31. a. Demonstrate CRC encoder and Decoder with dataword 1001 and divisor 1011.

(OR)

b. Discuss in detail about CSMA/CD and CSMA/CA.

32. a. Explain any three transmission media.

(OR)

b. Write in detail about IEEE802.11 wireless LANS.

* * * * *

Reg. No.															

B.Tech. DEGREE EXAMINATION, NOVEMBER 2016
Fifth Semester

IT1016 – COMPUTER NETWORKS
(For the candidates admitted during the academic year 2013 – 2014 and 2014 -2015)

Note:
(i) **Part - A** should be answered in OMR sheet within first 45 minutes and OMR sheet should be handed over to hall invigilator at the end of 45th minute.
(ii) **Part - B** and **Part - C** should be answered in answer booklet.

Time: Three Hours Max. Marks: 100

PART – A (20 × 1 = 20 Marks)
Answer **ALL** Questions

1. The process to process delivery of entire message is the responsibility of _____layer.
   (A) Application (B) Network
   (C) Transport (D) Physical

2. Mail services are available to network users through the _____layers.
   (A) Transport (B) Session
   (C) Data link (D) Application

3. The _____ address identifies a process on a host.
   (A) Specific (B) Port
   (C) MAC (D) IP

4. The first network is _____.
   (A) CNNET (B) NSFNET
   (C) ASPNET (D) ARPANET

5. The number of addresses in class C block is _____.
   (A) 65, 534 (B) 16, 777, 216
   (C) 256 (D) 4096

6. What is the first address of block of classless addresses if one of the addresses is 12.2.127/28?
   (A) 12.2.2.0 (B) 12.2.2.96
   (C) 12.2.2.112 (D) 12.2.2.100

7. Identify the class of IP address 191.1.2.3
   (A) Class A (B) Class B
   (C) Class C (D) Class D

8. Layer two switch also called _____.
   (A) Multiport HUB (B) Multiport switch
   (C) Multiport Bridge (D) Multiport NIC

9. An area is _____.
   (A) Part of AS (B) Composed of atleast two AS
   (C) Another term of AS (D) Group of AS

10. In ___, the router forwards the received packet through only one of its interfaces.
   (A) Unicasting (B) Multicasting
   (C) Broadcasting (D) None

11. In OSPF, a _____link is a network with several routers attached to it.
   (A) Point to point (B) Transient
   (C) Stub (D) Skeleton

12. A _____ routing table contains information entered manually.
   (A) Static (B) Dynamic
   (C) Hierarchical (D) Default

13. The _____protocol has flow control and error control.
   (A) Sliding window (B) Stop and wait
   (C) Simplest (D) Selective-repeat ARQ

14. In Go back-N ARQ, if frames 4, 5 and 6 are received successfully, the receiver may send an acknowledgement _____ to the sender.
   (A) 6 (B) 7
   (C) 5 (D) 8

15. In _____, the chance of collision can be reduced if a station senses the medium before trying to use it.
   (A) CSMA (B) MA
   (C) CDMA (D) FDMA

16. In _____each station sends to frame whenever it has a frame to send.
   (A) Slotted aloha (B) Pure aloha
   (C) CSMA (D) CDMA

17. ____cable is used for voice and data communications.
   (A) Twisted pair (B) Coaxial
   (C) Fiber optic (D) Ethernet

18. In fiber optics, the signal is _____waves.
   (A) Radio (B) Light
   (C) Infrared (D) Very low frequency

19. In Bluetooth, the _____layer is roughly equivalent to the physical layer of the internet model.
   (A) Baseband (B) Radio
   (C) L2CAP (D) MAC

20. The IEEE 802.11 standard for wireless LANs defines two services _____and ____.
   (A) ESS; SSS (B) BSS; ESS
   (C) BSS; ASS (D) BSS, DCS

PART – B (5 × 4 = 20 Marks)
Answer **ANY FIVE** Questions

21. What are the five components of data communications system?

22. What is the difference between port, logical and physical addresses?

23. How is repeater different from amplifier?

24. What is the maximum number of subnet in CLASS A and CLASS B where subnet mask is 255.255.192.0?

25. Write about different types of autonomous systems.

26. Write short note on Hamming Code.

27. Differentiate Piconet and Scatternet with diagram.

PART – C (5 × 12 = 60 Marks)
Answer **ALL** Questions

28. a.i. What are the responsibilities of each layer in OSI model? (9 Marks)

ii. List out the advantages of layered architecture. (3 Marks)

(OR)

b. What are the four basic network topologies? Explain and list out advantages and disadvantages of each type.

29. a. An organization in granted the block 19.0.0.0/8. The administrator wants to create 500 fixed length subnets
   (i) Find the subnet mask (2 Marks)
   (ii) Find the number of addresses in each subnet (2 Marks)
   (iii) Find the first and last address in subnet 1 (4 Marks)
   (iv) Find the first and last address in subnet 500 (4 Marks)

(OR)

b.i. Write in detail about various connecting devices used in different layers. (8 Marks)

ii. Compare layer 1 and layer 2 devices. (4 Marks)

30. a.i. Write in detail about interfaces and lines of CISCO IOS devices.

ii. Discuss various modes of router IOS with suitable examples.

(OR)

b. Using Link state routing algorithm build a routing table for each node given below: