(b) Discuss the various reasons that lead to congestion in networks. Explain any *one* technique to handle it. **8**

Section D

7. (a) What is Mobile IP ? Explain various security issues related to Mobile IP. **7**

(b) What is the purpose of Border Gateway Protocol (BGP) ? What mechanisms does BGP use to prevent routing loops ? **8**

8. Explain the following : **7+8**
   (a) CIDR addressing
   (b) VPN.

AA585

M. Tech. EXAMINATION, Dec. 2018

(First Semester)

(B Scheme) (Re-appear Only)

CSE

CSE-509B

ADVANCED COMPUTER NETWORKS

Time : 3 *Hours*]   [*Maximum Marks :* 75

Before answering the question-paper candidates should ensure that they have been supplied to correct and complete question-paper. No complaint, in this regard, will be entertained after the examination.

Note : Attempt *Five* questions in all, selecting at least *one* question from each Section. All questions carry equal marks.

Section A

1. List the layers of OSI reference model in computer network and explain each of them in detail. Compare TCP/IP reference model with OSI reference Model. **15**

2. (a) Explain the protocol stack of IEEE 802.5 LAN with a neat diagram. **7**

(b) What is Frame Relat in Computer Network ? Explain how Congestion control and Quality of Service is implemented in it. **8**

Section B

3. (a) What a neat diagram, explain ATM cell format and ATM protocol architecture. Discuss some of the quality of service parameters of ATM networks. **7**

(b) Differentiate among Bluetooth (802.15.1), Wi.-Fi (802.11) and WiMAX (802.16) based computer networks. **8**

4. (a) What is the principal difference between circuit switching and virtual circuit switching ? Give an advantages of virtual circuits over datagrams. **7**

(b) Explain wavelength-division multiplexing (WDM) technology in detail, with a neat schematic diagram of WDM architecture; bring out the advantages of Optical Networking. **8**

Section C

5. (a) Compare the IPv4 and IPv6 network addressing schemes. Discuss various transition strategies used to move from IPv4 and IPv6. **7**

(b) What do you mean by Multicast Routing ? Discuss in detail the various issues and mechanisms associated with Multicast Routing. **8**

6. (a) Give a brief account on services provided by DNS. Draw the DNS message format and write down the semantics of various fields in a DNS message. **7**