Course Code : CST 403-1　　　　　　　　　　JSRK/MW – 17 / 2100

Seventh Semester B. E. (Computer Science and Engineering) Examination

Elective - I

WEB ARCHITECTURE AND TECHNOLOGY

Time : 3 Hours]　　　　　　　　　　　　　　　　　　　　[Max. Marks : 60

Instructions to Candidates :—
   (1)　All questions carry equal marks. Figures to the right indicate marks.
   (2)　Carefully see the internal choices.
   (3)　Assume suitable data and illustrate your answers with the help of neat sketches wherever necessary.
   (4)　Due credit will be given to neatness.

1.　(a)　"Fathers of the Internet" The phrase describes whom and why ?

　　　　　　　　　　　　　　　　　　　　　　　　　　　　　　4 (CO 1)

　　(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 approximately 128 addresses.

　　　(b)　The second group has 400 small businesses; each needs approximately 16 addresses.

　　　(c)　The Third group has 2000 households; each needs 4 addresses. Design the sub blocks and give the slash notation for each sub block. Find out how many addresses are still available after these allocations.　　　　　　　　6 (CO 1)

OR

2.　(a)　Explain the following terms :

　　　　"Time to live" field of IP
　　　　Gateway
　　　　Fragment
　　　　Broadcast and multicast
　　　　Window size" field of TCP　　　　　　　　　　　　5 (CO 1)

(b) What do you mean by Subnetting and Supernetting. Using VLSM give a scheme to split a class C address into five subnets where the no. of hosts required are 115, 59, 30, 13, 9.   5 (CO 1)

3. Solve any **Two** :—

(a) Why is IMAP preferred over POP3 ?   5 (CO 2)

(b) Why is IPv4 not suitable for supporting real-time traffic ? How this problem is solved in IPv6 ?   5 (CO 2)

(c) Enlist and explain main functional procedures in BGP. How these results in smooth routing in BGP ?   5 (CO 2)

4. (a) Write a Perl program segment to sort the given array in the **descending** order.

@arr1 = qw(a b c red green blue black);

@arr2 = (1, 22, 44, 66, 31, 13, 5, 8, 54, 78);   5 (CO 2)

(b) What are server side and client side image maps ? Show a client-side image map configuration specification for the given figure. Assume Centre of the circle as (50, 50)
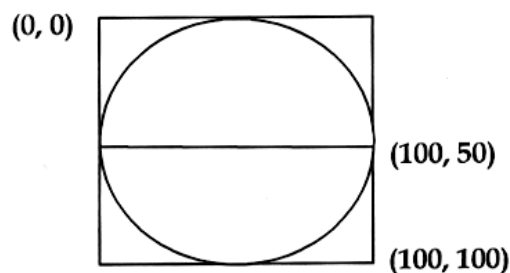
5 (CO 2)

OR

(c) What is a cookie ? Explain the need of the same with an example.   5 (CO 2)

5. (a) Compare RSA and DES, the two cryptographic algorithm on the basis of given parameters (1) Execution time and (2) More Secure. Give justification for your answer.   5 (CO 3)

OR

(b)　In public key cryptography, illustrate how are the keys used for encryption and authentication applications respectively ?　　　5 (CO 3)

(c)　E-business and E-commerce are same or different. Give justification.
　　　5 (CO 3)

6.　Solve any **Two** :—

(a)　How does Internet telephony basically work ?　　　5 (CO 3)

(b)　Explain intranet and extranet. What are the advantages of Extranet ?
　　　5 (CO 3)

(c)　Distinguish between RTP and RTCP.　　　5 (CO 3)

7.　Solve any **Two** :—

(a)　Distinguish between Web server and Application server.　　　5 (CO 3)

(b)　Why there is a need of a streaming server ? Explain its use.
　　　5 (CO 3)

(c)　What is multitier architecture ? Why is it suitable for web applications ?
　　　5 (CO 3)