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**P.E.S. College of Engineering, Mandya - 571 401**  
 (An Autonomous Institution affiliated to VTU, Belgaum)  
**Sixth Semester, B.E -Information Science and Engineering**  
**Semester End Examination; June/July - 2015**  
**Computer Networks - II**

Time: 3 hrs

Max. Marks: 100

*Note: Answer any FIVE full questions, selecting at least TWO full questions from each part.*

**PART - A**

1. a. Justify that message switching involves on additional delay of (L-1) (K-1)P. Compared to packet switching mechanism. 5
- b. Explain how hierarchical assignment of addresses helps in reducing the size of routing tables. 5
- c. Write the algorithmic steps of Dijkstra's shortest path procedure. 5
- d. List out any five differences between Datagram packet switching and virtual circuit packet switching. 5
2. a. Draw the flowchart that describes the leaky bucket algorithm used for policing. 5
- b. Write the IPV4 header format and also explain the meaning of each field. 12
- c. What are the three categories of IPV6 addresses? 3
3. a. List the features of open shortest path first protocol. 7
- b. Write the Internet Group Management Protocol message format and describe each of the field. 6
- c. Briefly explain the TCP connection termination phase. 7
4. a. Explain the different ATM service categories. 5
- b. How does signaling AAL provide reliable transport of signaling messages? 8
- c. Describe the functions of various fields in ATM cell header format. 7

**PART - B**

5. a. List the limitations of first email system approach. 6
- b. Justify how caching helps in improving the performance of web. 6
- c. Describe the different types of DNS resource records. 8
6. a. How does the different SIP method helps in working of session Initiation Protocol? 6
- b. Explain the process of conversion of audio waves to a digital form. 5
- c. Explain the process of audio streaming with an example. 9
7. a. With a neat diagram explain Data Encryption standard algorithm. 10
- b. Explain how substitution Ciphers and transposition Ciphers are used in Encryption process. 10
8. a. Briefly explain how SHA-I (Secure Hash Algorithm) works. 10
- b. Write short notes on: 10
- (i) Symmetric key signatures (ii) Public key signature.