MINOR II

DEPARTMENT OF COMPUTER SCIENCE ENGINEERING

GURU NANAK DEV UNIVERSITY

B-TECH(CSE), 4TH SEM

CSL- 241 (DATA COMMUNICATION)

Maximum marks:20 time: 1 hr

All questions are compulsory:

1. Explain CRC and Hamming Code with example. (5)
2. Write a note on CSMA/CD. (4)
3. Discuss various Wireless LAN standards in detail. (5)
4. Briefly discuss:
   a) Router
   b) Switches
   c) Gateway (6)

Department of Computer Science & Engineering

B.Tech CSE (4th sem) MINOR-II Subject-System Programming (CSL243)

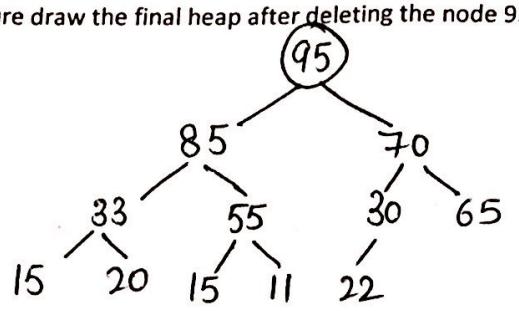
Time duration-1hr **Total Marks-20**

1) Define macro processors. Explain its implementation with assembler. (5)
2) Difference between :
   a) Nested Macros and Macros Defining Macro (2)
   b) Static linking and Dynamic linking (2)
   c) Concatenation of macros parameters and Conditional macro expansion (2)
3) What are the basic tasks of loader, explain basic difference between Relocating Loader and Direct Linking Loader. (4)
4) Draw the flowchart for Pass-I Macro processor and explain its databases with Help of suitable example. (5)

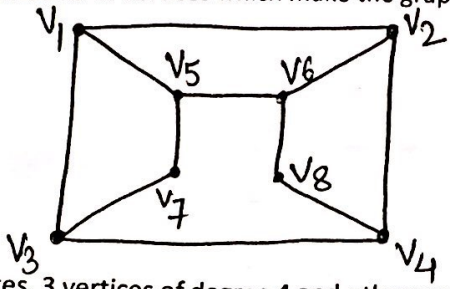
Minor-II (B.Tech (IV Sem))

CSL-244(Discrete Structures)

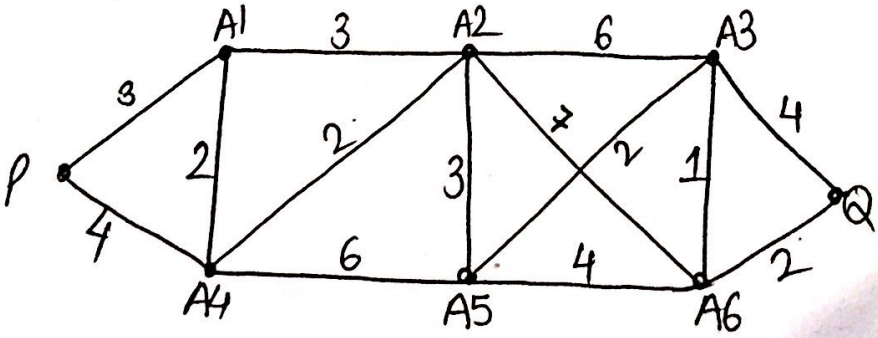
1. Suppose the six weights 4,15,25,5,8,16 are given. Find a Binary tree with the given weights and a minimum path length P. (2)
2. The Preorder and Postorder traversals of a tree are given. Find the inorder traversal of this tree .
   Preorder: A B C D L M E F G H J K
   Postorder: C L M D E B G H F K L A (1.5)
3. Consider the heap in the below figure where (95) is the root node. Using the heapify procedure draw the final heap after deleting the node 95 (1.5)



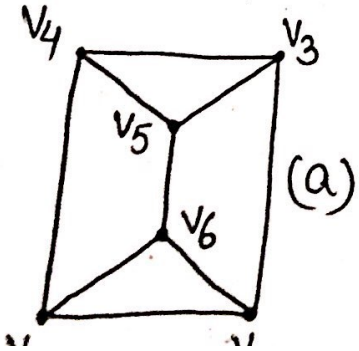
4. Consider the graph given below: (2)
   Write the two distinct sets of vertices which make the graph bipartite.

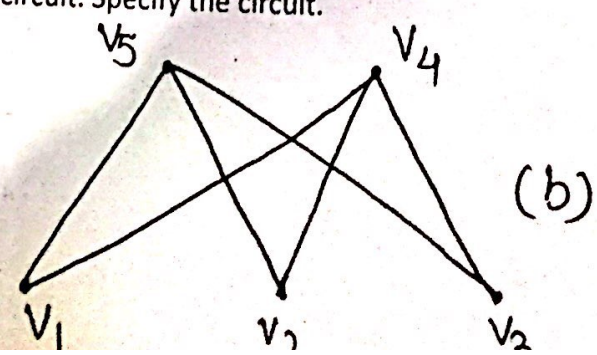


5. A graph G has 21 edges, 3 vertices of degree 4 and other vertices of degree 3. Find the no. Of vertices in G. (3)
6. State and prove Eulerian Theorem on Graph. (4)
7. Find the shortest path in the below graph by using Dijikstra's algorithm(No algorithm is required). (4)



8. Which of these graphs has Hamiltonian circuit. Specify the circuit. (2)





B.Tech 4th Semester (MST-II)

CSL-240: Operating System

Time: 1 Hour

Maximum Marks: 20

Note: Attempt all questions.

1. a. What is the concept of Race Condition? 2

   b. Explain the concept of Critical Section. 2

   c. Explain the algorithm for Peterson's Solution or Solution using TestAndSet for process synchronization. 4

   d. Explain the concept of wait(s) and signal(s) in context of semaphore s. 2

2. a. Explain the concept of hashed page table in context of memory management. 3

   b. What is the difference between internal and external fragmentation? 3

   c. Consider the following page reference string:

   1,2,3,4,5,3,4,1,6,7,8,7,8,9,7,8,9,5,4,5,4,2.

   How many page faults would occur for the following replacement algorithms, assuming four frames? Initially all frames are empty so first unique page will cost one fault each.

   (i) LRU replacement (ii) FIFO replacement 4

(8) 10

MINOR II

FUNCTIONAL MANAGEMENT

M.M: 20 UBS- 051

TIME: 1 hr.

NOTE: ALL QUESTIONS ARE COMPULSORY

Q1) What do you mean by Marketing Management? Explain its traditional concept? (5marks)

Q2) Write a short note on CSR? Explain its advantages and disadvantages (Any 4 each)? (5marks)

Q3) How products are different from services? Give any 10 points of differentiation?

Q4.a) What do you mean by Market Segmentation? Explain behavioral and socio-cultural segmentation? (2.5marks)

b) What do you mean by Production System? Explain continuous production system? (2.5marks)