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P.E.S. College of Engineering, Mandya - 571 401
 (An Autonomous Institution affiliated to VTU, Belagavi)
Fifth Semester, B.E. - Computer Science and Engineering
Semester End Examination; Dec. - 2019
Computer Network

Time: 3 hrs

Max. Marks: 100

Note: Answer FIVE full questions, selecting ONE full question from each unit.

UNIT - I

- 1 a. What are the duties of network layer? Explain the different services offered by the network layer. 10
- b. Discuss the network layer performance issues in datagram. 10
- 2 a. Explain IP datagram format. 10
- b. Define Fragmentation. Explain the fields related to fragmentation. Give example. 10

UNIT - II

- 3 a. For a given network of Fig. Q 3(a) create link state data base and each node to build LSDB. 10

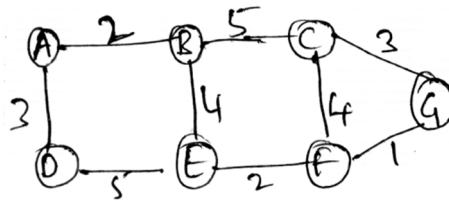


Fig. Q3(a)

- b. With an example, describe the hop count and forwarding tables for RIP. 10
- 4 a. List the five types of link state advertisement and make comparison between them. 10
- b. Give the format of multicast-address in binary. Explain the multicast- sub blocks. 10

UNIT - III

- 5 a. Explain the IPv6 datagram. 10
- b. List the transport layer services and explain any two transport layer service. 10
- 6 a. Explain the transport-layer Finite State Machine (FSM) with respect to connection oriented and connectionless services. 10
- b. Show the flow diagram of Go-Back-N protocol, when the Forward channel is reliable but the reverse is not. No data packets are lost, but some Acknowledgements are delayed and one is lost. Also explain how cumulative acknowledgment can help if acknowledgements are delayed or lost? 10

UNIT - IV

- 7 a. What is API? Explain the position of the socket interface. 10
- b. With a neat diagram, explain the interactive UDP communication. 10

- 8 a. Explain with an example non-persistent connection and persistent connection. 10
- b. Define the network management. Explain fault management and performance management. 10

UNIT - V

- 9 a. Explain the following:
- i) Priority Queuing 10
 - ii) Weighted Fair Queuing
- b. Describe, how RSVP is independent protocol separate from the integrated services model? 10
- 10 a. Discuss the taxonomy of attacks with relation to security goals. 10
- b. Use the Additive Cipher with key = 15 to Encrypt and Decrypt message "hello". 10

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