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<b>Diploma in Information and Communication Technology</b>		
<b>NVQ Level 05 - Semester I</b>		
<b>SYSTEM ANALYSIS AND DESIGN</b>		
<b>K72T001M06</b>	<b>Three Hours</b>	
<b>Answer only 05 questions including the Question 01 and Question 02</b>		

### Question 01

'Pizza Shop' wants to install a system to record the orders for pizza. When regular customers call 'Pizza Shop' over the phone, their phone numbers goes automatically into the Pizza system. The phone number demands the name, address and last order date and they appears automatically on the screen. Once the order is taken, the total charges, including tax and delivery charges, is calculated. Then the order is given to the cook. A receipt is printed. Occasionally, special offer (coupons) is printed so the customer can get a discount. Drivers who make deliveries give customers a copy of the receipt and coupon (if any). Weekly total sales are kept for comparison, with last year's performance (Weekly report for Management).

- 1.) Draw the context diagram for the above system. (08 Marks)
- 2.) Draw the level 1 Data Flow Diagram (DFD) for above system. (12 Marks)

### Question 02

Customer uses bank ATM to check balances of his/her bank accounts, deposit funds, withdraw cash and/or transfer funds. ATM Technician provides maintenance and repairs. All these use cases also involve Bank actor whether it is related to customer transactions or to the ATM servicing.

- 1.) Draw a use case diagram for above scenario. (12 Marks)

- 2.) ATM Technician maintains or repairs Bank ATM. Maintenance includes Replenishing ATM with cash or ink or printer paper, Upgrades of hardware or firmware or software, and remote or on-site Diagnostics. Diagnostics is also included in (shared with) Repair. Draw a use case diagram to further elaborate ATM Technician duties. (08 Marks)

### Question 03

- 1.) List 2 fact-finding techniques. (02 Marks)
- 2.) Give two advantages of Data Flow Diagram (DFD). (04 Marks)
- 3.) List two features of Software Requirements Specification. (04 Marks)
- 4.) Describe two benefits of Software Requirements Specification. (06 Marks)
- 5.) Which stakeholder(s) is/are responsible for completing requirement gathering? (04 Marks)

### Question 04

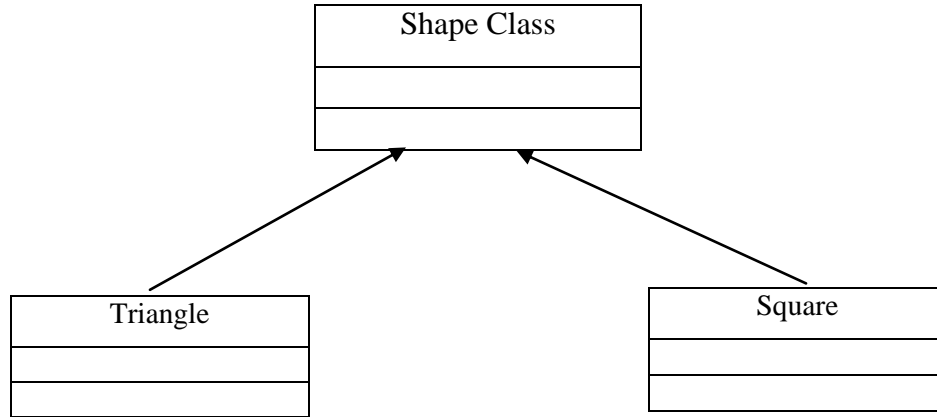
- 1.) State the difference between functional and non-functional requirements? (04 Marks)
- 2.) Define the stakeholders in Information System and give two examples. (04 Marks)
- 3.) Discuss the importance of Design phase? (06 Marks)
- 4.) Which fact finding technique is the most important and why? (06 Marks)

### Question 05

- 1.) List two models used in software development (SDLC). (04 Marks)
- 2.) Give two disadvantages of the waterfall method. (04 Marks)
- 3.) You are a project manager for a software development company. Your company recently acquired a software development contract to develop software that potentially will tie into a global supply chain system for a manufacturing company. The manufacturing company operates in the United States, Poland, and Mexico. You need to work with a number of users in these countries. What software process (model) will you use and why? (12 Marks)

**Question 06**

- 1.) Describe the two main ways in which data-flow diagrams are used to manage the complexity of systems. (05 Marks)
- 2.) What type of relationship is represented by Shape class and Square? Justify your answer. (06 Marks)



- 3.) List two activities of systems analysis. (04 Marks)
- 4.) Which diagram in UML shows a complete or partial view of the structure of a modeled system at a specific time? (05 Marks)