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No. of Printed Pages : 3

BCS-041

**BACHELOR OF COMPUTER APPLICATIONS  
(Revised)**

**Term-End Examination**

**December, 2014**

**BCS-041 : FUNDAMENTALS OF COMPUTER  
NETWORKS**

*Time : 3 hours*

*Maximum Marks : 100*

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**Note :** *Question no. 1 is compulsory. Attempt any three questions from the rest.*

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1. (a) Differentiate between single mode and multi mode optical fiber. 8
- (b) What is count-to-infinity problem in distance vector routing protocol ? How does it happen ? Explain with an example. 10
- (c) Define angle modulation. What are its types ? Discuss the limitations of angle modulation. 7
- (d) Calculate the CRC for bit sequence 1101011011 and generator polynomial is 10011. 10
- Note :* Show all steps and calculation.
- (e) What is Ad hoc Wireless Communication System ? Explain. 5

2. (a) Write the steps for Message Digest 5 (MD5) algorithm. 10
- (b) Explain the importance of Sliding Window Protocol. Also, list the types of sliding window techniques. 10
3. (a) What is NIC ? Write the techniques used by NIC for data transfer. 8
- (b) What are the advantages and disadvantages of bridges ? 8
- (c) Find the class of following IPv4 addresses : 4
- (i) 193.14.56.22
- (ii) 226.11.14.27
- (iii) 134.11.27.13
- (iv) 252.5.15.111
4. (a) What is ICMP ? Discuss the ICMP message categories. Also, give at least two examples of each ICMP message category. 10
- (b) Differentiate between pure ALOHA and slotted ALOHA. Give formulas for their throughput. 10

**5. Write short notes on the following :**

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- (a) CSMA/CD
  - (b) Layer 2 Switch
  - (c) Frame Relay
  - (d) OSI Model
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