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Reg No.:_____ Name:_____

**APJ ABDUL KALAM TECHNOLOGICAL UNIVERSITY**

SIXTH SEMESTER B.TECH DEGREE EXAMINATION, APRIL 2018

**Course Code: CS306**

**Course Name: COMPUTER NETWORKS (CS)**

Max. Marks: 100 Duration: 3 Hours

**PART A**

***Answer all questions, each carries 3 marks.*** Marks

1 How are computer networks classified on the basis of physical size? (3)

2 Differentiate between normal and asynchronous balanced modes of operations in HDLC. (3)

3 What are the reasons for using Layered Architecture in Computer Networks? Define the terms protocol and interface. (3)

4 Draw and explain the frame format for Ethernet. (3)

**PART B**

***Answer any two full questions, each carries 9 marks.***

5 a) What are the OSI service primitives for connection oriented service? (4)

b) Explain the phases in a PPP connection with the help of a transition diagram. (5)

6 a) How collision is avoided in CSMA/CA? Describe the different strategies used for this. (5)

b) List out the key design issues that occur in Computer Networks. (4)

7 a) Describe the ISO/OSI layered architecture with the help of a neat diagram. (5)

b) Write notes on IEEE 802.5 standard. (4)

**PART C**

***Answer all questions, each carries 3 marks.***

8 What is flooding? Describe any two situations where flooding is advantageous. (3)

9 Compare classful and classless addressing, giving examples for both. (3)

10 Write short note on RIP. (3)

11 List and explain any three closed loop congestion control techniques. (3)

**PART D**

***Answer any two full questions, each carries 9 marks.***

12 a) Describe the format of IPv4 datagram with the help of a diagram, highlighting the significance of each field. (6)

b) Differentiate between static and dynamic routing. (3)

13 a) Explain distance vector routing with an example. (6)

b) Define Subnetting. What are the advantages of Subnetting? Explain with an example (3)

14 a) Discuss the common techniques used in computer networks to improve the QoS. (4)

b) Explain the different steps in link state routing. (5)

## PART E

***Answer any four full questions, each carries 10 marks.***

15 a) Write notes on the messages and message formats used in IGMP (5)

b) Describe the *name-address* resolution techniques used in DNS (5)

16 a) Write notes on MIME (5)

b) Differentiate between BOOTP and DHCP. (5)

17 a) Explain how routing is done using BGP (5)

b) Describe the operation and packet format of UDP. (5)

18 a) What is the use of ARP? Explain ARP operation and packet format. (7)

b) Distinguish between partially qualified and fully qualified domain names (3)

19 a) Explain the three different phases in a TCP transmission with the help of diagrams. (7)

b) List and explain the different types of error reporting messages used by ICMP. (3)

20 a) Explain the File Transfer Protocol (FTP) and its features. (5)

b) Draw and explain the datagram format for IPv6. (5)

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