Professional Issues in IT

December 2015

Sample Examination Paper

Answer ALL questions.

Clearly cross out surplus answers.

Time: 3 hours

The maximum mark for this paper is 100.

Any reference material brought into the examination room must be handed to the invigilator before the start of the examination.

Marks

Question 1

Starspun Jewellery is a web-based business selling genuine gemstone jewellery to online customers. The company claim to sell only the highest grade gemstones at a deep discount. Since the company was established, it has been trading via an online auction site. However, the company want you to now create their own web store and have contacted you about building both an online web store and a mobile app. It requires not only online registration and payments systems, but also pages with photographs of their products and video tutorials that document the history and science behind gemstones.

As a developer, you mainly have experience of developing static websites, but you have no experience of mobile app development or online payment systems.

a) State THREE (3) advantages of accepting the contract.   **3**

b) Outline TWO (2) disadvantages of accepting the contract.   **2**

c) After starting work on the website, a former employee contacts you. They tell you that *Starspun Jewellery* lies about the gradings of their diamonds and other gemstones. They use photographs of more expensive, better cut gems on their website and sell lower standard gems to customers. The employee has sent you photographs of actual stock for sale, which show inferior jewellery to the photos you have been given by *Starspun Jewellery* for the website. Finally, they have also sent you invoices for low grade diamonds as proof that the images are misleading.   **5**

This former employee wishes to remain anonymous and has not given you permission to mention them to *Starspun Jewellery*.

Identify THREE (3) ethical and legal issues raised by this information **and** make a recommendation about how to proceed with the project.

Total: 10 Marks

Questions continue on next page

Question 2

Dunglen Medical Centre is a doctor's surgery that employs 3 doctors, 5 nurses and 4 administrators. It holds a significant amount of sensitive data concerning its 3,200 registered patients. The surgery has an organisational goal of being a 'green' organisation and reducing their carbon footprint.

a) State TWO (2) advantages and TWO (2) disadvantages of advertising the GP surgery as a green organisation. **4**

b) Green IT involves simple measures which can have a major impact on energy usage and waste reduction. Briefly describe FOUR (4) green IT policies that could be implemented by Dunglen Medical Centre. **4**

c) *Dunglen Medical Centre* wants to be more environmentally friendly, work without paper records, and share medical records with other service providers. Ideally, it wants all records to be stored in the cloud rather than on local hard drives or in paper format. Outline TWO (2) potential risks related to this strategy. **2**

Total: 10 Marks

Question 3

a) Good Project Management is necessary for successful IT projects. Provide THREE (3) reasons which explain why project management is necessary for IT projects. **3**

b) Project Management involves four phases: Initiation, Planning, Execution and Review. Identify the phase of the Project Management life cycle in which the Communications Plan is created. You should also describe the purpose of the plan. **4**

c) A common IT Project Management strategy is PRINCE2. Briefly explain the PRINCE2 methodology. **3**

Total: 10 Marks

Questions continue on next page

Question 4

Fresh Food Express began trading in 2012. The company purchase high quality local fresh produce from farmers and sell the produce to local customers in the form of food boxes delivered weekly to their door. The company began with just two employees, who collected produce from the farms and then prepared and delivered the food boxes to customer's houses. Customers would phone the company's staff to open or cancel orders, and monthly invoices would be typed up in Word and posted to the client.

However, this process is no longer adequate. Currently, *Fresh Food Express* has 20 20 employees and 1000 customers. Recently, the company have had problems with incorrect orders, missing deliveries and tracking how many hours staff has worked. The company does not have a computerised database, but wants to upgrade its processes to address these problems. To save money, it has decided to develop the new system(s) in house, with no external consultancy.

a) State FIVE (5) risks that Fresh Food Express will face with such a project. **5**

b) You have been asked to identify risks based on limited information. Identify FIVE (5) types of missing information that would enable you to create a more in-depth and accurate risk list for the project. **5**

Total: 10 Marks

Question 5

a) Draw a diagram of the Evolution Software Lifecycle for software deployment. **6**

b) Describe the *phase out* stage of the Evolution Software Lifecycle. **2**

c) Suggest TWO (2) benefits of using an established model such as the IEEE Evolution Software Lifecycle. **2**

Total: 10 Marks

Questions continue on next page

Question 6

Organisations often generate many project ideas. Thus, project selection is required and it is important to select wisely. Project selection is a four-stage process. Describe the following stages of the project selection process:

a) Strategic planning   **3**

b) Business analysis   **2**

c) Project planning   **3**

d) Resource allocation   **2**

Total: 10 Marks

Question 7

a) IT Service management is a complex and demanding function. State FIVE (5)   **5**
    objectives of IT Service Management

b) Briefly explain the purpose of Critical Success Factors (CSFs) **and** identify FOUR **5**
    (4) CSFs relevant to a software development company negotiating a contract
    with an outsourcing ITSM provider.

Total: 10 Marks

Question 8

IT Service Management uses various metrics to track and show performance. Briefly describe the following metrics:

a) Causal mapping   **2**

b) Process control mapping   **3**

c) Scorecards   **3**

d) Dashboards   **2**

Total: 10 Marks

Questions continue on next page

Question 9

a) There are various approaches to IT Quality Management (ITQM). Briefly the philosophy of Total Quality Management (TQM). **4**

b) List TWO (2) techniques used in Total Quality Management. **2**

c) Name and describe TWO (2) tools used in Total Quality Management. **4**

Total: 10 Marks

Question 10

a) Explain the importance of user training in successfully deploying software. **2**

b) Briefly explain what is meant by a workplace training strategy. You should list ONE (1) advantage and ONE (1) disadvantage of this strategy. **4**

c) Briefly describe what is meant by a user training strategy. You should list ONE (1) advantage and ONE (1) disadvantage of this strategy. **4**

Total 10 Marks

End of Examination Paper

Learning Outcomes matrix

Question	Learning Outcomes assessed	Marker can differentiate between varying levels of achievement
1	1	Yes
2	1, 4	Yes
3	2	Yes
4	4	Yes
5	3	Yes
6	2	Yes
7	5	Yes
8	5	Yes
9	6	Yes
10	3	Yes

Grade descriptors

Learning Outcome	Pass	Merit	Distinction
Understand the social, ethical and professional issues essential to the IT profession	Demonstrate adequate level of understanding	Demonstrate robust level of understanding	Demonstrate highly comprehensive level of understanding
Understand a project management life cycle and associated techniques	Demonstrate adequate level of understanding	Demonstrate robust level of understanding	Demonstrate highly comprehensive level of understanding
Understand how to deploy a software application	Demonstrate adequate deployment of an application	Demonstrate sound and appropriate deployment of an application	Demonstrate highly effective deployment of an application
Understand risks and the management of them in software projects	Demonstrate adequate level of understanding	Demonstrate robust level of understanding	Demonstrate highly comprehensive level of understanding
Understand the principles and techniques of IT service management	Demonstrate adequate level of understanding	Demonstrate robust level of understanding	Demonstrate highly comprehensive level of understanding
Be able to design software quality policies and procedures	Demonstrate ability to perform the task	Demonstrate ability to perform the task consistently well	Demonstrate ability to perform the task to the highest standard