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**University Examinations 2014/2015**

FOURTH YEAR, SECOND SEMESTER EXAMINATION FOR THE DEGREE OF BACHELOR OF BUSINESS INFORMATION TECHNOLOGY

**BBT 2215: ADVANCED NETWORKING CONCEPT**

**DATE: DECEMBER 2014 TIME: 2 HOURS**

**INSTRUCTIONS:** *Answer question* ***one*** *and any other* ***two*** *questions*

**QUESTION ONE (30 MARKS)**

1. Briefly describe the following terms as used with computer networks (10 marks)
2. Network protocol
3. Network service
4. Service Access point
5. Routing
6. Fragmentation
7. State and briefly describe the three types of standards in computer networks

(6 marks)

1. Network services may be reliable or unreliable. Distinguish between these two types of services and describe how TCP insures reliability at the transport layer (4 marks)
2. Briefly describe the role played by each of the following network layer protocols

(8 marks)

1. ARP
2. ICMP
3. AGMP
4. BGP
5. Describe where FDDI technology is applied in computer networks (2 marks)

**QUESTION TWO (20 MARKS)**

1. With the help of a diagram, describe the seven layer ISO/OSI model (14 marks)
2. Given the following IP addresses, identify the address class it belongs and give the subnet mask for the address (6 marks)
3. 179.24.208.17
4. 23.76.102.140
5. 227.1.23.122

**QUESTION THREE (20 MARKS)**

1. Briefly describe the following application layer protocols. In your answer indicate the type of service offered and the area of application of the protocol (12 marks)
2. HTTP
3. TFTP
4. SMTP
5. POP3
6. With the help of a diagram, describe the UDP header fields (8 marks)

**QUESTION FOUR (20 MARKS)**

1. State and briefly describe five types of network interconnection devices (10 marks)
2. Define a backbone network and outline the three layers involved in the implementation of backbone networks (5 marks)
3. Give three considerations that you would make when designing a computer network (3 marks)
4. Briefly describe the ISDN technology in computer networks (2 marks)

**QUESTION FIVE (20 MARKS)**

1. Distinguish between: (6 marks)
2. Source routing and hop by hop routing
3. Static routing and dynamic routing
4. Distance vector routing and link state routing
5. Describe the role played by routing tables in computer networks (3 marks)
6. Give five organizations that deal with computer network standards (5 marks)
7. Briefly describe the following network technologies, giving one type of service offered by each (6 marks)
8. ATM
9. ISDN