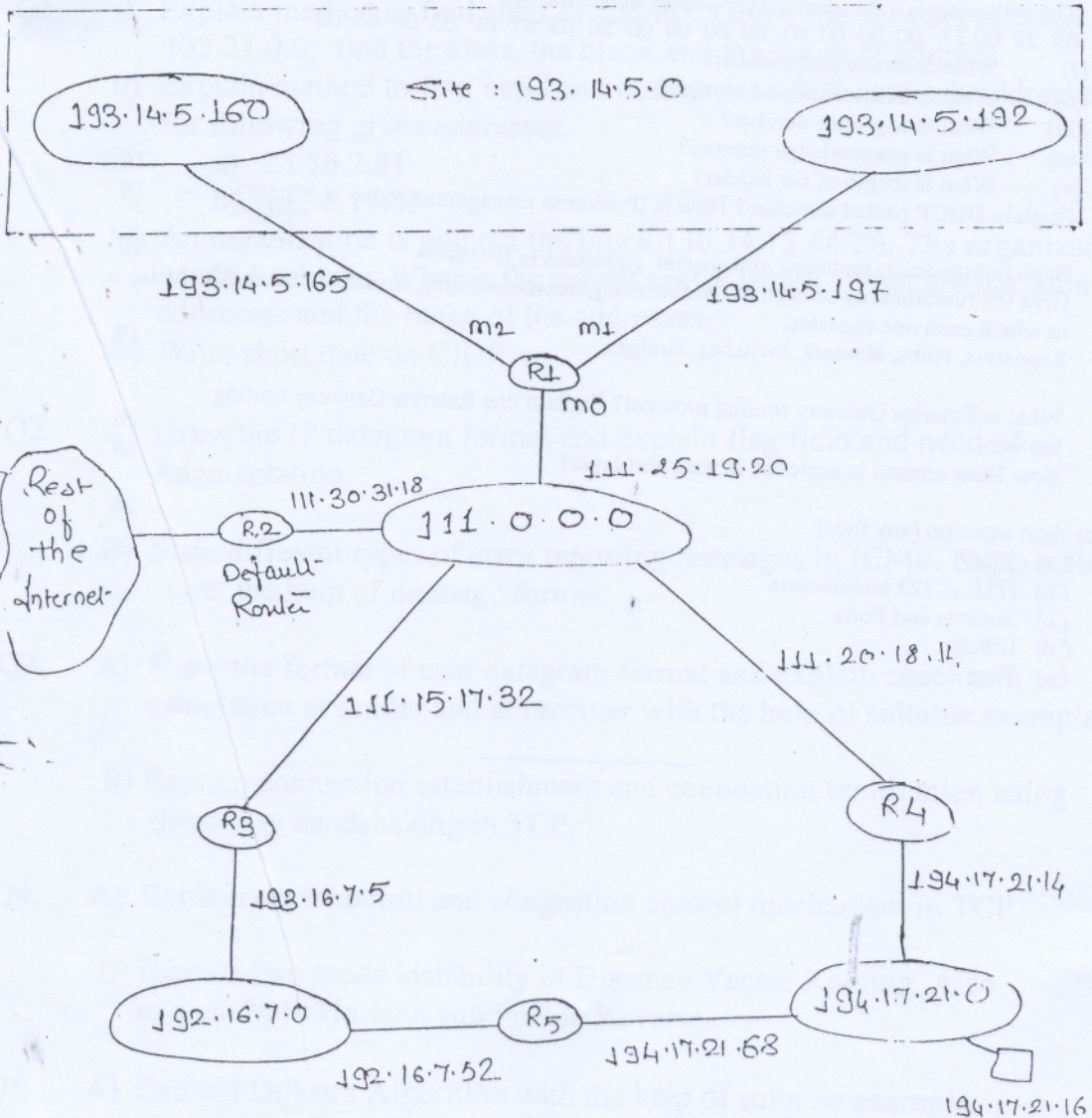


- N.B. (1) Attempt any five questions.
 (2) Assumptions made must be clearly stated.

1. (a) How Domain Name System maintains Resource Record in server databases. Explain the format of RR. 10
 (b) Design routing table for router R3 for the following figure. 10



2. (a) An ISP is granted a block of addresses with 190.100.0.0/16. The ISP needs to distribute these addresses to three groups of customers as follows. 12
 (i) The first group has 64 customers; each needs 256 addresses.
 (ii) The second group has 128 customers; each needs 128 addresses.
 (iii) The third group has 128 customers; each needs 64 addresses.
 Design the subblocks and give the slash notation for each subblock. Find out how many addresses are still available after these allocations. 08
 (b) State the difference between IPV4 and IPV6
3. (a) Explain NAT? How packets/datagrams are forwarded to the correct machine within the subnet, while using NAT? 10
 (b) What is Interior Gateway routing protocol? Explain one Interior Gateway routing protocol. 10

4. (a) The following is a dump of a TCP header in hex format:
 05 32 00 17 00 00 00 01 00 00 00 00 50 02 07 FF 00 00 00 00
- (i) What is source port number?
 (ii) What is destination port number?
 (iii) What is sequence number?
 (iv) What is acknowledge number?
 (v) What is length of the header? 10
- (b) Explain DHCP packet structure? How is IP address management done in DHCP? 10
5. (a) Explain broadcast, multicast and special addresses in IPV4. 10
 (b) Give the functionality of each of the following internetworking devices and mention the layers in which each one operates.
 Repeaters, Hubs, Routers, Switches, Bridges. 10
6. (a) What is Exterior Gateway routing protocol? Explain one Exterior Gateway routing protocol. 20
 (b) How Flow control is achieved in transport layer? 10
7. Write short notes on (any four) 20
 (a) VOIP
 (b) ITU- T.323 architecture
 (c) Sockets and Ports
 (d) IPSec
 (e) Ping