

(i) Printed Pages : 2

Roll No. ....

(ii) Questions : 9

Sub. Code : 

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Exam. Code : 

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**Bachelor of Computer Applications 5<sup>th</sup> Semester**  
**(1129)**

**COMPUTER NETWORKS**

**Paper—BCA—16—501**

**Time Allowed : Three Hours]**

**[Maximum Marks : 65**

**Note :—** Attempt **one** question each from Sections A, B, C and D.  
Section E is compulsory.

**SECTION—A**

1. (a) Explain the features of LAN, MAN and WAN. 7
- (b) Draw and describe various layers of TCP/IP model. How is it different from OSI reference model ? 6
2. (a) What is the meaning of unguided transmission media and its benefits over guided media ? Explain the working of microwave transmission. 7
- (b) What is multiplexing in computer networks ? Explain and differentiate between FDM and WDM in brief. 6

**SECTION—B**

3. (a) What are the design issues of Data Link Layer ? 7
- (b) What is an error in Computer Networks ? Explain CRC technique with the help of suitable example. 6

4. (a) What are the various assumptions of static channel allocation ? 4
- (b) What are the Sliding Windows Protocols ? Explain Go-Back-N and Selective-Repeat Sliding Windows Protocols along with their advantages and disadvantages. 9

### SECTION—C

5. (a) What are the various design issues of Network Layer ? 9
- (b) What do you understand by Subnetting ? 4
6. (a) What is congestion ? What are the factors that lead to congestion in a network ? Explain the principles of congestion control. 6
- (b) Explain broadcast and multicast routing. 7

### SECTION—D

7. (a) Explain DNS and DNS servers. 6
- (b) Explain terms HTTP and Network Security. 7
8. (a) Write short notes on the following terms :
  - (i) World Wide Web
  - (ii) File Transfer Protocol. 3×2=6
- (b) Explain the architecture and services of an E-mail System. 7

### SECTION—E

9. Attempt **all** questions :
  - (a) Define modulation. 2
  - (b) What is IEEE 802.3 ? 2
  - (c) What is an IP address ? 2
  - (d) What are the light emitting sources used in Fiber Optics ? 2
  - (e) What are the limitations of SMTP ? 2
  - (f) What are the advantages of flooding ? 3