Tutorial 10: Application Layer

Q1.   The functionality of application layer in X model fits roughly into the top three layers of the OSI model. Draw the Table 1 and answer the item (1) to item (4) in your answer booklet.
(201605 TAR UC, resit)   (2 marks)

OSI model	(4) _____X model_____
(1) _____	
(2) _____	Application layer
(3) _____	

Table 1: Networking Model

Q2.   With reference to Figure 1, answer the following questions:
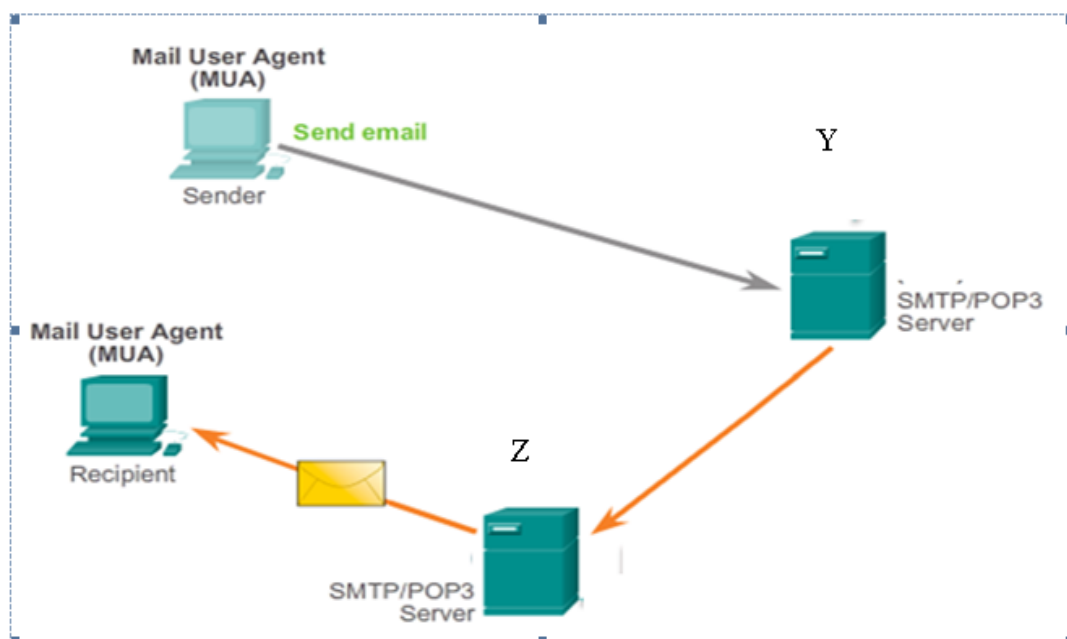

Figure 1: Email Operation

(i)   Identify the type of mail agents labeled with Y and Z. *(201609 TAR UC, Main)* (3 marks)

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(ii)   Differentiate between mail agent Y and mail agent Z. *(201609 TAR UC, Main)* (6 marks)

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Q3.   XYZ Company plans to implement a new application in its network that is able to connect the local mail server for sending and receiving daily emails to their clients.

(i)   What are the **TWO (2)** types of protocols and their respective port numbers that are essential in developing the new application? *(201603 TAR UC, resit)*   (4 marks)

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(ii)   Discuss **THREE (3)** types of mail agents involved in the new application. *(201603 TAR UC, resit)*   (9 marks)

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Q4. (a) Describe how the DNS works by using the destination address: www.cisco.com.
(201603 TAR UC, resit) (8 marks)

Q5. The Dynamic Host Configuration Protocol (DHCP) service enables devices on a network to obtain information from a DHCP server.

(i) Give **FOUR (4)** examples of the information obtains from a DHCP server.
(201605 TAR UC, resit) (2 marks)

(ii) With the aid of diagram, illustrate the FOUR (4) steps process of DHCP.
(201605 TAR UC, resit) (12 marks)

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