowledge
Listing the names is insufficient – it should be clear in each case that there is understanding of what the term means.

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(1 mark for the definition of knowledge map and 1 mark for each of the above classifications)
Answer A4.

The control of information is crucial in four areas summarised by the abbreviation PAPA. State the meaning of this term and briefly describe each of its four elements.
The acronym stands for:
Privacy
Accuracy
Property
Accessibility
(1 mark for correct identification of the four terms and 1 mark for a description of each)

Answer A5.

Describe the term 'business intelligence' and the subset of this area known as 'business analytics'.
Definition of business intelligence as the set of technologies and processes that use data to understand and analyse business performance. Relies on the capture, codification, and interpretation of data and extracting business knowledge from it.
Business analytics refers to quantitative and predictive models to drive decision making in a fact-based approach.
(3 marks for a good description of business intelligence and 2 marks for business analytics)

Answer A6.

Describe FIVE of the responsibilities of a Chief Information Officer (CIO).
There are many to choose from, the emphasis is on quality of description so identifying more responsibilities than the 5 requested gains no additional merit.
Describe five of:
Championing the organisation
Architecture management
Business strategy consultant
Business technology planning
Applications development
IT infrastructure management
Sourcing
Partnership developer
Technology transfer agent
Customer satisfaction management
Training
Business continuity/disaster planning
(1 mark for each of five of the above, well described)

Answer A7.
What factors contribute to good 'IT governance'?
A good answer may include the following points:
Specifying the decision rights and accountabilities to encourage desirable behaviour in using IT
More about who has the decision rights and who is accountable than the actual decisions made
Good IT governance provides a structure for making good IT decisions
Two components are assignment of decision making authority, and……
……decision making mechanism
May include committees, boards and policies
May be categorised as principles, architecture, infrastructure, application needs, investment and prioritisation
May possibly give examples for different organisational approaches
(1 mark for each well explained distinct point)

Answer A8.

Describe FIVE drivers for the formation of 'virtual teams'.
The likely responses will address the following drivers:
Shift to knowledge-based work
Changing demographics and life-style preferences
New technologies and enhanced band-width
Reliance on the web
Energy concerns
These may be expressed in various ways (e.g. green issues or sustainability for the fifth point) and credit should be given for variations of expression.
(1 mark for each of five distinct points, well described)

PART B.

Answer B9.

D'Aveni has suggested a framework of seven approaches that an organisation can take in its business strategy, known as the 7 S's.
a).   Describe in general terms the how this approach can be useful to a business and suggest the type of markets where it might be especially applicable.

Helps align business strategy for competitive advantage; helps assess competitors' strengths and weaknesses; helps build a road map for the company strategy; enables managers to identify new responses to competition; enables managers to identify new opportunities; helps company build on and extend its present strengths.
(1 or 2 marks per point depending on quality of explanation, 8 marks maximum)
Especially applicable in fast changing markets which make for sustaining a business strategy difficult, and where it needs to be continuously redefined in order for the company to be successful.
(2 marks)
b).   One of the 7 S's is "Positioning for speed". Describe an example of how a business might do this.

The rationale for this 2 mark Solution part is to assist the candidates 'tune in' to the Solution and so help in answering the other parts. Any acceptable example, though expected will be one example from the text of the JetBlue airline – either its baggage unloading strategy or its use of a corporate intranet for activity checklists with deadlines.
(2 marks)
c).   Identify FOUR other of Aveni's 7 S's and briefly explain their meanings.

Four from the following:
Strategic soothsaying – new knowledge for new opportunities
Superior stakeholder satisfaction – strategic added value to maximise customer satisfaction
Positioning for surprise – market responses for which competitors are unprepared
Shifting the rules of competition – finding new, transformational ways to serve customers
Signalling strategic intent – communicating intended actions to pre-empt competitors
Simultaneous and sequential strategic thrusts – steps to confuse, disrupt or block competitors
(1 mark for identification and 1 mark for brief explanation, for each of four points – repeat of 'positioning for speed' is clearly disallowed)

Answer B10.

a).   Define the terms 'tacit knowledge' and 'explicit knowledge', giving two examples of each.

Tacit knowledge as subjective experiences, beliefs and skills, for example applying past experience to similar situations, work estimation based on intuition and experience, deciding intuitively on a course of action, using personal skills to identify key issues. (3 marks)

Explicit knowledge as that which can be collected, organised, and readily communicated, for example that contained within procedure manuals, texts and articles, news reports, financial statements, project reports. (3 marks)

b).   Briefly explain the importance of 'knowledge management'.

Businesses cannot simply rely on the informal flow of knowledge, but rather in order to be competitive a business must manage the transmission of appropriate knowledge through the diverse areas of the value chain, a good example being the way in which the business function of R&D might require knowledge from Marketing, IT developments, Customer feedback, Product Design. (2 marks)

c).   There are several trends that make it increasingly important for businesses to manage knowledge in order to maintain competitive advantage. Explain THREE of these trends.

