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Roll No .....

**CS-604 (GS)**  
**B.E. VI Semester**  
 Examination, December 2017  
**Grading System (GS)**  
**Computer Networking**  
*Time : Three Hours*

Maximum Marks : 70

- Note:** i) Answer any five questions.  
 ii) All questions carry equal marks.

1. Explain the design issues and functionality of ISO-OSI model.
2. Differentiate between connectionless and connection-oriented services. Discuss their advantages, disadvantages and typical applications.
3. Discuss and compare DDL "Go Back n" and "Selective repeat" protocols.
4. Draw the frame format of HDLC protocol. Explain the technique of bit stuffing for data transparency. Explain the use of control, data checksum and address field of HDLC.
5. Derive an expression to prove that throughput of "Slotted ALOHA" is approximately twice than that of "PURE ALOHA".
6. What are the tasks of FDDI medium access control protocol? What type of traffic is handled by a FDDI networks?

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7. Explain the Bellman-Ford routing algorithm. Discuss the drawback of count to infinity in Bellman-Ford algorithm.
8. Answer any four of the following:
  - a) Explain interfaces and services.
  - b) How does sliding window protocol help to reduce congestion to an extent.
  - c) What is the effect of delay time in ALOHA on its throughput?
  - d) What is congestion control? Write general principles of congestion control.
  - e) Why is UDP needed? Why can't user program directly access IP?
  - f) Differentiate between TCP and UDP.

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