QP Code : 31091

(80 Marks) (3 Hours)

- Question no. 1 is compulsory.
- Answer any three questions from question no. 2 – 6.
- Assume suitable data, if necessary.

Q.1. Answer following questions in brief.
   a. Explain programming model of 8086. (05)
   b. Explain V86 mode of 80386DX. (05)
   c. Explain, in brief, pipeline stages on Pentium processor. (05)
   d. Explain, in brief, data format supported by SuperSparc processor. (05)

Q.2. a. Explain memory segmentation with pros and cons. (08)
   b. Draw and explain the block diagram of 8255. Also, explain different operating (12)
      modes of 8255.

Q.3. a. Design 8086 based minimum mode system for following requirements: (12)
      I.   256 KB of RAM using 64 KB x 8-bit device
      II.   128 KB of RAM using 64 KB x 8-bit device
      III. Three 8-bit parallel ports using 8255
      IV.   Support for 8 interrupts
   b. Explain, in brief, cache organization of Pentium processor. (08)

Q.4. a. Draw and explain architecture of SuperSparc processor. (12)
   b. Discuss, in brief, protection mechanism of 80386DX. (08)

Q.5. a. Draw and explain architecture of Pentium processor. (10)
   b. Draw timing diagram of read operation on 8086 based system. (10)

Q.6. Write short notes on
   a. 8089 I/O Processor (05)
   b. Comparison between i5 and i7 (05)
   c. SuperSparc registers (05)
   d. 8259 – PIC (05)

———— x ————

FW-Con. 10270-16.

QP Code : 31134

(3 Hours)

Total marks : 80

Note:
- Question No. 1 is compulsory.
- Attempt any Three questions out of remaining questions.
- Make suitable assumptions whenever necessary.

Q 1:   [4 X 5]
a) Compare connection oriented and connectionless services.
b) Explain in short Subnetting.
c) Explain in short different framing Methods.
d) Explain in short TCP/IP Model.
e) What is the use of SSH ?

Q 2:
a) Explain any four functions of Data Link layer with example.   [10]
b) What is IPv4 protocol? Explain the IPv4 Header format with diagram. [10]

Q 3:
a) Explain Classless Inter Domain Routing (CIDR).   [10]
b) Discuss the quality of service parameters in computer network.   [10]

Q 4:

a) What are the steps involved in link state routing. Explain the contents
            and requirements of link state packets.   [10]
b) Compare Open Loop congestion control, Closed Loop congestion control.[10]

Q 5:

a) Write a Program for client-server application using Socket Programming(TCP).
                                                                          [10]
b) An ISP is granted a block of addresses starting with 150.80.0.0/16.
      The ISP wants to distribute these blocks to 2600 customers as follows.
      a. The first group has 200 medium-size businesses; each needs 128
      b. The second group has 400 small businesses; each needs 16
      c. The third group has 2000 households; each needs 4 addresses. Design the
subblocks and give the slash notation for each subblock. Find out how many
addresses are still available after these allocations.   [10]

Q 6: Write short notes on the following.   [5 X 4]

      a) Virtual LAN
      b) FDDI
      c) BGP
      d) SNMP

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