Three from the following with expansion of key points:

Sharing best practice

Build on previous work

Avoid re-inventing the wheel

Capture of best practice

Globalisation

Decreased cycle times

Increased competitive pressures from further afield

Global access to knowledge

Adapting to local conditions

Rapid change

Avoid obsolescence

Develop previous work

Streamline processes

Sense and respond to change

Downsizing

Danger of loss of knowledge

Portability of workers

Lack of time or resources for knowledge acquisition

Managing information and communication overload

Inability to assimilate knowledge

No sense of priority of information arriving

Requires active organisation of knowledge

Knowledge embedded in products

Smart products

Blurring distinction between production and service companies

Value added through intangibles

Sustainable competitive advantage

Shorter life cycle of innovation

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Knowledge as an infinite resource
Direct bottom-line returns
Capacity to learn as single over-riding factor
(4 marks for each of three factors, 1 for identification of the factor and 3 for the quality of explanation including relating to competitive advantage in all cases)

Answer B11.
A company can choose different organisational structures for managing its IT/IS resource.
a).	Outline FIVE advantages of a centralised approach.
Any five from:
Global standards and common data
"one voice" when negotiating supplier contracts
Greater leverage in deploying strategic IT initiatives
Economies of scale and a shared coat structure
Access to large capacity
Better recruitment and training of IT professionals
Consistent with a centralised business structure
(1 mark for each of 5 points)
b).	Outline FIVE advantages of a decentralised approach.

Any five from:
Technology customised to local business needs
Closer partnership between IT and business units
Greater flexibility
Reduced telecoms costs
Consistency with a decentralised business structure
Business unit control over overhead costs
(1 mark for each of 5 points)
c).	Explain why an organisation of a certain type may prefer a centralised approach.
Following from the last point of a). some companies have highly centralised structures. Where all other functions are centralised (e.g. procurement, HR, etc) then a centralised IT function is consistent with this culture. Note that historically centralisation has been the default position and an active review and decision is required to change from that position. Also fits with a centralised approach to administration and decision-making. And may also depend on the geographical location of the company's business units and the extent to which its business may vary between locations – a global business may operate in areas where very advanced IT is normal as well as in countries where this is not the case.
(1 mark for any of 5 well made points)
d).	Briefly explain what is meant by a 'federal' approach to resource organisation.

A federal approach is one which distributes power, hardware, software, data and personnel between a central IS department and IS managed in local business units. It is a mix of both centralised and decentralised organisations and attempts to exploit the advantages of each. In practice a company may be at any of a number of points on the scale between centralised and decentralised, and federalism describes the point at which the two are more or less in balance. While seeking to maximise the benefits of the two extreme approaches, federalism also seeks to eliminate the

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drawbacks of each. For example, the strategy, vision, standards, and any econom[...] of scale may be centralised, while tailoring to local conditions, some IT staff embedded in local business units, aspects of the IT budget and so on may be decentralised.
(1 mark for any of 5 well made points)

Answer B12.

a).   What is meant by 'cloud computing'?
Cloud computing is a way of increasing IT infrastructure capacity without recourse to local hardware and software resource. It is an internet-based utility which makes available the entire computing infrastructure through the internet. It is an 'on-demand' – comprising a large cluster of virtual machines and storage devices. Can provide infrastructure, platform or entire application.
(5 marks for comprehensive answer)
b).   Describe an example of a particular processing requirement that might be best handled by the use of cloud computing.

Especially appropriate when a company is dealing with peaks and troughs of computing requirements – instead of having in-house infrastructure that can cope with the peaks and be redundant in the troughs, the right capacity can be acquired in the cloud for all circumstances. The customer is billed only for what capacity is used.
Example (from the text) may be the New York Times project to convert 11 million stories into an archive library, and completed using the cloud in under 24 hours.
('peaks and troughs' the most likely response with the NYT example, others well explained are acceptable, 5 marks for full answer)
c).   What in general is the business case for using cloud computing?
This includes:
Attractive as an alternative to investing in in-house infrastructure
Better managed server costs
Pay just for what you use
Computing power costs a fraction of the cost of purchasing resource
Reduced staff costs
Staff re-focussed into other value-added functions
Reduced energy consumption……….
Reduced energy costs…………
Supports 'green computing'
Provides flexibility and agility in deploying IT resource
Fast access to increased computing power
No need to be concerned with underlying technologies
(1 marks for each of 5 areas with 1 mark for the quality of explanation in each case)

Answer B13.

a).   Identify Porter's five major forces that shape the competitive environment of a business.
The five forces:
Potential threat of new entrants
Bargaining power of buyers

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Bargaining power of suppliers
Industry competitors
Threat of substitute products
(1 mark for each)
b).   Using an example business of your choice, describe how the application of IT influences each of these five competitive forces.

One text uses Zara to illustrate this and it may therefore be a commonly chosen example any alternative is acceptable.
Threat of new entrant: uses IT to support a tight knit group of designers, market specialists, production planners and managers; new entrants could not emulate this level of IT support built over time at Zara; also has a rich IT-based repository of customer information that could not be easily replicated
Bargaining power of buyers: uses IT to innovate a very high number of new designs a year, while also managing low stock levels of each line; hence customers aware that they may 'miss the boat' if they do not buy a desired product as it may be gone the next time they visit the store; also uses laser technology to measure sample customers increasing the chance that customers of Zara will get a good fit and be inclined to purchase
Bargaining power of suppliers: uses computer-controlled cutting machines itself limiting the suppliers role to the relatively simple task of sewing together; being simple it can be done by many suppliers and so Zara has a large pool of suppliers from which to select giving it flexibility in choosing its suppliers; also dyes 50% of its own fabric contributing to the above effect and allowing mid-season changes in colour
Industry competitors: uses IT for efficient inventory control at low levels and for innovating new products rapidly taking 15 days from concept to shelf; this gives its trendy low-cost lines an edge over competitors of classic durable lines achieving high volume sales per square foot; so IT supporting extremely efficient manufacturing and distribution operations
Threat of substitute products: IT (as described above) enables Zara to offer trendy, appealing, ever-changing lines at hard-to-beat prices; designed to be worn just 10 times; fast changing lines making substitutes difficult
(3 marks for each of 5 forces; general answers that do not relate to an example, 1 mark each; note that the solution might be inverted by identifying each IT element and relating it to the forces which it affects and that this is acceptable)