

16/12/19 (m)

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[This question paper contains 7 printed pages]

**Your Roll No.** : .....  
**Sl. No. of Q. Paper** : **7405** **J**  
**Unique Paper Code** : 32341303  
**Name of the Course** : **B.Sc.(Hons.) Computer Science**  
**Name of the Paper** : **Computer Networks**  
**Semester** : **III**  
**Time : 3 Hours** **Maximum Marks : 75**

**Instructions for Candidates :**

- (a) Write your Roll No. on the top immediately on receipt of this question paper.
- (b) **Section-A** is compulsory and carries **35** marks.
- (c) Attempt any **four** questions from **Section-B**.

**Section-A**

1. (a) A bit stream of **10111011** is to be transmitted using the standard CRC method having  $x^3+1$  as the generator polynomial. Show the actual bits transmitted. Suppose the 4<sup>th</sup> bit from the left gets inverted due to an error, check whether the error can be caught.

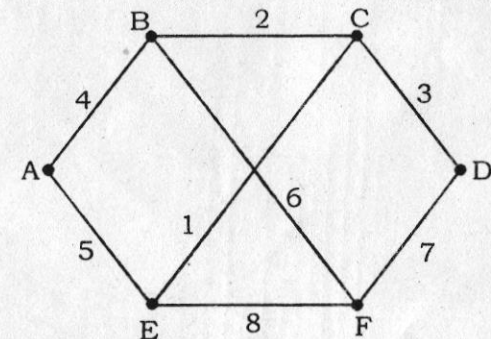
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P.T.O.

- (b) Ethernet requires that valid frames must be at least 64 bytes long. Give reasons for choosing the minimum frame size as 64 bytes. 2
- (c) Convert the IP address whose hexadecimal representation is **C22F1582** to dotted decimal representation. 1
- (d) Explain briefly the following fields of the IP header : 4
- Internet Header Length (IHL)
  - Identification,
  - DF & MF, and
  - TTL
- (e) Briefly discuss the following CSMA protocols : 6
- 1-persistence
  - p-persistence and
  - non-persistence
- (f) Match the following to one or more layers of the TCP/IP model : 5
- Transmission of bit stream across physical medium
  - Defines frames

7. (a) Consider the following subnet where distance vector routing is used. The following information have just arrived at the router C : 4
- From B : (5,0,8,12,6,2)
  - From D : (16,12,6,0,9,10) and,
  - From E : (7,6,3,9,0,4)

The measured delays to B, D, and E, are 6, 3, and 5 respectively. Give the new routing table for C specifying both the delay and the outgoing line to use.



- Compare ARP and RARP. 3
- What is MIME ? What problems does it solve ? 3